

**Exhibit F**

**SUMMARY AND ORDER OF PROPOSAL CONTENTS**

Technical Proposal Component	Form (if any)	Proposal Section
<b>A. Executive Summary</b>		
Executive Summary ( <b>Exclude price information</b> )	No forms are provided	Vol. 1, Section A, pages 1-4
<b>B. Proposer Information, Certifications &amp; Documents</b>		
Proposal Letter	<u>Form A</u>	Vol. 1, Section B, tab titled <i>Form A</i>
Authorization Documents	No forms are provided	Vol. 1, Section B, tab titled <i>Form A</i>
Identification of Proposer and Equity Members	<u>Form B-1</u>	Vol. 1, Section B, tab titled <i>Form B-1</i>
Information About Proposer Organization	<u>Form B-2</u>	Vol. 1, Section B, tab titled <i>Form B-2</i>
Information About Major Subcontractors	<u>Form B-3</u>	Vol. 1, Section B, tab titled <i>Form B-3</i>
Letter accepting joint and several liability, if applicable	<u>No forms are provided</u>	n/a
Responsible Proposer and Major Subcontractor Questionnaire	<u>Form C</u>	Vol. 1, Section B, tab titled <i>Form C</i>
Letter(s) Regarding Pre-Proposal Submittals	No forms are provided	n/a
Non-Collusion Affidavit	<u>Form D</u>	Vol. 1, Section B, tab titled <i>Form D</i>
Buy America Certification	<u>Form E</u>	Vol. 1, Section B, tab titled <i>Form E</i>
Surety/Financial Institution Information	No forms are provided	Vol. 1, Section B, tab titled <i>Surety</i>

Technical Proposal Component	Form (if any)	Proposal Section
Conflict of Interest Disclosure Statement	<u>Form F</u>	Vol. 1, Section B, tab titled <i>Form F</i>
Equal Opportunity Employment Certification	<u>Form H</u>	Vol. 1, Section B, tab titled <i>Form H</i>
Lobbying Certification	<u>Form I</u>	Vol. 1, Section B, tab titled <i>Form I</i>
Debarment and Suspension Certification	<u>Form J</u>	Vol. 1, Section B, tab titled <i>Form J</i>
Insurance	No forms are provided	Vol. 1, Section B, tab titled <i>Insurance</i>
Confidential Contents Index	No forms are provided	n/a
Kentucky Bidders Form	<u>Form N</u>	Vol. 1, Section B, tab titled <i>Form N</i>
Copies of Organizational Documents	No forms are provided	Vol. 1, Section B, tab titled <i>Form A</i>
Proposer Teaming Agreement or Key Terms	No forms are provided	n/a
Executed Contracts or Term Sheets/Heads of Terms	No forms are provided	n/a
<p><b>C. Financial Information</b>  Proposer must provide the corporate and financial information identified in <u>Section 4.0 of Exhibit B</u>, for the Proposer, Equity Members, Guarantors and any other Financially Responsible Party</p>	No forms are provided	Vol. 1, Section C, tab titled <i>Financial Statements</i>
<p><b>C1</b> Audited Fiscal Financial Statements and related updated financial materials submitted in response to SOQ for all periods subsequent to SOQ and unaudited interim financial statements (<u>Exhibit B, Section 4.1</u>)</p>	No forms are provided	Vol. 1, Section C, tab titled <i>Financial Stmnts</i>

Technical Proposal Component	Form (if any)	Proposal Section
<b>C2</b> Letter regarding material change in financial condition since submission of the SOQ and for next reporting period ( <u>Exhibit B, Section 4.2</u> )	No forms are provided	Vol. 1, Section C, tab titled <i>Material Changes</i>
<b>C3</b> Guarantor Letter of Support ( <u>Exhibit B, Section 4.3</u> )	<u>Form L</u>	Vol. 1, Section C, tab titled <i>Form L</i>
<b>D. Technical Response</b>		
Technical Response	Form K	Vol. 2, Section D, pages 1-240
<b>E. Preliminary Project Schedule</b>		
Preliminary Project Schedule	No forms are provided	Vol. 2, Section E, pages 241-244

## Price Proposal

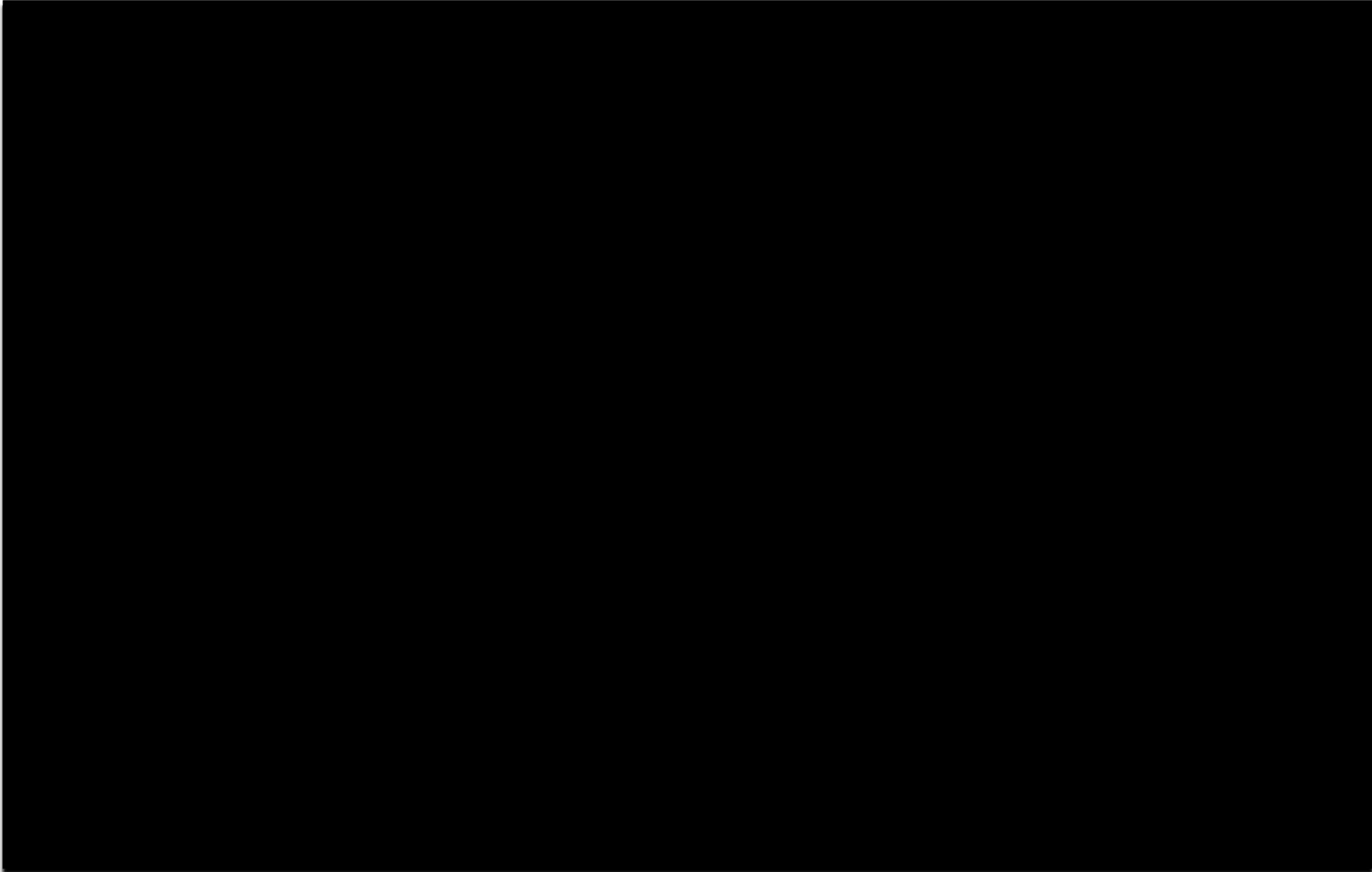
Proposers shall follow the order of the Price Proposal Checklist in their submissions. A referenced copy of this document shall be submitted with the Price Proposal.

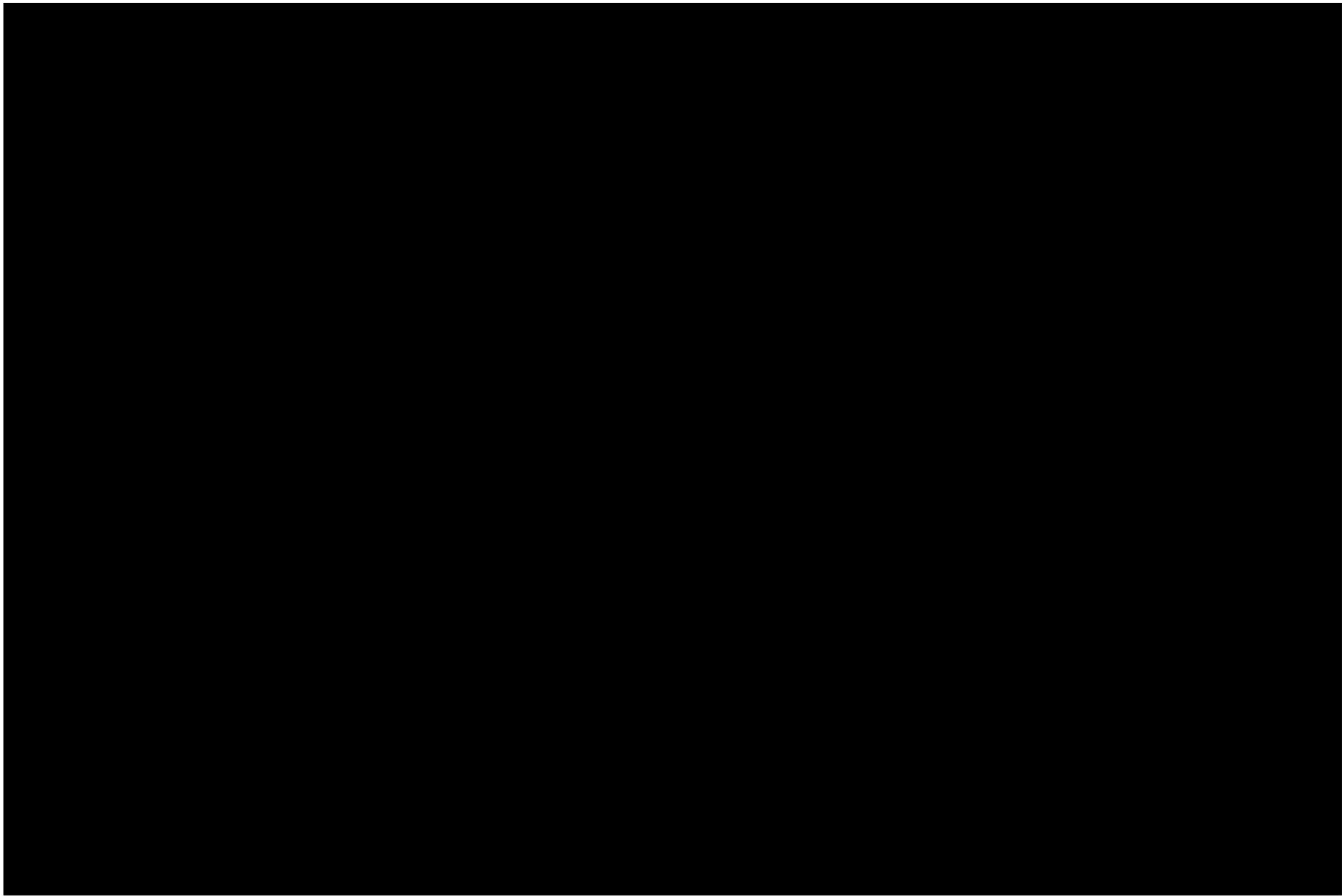
<b>A. Price Forms</b>		
Price Forms	<u>Form G</u>	Section A
Form G-1		Section A, tab titled <i>CP-Contract Price</i>
Form G-2		Section A, tab titled <i>RS-Roadside</i>
Form G-3		Section A, tab titled <i>BO-Back Office</i>
Form G-4		Section A, tab titled <i>TO-TOC and System Monitoring</i>
Form G-5		Section A, tab titled <i>CS-Customer Service Center</i>
Form G-6		Section A, tab titled <i>PM-Project Management</i>
Form G-7		Section A, tab titled <i>T-Tests</i>
Form G-8		Section A, tab titled <i>DM-Data Mart</i>
Form G-9		Section A, tab titled <i>BI-Bonding and Insurance</i>
Form G-10		Section A, tab titled <i>OMR-Roadside</i>
Form G-11		Section A, tab titled <i>OMN-Network</i>
Form G-12		Section A, tab titled <i>OMH-Hosting</i>
Form G-13		Section A, tab titled <i>OMB-BO-IT</i>
Form G-14		Section A, tab titled <i>OMT-TOC</i>

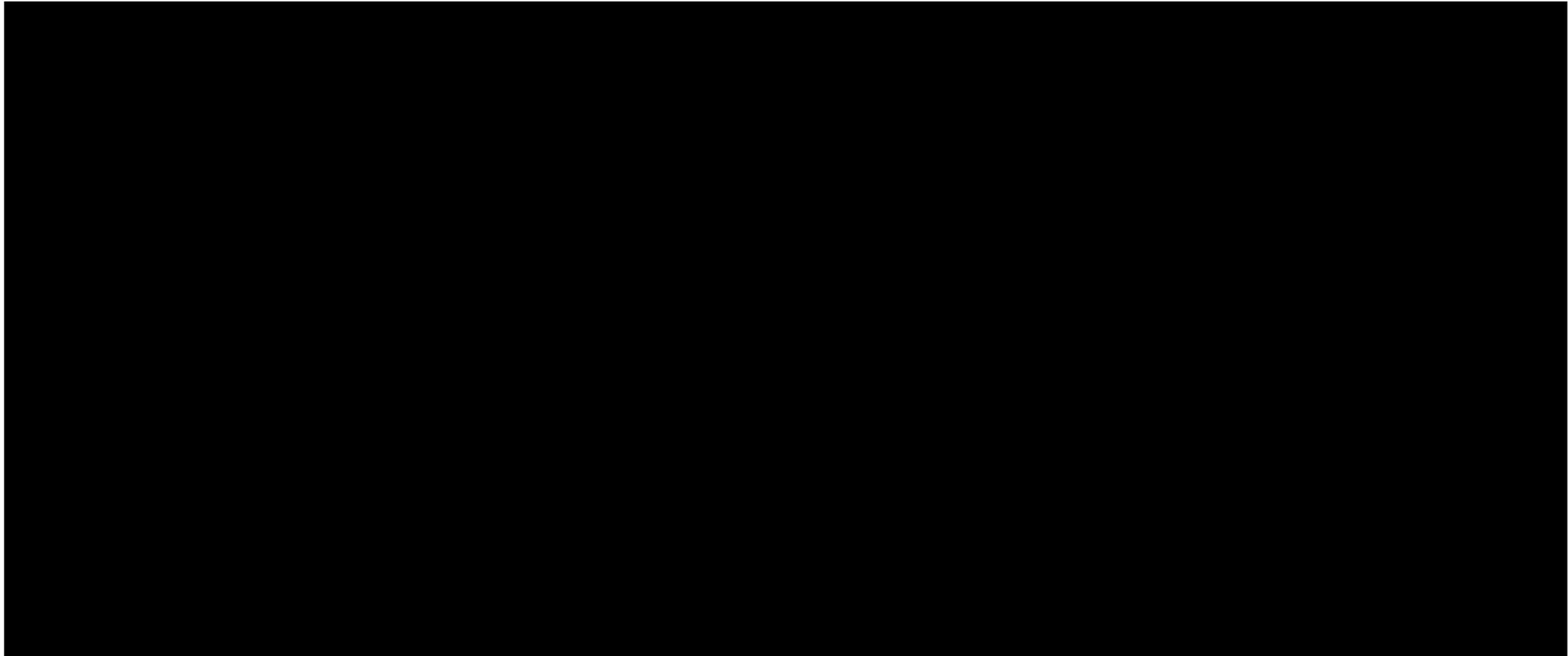
Form G-15		Section A, tab titled <i>OMC-CSC</i>
Form G-16		Section A, tab titled <i>Hourly Rates</i>
Form G-17		Section A, tab titled <i>Major Spares</i>
Form G-18		Section A, tab titled <i>MOT</i>

**System Architecture Requirements**

Req ID	System Architecture (Section SA)	Required	Value Add
SA-001	The Toll System Provider shall provide equipment and technology that has already been designed, developed, tested, and currently is deployed on another AET System with a similar scope and in a similar or larger revenue operation.	X	
	<p><b>Note:</b> The Proposer shall identify in this Technical Response Form the other AET systems on which Proposer's proposed equipment and technology currently are deployed.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-001.</p> <p>The TransCore TCS solution (lane, roadway, and back office) is based on proven technologies that have been installed at similar toll agencies including the Delaware Department of Transportation (DeIDOT) and West Virginia Turnpike.</p> <p><i>Infinity</i> AET systems substantially similar to the ones proposed for this project are currently deployed for the Central Texas Turnpike, Harris County Toll Road Authority, Maine Turnpike Authority, DeIDOT, Ft. Bend Grand Parkway, Miami-Dade Expressway, Florida Turnpike Enterprises, and Oklahoma Turnpike Authority.</p>		
SA-002	The Toll System Provider shall provide a System which provides a future upgrade path.	X	
	<p><b>Note:</b> The Proposer shall describe in this Technical Response Form the current product lifecycle status and future upgrade path. Equipment swap-outs are acceptable.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-002.</p> <p>Software and hardware are current models/versions. They are supported by the manufacturer with maintenance contracts, product updates, and a planned lifecycle.</p> <p>[REDACTED]</p> <p>The lane controller features a "blade" type modular architecture that allows the chassis to be upgraded or expanded by adding or replacing the individual lane controller blade assembly(s) as desired.</p>		







Req ID	System Architecture (Section SA)	Required	Value Add
SA-003	The Toll System Provider shall provide a System which provides high level redundancy for the TCS such that the TCS will meet and continue to meet all Performance Requirements as outlined in Section PR of the Technical Requirements at all times.	X	
	[Redacted]		
SA-004	The Toll System Provider shall configure all servers, desktop and tablet computers to have Virus Protection and intrusion prevention Software that automatically obtains definition updates according to an approved, recommended, and configurable maintenance schedule provided in the Maintenance and Support Plan by the Toll System Provider.	X	
	[Redacted]		
SA-005	The Toll System Provider shall: 1) integrate the ETC into the Roadside System; 2) certify during the Installation and Delivery Phase and the TCS Operations and Maintenance Term that the Toll Zones are tuned and maintained to the ETC Contractor's specifications; 3) synchronize all ETC readers that are in the same Toll Zones; 4) analyze the site conditions, and install and configure all required sensors and Hardware in accordance with the Technical Requirements; 5) ensure full sensor coverage at all areas of the Toll Zone; 6) ensure front and rear ALPR cameras provide ninety nine and nine tenths percent (99.9%) image capture, including during individual camera failures and excessive glare conditions and other extreme weather conditions; and 7) integrate all components of the Roadside System to provide a fully functional and operational TCS.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-005.</p> <p>The ETC will be integrated with the TCS and certified during installation for proper tuning based on the ETC specifications. The deployment of the ETC sensors and front and rear camera capture systems will ensure full coverage of the ORT zone to provide a fully functional and operational roadside toll collection system. The ALPR camera requirement of 99.9% can be met.</p>		
SA-006	[Intentionally not used.]		

Req ID	System Architecture (Section SA)	Required	Value Add
	<b>Proposer Response:</b>		
SA-007	All data entered or generated in the TCS shall be retrievable through reports, applications and screens via tools by TCS authorized users at remote locations.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-007.</p> <p>TransCore will provide our premier Customer Account Management System (CAMS) product as the back office software application that is a seamless and fully integrated single application that is comprised of the host, CSC, and VPS functions for an operations center. Our products are user friendly with intuitive icons and organization, efficient, accurate, dependable, easily expandable, and modifiable. They are Web based applications and can easily support the functioning of front counters, telephone centers for back office operations, automatic generation of account letters for mailing, automatic e-mail notifications for customers who have e-mail preferences on their account settings, interactive Web site to include a mobile device-centric Web site for account maintenance functions, and many other back office activities.</p> <p>TransCore will provide our <i>Infinity</i> roadside toll collection system (RTCS) for the collection of vehicle information within the ORT zones. The toll management console (TMC) Web-launched user interface for RTCS management, monitoring, and operation provides full visibility to the data collected through reports and interface screens that are easily navigated and secured through a role-based model.</p>		
SA-008	[Intentionally not used.]		
	<b>Proposer Response:</b>		
SA-009	All Traffic, Financial and Event Transactions and images shall be retained on-line for two (2) years and shall be archived and stored for 10 years. Archived data shall be recovered and made available to the Joint Board within 48 hours of a request made by the Joint Board.	X	
	<b>Proposer Response:</b> The TransCore TCS complies with requirement SA-009.		
SA-010	All TCS system logs shall be retained on-line for one (1) year and then shall be archived and stored for 10 years.	X	
	<b>Proposer Response:</b> The TransCore TCS complies with requirement SA-010.		
SA-011	All data except TCS system logs shall be retained on the server in accordance with requirements of Indiana and Kentucky state statutes and administrative codes as may be in effect during the Term of the Agreement.	X	
	<b>Proposer Response:</b> The TransCore TCS complies with requirement SA-011.		
SA-012	The Toll System Provider shall provide a quarterly written report that shows data backup and retention status for all elements of the System (e.g. Roadside System, BOS); and System access audit reports shall show the user access data and modification to the access made.	X	

Req ID	System Architecture (Section SA)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-012. Refer to SA-013 for details on the backup products.</p>		
SA-013	<p>The Toll System Provider shall provide a backup and archiving schedule and Plan for the System and staff (if any) required for backing up the System. The backup Plan (included in the Maintenance and Support Plan) shall include data type and frequency of backup. Data related to the following shall be included in the backup Plan: application and associated configuration, Transaction and data information, database, operating systems, account management system, and Transaction system.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-013. The roadway system will be backed up fully and incrementally via [REDACTED]</p>		
SA-014	<p>It is desired that the Toll System Provider provide fully automated data archival and purging without the assistance of a staff member.</p>		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-014. [REDACTED]</p>		
	<p><b>System Scalability</b></p>		
SA-015	<p>The Toll System Provider shall provide a communications bandwidth sufficient to handle all System functions and ensure the data collected by the Roadside System is accessible from the CSC and TOC in near-real-time. Near-real-time means the user actions can remotely access the TCS are of duration less than 2 seconds.</p>	X	
	<p>Note: The Proposer's Response shall include the expected response times to retrieve and view CCTV video, TCS images, and Transactions from a user in the CSC and TOC.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-015. [REDACTED]</p>		
SA-016	<p>The TCS database management system shall be scalable to process at least five million (5,000,000) Transactions per day plus all associated ancillary messages without major architecture changes to the database management system.</p>	X	

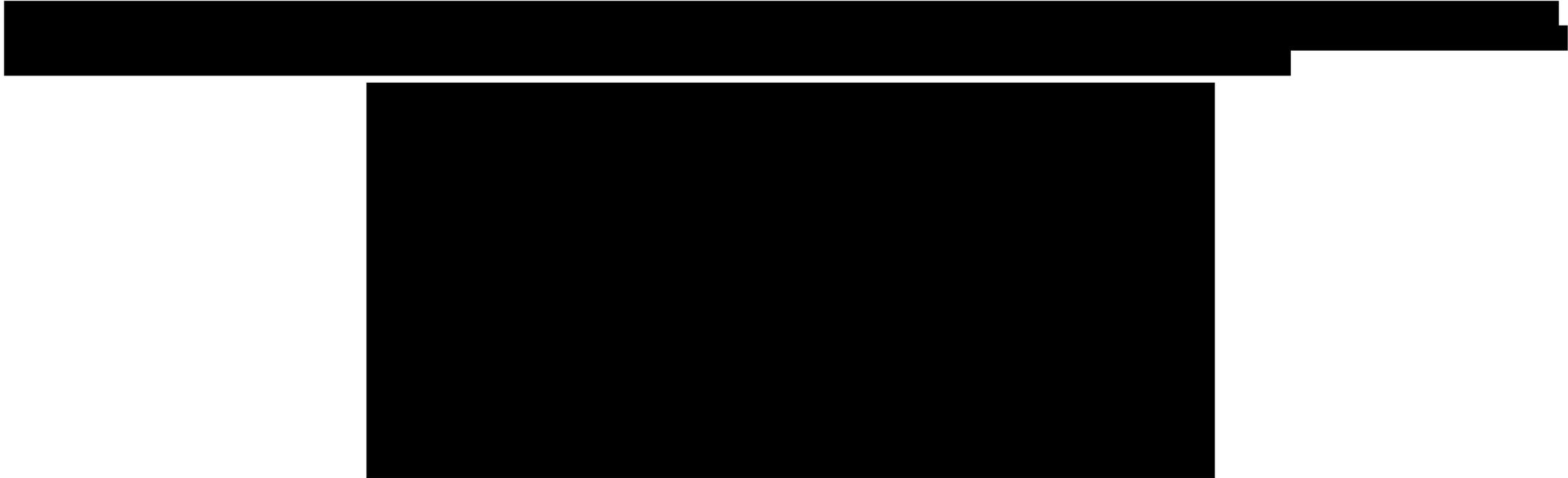
Req ID	System Architecture (Section SA)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-016.</p> <p>We take advantage of many SQL Server 2012 Enterprise features in order to scale the TCS database management system to process five million transactions in the future. All of the detail transaction tables in the databases will be partitioned monthly so at any point in time queries are only looking at a subset of data (1 month) in order to respond to the queries quickly.</p>		
SA-017	<p>The TCS storage shall be scalable to store at least five million (5,000,000) Transactions per day, which number is intended to include all Traffic Transactions, Financial Transactions and Event Transactions, without major architecture changes to the storage system for at least two (2) years of production.</p>	X	
	<p>Note: The Proposer shall size the system to work in accordance with the expected traffic based on information provided in the Traffic and Revenue Study provided to KYTC by Steer Davies Gleave. However, it is up to the Proposer to describe how the system will scale to meet this requirement. This could be done upon initial deployment or scalable as required through the term of the Contract to meet all Technical Requirements.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-017.</p> <p>The TCS storage will initially be sized to store the traffic transactions, financial transactions, and event transactions within 2 years of production detail and 10 years of archival transactions. It will also include the additional storage required for other transactions like summary, account, posting etc. [REDACTED] Refer to SA-003 for more information about hardware scalability.</p>		
SA-018	<p>The TCS must retain Violation enforcement images and associated Transactions online in the BOS for two (2) years.</p>	X	
	<p>Note: Valid ETC Traffic Transactions may be removed after they have gone through the OCR process and validated that they are not on the Watch List.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-018.</p> <p>As part of the database maintenance, TransCore provides data archiving and purging processes for all modules of the system, including the violations and associated images. In order to maintain the size of the databases and database backups, the database archive and purge process is run once a month. When the job runs, it uses the configuration tables to determine what data is to be archived and what is to be purged. Generally, all data is first archived before being purged. However, the design of the archive and purge process does allow for an administrator to purge a particular transaction type of data without first archiving it. The data retention period is configurable.</p>		
SA-019	<p>The TCS BOS shall be configured and sized to support at least fifty (50) concurrent users and shall also support a growth rate of 15% per annum without any degradation in performance.</p>	X	
	<p>Note: This requirement assumes that customers will only access the System from the Customer Website and customer access is not included in this Technical Requirement.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-019.</p> <p>As part of the back office solution, TransCore will provide all necessary hardware and equipment to run CAMS efficiently to the performance specifications required in the RFP. The proposed system and database will be sized to support the RFP requirements, with a projected 15% annual growth rate without any degradation in the system performance. The database will be structured to support the required response times without creating problems for the systems operations. Access will be easy, and reports will be configurable and accurate.</p> <p>To ensure performance TransCore has developed a sophisticated stress test approach that we have used to identify software and database optimizations as well as optimal hardware requirements for systems of a variety of sizes. Our focus in designing these tests has been to emulate as closely as possible production environments of different system sizes with full database load, real time incoming transactions, back-end processes running, backups taking place, and concurrent customer service representative actions.</p>		

Req ID	System Architecture (Section SA)	Required	Value Add
SA-020	The TCS shall provide load balancing in accordance with the RS, SA and BO sections of the Technical Requirements.	X	
	<p>Note: The Proposer shall describe in this Technical Response Form the manner in which load balancing of the TCS will be provided, and how Proposer will describe such load balancing in the System Documentation.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-020.</p> 		
SA-021	The TCS shall transmit and post to the BOS database available for reporting Financial, Traffic and Event Transactions in near-real-time between the Roadside System and the BOS. Near-real-time for this requirement is defined as Transactions sent from the Roadside System to the BOS not less frequently than within four (4) hours.	X	
	<p>Note: The Proposer shall describe in this Technical Response Form how it will integrate the Roadside System and the BOS to receive and process all Transactions in near-real-time in the TCS.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-021.</p> <p>Transactions are flowing from the <i>Infinity</i> tolling solution to the back-office in near-real-time through the Road Side Solution Interface (RoSSI) interface. At the heart of the system is a message processing framework. This framework consists of monitors, messengers and the Monitor Manager. At startup, the manager converts the configuration settings into a set of monitors and their associated messengers. The manager handles initialization, startup, and shutdown of the monitors. A monitor watches some part of the system which, could be a database table, a service, or the file system. When a watched event occurs on the monitor, such as a new transaction is created, a new image is received or the toll schedule was updated, the monitor will pass on the event data to its associated subsystem. The following data exchange occurs between the BOS and the roadside system:</p>  <p>There could be one or more images associated with every transaction, and the data received from the lane includes optical character recognition (OCR) information such as plate state and plate number.</p> <p>Our <i>Infinity</i> roadside solution will send all license plate images for all transactions types to BOS for storage. The system will make sure that random and configurable percentage of images with valid transponder (tag) transaction are downloaded, sent to the OCR process, and queued up for the manual review process. This will be done for quality control and to allow for a random human review even when a high confidence level is reported. The percentage of images to</p>		

Req ID	System Architecture (Section SA)	Required	Value Add
	<p>be reviewed in this way will be configurable. The transaction will still be posted as an ETC transaction in case no changes are required. In the event the license plate is incorrect, modified values will be appended and processed according to the Joint Board business rules.</p> <p>Both the BOS and Roadside solution provide extensive reporting capabilities and the reports are easily accessed for reconciliation.</p>		
SA-022	<p>The Toll System Provider shall integrate all Transponder lists and Toll Rate Schedules in the TCS such that the BOS has a record copy of the Transponder list and corresponding Toll Rate Schedules for the time of the Traffic Transactions.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-022.</p>		
SA-023	<p>The Toll System Provider shall provide full integration between the CSC and BOS, including but not limited to: association of all customer contacts with the customer account and association of detail regarding the customer contact with the customer account (for example, wrap codes, email, letters, lockbox operations, and ad-hoc authorized user entered information).</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-023.</p> <p>TransCore will provide our premier Customer Account Management System (CAMS) product as the back office software application that is a seamless and fully integrated single application comprised of the host, CSC, and VPS functions for an operations center. The image-based transaction processing feature is not a separate subsystem but an integral part of CAMS. The customer service representatives (CSRs) will be able to access information on video transactions and violations for processing a potential customer or a customer whose account has been changed to a violation account. The violations processing systems (VPS) clerk will also have access to the customer service center (CSC) data and accounts if an unregistered video customer claims to be a registered video or ETC customer or some other circumstance that would require access and transferring the transaction to the appropriate account.</p> <p>The account management module provides a comprehensive set of features that allows CSRs to efficiently deal with customers. A key component of an efficient customer service operation is to keep account records updated at all times, particularly when the request for an update or change is initiated by an account holder. Accounts require updates to ensure successful delivery of communication with the account holder, successful and accurate processing of toll, financial, and other transactions, and account holder access via the Web or interactive voice response (IVR). TransCore will ensure that all updates received in person, by phone, by fax, over the Web, via IVR, or electronically are processed in real time. Any requests for updates received via mail will be processed by the close of business the following business day.</p> <p>Account update requests will be managed and monitored using the Total Resource, Account and Contact Event Recorder (TRACER) module of CAMS. TRACER is an application that allows a user to open a ticket for a customer issue and track the progress of resolution. TRACER tickets can be opened for account holders or non-account holders. Account holder tickets are associated to the account information. The user searches for the account and the account management screen provides a link to the TRACER ticket functionality.</p>		
SA-024	<p>The TCS shall provide graphical user interface (GUI) based applications that shall accommodate any authorized device connected to the System and application based on access roles and security levels.</p>	X	
	<p>Note: The Proposer shall provide in this Technical Response Form a list of all TCS applications that do not have a GUI.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-024.</p> <p>Both the CAMS and the <i>Infinity</i> RTCS application solutions are Web based and have a GUI.</p>		

Req ID	System Architecture (Section SA)	Required	Value Add
SA-025	For any systems accessible by a commercial internet browser, the Toll System Provider shall provide secure browser-based system access and navigation for internal users and role-based access for external users using the latest version and the previous version of a web browser approved by the Joint Board. Acceptable web browsers include, but are not limited to the following: Microsoft's Internet Explorer, Mozilla Firefox, Google Chrome, Apple Safari iOS.	X	
	Note: The Proposer shall describe the supported browser versions in its Technical Response Form.  <b>Proposer Response:</b> The TransCore TCS complies with requirement SA-025. For the <i>Infinity</i> TMC, supported browsers include Microsoft's Internet Explorer for the launching of the ClickOnce application. There are also plugins for Firefox and Google Chrome that can open ClickOnce packages. For the BOS, supported browsers are Microsoft's Internet Explorer, Mozilla Firefox, and Google Chrome.		
SA-026	The Toll System Provider shall provide secure browser-based access and navigation of the Customer Website for Project customers using the latest version and the previous version of a web browser approved by the Joint Board. Acceptable web browsers include, but are not limited to the following: Microsoft Internet Explorer, Mozilla Firefox, Google Chrome, Apple Safari iOS.	X	
	<b>Proposer Response:</b> The TransCore TCS complies with requirement SA-026. Supported browsers include Microsoft's Internet Explorer, Mozilla Firefox, Google Chrome and Apple Safari iOS.		
SA-027	The TCS shall provide the following regarding web navigation: 1) self-service navigation that is optimized for speed regardless of the web browser used; 2) the capability to detect and report errors if the browser used to access the Customer Website is outdated or not supported; and 3) paginate content in various ways corresponding to differences in device characteristics.	X	
	<b>Proposer Response:</b> The TransCore TCS complies with requirement SA-028 in the following manner. Our applications have a very modern, intuitive and easy to use user interface (UI). They are designed to maximize operational efficiency. The richness of the user interface is accomplished via the Microsoft Ajax features in ASP.NET, which increase the productivity of content-based user interface navigation. When searches of the database are performed and a long list of records match the criteria, the system only returns a configurable number of records at a time (the default is 25 records), splitting them in multiple pages. This approach speeds up the page rendering and the database performs at a faster speed.		
SA-028	The Customer Website shall be 1) accessible to mobile devices irrespective of differences in presentation capabilities and access mechanism; and 2) accessible on a range of mobile devices, including but not limited to: smart phones and tablets.	X	
	<b>Proposer Response:</b> The TransCore TCS complies with requirement SA-028. The customer Web site is browser based and can be accessed from the internet using regular computers or mobile devices. The look and feel may be different depending on the device used. In addition, TransCore also offers a mobile Web site specifically designed to fit any mobile device's screen. The mobile Web site can also be packaged, deployed and installed as a mobile application downloadable from the store.		

Req ID	System Architecture (Section SA)	Required	Value Add
SA-029	The TCS Customer Website shall support the latest versions of mobile operating systems, including but not limited to: Apple's Safari iOSs, Android operating system, Windows operating system, BlackBerry operating system.	X	
	<p>Note: The Proposer shall describe the supported versions in its response.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-029.</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
SA-030	Any original Financial Transaction, Traffic Transaction or Event Transactions entered in the System shall only be modified in the System or deleted as necessary to move Transactions to long term storage in accordance with the archive requirements. Any updates to the data associated with any message shall be traceable to the original records.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-030.</p> <p>The transactions are not removed from the system until they are stored on a permanent storage device as part of the archive and purge process. CAMS preserves the original transactions. Any changes are allowed only by reversing the original transaction and creating a new one. Everything is recorded and traceable through the General Ledger (GL) and auditing reports. CAMS is fully auditable and provides for a robust reconciliation processes of the customer service representative transactions, the ETC transactions, the video transactions, account balances, the front counter, all adjustments, credit card transactions, and payments.</p>		
SA-031	Any manual intervention required shall be only by authorized users and a full audit trail of such manual intervention shall be provided with appended records within the TCS.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-031.</p> <p>Within the Infinity RTCS, a user with a secure connection to the system (typically local or via VPN) logs into the toll system through the Toll Management Console (TMC) application. Access to the TMC is through username and password. The TMC applies security through user roles (Employee Types), allowing access to only the functions assigned to a user's assigned role in the system. User login records and audit of changes are recorded in the system databases.</p> <p>All screens within the CAMS are also configurable and available to the users based on their role and role definition for access. System roles (such as CSR, Financial Manager, or Image Reviewer) are dynamically defined and assigned to the system users as a way of authorizing and restricting access to the different system areas, functions, and data. Every single page, button, or UI control is seen as a resource that can be associated with the specific system role. The user is not able to see any objects on the screen which are not configured and associated with the user's particular role. Changes to sensitive data within the system are logged and viewable through reports. Any data changes are logged and reported through System Admin history reports, as well as through ApexSQL Audit tool that monitors any database changes.</p>		
SA-032	All confidential data (e.g. passwords, authorized user names and access rights) and Personally Identifiable Information shall be encrypted.	X	

Req ID	System Architecture (Section SA)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-032.</p> 		
SA-033	<p>The TCS shall provide access privileges for different levels of user authorization which shall be fully configurable by a System administrator.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-033.</p> <p>The proposed TCS provides a flexible way of managing users and roles. System roles (such as CSR, Financial Manager, or Image Reviewer) are dynamically defined and assigned to the system users as a way of authorizing and restricting access to the different system areas, functions, and data. The definition of these roles and assignment to each user of the system is easily maintained within the provided graphical user interfaces (GUIs).</p>		
	<p><b>System and user configurable parameters</b></p>		
SA-034	<p>It is desired that the TCS shall have access levels and user roles of the entire TCS controlled solely through a graphical user interface.</p>		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with value add requirement SA-034.</p>  <p style="text-align: center;"><i>Figure 1. CAMS Access Control Concept</i></p>		

Req ID	System Architecture (Section SA)	Required	Value Add
SA-035	The TCS shall provide the functionality to create, manage, store and automatically transmit the then-current Toll Rate Schedules (including toll rate schedules for special events), per Toll Zone, by authorized users. The TCS shall create an audit trail that logs when the rates were configured, the user making the change in the System and the time at which the rates were effective.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-035.</p> <p>Toll rate schedules are created and managed in CAMS and transmitted to the roadside through the common interface. The CAMS application integrates with a third party software product, ApexSQL which enables the system to log data changes of any part of the system as requested by the RFP. Part of the logging information includes the data and time of the change, the user who made the change, module where the change occurred, the old value, and the new value. These changes are viewable through system administration reports. By default, the following functionality is monitored:</p> <ul style="list-style-type: none"> <li>• Toll rate definition and updates</li> <li>• Configuration of system parameters</li> <li>• Toll schedules parameters</li> <li>• Business rules parameters such as replenishment thresholds</li> <li>• Fees and account plans</li> <li>• Manage internal user accounts – Adding and updating user information and resetting passwords</li> <li>• Manage user roles – Adding, updating and deleting Roles and Role Mapping</li> <li>• Report configuration parameters</li> </ul>		
SA-036	The TCS shall provide a default rate table for all Toll Zones when no Toll Rate Schedules can be found. The toll rate values in the default rate table shall be approved by the Joint Board.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-036.</p> <p>Within the <i>Infinity</i> solution configuration, default toll schedules and rate table assignments are made for each tolling point location that are in effect when no other published toll rate schedule has been provided.</p>		
SA-037	The TCS shall provide storage capacity thresholds which shall trigger alarm messages to be generated by and logged into MOMS. These thresholds shall be configurable between 0% and 100%.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-037.</p> <p>The TransCore TCS solution offers the ability to monitor vital components of the entire system and depending on configuration thresholds, generates automatic alarms and events. These components include memory usage, disk space availability, servers, databases and tasks. [REDACTED]</p> <p>[REDACTED]</p> <p>Thresholds are configurable as per requirement.</p>		
SA-038	The TCS shall be configurable based upon a confidence rating for video image processing transactions.	X	

Req ID	System Architecture (Section SA)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-038.</p> <p>The OCR engine provided by TransCore is highly configurable and contains a number of settings that affect:</p> <ol style="list-style-type: none"> <li>1. Acceptable confidence levels</li> <li>2. Accuracy rates for automatic processing of images</li> <li>3. Minimum and maximum thresholds for license plate recognition (LPR) confidence level</li> </ol>		
SA-039	<p>The Toll System Provider shall provide a TCS with a disaster recovery system including facilities, Hardware, and Software that will ensure that the TCS continuously meets all availability performance guarantees set forth in TR Section PR. The TCS shall allow for continued use of the CSC, Roadside System and BOS in degraded mode whenever necessary.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-039.</p> <p>Our proposed TCS complies with this requirement through the implementation of duplicate hardware and system design at the primary and DR data centers. The “Training” environment is located (hosted) on the DR servers. This allows us to leverage systems that normally are idle by adding some additional disk storage. In the event operations are transferred to DR, this design provides the option to power off Training and avoid running at a reduced capacity.</p>		
SA-040	<p>The TCS shall recover all Mission Critical Systems of the TCS within 4 hours of the time of failure. The TCS shall recover all Business Critical Systems of the TCS within 8 hours of the time of failure.</p>	X	
	<p>Note: The Proposer shall provide in this Technical Response Form the existing Disaster Recovery System Plan for the TCS which includes a list and description of all Mission Critical Systems and Business Critical Systems and operational steps to make each system operational.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-040.</p> <p>“Mission Critical” systems are defined as those critical to ensure no transactions are lost and protect revenue. “Business Critical” systems are defined as those that process transactions, exchange data with partners (bank, IAG, etc.) and customer facing systems (i.e., Web site and IVR).</p> <p>All critical systems in the CAMS back office are fault tolerant by design (see SA-020). EMC’s Recover Point will be used to provide continuous data protection by means of multiple recovery points while protecting both applications and data with synchronous and asynchronous replication between the primary and DR sites. Recover Point minimizes network utilization with unique bandwidth compression and deduplication technologies. Combined with VMware’s Site Recovery Manager partial or fully automated DR failover is a possibility. Time consuming manual operational tasks for each system can be scripted. Eliminating or at least minimizing the need for human intervention thereby reducing the potential for mistakes during a stressful time. The combination of these tools allows disaster recovery testing of the DR environment while replication of your production data continues unaffected.</p> <p>Copies of the disaster recovery plans are available upon request.</p>		
SA-041	<p>The Toll System Provider shall provide a disaster recovery site that shall be located at least 100 miles from all of the TCS Sites used for the Project.</p>	X	

Req ID	System Architecture (Section SA)	Required	Value Add																
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-041.</p> <p>[REDACTED]</p>																		
SA-042	<p>The Toll System Provider Disaster Recovery System Plan shall ensure no data will be lost prior to, during and after a disaster.</p>	X																	
	<p>Note: The Proposer shall describe in this Technical Response Form how its' Disaster Recovery System Plan will prevent loss of any data in case of a disaster.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-042. The TransCore TCS is designed with multiple levels of redundancy and data protection.</p> <p>[REDACTED]</p>																		
SA-043	<p>The Toll System Provider shall ensure that the application and use of the ETC Components complies with all applicable FCC regulations. The Toll System Provider shall secure a FCC site license for each Toll Zone on behalf of the Joint Board. The FCC site license shall be transferred to the Joint Board no later than 60 days after Revenue Service for each Bridge.</p>	X																	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-043.</p>																		
SA-044	<p>The Toll System Provider shall install, configure, tune, test, and integrate the ETC Components into the Roadside System and ensure that they are operational and meet all functional and Performance Requirements.</p>	X																	
	<p>Note: The ETC Component includes all components in Exhibit L required by the Toll System Provider to operate the TCS at the Performance Requirements. The Joint Board has secured a Contract with the ETC Contractor to provide technical support as necessary during the Term of the Contract.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement SA-044. TransCore has extensive experience installing, configuring, testing and integrating the ETC components supplied by the ETC Contractor with our proposed system. TransCore will work with the ETC Contractor to ensure that the components are operational and meet all functional and performance requirements.</p>																		
SA-045	<p>The Toll System Provider shall provide ICDs including an interface test plan in the Master Testing and Commissioning Plan ( see TR Section TP for plan requirements) for all single and two-way external interfaces including, but not limited to:</p> <table border="0"> <tr> <td>a) Interoperable agencies</td> <td>b) Transponder statuses</td> </tr> <tr> <td>c) Mobile devices</td> <td>d) Cash bank(s)</td> </tr> <tr> <td>e) Credit card payments</td> <td>f) Court(s)</td> </tr> <tr> <td>g) Collection agency(s)</td> <td>h) Walk-up Centers</td> </tr> <tr> <td>i) Traffic management center(s)</td> <td>j) Transponder management</td> </tr> <tr> <td>k) Retail outlets and kiosks</td> <td>l) Legal entities (for persons of interest)</td> </tr> <tr> <td>m) Mail address skip-tracing service</td> <td>n) Indiana and Kentucky DMV</td> </tr> <tr> <td>o) Third party suppliers (e.g. out-of-state registered owner look-up)</td> <td></td> </tr> </table>	a) Interoperable agencies	b) Transponder statuses	c) Mobile devices	d) Cash bank(s)	e) Credit card payments	f) Court(s)	g) Collection agency(s)	h) Walk-up Centers	i) Traffic management center(s)	j) Transponder management	k) Retail outlets and kiosks	l) Legal entities (for persons of interest)	m) Mail address skip-tracing service	n) Indiana and Kentucky DMV	o) Third party suppliers (e.g. out-of-state registered owner look-up)		X	
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o) Third party suppliers (e.g. out-of-state registered owner look-up)																			
	<p>Note: The Proposer shall provide a list of all ICD's in this Technical Response Form. All actual ICD's shall be included in the Master Testing and Commissioning Plan.</p>																		



Req ID	System Architecture (Section SA)	Required	Value Add
[REDACTED]	[REDACTED]		
	[REDACTED]		

Req ID	System Architecture (Section SA)	Required	Value Add
SA-047	The TCS shall generate files to transmit, receive and process information with multiple registered vehicle owner look-up service providers and DMVs via electronic interface portals provided by the Toll System Provider. It is desired that if the registered driver information is available in addition to the registered owner information, this information be provided by the Toll System Provider.	X	
[REDACTED]	[REDACTED]		
SA-048	The TCS shall generate reports that detail all interoperable Transactions sent and received from or to the interoperable agencies.	X	
[REDACTED]	[REDACTED]		
SA-049	The Toll System Provider shall provide a fully functional TCS network from the Toll Zones to the BOS. The proposed architecture shall use an existing communications service provider to provide "last mile" infrastructure (e.g. conduits and cable) and network connectivity from the toll equipment pad to an existing fiber optic commercial network owned by a commercial carrier. The Toll System Provider shall contract with a local communications service provider to provide data communications, including all necessary fiber cables and network equipment, from the Toll Zones to the local data center to be approved by the Joint Board. The Toll System Provider shall provide connectivity from the Toll Zones to an existing commercial service and back to a local data center that supports multiple internet service providers. The Toll System Provider shall connect its BOS with other supported external services (e.g. Walk-up Center, lockbox, and retail distribution centers) using commercial internet service providers. The high level architecture is described in Attachment C-1 of the Technical Requirements. The Toll System Provider shall comply with the architecture specified in Attachment C-1 or an alternative architecture approved by the Joint Board in its sole discretion.	X	
[REDACTED]	[REDACTED]		

Req ID	System Architecture (Section SA)	Required	Value Add
[REDACTED]	[REDACTED]		

Req ID	System Architecture (Section SA)	Required	Value Add

Req ID	System Architecture (Section SA)	Required	Value Add
SA-050	The Toll System Provider shall manage and be responsible for all elements of the network communications in the TCS. The actual, direct costs charged by the data communications service provider to TSP shall be billed to the Joint Board as a "Pass-Through Cost Item" without any mark-up. The Toll System Provider shall manage the identification and repair of any communications outages. The Toll System Provider shall require a monthly report from the network communications service provider that will be distributed to the Joint Board in the Monthly Operations and Maintenance Report. The content of the reports and all service level requirements will be negotiated after contract award. The Toll System Provider shall contract directly with the communications service provider for a 3 to 5 year contract on terms and conditions approved by the Joint Board, in its sole discretion.	X	
	<b>Proposer Response:</b> The TransCore TCS complies with requirement SA-050.		
SA-051	The Toll System Provider shall provide, update and maintain a Data Mart for the TCS that shall be available to and accessible by the States' Parties at all times from and after six months prior to the first Tolling Readiness Deadline. The Data Mart shall include ETC and license plate transaction data and ETC and license plate account data from the Roadside System, BOS and CSC in its native format and not aggregated to summary level data. The MOMS work orders and system tickets shall also be made available in the Data Mart. The purpose of this Data Mart is for the States' Parties to develop States' Parties' reports outside of the TCS.	X	
	<b>Proposer Response:</b> The TransCore TCS complies with requirement SA-051. [REDACTED]		
SA-052	The Data Mart shall provide for the use of an Extract Transfer Load (ETL) with a full written data dictionary of the TCS data or a separate copy of the data to be replicated by the States' Parties for their own reporting.	X	
	Note: States' Parties may retrieve this data using one methodology or two separate methodologies as described below. Alternative 1 is to provide a copy of the database management system for the States Parties to use the data within the Data Mart. Alternate 2 is the use of an Extract Transfer Load (ETL) tool. The Toll System Provider shall accommodate both methodologies of retrieving this data from a specified operational database within the TCS.  <b>Proposer Response:</b> The TransCore TCS complies with requirement SA-052.		
SA-053	For the ETL method, the Toll System Provider shall provide all data available in the TCS to the ETL to be accessed by the States' Parties no less frequently than every 24 hours. The Proposer shall provide this capability no later than six (6) months prior to the first Tolling Readiness Deadline.	X	
	Note: The Proposer shall identify in this Technical Response Form the maximum frequency that the data may be retrieved from the System.  <b>Proposer Response:</b> The TransCore TCS complies with requirement SA-053.		

Roadside Requirements

Req ID	Roadside Requirements (Section RS)	Required	Value Add
RS-001	<p>The Toll System Provider shall provide a Toll Collection System that accurately detects, classifies, rates and reports vehicles. The major function of the Roadside System is to accurately detect, classify and identify every vehicle passing through Toll Zones including the bi-directional lanes. The TCS shall provide the following functions:</p> <ol style="list-style-type: none"> <li>1. Detect, classify and rate vehicle Traffic Transactions in accordance with accuracy requirements and Performance Requirements;</li> <li>2. Provide backup and archiving functions;</li> <li>3. Operate in degraded modes with redundancy;</li> <li>4. Be audited from BOS to individual lane Traffic Transaction records; and</li> <li>5. Be a single source of toll collection data.</li> </ol> <p>The TCS shall generate a Traffic Transaction for every vehicle passing through any Equipment Lane of the Toll Zone. The Toll Zone shall accurately read Transponders, capture license plate images and classify vehicles anywhere in the Toll Zone between the left edge of the left shoulder and the right edge of the right shoulder, unless otherwise directed by the Joint Board.</p>	X	
	<p>[REDACTED]</p>		
RS-002	<p>The TCS shall implement axle based toll rates for specific Toll Zones and specific lanes. Rates set by the Joint Board may vary by time of the day and classification. The TCS shall classify vehicles into at least ten unique classifications without the Joint Board incurring additional charges from the Toll System Provider. The Toll System Provider shall provide an axle vehicle classification system that is based upon FHWA vehicle classifications. The vehicle classification shall be mapped by axle classes to the classifications below as specified during the Business Rules. The TCS shall provide, at a minimum, the following rating categories:</p> <ol style="list-style-type: none"> <li>1. By vehicle class, from lowest to highest:             <ol style="list-style-type: none"> <li>a. Class 1 (car),</li> <li>b. Class 2 (small truck), and</li> <li>c. Class 3 (large truck)</li> </ol> </li> <li>2. By type of Transaction:             <ol style="list-style-type: none"> <li>a. Transponder with discount based upon a specified number of trips for a specified period of time (Class1 only),</li> <li>b. Transponder,</li> <li>c. Registered Video, and</li> <li>d. Unregistered Video</li> </ol> </li> <li>3. By other variables such as time of day.</li> </ol>	X	

Req ID	Roadside Requirements (Section RS)	Required	Value Add
	The TCS architecture shall support congestion pricing functionality from an external congestion pricing system in the future if required by the Joint Board.		
	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
RS-003	The Toll System Provider shall ensure that no Traffic Transactions are lost and shall provide reports and the capability to check Traffic Transaction sequence numbers for purposes of audit and review. Transaction sequence number gaps shall be flagged by the BOS and reported by an alarm in MOMS.	X	
	<p>[REDACTED]</p> <p>[REDACTED]</p>		
RS-004	The Toll System Provider shall have a Second Source Hardware Plan for all Roadside System equipment, including functionally equivalent second sources for any equipment for which a direct second source is not available.	X	
	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
RS-005	It is desired that a second source be provided for all Hardware. If a second source is not available for Major Spare Parts, a functional equivalent shall be included in the list provided in accordance with RS-004, which shall include a functionally equivalent second source if a direct second source is not available. The list shall include the components' primary functions in the roadside, make, model number and any other pertinent information.		X

Req ID	Roadside Requirements (Section RS)	Required	Value Add
	<div style="background-color: black; height: 15px; width: 350px; margin-bottom: 5px;"></div> <div style="background-color: black; height: 15px; width: 220px; margin-bottom: 5px;"></div> <div style="background-color: black; height: 15px; width: 90px;"></div> <div style="background-color: black; height: 550px; width: 730px; margin-top: 10px;"></div>		
RS-006	The Toll System Provider shall provide a separate Toll Collection System that can discretely identify Traffic Transactions for each Equipment Lane for each direction of traffic at the Toll Zones.	X	

Req ID	Roadside Requirements (Section RS)	Required	Value Add
	[REDACTED]		
RS-007	The Roadside System shall run independently of the BOS and continue to build Traffic Transactions if communications are disrupted.	X	
	[REDACTED]		
RS-008	The Roadside System shall immediately build the Traffic Transaction with the information available, and shall operate in a degraded mode if some components are not functioning so that Performance Requirements are met.	X	
	[REDACTED]		
RS-009	The Toll System Provider shall provide a complete Roadside System, with ETC, AVC and Image Processing System, on all Equipment Lanes in the Toll Zone.	X	
	[REDACTED]		
RS-010	The Toll System Provider shall provide the network connections between Toll Zones and the BOS. The Toll System Provider shall comply with the System architecture requirements for data communications architecture and all other Technical Requirements when configuring and implementing the network system.	X	
	<b>Proposer Response:</b> <a href="#">The TransCore I-WAN (SA-049) complies with requirement RS-010.</a>		
RS-011	The Toll System Provider shall size the communication link to handle all functions of the Roadside System and make the information available at the BOS, CSC and TOC in near-real-time. Near-real-time is defined as access to the Roadside System applications and data displayed from the BOS, CSC, TOC and from a VPN within 2 seconds.	X	
	[REDACTED]		

Req ID	Roadside Requirements (Section RS)	Required	Value Add
[REDACTED]	[REDACTED]		

Req ID	Roadside Requirements (Section RS)	Required	Value Add

Figure 3. Intelligent WAN

Req ID	Roadside Requirements (Section RS)	Required	Value Add
RS-012	<p>The Joint Board will provide the Toll System Provider with a toll equipment site as shown in Attachment C-2. A 120/208 VAC commercial power service meter, provided by others, will be terminated at the equipment pad provided by others. Data communication conduits and a pull string will be provided by others from the toll equipment to the Toll Zone gantry. The final locations of the pads are being reviewed and are not yet final, but it is expected that the toll equipment pads will be within 330 linear feet of the Toll Zone gantry. The Toll System Provider shall provide all cabling and terminations for all data and power between the toll equipment pad and the Toll Zone gantry. A network connection from the toll equipment pad to a commercial service provider shall be provided by the Toll System Provider.</p>	X	
RS-013	<p>The Toll System Provider shall provide a Roadside System with a minimum operational lifecycle of 10 years.</p>	X	
	<p><b>Note:</b> The Toll System Provider shall specify the proposed Roadside System's operational lifecycle in this Technical Response Form.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-013.</p>		
RS-014	<p>The TSP is responsible for all installation/setup of the network at the Toll Gantries and at the BOS/CSC, and associated costs shall be included in the Contract Price.</p>		
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-014.</p>		
RS-015	<p>All components of all equipment shall be modular in nature for maintenance, testing, and replacement purposes. All components shall be designed such that they are easily accessible with hand tools by maintenance technicians as needed.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-015.</p> <p>Lane equipment is manufactured and installed in a modular form factor for ease of access and maintenance. The rack-blade cage assembly allows lane controller blade replacement with a few simple hand tools. Gantry equipment enclosures and design facilitates service and module replacement without removal of enclosure. No special tools are required for any component replacement or repair.</p>		
RS-016	<p>It is desired that equipment enclosures, mounting Hardware, washers, brackets, screws, bolts and nuts exposed to the outdoor environment shall be constructed of American Iron and Steel Institute Type 316L grade stainless steel where possible.</p>		X

Req ID	Roadside Requirements (Section RS)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-016.</p> <p>[REDACTED]</p>		
RS-017	<p>The Roadside System shall provide lightning and other surge protection such that the equipment can continue to perform without impact on normal functions during an electrical surge on the System. The TSP is responsible for surge protection as to the equipment it is providing, but may use the grounding apparatus provided by the DB Contractor and the Developer. The Toll System Provider shall provide its surge suppression and lightning protection design and plan no later than 180 days after NTP. The Toll System Provider shall implement the approved plan during the installation of the Toll Collection System.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-017.</p> <p>A protection plan for roadside and installed components will be submitted no later than 180 days after NTP. The plan will propose the use of in-line network suppressors, RF transmission line protection devices, component grounding, and will indicate which components incorporate integrated protection by design. Line surge suppression will be handled by provided and installed uninterruptable power supply components within the enclosure or shelter. The plan assumes that the gantry installation contractor has the responsibility of installing the ground grid and charge dissipaters on the gantry as part of the civil contract and is not part of the Toll System Provider scope.</p>		
RS-018	<p>The Roadside System shall classify vehicles under all weather conditions without any degradation.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-018.</p> <p>[REDACTED]</p>		
RS-019	<p>The Toll System Provider shall provide remote access to authorized users with credentials and administrative controls of the Roadside System through the BOS. The Toll System Provider shall report each time the TCS is accessed remotely for any purpose, and identify from where and by whom the remote access was generated and make this report accessible to the Joint Board at all times.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-019.</p> <p>The proposed LSIORB WAN design covers communications between the toll zones, toll operations center and BOS. Security features include the use of perimeter firewalls, Microsoft Active Directory® group policy rules, application layer firewalls, demilitarized zones (DMZ) and two-factor authentication for increased security when using remote access.</p>		
RS-020	<p>Toll System Provider shall take reasonable measures to ensure that all equipment in the Toll Zone is secure against damage, theft and vandalism, but is accessible by authorized personnel without special tools or equipment other than electronic or physical security keys or as may be necessary to assist in reaching heights.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-020.</p> <p>Electronic equipment will be installed and secured in lockable cabinets and/or equipment shelters. No special tools will be required to access ground mounted equipment.</p>		

Req ID	Roadside Requirements (Section RS)	Required	Value Add
RS-021	The Toll System Provider provided equipment shall comply with the latest adopted version of the National Electrical Safety Code as defined in the applicable codes and standards.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-021.</p> <p>TransCore installed equipment shall comply with the latest adopted version of the National Electrical Safety Code as defined in the applicable codes and standards.</p>		
RS-022	A Traffic Transaction shall include, but not be limited to the following: date and time stamp, Toll Zone gantry location and lane number, unique transaction sequence number, vehicle classification, state or province, special plate identifier or vertical letter stack, license plate number, identifier if license plate alpha-numeric string is on a current Watch List, all toll rates for the applicable vehicle class, and the status of lane and Roadside System (e.g. open, closed, maintenance).	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with the value add requirement RS-022.</p> <p>[REDACTED]</p>		X
RS-023	It is desired that the Toll System Provider provide in-lane OCR capabilities. If in-lane OCR capabilities are provided, the OCR confidence values for the license plate numbers including any stacked characters and state shall be provided with the message. In-lane OCR capabilities shall meet the same Performance Requirements as OCR Performance Requirements as specified in the Performance Requirements.		X
	<p><b>Proposer Response:</b> [REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
RS-024	It is desired that the Toll System Provider provide Traffic Transaction, Financial Transactions and Event Transactions that are readable using commercially available and supported tools and that they shall be imported into a XML viewer or other commercial analytical tool such as Microsoft Excel.		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-024.</p> <p>[REDACTED]</p>		
RS-025	The Toll System Provider shall provide a thin-client application for Traffic Transactions, Financial Transactions and Event Transactions queries and traffic activity monitoring by individuals with proper identification and password authorization.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-025.</p> <p>The client application launched from the web interface is the toll management console (TMC). Access to the TMC is through username and password. It provides real-time traffic activity, event and revenue details through the various modules of the supervisor monitor.</p>		

Req ID	Roadside Requirements (Section RS)	Required	Value Add
RS-026	The Toll System Provider shall provide a vehicle classification system for the TCS such that there is no single point of failure and at least two vehicle classification methodologies (e.g. smart loop system and overhead laser scanner) in the TCS that shall continue to detect, separate, and classify vehicles and capture an image of each vehicle without degradation for vehicles traveling at speeds from and including 0 MPH to 100 MPH, in stop and go conditions, and in all weather conditions.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-026.</p> <div style="background-color: black; height: 77px; width: 100%;"></div>		
RS-027	The Toll Collection System shall receive and process BOS configuration information including Toll Rate Schedules, Transponder files, video license plate files, and other configurations as required.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-027.</p> <p>The contents of the data exchange between the roadside and the BOS typically include the toll rate schedules and transponder files. Other items can be added easily within the scalable data exchange model supported by both systems.</p>		
RS-028	<p>The Roadside System shall provide one of the following options:</p> <ol style="list-style-type: none"> <li>1. Send the transactions to the BOS immediately without batching, i.e., in near-real-time, or</li> <li>2. Send transactions to the BOS every 4 hours (or more frequently) which would allow batching.</li> </ol>	X	
	<div style="background-color: black; height: 135px; width: 100%;"></div>		
RS-029	The Roadside System shall meet the service level requirements for audit, reporting, and all other business functions. No Transactions shall be lost during periods when communications with the BOS are not available. Transactions shall be available to be manually (via laptop or tablet) downloaded from the Roadside System and BOS in case of long term loss of communications between the BOS and Roadside System.	X	
	<div style="background-color: black; height: 120px; width: 100%;"></div>		
RS-030	The Toll System Provider shall take reasonable measures to protect the Roadside System from vermin and keep it rodent proof at all times.	X	

Req ID	Roadside Requirements (Section RS)	Required	Value Add
	[REDACTED]		
RS-031	It is desired that the Roadside System accurately account for full revenue or indicated revenue when there is a toll suspension or special event that requires the toll rates to be set at less than the full toll amount to allow the Joint Board to track revenues expected during these events for the purpose of collections in the future within each transaction. The desired revenue fields in the roadside transaction message include but are not limited to full revenue (i.e. non discounted toll) and indicated revenue (i.e. premium or discounted toll subtracted from the full amount). It is desired that indicated revenue be configurable from 0% to 100% discounted from full revenue. For example, for a toll suspension, the full revenue and indicated revenue would be the same toll amount and the actual rate would be \$0.00. This approach is desired as it provides clear traceability of revenues lost due to the toll suspension at the Transaction level.		X
	[REDACTED]		
RS-032	The Toll System Provider shall provide time synchronization for the TCS. All elements shall use this time for all associated time stamps.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-032.</p> <p>The lane equipment, DVAS cameras, and CPC synchronize their time to a central time server via Network Time Protocol (NTP). Time synchronization is performed at a configurable interval (maximum 1 hour) and whenever a networked device starts up. The system operates with Greenwich Mean Time (GMT) and thus automatically adjusts for daylight savings time and leap years.</p>		
RS-033	The current E-ZPass Transponder list is approximately 44,000,000 entries for approximately 26,000,000 Transponders. The list is expected to be 95,000,000 entries in the next 5 years. The TCS shall process the current size Transponder list and current anticipated growth and shall process E-ZPass transactions in accordance with the E-ZPass policies and procedures.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-033.</p> <p>[REDACTED]</p>		
RS-034	The Toll Collection System shall process E-ZPass Group files or lists received from the BOS including the Transponder list (ITAG file), customer license plate list (ICLP file), invalid Transponder customer list (IITC file), and authorized non-revenue vehicles.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-034.</p> <p>The roadside system proposed supports receipt and processing from the BOS the necessary transponder, license plate and vehicle identification lists to support the roadside transaction formation and business rules. The system processes the E-ZPass reciprocity files in Delaware, Indiana, Virginia, West Virginia, Massachusetts, and Maine.</p>		

Req ID	Roadside Requirements (Section RS)	Required	Value Add
RS-035	The Roadside System shall be remotely accessible and user configurable to view operational status and data for reconciliation purposes.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-035.</p> <p>Authorized users of the TMC are able to view the details of the system operation through the monitoring modules as well as execute various provided reports to support reconciliation of data with the BOS.</p> <p>An authorized user can see the detail and summary of the previous 24 hours of all of the information and transactions from all lanes and see the revenue and summaries of all of the types of transactional information. As transactions continue to be processed, the real-time screens are automatically updated.</p>		

Req ID	Roadside Requirements (Section RS)	Required	Value Add
	 <p style="text-align: center;"><i>Figure 4. Traffic Summary Report</i></p>		
RS-036	<p>The Roadside System shall be installed and configured for multi-lane free flow tolling operations. The Roadside System requirements apply, and the Roadside System shall accurately process all Traffic Transactions in accordance with the Performance Requirements, regardless of the vehicle position while traveling within the Toll Zone.</p>	X	
	<p>[Redacted]</p> <p>[Redacted]</p>		

Req ID	Roadside Requirements (Section RS)	Required	Value Add
RS-037	The Roadside System shall accurately capture and process 2,300 vehicles per hour per equipment lane at each Toll Zone for all vehicle types.	X	
	<p>[REDACTED]</p> <p>[REDACTED]</p>		
RS-038	The Roadside System shall accurately toll vehicles traveling at any speed up to 100 miles per hour.	X	
	<p>[REDACTED]</p> <p>[REDACTED]</p>		
RS-039	The Roadside System shall operate so as to meet all Performance Requirements in an ambient (external to cabinet) temperature range of -20°F to 120°F in full sun or shade with a relative humidity ambient from 5 to 100 % (external to cabinet).	X	
	<p>[REDACTED]</p> <p>[REDACTED]</p>		
RS-040	The Toll System Provider shall provide, install and configure a generator that allows the Roadside System to operate without refueling for 72 consecutive hours. The Toll System Provider shall provide a single generator per each Toll Gantry. The Toll System Provider shall provide all labor, materials and equipment and perform all civil work required to prepare a concrete pad for the generator.	X	
	<p>Note: A diagrammatic view of the toll equipment site including the location of the generator is provided in Attachment C-2.</p> <p><b>Proposer Response:</b> <a href="#">The TransCore TCS complies with requirement RS-040.</a></p>		
RS-041	The Toll System Provider shall provide a Changeable Message Panel LED 35 x 7 array Daktronics 1020 DDMS or approved equivalent. The Toll System Provider shall provide a local serial connection and wireless option. The Toll System Provider shall provide, procure, install, test and configure the changeable message panels. The Toll System Provider shall connect the TCS with the sign to update rates via a wireless communication. The changeable message panels shall provide rate information between \$0 - \$99.99 dollars and shall also be able to display other text information such as No Tolls.	X	
	<p>Note: The toll rate sign structures and foundations will be provided by others. A diagrammatic view of the toll rate signs is provided in Attachment C-4.</p>		

Req ID	Roadside Requirements (Section RS)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-041.</p> <p>TransCore will fully comply by providing a changeable message panel LED 35 x 7 array Daktronics 1020 DDMS or approved equivalent. TransCore will provide a local serial connection and wireless option and will provide, procure, install, test and configure the changeable message panels. TransCore will connect the TCS with the sign to update rates via a wireless communication. The changeable message panels will provide rate information between \$0 - \$99.99 dollars and will also be able to display other text information such as No Tolls.</p>		
RS-042	It is desired that all electrical equipment and components be certified by Underwriters Laboratory.		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement RS-042.</p> <p>[REDACTED]</p>		
RS-043	The Roadside system shall be sized to operate continuously for 72 continuous hours without interruption in case of commercial power loss.	X	
	<p>Note; The Proposer shall describe in this Technical Response Form how the system will operate continuously for 72 hours without loss of any data.</p> <p><b>Proposer Response:</b> TransCore will use natural gas fueled emergency generators. The generators will run on natural gas supplied by commercial service providers via gas lines that can supply fuel to the generators for as long as a commercial electric power outage lasts. This fuel source along with uninterruptible power supplies that provide temporary power during generator start-up will allow the roadside system toll to operate without any loss of data during commercial power outages.</p> <p>The system will continue to collect data as long as power is supplied from normal or backup sources. In the event of a loss of communication with the remote host, data is retained at the lane level for up to 30 days and may be retrieved once the connection is restored or by manual collection means.</p>		
RS-044	It is desired that wrong way detection functionality including reporting and alarms associated with a vehicle passing through a Toll Zone in the wrong direction be provided in the TCS.		X
	<p><b>Proposer Response:</b> The TransCore TCS will comply with requirement RS-044.</p> <p>[REDACTED]</p>		

Back office System Requirements

Req ID	Back office (Section BO)	Required	Value Add
BO-001	<p>The Toll System Provider shall provide a BOS that consists of a transaction system and an account management system to manage toll accounts and process Traffic Transactions, Financial Transactions and Event Transactions.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-001.</p> <p>TransCore's Customer Account Management System (CAMS) is designed specifically for tolling operations. CAMS is an integrated solution that allows the customer service representative (CSR) to handle all customer needs within one system, with complete and accurate access to all customer information. As a product for back office tolling operations, CAMS provides many features such as customer service specific to toll customers, ETC transaction processing, video tolling, and violations processing. It is easily scalable to accommodate organic growth or acquisition growth and is flexible to allow for evolving business rules.</p> <p>CAMS is fully auditable and provides for a robust reconciliation processes for customer service representative transactions, ETC transactions, video transactions, account balances, front counter and call center activity, adjustments, credit card transactions, and payments.</p>		
BO-002	<p>The Toll System Provider shall provide a complete, functioning, AET System that includes a Roadside System, BOS account management system, image review system and Customer Service Center. The BOS shall be configured and sized to support the functionality of the AET System, and shall also support account and Transaction growth at a rates of 15% per annum without any degradation in performance. The TCS shall collect revenue, accept Traffic Transactions and roadside data from the Roadside System, manage customer accounts, process images for vehicle identification, interface with numerous external systems, offer retail options for transponder sales and distribution, and provide access for toll patrons to utilize other E-ZPass toll facilities. The TCS shall be expandable to allow toll patrons to utilize other nationwide facilities in the future and perform all other functions as necessary to comply with the other Technical Requirements and other Contract Documents.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-002.</p> <p>TransCore has developed and implemented many back office systems throughout our years in the transportation industry. During this time, as a best-of practice for our customers, we are constantly enhancing our product offerings by incorporating additional functionality. Accordingly, we are offering the Joint Board our most enhanced CAMS back office application product, which is a fully integrated and comprehensive support system for customer service and violations processing designed to be highly configurable to accommodate a variety of business rules (e.g., E-ZPass toll facilities), to support the Joint Board operations. As part of the back office solution, TransCore will provide all necessary hardware and equipment to run CAMS efficiently to the performance specifications required in the RFP. The proposed system and database is sized properly to handle a projected 15% annual growth rate without any degradation in the system performance. The database will be structured to support the required response times without creating problems for the systems operations.</p> <p>CAMS supports efficient operations and it is easy to use. It is highly accessible from multiple locations, including an interactive customer Web site. <i>The image-based transaction processing feature is not a separate subsystem but an integral part of CAMS.</i></p>		
BO-003	<p>The BO TCS shall have a transaction database, video image storage array and an interface with the Roadside System to receive Traffic Transactions. The BO TCS shall have a CSC account management system, an IVR telephone system, a web interface, a local area network provider, a video image review process, a Disaster Recovery System Plan, an auditing and reconciliation process, interfaces with the CSC, Walk Up Centers, web services, an archiving system, and extensive reporting capabilities.</p>	X	

Req ID	Back office (Section BO)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-003.</p> <p>As part of the back office solution, TransCore will provide all necessary hardware and equipment to run CAMS efficiently to the performance specifications required in the RFP. The database will be structured to support the required response times without creating problems for the systems operations. [REDACTED]</p> <p>[REDACTED]</p> <p>The customer Web site application is a portal allowing customers to securely open and manage their accounts, and allowing violators to pay violation notices or appeal online. The Web site provides immediate feedback to the user and data is available near real time. Online help and hint tips are available through the entire application to both the CSC staff and to the customers when accessing the customer Web site via the Internet.</p> <p>The image review is designed to be user friendly and optimized for speed and efficiency. The user can perform most functions and navigate through the UI controls on the screen by using only keyboard keys. The plate image along with the OCR values is presented on the screen and in most cases a CSR simply needs to review and click next in order to confirm and accept license plate reads. The presented image is easily manipulated and enhanced using controls on the screen. Images are constantly and in real time being downloaded from the lane to the back office. After a successful download, the images are stored to the back office and then queued up for manual image review based on the specific business rules determined by the Joint Board.</p> <p>The images are processed by the reviewer in transaction batches and selected on first in, first out bases. Each batch contains configurable number of transactions where each transaction can have one or more images. The number of transactions in the single batch is also driven by the application settings.</p> <p>TransCore's experience with each toll authority is unique. From that experience, we have acquired an in-depth understanding of the reporting requirements and needs of a toll authority that, in turn, must report the tolling component of their General Ledger along with other assets and liabilities. CAMS comes with the comprehensive set of reports that are used in order to audit toll transactions and toll revenue. These reports are used to audit lane transactions by transponder and license plate. Transaction can be audited from the lane to the toll posting on an account. Report parameters allow these reports to be generated using selected criteria.</p> <p>As part of the database maintenance, TransCore provides data archiving and purging processes for all modules of the system, including the violations and associated</p>		

Req ID	Back office (Section BO)	Required	Value Add									
	<p>images. In order to maintain the size of the databases and database backups, the database archive and purge process is run once a month. When the job runs it uses the configuration tables to determine what data is to be archived and what is to be purged. Generally, all data is first archived before being purged. However, the design of the archive and purge process does allow for an administrator to purge a particular transaction type of data without first archiving it. The data retention period is configurable.</p>											
BO-004	<p>The Toll System Provider shall provide 1) account management and maintenance functions; 2) the Customer Website; 3) Transaction processing for Traffic Transactions, Financial Transaction and Event Transactions; 4) collections transaction processing and interface(s) for both current and past-due accounts; 5) DMV and rental car look-ups and interfaces; 6) functions necessary to allow authorized users to input Toll Rate Schedules into the System; 7) image review processing; 8) Transponder fulfillment functions; 9) IVR phone system for customer service use; 10) Walkup Centers and retail operations support services; 11) distribution of Transponders, reloading and replenishment services and toll and Violation payments collections and processing; 12) payment and credit card processing of Customer Statements; 13) transaction auditing and reconciliation; 14) customer contact services through phone, email, and SMS; 15) automatic generation of Customer Statements and Correspondence production and tracking; 16) operations and financial reporting; 17) remote location account services (Mobile Van ); 18) physical and logical security; 19) Hardware; and 20) disaster recovery systems.</p>	X										
	<p>Note: The functionality to support remote location account services shall be included in the Proposer's response but the design, acquisition and use of the mobile van is a Pass-Through Cost Item and shall not be included in the Proposer's response.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-004.</p> <p>TransCore has developed and implemented many back office systems throughout our years in the transportation industry. As part of the back office solution, TransCore will provide all necessary hardware and equipment to run CAMS efficiently to the performance specifications required in the RFP. TransCore has delivered several successful multi-site disaster recovery (DR) solutions. Maintaining a "hot" recovery site is the most effective way to ensure business continuity with minimum recovery time.</p> <p>The following features are part of our CAMS system.</p> <p><i>Table 4. CAMS Features</i></p> <table border="1"> <thead> <tr> <th colspan="3">CAMS Functionality Features</th> </tr> </thead> <tbody> <tr> <td>Account Management</td> <td> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> </td> <td> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> </td> </tr> <tr> <td>Customer Programs</td> <td> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> </td> <td> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> </td> </tr> </tbody> </table>	CAMS Functionality Features			Account Management	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Customer Programs	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
CAMS Functionality Features												
Account Management	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>										
Customer Programs	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>										

Req ID	Back office (Section BO)	Required	Value Add												
	<table border="1"> <tr> <td>Transponder Management</td> <td>[Redacted]</td> <td>[Redacted]</td> </tr> <tr> <td>Financial Accounting</td> <td>[Redacted]</td> <td>[Redacted]</td> </tr> <tr> <td>Violation Processing</td> <td>[Redacted]</td> <td>[Redacted]</td> </tr> <tr> <td>Reporting</td> <td>[Redacted]</td> <td>[Redacted]</td> </tr> </table> <p>CAMS is a Web based application and can easily support the functioning of front counters at any location, including mobile vans and kiosks. Internet connection provided by others will be necessary with a VPN connection to securely access CAMS for CSC functionality to establish CSC accounts and issue transponders as an operations function.</p>	Transponder Management	[Redacted]	[Redacted]	Financial Accounting	[Redacted]	[Redacted]	Violation Processing	[Redacted]	[Redacted]	Reporting	[Redacted]	[Redacted]		
Transponder Management	[Redacted]	[Redacted]													
Financial Accounting	[Redacted]	[Redacted]													
Violation Processing	[Redacted]	[Redacted]													
Reporting	[Redacted]	[Redacted]													
BO-005	The Toll System Provider shall provide functionality for mobile operations (off site, not only Walk-Up Centers and retail operations, but mobile van services) for account setup, account management, retail distribution of Transponders and for retail operations. However, the System shall support the use of a mobile van in order to meet this requirement. The mobile van shall be a Pass-Through Cost Item if required by the Joint Board.	X													
	<p><b>Note:</b> The mobile van and all associated costs to outfit the mobile van shall not be included in this Technical Response Form, but Proposer shall indicate in this Technical Response Form how the proposed System shall support the use of a mobile van in order to meet this requirement.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-005. Specified mobile operations will be supported via secure system access from the mobile vans.</p>														

Req ID	Back office (Section BO)	Required	Value Add
BO-006	<p>The Toll System Provider shall provide typical account services including making adjustments to accounts, changing Toll Rate Schedules, processing refunds, handling Violations, closing accounts, denoting customer contact and documenting those contacts, and offering account statements through print, email, and the Customer Service Website.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-006.</p> <p>The account management process will include all the information required to properly activate, use, and manage an account. TransCore is committed to proactively managing customer accounts. With every customer service contact, phone, walk-in, and e-mail communication, CSRs verify customer identification using several pieces of qualifying information, then review and ensure that account demographics, payment information, vehicle, and license plate information is current and up to date. CSRs offer the convenience of account maintenance via the Web and review Web options, if requested. Each customer interaction is noted in the account.</p> <p>A key component of an efficient customer service operation is to keep account records updated at all times, particularly when the request for an update or change is initiated by an account holder. Accounts require updates to ensure successful delivery of communication with the account holder, successful and accurate processing of toll, financial, and other transactions, and account holder access via the Web or IVR. TransCore will ensure that all updates received in person, by phone, by fax, over the Web, via IVR, or electronically are processed in real time. Any requests for updates received via mail will be processed by the close of business the following business day.</p> <p>TransCore will take a proactive approach to ensure account information is kept current to support a seamless customer service experience. TransCore will ensure account information is kept updated by:</p> <ul style="list-style-type: none"> <li>• Correspondence generated by CAMS such as advance notification of an expiring credit card on file</li> <li>• Distribution of annual account information review requests</li> <li>• Processing of returned mail and address updates by means of a certified service or from updates of forwarding addresses obtained through the USPS</li> <li>• Matching registered owner information to customers prior to mailing a toll violation notice or invoice by means of a CSR outreach to the customer to confirm the plate update to the account</li> <li>• Most importantly, working with customers: every phone, in person, live chat, or e-mail interaction CSRs have with customers</li> </ul> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		



Req ID	Back office (Section BO)	Required	Value Add
	  <p><i>Figure 6. Account Search Screen</i></p>		
BO-008	<p>The TCS shall be able to replenish an account through the use of a credit card, at retail distribution outlets and through the use of cash or credit card at Walk-Up Centers. The TCS shall have a methodology to identify lost or stolen Transponders when a Traffic Transaction occurs using a lost or stolen Transponder.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-008.</p> <p>We will support various account replenishment options for ETC and video accounts:</p> <ol style="list-style-type: none"> <li>1. Auto replenish with a credit or debit card</li> <li>2. One time replenishments by phone, IVR, or Web site</li> <li>3. One time replenishments made in person at a CSC</li> <li>4. One time credit card replenishments made at retail outlets to be selected, and include “third party” - kiosk type cash payment services</li> <li>5. Mobile application or Web site</li> </ol> <p>One CAMS feature is the proper identification of accounts funded by automatic replenishment and the ability to replenish an account when the prepaid balance reaches the replenishment threshold. All changes regarding an account’s replenishment amount or threshold will be properly noted on the account’s history. During the preliminary and detailed designs TransCore will work closely with the Joint Board to establish the initial replenishment amounts and thresholds for each account type and payment method per existing business rules.</p> <p>A feature our existing customers enjoy is the ability to retain a credit card on file in the system to eliminate the need to replenish their accounts. CAMS will automatically replenish accounts by credit card or ACH payment methods. Other customers prefer to manage their accounts manually. These customers will be able to manually replenish their accounts with cash or check payment method. Retailers, just like CSRs, will be able to process credit card payments.</p> <p>The customer has multiple methods for reporting transponders lost or stolen, damaged, or defective: CSC, Web, IVR, and customer contact with call or walk-in center. CAMS supports a lost/stolen fee by business rule, which is programmatically deducted from the customer’s account. Within the system, we can identify the transponder as lost/stolen, which will render the transponder invalid in the lane. At the customer’s request, a replacement transponder is issued and is subject to transponder deposits/fees, as applicable.</p>		
BO-009	<p>It is desired that the Toll System Provider provide a smart phone application for customer account management and account replenishment services.</p>		X



Req ID	Back office (Section BO)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-010.</p> <p>Transactions coming from the lane contain the toll rate as sent to the lane from the back office. Once the transactions are transferred to CAMS, before being posted to accounts, they are further processed for discounts and promotions as defined by the Joint Board established business rules.</p>		
BO-011	<p>The Toll Rate Schedules shall be transmitted electronically and updated as approved by the Joint Board. Toll Rate Schedules shall be utilized to establish the numerous toll rates to be assigned based on type of Traffic Transaction (ETC or pay by plate (pre-or post-registered)), vehicle classification, and discounts or promotions.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-011.</p> <p>[REDACTED]</p>		
BO-012	<p>It is desired that the TCS provide functionality to support variable rates provided by an external system.</p>		X
	<p><b>Note:</b> The availability of this functionality will not be a condition to commencement of Revenue Service.</p> <p><b>Proposer Response:</b> [REDACTED]</p>		
BO-013	<p>The TCS shall store and link electronic copies of any inbound or outbound Correspondence to an account, including all types of mail, email, regular mail, fax, etc. and the Correspondence shall be visually available to the CSRs. Hard copy Correspondence shall be scanned and converted to a viewable electronic file for storage in the TCS. The TCS shall provide sufficient archiving capabilities for Correspondence associated with each customer account.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-013.</p> <p>[REDACTED]</p> <p>Incoming customer correspondence, similar to outgoing correspondence, is a key CSC operations component. Additionally, incoming correspondence provides an opportunity to make a positive impression through fast service oriented actions and responses. A significant amount of incoming correspondence is a request for service, either to make a payment or raise a complaint/comment about the service.</p>		

Req ID	Back office (Section BO)	Required	Value Add
	<p>The primary keys to ensuring effective and efficient mail processing include:</p> <ul style="list-style-type: none"> <li>• Provision of the necessary system tools such as CAMS integrated scanning functionality and CAMS TRACER module</li> <li>• Development, implementation, and design of tight controls with detailed documentation (logs)</li> <li>• Clearly defined staff responsibilities, levels of system authorization and SOPs</li> </ul> <p>A wide range of correspondence – from payment, comment/complaints, and returned/forwarding mail – is well within our CSC experience, and we will apply our skills developed across multiple CSC operations to manage this area well.</p> <p>As they are received, all documents are logged to enable response to customer inquiries. Applications are processed in the system as a priority to ensure quick account setup and transponder delivery. Proper security over all assets of the state – checks and credit cards – is of the utmost importance to TransCore. We have strict controls for handling checks and credit card information received via mail at each location. All credit card information is handled by strict guidelines to conform to PCI compliance requirements. All mail will be scanned to a customer or violation account, which will be subject to Joint Board’s document archival policy. Mail will be housed in a secure environment with access limited to mail processing staff and management. Mail will be maintained under dual control when not in the secure mail processing room. Documents will be archived and destroyed in a secure manner that meets PII, PCI, and other applicable regulatory or certification standards. Summary level reporting of the type and volume of mail will be tracked daily and summarized on a monthly basis for KPI reporting and volume analyses.</p>		
BO-014	<p>The TCS shall generate automated notices, letters and communications by regular mail, text messages, fax and e-mail. The Toll System Provider shall provide automated notices, one-time notices, bulk mail notices or individual notices for any Correspondence related to Toll System Provider and TCS operations. This function shall be configurable and shall allow management to prevent any type of notice from being processed automatically. The TCS shall provide functionality to process and send bulk mail Correspondence resulting from notices and general Correspondence. TSP shall provide such notices as are required by the approved Business Rules.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-014.</p> <p>[REDACTED]</p> <p>TransCore will provide the required mailing systems as part of the CSC that support mass printing and mailing of identified correspondence items and types such as statements, invoices, and notices to any kind of customer or violator accounts.</p> <p>CAMS supports both in-house and outsource type of printing with the direct interfaces to the third party printing vendors.</p> <p>[REDACTED]</p>		



Req ID	Back office (Section BO)	Required	Value Add
[Redacted]	[Redacted]		
	[Redacted]		
BO-015	The Toll System Provider shall provide a BOS account management system that provides customer service channels by phone, web and an Interactive Voice Response system.	X	
[Redacted]			

Req ID	Back office (Section BO)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-015.</p> <p>The CAMS application is designed to support various types of accounts and methods of account opening. New account types needed as the program continues to evolve are easily added because they are established using a rule-based approach, which eliminates the need to hard code changes. TransCore has experience in delivering service to electronic toll customers via the following methods:</p> <ul style="list-style-type: none"> <li>• <b>Mail and Fax</b> – All accurate applications received in the mail or via facsimile will be processed and mail the requested number of toll tags per the established key performance indicator (KPI) requirement.</li> <li>• <b>Walk-in Facility</b> – Customers who choose to engage in a face-to-face transaction with a CSR will have the option to experience professional and amicable customer service by visiting the main service center or one of the walk-in locations. Customers will have the option to complete a printed application and, during the same visit, leave the facility with the requested toll tag(s) ready for use. In addition, customers with a toll tag purchased at a retail outlet will be able to complete the account opening process.</li> <li>• <b>Phone</b> – Similar to account establishment via the walk-in facility, customers who choose to complete their transaction via phone communication will be able to do so. All phone requests will be completed and toll tag(s) mailed by the close of business the following business day. In addition, customers with a toll tag purchased at a retail outlet will be able to complete the account opening process by speaking to one of the CSRs.</li> <li>• <b>Web site</b> – Customers who opt to open their account online will have access to our customer Web site. The customer Web site will allow customers to open their accounts and establish online access with immediate account opening confirmation. Toll tag(s) for new accounts requested via the customer Web site will be mailed by the close of business on the following business day. Similar to the other account opening methods, customers with toll tag(s) purchased at a retail outlet will have the option to establish an account and activate the tag using our user friendly and secure Web site.</li> <li>• <b>Interactive Voice Response (IVR)</b> – A predefined IVR call tree will be basis for designing a call flow explicit for the CSC caller and the VPS caller with appropriate options agreed to during design by TransCore and the Joint Board.</li> </ul>		
BO-016	<p>The Toll System Provider shall provide a BOS that offers a simple, intuitive process for establishing accounts and managing and modifying those accounts through the Customer Website, through the help of a CSR by phone, through retail distribution outlets, through mail received at the CSC, or through the help of a CSR at a Walk-Up Center. The TCS shall provide an efficient and user friendly platform for CSRs to optimize their time in establishing and helping customers to manage their accounts.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-016.</p> <p>TransCore will provide our premier CAMS product as the back office software application that is a seamless and fully integrated single application that is comprised of the host, CSC, and VPS functions for an operations center. The CAMS product is very user friendly with intuitive icons and organization, efficient, accurate, dependable, easily expandable, and modifiable. CAMS is capable of supporting account establishment and maintenance including retail sites, cash replenishment and other remote locations for transponder sales, account payment posting, violation payment processing, and account closing. The response from BO-015 details the many different methods that the customers have to create or manage their accounts.</p> <p>The main Account Management page provides navigation to the rich set of customer account maintenance functionality and options making it efficient, effective, and user friendly. For example, the following figure depicts the primary customer information page that serves as a dashboard, providing the most commonly required customer information and quick access to customer management-related functions.</p> <p style="text-align: center;"><i>Figure 8. Account Management Page</i></p> <p>Online help and hint tips are available through the entire application to the CSC staff and to the customers when accessing the customer Web site via the Internet. Each CAMS screen was designed with a standardized template and to support individual operational processes. Icons are the same for each screen to simplify</p>		

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	<p>training and increase intuitiveness. The Web browser session is also terminated after a configurable number of minutes of inactivity.</p> <p><b><u>Retail Account Management</u></b></p> <p>CAMS will support retail model for authorized retail locations to sell transponders. TransCore has extensive experience in developing and managing retail programs specifically for toll tags. A retail program is an excellent and cost effective method to offer toll tag sales to the broader marketplace, bringing tags and convenience to customers. We will maintain and utilize the current successful marketers of toll tags and improve upon the current network.</p> <p>One of the larger programs TransCore created and manages is the highly successful AutoExpreso program in Puerto Rico, where TransCore has agreements with vehicle service and refueling stations selling tags to customers. Over 2 million tags have been sold in the nine years the program has been active, establishing the retail program as a key method of tag sales. We believe that we can bring this type of model to the Joint Board to greatly expand and improve the current retail network.</p> <p>CAMS has many existing retail features that meet the RFP requirements such as providing retail account management – setup, modification and deletion – order management, assignment of tag “boxes” to a retailer, assignment of already activated tags, setting up an anonymous account, allowing customers to contact the CSC and/or support over the Web set up completion. Other functions that address specific requirements will be vetted with Joint Board through system design and development. We will develop a plan to ensure that tag inventory levels are maintained throughout the retail network. These processes may include the following:</p> <ul style="list-style-type: none"> <li>• Monitoring of tags sold by type and location</li> <li>• Process retailer’s tag order payments</li> <li>• Meet or exceed Joint Board’s toll tag order and delivery requirement</li> </ul>		
BO-017	<p>The Toll System Provider shall provide a BOS that can provide a resident, commuter and/or local plan. This functionality shall allow eligible customers, as determined by the Joint Board, to have a percentage or fixed dollar amount reduction in their tolls each month after a configurable number of trips on a Bridge. This functionality shall have the ability to reduce toll rates from 0% to 100% tolls for eligible account holders. The functionality shall also include the capability to charge a fixed fee per month, quarter or year for unlimited use of each Bridge and aggregated to all Bridges.</p>	X	
	<p>Note: This functionality may or may not be used but would allow eligible customers, as determined by the Joint Board, to have a percentage or fixed dollar amount reduction in their tolls each month after a configurable number of passages. The Proposer shall describe in this Technical Response Form existing functionality in its TCS that provides for resident/commuter plans.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-017.</p> <p>TransCore’s CAMS offers a variety of options for plans and promotions. They highly configurable and users may choose the appropriate plan at the time of enrollment. Account plans provide usage/pattern based discounts and pricing for toll lane users. The following features are provided to allow the user to create dynamic and competitive account plans that fit any model:</p> <ul style="list-style-type: none"> <li>• Percentage based toll rate discounts</li> <li>• Discounts based on time schedules including multiple time slots per day</li> <li>• Discounts based on usage</li> <li>• Monthly charges</li> <li>• Minimum and maximum transponder requirements</li> <li>• Required deposit models</li> <li>• Required replenishment method (fixed or variable)</li> </ul>		
BO-018	<p>The TCS shall provide the ability to transfer an account from one account owner to another account owner using an affidavit process.</p>	X	

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	<p>Note: The Proposer shall describe in this Technical Response Form its transferrable account capabilities, its affidavit system function and operations processes.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-018.</p> <p>Users that wish to transfer account ownership from one account to another are first asked to sign an affidavit with the account number, the destination account to transfer ownership to and the reason. After the customer signs the affidavit, the document is attached to both accounts. To transfer the ownership, we are using the Merge Account function of CAMS. This function will move all the transactions, financial and tolls, vehicles, transponders and even the contact information from the source account to the destination account. At the end of the process, the initial, or source account, is closed.</p> <p>The following rules apply:</p> <ul style="list-style-type: none"> <li>• Only the same account types can be merged together: prepaid to prepaid, postpaid to postpaid.</li> <li>• There cannot be any open violations or pending ISF transactions on the source account.</li> <li>• There can be no unpaid invoices on the source account.</li> </ul> <p>The default back-office behavior described above may be changed to reflect the business rules defined by the Joint Board.</p>		
BO-019	It is desired that the transfer of account ownership be accomplished through an automated process to the extent possible.		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-019.</p> <p>[REDACTED]</p>		
BO-020	The TCS shall provide functionality for rental car Traffic Transactions accepted within the E-ZPass system.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-020.</p> <p>[REDACTED]</p>		
BO-021	It is desired that the TCS provide functionality to process and collect revenue for rental or leased cars outside of those collected in the E-ZPass system.		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-021.</p> <p>[REDACTED]</p>		

Req ID	Back office (Section BO)	Required	Value Add
BO-022	It is desired that the TCS provide functionality to allow a customer to open a temporary unregistered license plate account that is configured for up to XX days where the days are from 0 to 99 days.		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-022.</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
BO-023	The TCS shall provide a configurable minimum balance to open an account. The minimum balance shall be configurable by account type (e.g. ETC, registered license plate, commercial, government) and once configured shall allow CSR supervisors to override the minimum balance requirement for individual accounts where necessary. The required minimum balances shall be subject to Joint Board approval.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-023.</p> <p>Depending on the business rules established by the Joint Board, pre-paid accounts require customers to have a minimum pre-paid balance in the account. This amount depends on the number of transponders or vehicles that are added to the account. When the account balance falls below the minimum balance threshold, the system may invoke auto replenishment and send notifications to the customer.</p> <p>The minimum balance threshold value is configurable through the System Administration module, and only users with appropriate authorization can make changes to its value.</p>		
BO-024	The TCS shall allow accounts to be converted from one account type to another account type. The TCS shall update the Toll Rate Schedules for the new toll account when the conversion occurs in accordance with the Business Rules.	X	
	<p>Note: The Proposer shall describe which account types can be converted in its Technical Response Form.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-024.</p> <p>The following account conversions are supported by CAMS:</p> <p>Unregistered video accounts will be able to convert to an ETC account if:</p> <ul style="list-style-type: none"> <li>• Transponder is acquired</li> <li>• Any necessary payment is made</li> <li>• Payment method is established</li> </ul> <p>Unregistered Video accounts will also be able to convert to the registered video account if:</p>		

Req ID	Back office (Section BO)	Required	Value Add
	<ul style="list-style-type: none"> <li>Any necessary payment is made</li> <li>Payment method is established</li> </ul> <p>If at the time of conversion, there are pending tolls that are not posted to the balance, based on the business rules established by the Joint Board, the toll rates that will be applied are the rates applicable for the new account type.</p>		
BO-025	The TCS shall provide a configurable low balance threshold for accounts by account type. The TCS shall allow the low balance threshold to be overridden with management approval on a case by case basis. The required minimum low balance threshold shall be subject to Joint Board approval.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with business rule BO-025.</p> <p>Low balance thresholds are configurable and can be overridden by CSRs at the account level. All configuration settings, including the low balance threshold, are subject to the Joint Board business rules approval.</p>		
BO-026	It is desired that the Toll System Provider provide other services to promote customer self-service applications such as chat, SMS and other emerging payment options.		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with business rule BO-026.</p> <p>[Redacted]</p>		
BO-027	The Toll System Provider shall ensure consistency of service, regardless of whether these services are provided in-house or by one or several external service providers, by developing policies and procedures and ensuring compliance with these policies and procedures.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-027.</p>		
BO-028	The TCS shall setup and maintain all account types including ETC Accounts, Registered Video Accounts, Unregistered Video accounts, commercial accounts and government accounts.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-028.</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p>		

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BO-029	Any external stakeholders including but not limited to the Joint Board shall have access to review, view, and examine customer accounts in accordance with the approved System Access Control Plan. The TCS shall allow at least 10 Joint Board users to examine customer accounts, concurrently.	X													
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-029.</p> <p>CAMS offers a very flexible user and role management module. Appropriate roles can be created and assigned to users designated by the Joint Board.</p>														
BO-030	The TCS shall display in the account the most current address available through DMV look-up or the address provided by the customer.	X													
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-030.</p> <p>The most current address is displayed in the account summary portion of the account maintenance or violator account maintenance. The address attached to the customer has an attribute that designates the source of the address (was obtained from DMV, entered by the CSR, by the customer, etc).</p>														
BO-031	It is desired that the TCS store previous customer addresses in the account and that they are easily viewable by authorized users.		X												
	<p><b>Proposer Response:</b> TransCore TCS complies with requirement BO-031.</p> <p>[REDACTED]</p>														
BO-032	The TCS shall include functionality to re-look-up addresses after lapse of a configurable period of time to ensure the correct address is being used by the Toll System Provider.	X													
	<p><b>Note:</b> This functionality is intended to ensure the Toll System Provider has current name and address information for infrequent unregistered customers.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-032.</p> <p>For unregistered accounts, the address is provided through the DVM lookup. Once the lookup information comes back to the CAMS system and the DMV review</p>														

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	process is performed, unregistered accounts are created. Violator addresses are rechecked with the DMV periodically. The time period is configurable and is initially set to six months.		
BO-033	The TCS shall have functionality or operations processes to address Customer Statements or Violations notices returned with NIXIE (as defined by the United States Postal Service) codes. The TCS shall use skip tracing or other methods to find and update the correct address associated with customer accounts.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-033.</p> <p>Upon returned notices, using the Bad Address function, addresses can be forwarded to a third company for skip tracing.</p> <p>In addition, when an invoice or any notification letter is returned for wrong address and after the CSR marks the address on that account as incorrect, the system will try to alert customer and request updates either through the Web site or SMS e-mail notifications if e-mail or text messaging information is provided on the account.</p>		
BO-034	The TCS shall provide Customer Statements that shall be configurable by account type.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-034.</p> <p>Based on configurable dates and other defined parameters for each billing period, CAMS generates statements in PDF format for all prepaid account holders. For post-paid account, the system generates billing statements (or invoices) based on a configurable billing limit threshold amount or a configurable time period (every 30 days for example).</p>		
BO-035	Customer Statements shall be provided to toll patrons monthly and as requested at any time by mail and email. Customers may opt in and opt out of receiving statements.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-035.</p> <p>The system is configurable to allow for the delivery of statements by conventional mail or e-mail and can also be configured to charge a fee if required by business rules. In addition to statements, transaction information and comments are available within the system and may be accessed by a CSR or by a customer on the Web site. The Statements screen allows the customer to view, save, and print a monthly, quarterly, or yearly statement.</p> <p>The customers will have access to two years of account activity through the Web site. Account history information can be viewed and printed in chronological order through the Web site or by a customer service representative.</p> <p>Customers can also decide not to receive any statements by selecting not to receive them through the Preferences screen of the account management module.</p>		
BO-036	Customer Statements shall be configurable to include a fee to the customer account from \$0-\$99 per statement. The fee shall be established by the Joint Board.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-036.</p> <p>The CAMS system can be configured to charge a statement fee to the customer account. The fee configuration is performed by authorized users through the System Administration menu and can be set to any amount desired.</p>		
BO-037	The Toll System Provider shall have a near-real time interface with the Roadside System to transmit Traffic Transaction information from the Roadside System to the	X	

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	<p>BOS and transmit configuration or customer information from the BOS to the Roadside System. Near real time requirements are defined in SA-021.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-037.</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <table border="1"> <tr> <td>[REDACTED]</td> <td>[REDACTED]</td> <td>[REDACTED]</td> <td>[REDACTED]</td> <td>[REDACTED]</td> </tr> </table>	[REDACTED]																										
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BO-038	<p>The Toll System Provider shall integrate the BOS with the changeable message panels as outlined in Technical Requirements Section RS. A record of all Toll Rate Schedules shall be stored in the BOS in accordance with the backup and archiving timeframe for the TCS.</p>	X																										
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-038.</p> <p>The BOS system is integrated with the changeable message panels through our lane solution. Toll rate schedules are stored in the BOS in accordance with the timeframes necessitated by the TCS.</p>																											
BO-039	<p>The TCS shall have an interface with the E-ZPass system and interoperable agencies, and the Toll System Provider shall comply with the E-ZPass Operating Agreement, any agreements with other interoperable agencies, and all applicable amendments.</p>	X																										
	<p>Note: The E-ZPass Operating Agreement and all associated and applicable amendments as of the date of the RFP are available in the Reference Information Documents.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-039.</p> <p>Currently, TransCore processes interoperable transactions with the IAG, the Texas IOP hub connected toll road systems (also soon exchanging with Oklahoma), California CTOC, and others. This account interoperability is accomplished with agreed to and established Interface Control Documents (ICDs) to technically define the data exchange and formats between systems along with configurable system settings to align with the applicable toll authority business rules.</p> <p>This is provided for both transponder and video toll accounts with the exchange of image files and transaction files through to full auditability with reconciliation and settlement reports. All interoperable transaction operations meet PCI compliance for security where applicable.</p> <p>In addition, TransCore plays a major role among toll operators in the State of Florida. That experience in Florida together with our experience in the three existing interoperable systems will help us meet the Joint Boards goal for interoperability with the E-ZPass network and the SunPass network in Florida. As an industry leader, we are participating and closely monitoring the progression of broader interoperable initiatives in anticipation of expanded, perhaps nationwide, interoperability around the country.</p>																											

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BO-040	[Intentionally not used.]																																																								
BO-041	The Toll System Provider's BOS architecture shall operate within limited degradation for specific failure modes that shall be established during the Business Rules and system architecture review.	X																																																							
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-041.</p> <p>[Redacted]</p> <p>[Redacted]</p>																																																								
BO-042	The Toll System Provider shall process customer payments for tolls, fees and fines via credit card, check, money order, or cash. The Toll System Provider shall provide system functionality to encourage customers to establish auto replenishments for pre-paid accounts.	X																																																							
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-042.</p> <p>[Redacted]</p> <p>[Redacted]</p> <table border="1"> <thead> <tr> <th>[Redacted]</th> <th>[Redacted]</th> <th>[Redacted]</th> <th>[Redacted]</th> <th>[Redacted]</th> <th>[Redacted]</th> </tr> </thead> <tbody> <tr> <td>[Redacted]</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>[Redacted]</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>[Redacted]</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>[Redacted]</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>[Redacted]</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>[Redacted]</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>[Redacted]</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>[Redacted]</td> <td><input checked="" type="checkbox"/></td> </tr> </tbody> </table> <p>[Redacted]</p>	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	<input checked="" type="checkbox"/>	[Redacted]	<input checked="" type="checkbox"/>	[Redacted]	<input checked="" type="checkbox"/>	[Redacted]	<input checked="" type="checkbox"/>	[Redacted]	<input checked="" type="checkbox"/>	[Redacted]	<input checked="" type="checkbox"/>	[Redacted]	<input checked="" type="checkbox"/>	[Redacted]	<input checked="" type="checkbox"/>																																		
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Req ID	Back office (Section BO)	Required	Value Add
BO-043	The Toll System Provider shall safeguard cash deposits and shall provide armored car services in accordance with the Safety Plan.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-043.</p> <p>Because of our experience in delivering reliable and secure customer service centers, we have established working relationships with many reputable companies providing armor vehicle services. Some of these companies include Garda, Loomis, Secure Force INC, and Ranger American, among others.</p>		
	BO-044	The TCS shall process refund requests from customers. Credit card or debit card based toll accounts shall be refunded to the same card. Cash toll accounts shall be refunded with a check mailed to the address of record on the account.	X
	Note: This Technical Response Form shall outline the Proposer's existing refund process including prescribed escalated times and authorization levels.		
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-044.</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		

Req ID	Back office (Section BO)	Required	Value Add
	<div style="background-color: black; width: 100%; height: 100%; min-height: 400px;"></div>		
BO-045	<p>Lockbox payments shall be received through an internal or external lockbox. The TCS shall process configurable returned check fees and TSP shall support the occasional times when cash is mailed to the lockbox. Returned check fees shall be identified and the appropriate account shall be charged a configurable fee for a returned check and record of the returned check and the fee shall be linked to the customer account in the TCS.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-045. CAMS will provide lockbox functionality. In addition our back office application accepts cash payments and supports a configurable NSF fee for returned checks. Returned checks can be scanned and attached to accounts with additional notes.</p>		
BO-046	<p>The Customer Website shall provide access for customers who do not have a Transponder to pay tolls, to pay Violations, to sign up for Registered Video accounts and ETC Accounts, and to manage Unregistered Video accounts.</p>	X	
	<p>Note: Unregistered Video Accounts may be available from the web, depending on the Proposer's design, to pay for tolls prior to the issuance of a Customer</p>		

Req ID	Back office (Section BO)	Required	Value Add												
	<p>Statement functionality as described in BO-129.</p> <p><b>Proposer Response:</b> Customers who opt to open their account online will have access to our customer Web site. The customer Web site will allow customers to open their accounts and establish online access with immediate account opening confirmation. Toll tag(s) for new accounts requested via the customer Web site will be mailed by the close of business on the following business day. Similar to the other account opening methods, customers with toll tag(s) purchased at a retail outlet will have the option to establish an account and activate the tag using our user friendly and secure Web site. Customers can make payments through a secured Web browser using credit card or bank account information. Violation payments and invoice payments are done outside the Web site (you do not need to log in to make a payment). Currently, unregistered accounts cannot have a Web login, unless they convert to registered accounts. The same process is used for all payment instances in the application, opening accounts, replenishing accounts or just adding money to the toll balance.</p> <p>[REDACTED]</p> <p>[REDACTED]</p>														
BO-047	<p>It is desired that the TCS be configurable by System operators to establish payment plan arrangements for certain customers.</p>		X												
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-047.</p> <p>[REDACTED]</p>														
BO-048	<p>The TCS shall provide functionality for customer account communications and related system updates for adding vehicles to an account, requesting a Transponder, account maintenance communications, and payments, among other customer account communications.</p>	X													
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-048.</p> <p>CAMS automatically captures notes regarding account activities performed. The account notes are searchable and CSRs can specify activity types to identify the nature of any account activity that occurred when performing a search. CSRs may also enter manual notes into the account record. CAMS is designed to create notifications and documents for various purposes. Correspondence and document management features include configurable letters and messages to be generated and sent by mail or e-mail or SMS. This feature also allows management to prevent any type of notice from being processed automatically, if needed.</p> <p><i>Table 9. Correspondence Examples</i></p> <table border="1"> <thead> <tr> <th colspan="3">Correspondence Examples</th> </tr> </thead> <tbody> <tr> <td>• Credit or debit card expiration</td> <td>• Personal information changes notification</td> <td>• Violation dispute letters</td> </tr> <tr> <td>• Low balance notifications</td> <td>• Password reset</td> <td>• Collections letters</td> </tr> <tr> <td>• Delinquent account letters</td> <td>• Violation notices</td> <td>• Payment notification</td> </tr> </tbody> </table>	Correspondence Examples			• Credit or debit card expiration	• Personal information changes notification	• Violation dispute letters	• Low balance notifications	• Password reset	• Collections letters	• Delinquent account letters	• Violation notices	• Payment notification		
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Req ID	Back office (Section BO)	Required	Value Add
	<ul style="list-style-type: none"> <li>• Statements</li> </ul> <p>Copies of all correspondence generated for the account, including e-mail, SMS, letters, and notices are automatically stored. Documentation is linked to the customer or violation record. Documents, evidence packages, correspondences, and e-mails received from the customer are archived by scanning the document and linking it to the account. All documents, correspondence, notes, and account activity – whether incoming or created by the system – are easily viewable and available for printing via easy-to-use screens.</p>		
BO-049	Intentionally not used.		
BO-050	The TCS shall transfer payments between ETC Accounts, Registered Video accounts, Unregistered Video accounts and Violation accounts. The TCS shall accept post payments or other Joint Board designated account types.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-050.</p> <p>CAMS accepts payment transfers between accounts. Once a payment is performed to a source account, users can select the payment transactions and through a transaction transfer screen the CSR can select the destination account, where the payment should be transferred. Once the selection is done, the system ensures the selected account exists and prompts the user to again confirm the transfer. Upon approval, the transaction is posted to the destination account, and the account balance reflects the payment. On the source account, a reversal of the payment occurs and the balance will be changed to reflect the reversal. Notes are attached to both accounts, and appropriate e-mails are sent to both account holders.</p>		
BO-051	The TCS shall associate a credit card to an account for the purpose of toll payment where necessary as indicated in the Business Rules. The credit card transactions, debit card transactions, automated clearing house payments and refunds shall be processed in near-real-time. The TCS shall provide for the credit card information to be added, changed, or deleted on the customer account. Near-real-time is defined as an authorization code provided within 2 minutes. The settlement of the transaction may occur up to 72 hours after the time of the authorization.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-051.</p> <p>The TransCore team will provide the capability to process credit card payments in each location, as well as provide the ability to perform adjustments to customer accounts as needed. All payments are authorized and posted in real time to the customer's accounts. Credit card payment transactions are routed for authorization through the secure network.</p>		
BO-052	The TCS shall accept and process various types of payments including credit card, debit card, automated clearing house, money order, cashier's check, traveler's check, personal check and cash, and shall track those payments and methods of payment, posting them to the appropriate customer account in near-real-time. The TCS shall provide multiple payment options within one Financial Transaction and shall accept partial payments towards the account balance based on the Traffic Transaction and Financial Transaction posting date/time in a first-in, first-out (FIFO) manner. For credit card, debit cards, and automated clearing house payments, please see definition of near-real-time in BO-051. For money order, cashier's check, traveler's check, personal check and cash, near-real-time means the payments shall be posted to the customer's account no later than 1 business day from the bank making the funds available for that financial instrument.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-052.</p> <p>The TCS can accept and process all payment methods including credit card, debit card, automated clearing house, money order, cashier's check, traveler's check,</p>		

Req ID	Back office (Section BO)	Required	Value Add
	personal check, and cash. The payments are tracked by transaction type and posted to the appropriate customer account in real time. The TCS currently accepts multiple payment methods, and no additional development is required. The system can also accept partial payments towards the account balance based on the posting date/time in a first-in, first out (FIFO) manner.		
BO-053	The TCS shall allow for review of Customer Statements by customers at the Walk-Up Centers and the Customer Website.	X	
	<p>Note: The Proposer shall include other channels to present the Customer Statements in its Technical Response Form.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-053.</p> <p>Based on configurable dates and other defined parameters for each billing period, CAMS generates statements in PDF format for all registered account holders. The system is configurable to allow for the delivery of statements by conventional mail or e-mail. In addition to statements, transaction information and comments are available within the system and may be accessed by a CSR or by a customer on the Web site. The Statements screen allows the customer to view, save, and print a monthly, quarterly, or yearly statement.</p> <p>The customers will have access to a minimum of two years of account activity through the Web site. Account history information can be viewed and printed in chronological order through the Web site or by a customer service representative.</p>		
BO-054	The Toll System Provider shall provide a credit card processing merchant and system for approval by the Joint Board.	X	
	<p>Note: The Proposer shall include in this Technical Response Form the credit card fees and rates expected to be paid as Pass Through Cost Items during the Term of this Agreement.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with most of requirement BO-054.</p> <p>TransCore has vast experience dealing with different credit card processors [REDACTED]. We will provide this information to be approved by the Joint Board.</p>		
BO-055	The TCS shall provide for automatic replenishment of funds for a toll customer account and provide for the acceptance of notifications from banking institutions regarding status of credit, debit, or automated clearing house accounts.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-055.</p> <p>CAMS intelligent automated processing includes the replenishment process of customer accounts via financial institution interfaces. According to business rules, CAMS will automatically process payments via credit card or ACH when the account balance reaches its threshold. TransCore will deposit funds processed through automatic replenishment to Joint Board's designated accounts.</p> <p>To minimize the potential for declined payments, TransCore will work with the credit card interchange to automatically request, receive, and update current expiration dates and other credit card information.</p> <p>CAMS supports the ability to add notes to accounts. As a result, all charge backs and their respective results will be recorded in the account holder's account. Notes in accounts are searchable and can also be sorted.</p> <p>Where required, account activities generate notifications to the customer. For example, immediately after receiving a declined code from a credit card company or bank, CAMS generates the Problem with Credit Card Letter. The letter identifies the credit card type, number, and expiration date for the card in question as well as instructions for updating the expiration date or adding a new credit card to the account. This letter will be communicated to the customer via the customer's preferred communication method.</p>		

Req ID	Back office (Section BO)	Required	Value Add
BO-056	The Toll System Provider shall provide a license plate image review system and operations.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-056.</p> <p>The image review module provided by CAMS is designed to be user friendly and optimized for speed and efficiency. The user can perform most functions and navigate through the UI controls on the screen by using only keyboard keys. The plate image along with the OCR values is presented on the screen and in most cases a CSR simply needs to review and click next in order to confirm and accept license plate reads. The presented image is easily manipulated and enhanced using controls on the screen. The CSR can lighten, darken, zoom in, zoom out, increase or decrease contrast, increase or decrease sharpness, invert image colors, and move an image to the desired region of interest by dragging it with on the screen.</p>		
BO-057	The TCS shall manually view images to confirm or correct the vehicle LPN and state information when below a specified configuration OCR confidence threshold.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-057.</p> <p>The system can be configured to perform 100% manual image review or based on the OCR confidence level. The system can automatically accept images above certain confidence level and skip manual image review. We have a number of installations where a configurable percentage of randomly selected images with high confidence is also sent for the manual image review. This is done as a quality control measure. High and low confidence thresholds are also configurable values and easily modified by the authorized user.</p>		
BO-058	The TCS shall report an exception when the number of image based trips exceeds a configurable threshold for an ETC Account. The TCS shall change the toll rate from the ETC rate to an Unregistered Video or Registered Video toll rate in accordance with the Business Rules once this threshold is reached.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-058.</p> <p>CAMS will have an exception report that shows a list of ETC accounts that have a number of V-toll transactions posted that exceed a threshold allowed. Those transactions can be adjusted.</p>		
BO-059	The TCS shall identify License Plate Numbers and jurisdictions from all 50 states and all provinces of Canada.	X	
	<p>Note: The Proposer shall identify the number of plates and plate types the OCR Software can be tuned to recognize in this Technical Response Form. The Proposer shall provide a list of the 15 states expected to originate the most Traffic Transactions within 90 days after NTP.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-059.</p> <p>We have successfully deployed systems that require the same level of accuracy as this RFP throughout the United States and internationally, including Canada. The OCR engine will be appropriately tuned to recognize with high accuracy the plates that provide the most video tolls within the LISORB region. The 15 states we expect to originate the most traffic transactions are as follows:</p> <p>Kentucky, Indiana, Illinois, Missouri, Arkansas, Tennessee, Virginia, West Virginia, Ohio, Iowa, North Carolina, Mississippi, Alabama, Georgia, and South Carolina.</p>		
BO-060	It is a desired that the TCS provide an interface to an electronic bulk mailing system for mailing of Correspondences, statements, bills, and notices to customers.		X

Req ID	Back office (Section BO)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-060.</p> <p>[REDACTED]</p>		
BO-061	<p>The Customer Website shall allow customers to establish, maintain, update, and review account information, order Transponders, pay Violations, pay "pay by plate" Traffic Transactions, establish Registered Video accounts, and ETC Accounts and make payments via a PCI compliant secure methodology. Customers shall be able to complete all Transaction activities through the Customer Website. The Customer Website shall be user friendly, high quality, attractive and easily understood by toll patrons. The Toll System Provider shall coordinate Customer Website design and content with the marketing firm engaged by the Joint Board.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-061.</p> <p>The customer Web site will be convenient and easy-to-use for all Web users. The intention is to transform the Web site into the most attractive mechanism to access toll account services, including account setup and maintenance. CAMS will require each account holder to use a username and password when accessing their account on the Web.</p> <p>[REDACTED]</p> <p>The customer Web site will allow customers to open their accounts and establish online access with immediate account opening confirmation. Toll tags for new accounts requested via the customer Web site will be mailed by the close of business on the following business day. Similar to the other account opening methods, customers with toll tags purchased at a retail outlet will have the option to establish an account and activate their tag using our user friendly and secure Web site. We will work with any third party content and design marketing company the Joint Board designates.</p> <p>The customer Web site application is designed to provide secure public Internet access where the customer can perform the following tasks:</p> <ul style="list-style-type: none"> <li>• Open a new account or enroll for online access</li> <li>• Receive e-mail confirmation of successful online enrollment</li> <li>• View account status and history</li> <li>• Update personal information</li> <li>• Update credit or debit card information</li> <li>• View financial and toll transactions</li> <li>• Make one-time replenishments</li> <li>• View invoices and statements</li> <li>• Update statement delivery method and other preferences</li> <li>• Update payment method</li> <li>• Request account closure</li> <li>• Reset passwords</li> <li>• View violation status</li> <li>• Make violation payments via credit card or debit card</li> <li>• Print receipts</li> <li>• Download and print information and application forms</li> <li>• Add vehicles</li> <li>• Request transponders</li> </ul>		
BO-062	<p>The BOS shall provide information to the CSR regarding account status including but not limited to balance of account, expired credit card information, excessive image Traffic Transactions notification, and outstanding Customer Statements.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-062.</p> <p>The main Account Management page provides navigation to a rich set of customer account maintenance functionality and options. While performing account</p>		

Req ID	Back office (Section BO)	Required	Value Add
	<p>maintenance, the CSR has a summary at the top of the page that provides quick information about the account. Such information includes account name, address, e-mail address, phone, account type, status, account balance, balance due, the number of active tags, if there are pending transactions not posted, if there are tag requests, etc. This summary header is present in all account maintenance pages. Accessing the Payment screen, the user can see the pending invoice payments, and through the Correspondence screen the user can see the invoices that have been sent.</p> <p>In addition, CSRs have access to the extensive reporting capabilities of CAMS, which has a full set of reports on credit card expiration, transactions, etc.</p>		
BO-063	<p>The Customer Website shall include the following information: road information, branding information, Joint Board contact information (email and phone number), information about how to open a Registered Video account and an ETC Account, information about how to pay a toll after a customer has travelled a Bridge without a pre-paid account, frequently asked questions, any upcoming maintenance or other information and links to other websites.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-063.</p> <p>We will work with the Joint Board and any third party marketing company approved by the Joint Board to offer all desired information on the customer Web portal. We will offer a content management system based Web site, where the Joint Board can add and modify content with no programming changes per requirement BO-068.</p>		
BO-064	<p>The Customer Website shall incorporate security standards to protect customers from unauthorized access and restrict access to any unauthorized users. At a minimum, customer data shall be password protected and the Customer Website shall include a password change policy. SSL encryption shall be implemented by the Toll System Provider.</p>	X	
	<p>Note: The Toll System Provider shall also identify in this Technical Response Form other security measures to be used in the TCS.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-064.</p> <p>[REDACTED]</p> <p>In addition, when establishing Web access users are required to respond to a configurable number of questions that the system randomly selects. This way, when users forget their passwords, they must provide information about their account, and in addition they must respond to the questions they selected. If all questions are answered correctly, the system generates a password and e-mails it to the e-mail on file.</p> <p>Other security features built in the Web site include:</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
BO-065	<p>The Customer Website content management system and actual Customer Website shall be in English.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-065.</p>		

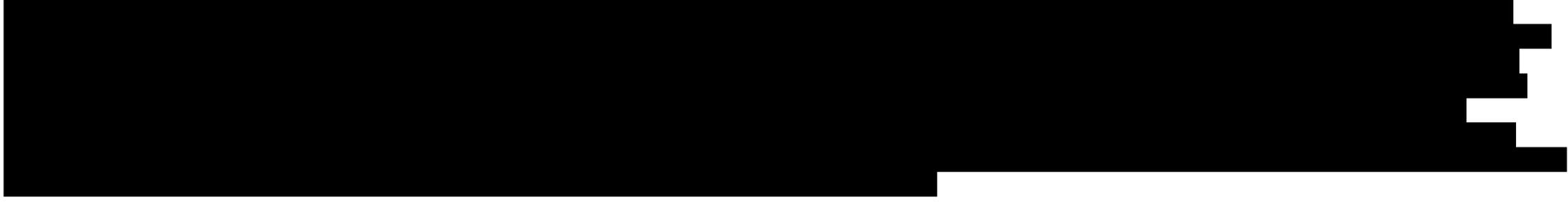
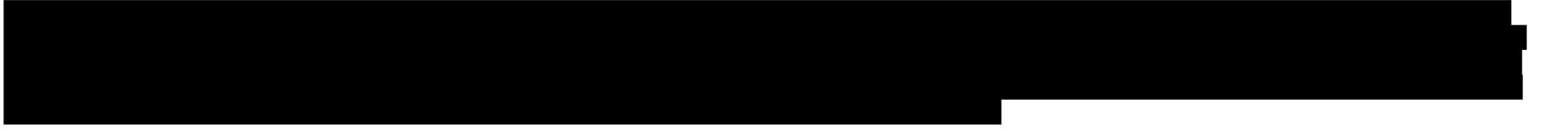
Req ID	Back office (Section BO)	Required	Value Add
	English is the default language of the site.		
BO-066	It is desired that the Customer Website provide other language support without re-programming the Customer Website.		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-066.</p> <p>[REDACTED]</p>		
BO-067	The Customer Website shall include access for customers to Customer Statements and historical data, which historical data shall be available for two years by accessing the Customer Website, and then archived.	X	
	<p><b>Proposer Response:</b> Customer Web site complies with requirement BO-067.</p> <p>Based on configurable dates and other defined parameters for each billing period, CAMS generates statements in PDF format for all registered account holders. The statements and transaction information are available within the system and may be accessed by a customer on the Web site. The Statements screen allows the customer to view, save, and print a monthly, quarterly, or yearly statement.</p> <p>The customers will have access to two years of account activity through the Web site. Account history information can be viewed and printed in chronological order through the Web site or by a customer service representative.</p>		
BO-068	It is desired that the Customer Website have a user friendly content management system that allows the Joint Board to update content on the Customer Website without a programmer or any knowledge of programming.		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-068.</p> <p>[REDACTED]</p>		
BO-069	The IVR and Customer Website shall verify the customer's identity before disclosing or making any updates to customer data.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-069.</p> <p>The customer is asked to provide an account number and a PIN, which identifies him/her as an authorized user of the system. The PIN is established at the time when the account is established.</p> <p>Before being able to use the customer Web site, the customer needs to provide a user name and password that is unique to the customer's account. Once the correct credentials are provided, the system allows the user to view and update account information. In case the user forgets his/her user name or password, they can be retrieved through the Forgot Username or Forgot Password functionality.</p>		
BO-070	The IVR shall provide access to general information, the option to direct the call to an operator, or direct the customer to select a specific option that corresponds to the customer's inquiry. The IVR shall support a second language, to be determined later by the Joint Board, without any Software changes.	X	

Req ID	Back office (Section BO)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-070.</p> <p>The IVR system proposed by TransCore is fully customizable, and the final design of the call flow will be defined through detailed design workshops prior to implementation. Like the call center, the IVR includes logging and tracking of usage and statistics. We have implemented IVR systems in throughout the country and internationally. We support languages such as English, Spanish, and French and we will include others as determined by the Joint Board.</p>		
BO-071	<p>It is desired that the IVR measure and report a KPI for call answering performance for all calls transferred to agents. The metrics shall include the total customer call duration from the start of the IVR through completion on the automated system or with the CSR.</p>		X
	<p><b>Proposer Response:</b> The IVR system complies with requirement BO-071.</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
BO-072	<p>The TCS shall maintain a record of customer communications and interactions through the IVR and the Customer Website for customer, Bridge use and account analysis.</p>	X	
	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
BO-073	<p>The IVR shall be integrated with the CSC to allow for transfer of calls and updates to the accounts in near real time. For the purpose of this requirement near real time shall mean that the call is transferred within 2 seconds upon initiation of a transfer by the customer.</p>	X	
	<p>[REDACTED]</p> <p>[REDACTED]</p>		





Req ID	Back office (Section BO)	Required	Value Add
	Details of the backup and archiving systems are documented in SA-013.		
BO-078	All accounts, customer information, IVR, Customer Website, and reports shall at a minimum be backed up every day. All System configurations required in recovering the System in case of outage or failure of any component shall be backed up every quarter and immediately whenever changes are made. These System confirmation backups shall include application, database and operating system settings. The backup data shall be retained off site from the CSC and TCS at the approved DR site.	X	
	<p>Note: The TSP shall describe in this Technical Response Form the backup and archiving plan for the TCS.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-078.</p> <p>Details of the backup and archiving systems are documented in SA-013. Details on data replication are documented in SA-040. Details on the planned DR data center location are documented in SA-041.</p>		
BO-079	The Toll System Provider shall archive data no later than every month to an offsite system. Archived data shall be available for 10 years. Upon request, data shall be recovered and available to the user for analysis within 2 business days.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-079.</p> <p>[REDACTED]</p> <p>Details of archiving are documented in SA-013.</p>		
BO-080	All credit card payment processing shall be PCI DSS Security Standards Council compliant. The TCS database shall comply with all applicable standards issued by the PCI DSS Security Standards Council, including the PCI DSS at the start of operations in the BOS, and remain compliant throughout the Contract Term. Any costs associated with PCI compliance including e-commerce and merchant service costs are not Pass-Through Cost Items and shall be included in the Contract Price.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-080.</p> <p>The TransCore TCS is designed and will be implemented to meet PCI DSS requirements. Compliance with the PCI standards will be maintained throughout the contract.</p>		
BO-081	All external internet protocol addresses shall undergo a vulnerability scan at least quarterly by a qualified vendor, pursuant to the PCI DSS Data Security Standard. The TSP shall provide a copy of the current quarterly vulnerability scan report to the Joint Board within 10 business days of request by the Joint Board at any time during the Contract Term.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-081.</p> <p>Quarterly internal vulnerability scans will be performed pursuant to PCI Data Security Standards (DSS).</p>		
BO-082	There shall be no direct user access to the BOS database management system by any interactive or system users. All access to the BOS database management solution shall be through BOS middleware. User authentication and access to the BOS database management solution shall be managed by the middleware application services using generic or function-related database connections.	X	
	Note: The Proposer shall describe in this Technical Response Form access to the database system for reporting by system users and interactive (human) users.		

Req ID	Back office (Section BO)	Required	Value Add
	<p>Proposer Response: The TransCore TCS complies with requirement BO-082.</p> 		
BO-083	All TCS database management system scheduled jobs shall be executed under a non-interactive account.	X	
	<p>Proposer Response: The TransCore TCS complies with requirement BO-083.</p> 		
BO-084	The BOS database management solution shall not permit any modifications or deletions of the original Traffic Transactions, Financial Transactions, and Event Transactions stored in the BOS database.	X	
	<p>Proposer Response: The TransCore TCS complies with requirement BO-084.</p> 		
BO-085	All TCS database management system records shall provide version control and shall be traceable for all components of the TCS. The TCS database management solution audit trail information for each correction entry shall include, at a minimum, the date and time of the change, identification of the person or automated transaction function initiating the change, and reason code or descriptor justifying the change.	X	
	<p>Proposer Response: The TransCore TCS complies with requirement BO-085.</p> 		
BO-086	The TCS database management solution shall be secure and provide automatic credit card industry standard encryption of all credit and debit card data transmitted to the database via customer service representatives or received via the internet.	X	

Req ID	Back office (Section BO)	Required	Value Add
	<p>Proposer Response: <span style="color: green;">The TransCore TCS complies with requirement BO-086.</span></p> <p>[Redacted]</p>		
BO-087	<p>The TCS database management solution shall provide the following: 1) automatic setup, job scheduling, and execution of backup and recovery scripts; 2) real-time diagnostic testing and problem resolution scripts,3) historical performance data and assistance in database server capacity planning; 4) aid in automating, on a24 hours per day, 7 days per week, monitoring of priority events based on critical threshold; 5) management of database schema modifications; and 6) performance tuning capabilities including, but not be limited to server, database, table, index and query levels.</p>	X	
	<p>[Redacted]</p>		
BO-088	<p>The Toll System Provider shall provide an enterprise commercial reporting system (ERS) that shall allow the Joint Board or authorized agents, vendors or third parties to view, create or edit reports within the System with qualified and trained staff.</p>	X	

Req ID	Back office (Section BO)	Required	Value Add
	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
BO-089	<p>It is desired that the ERS be a Commercial Off-the-Shelf solution such as Business Objects (includes Crystal reports), Jaspersoft Microsoft SQL Server Reporting Services or Cognos. The Toll System Provider may propose other commercial tools subject to Joint Board approval.</p>		X
	<p>[REDACTED]</p> <p>[REDACTED]</p>		
BO-090	<p>The Toll System Provider shall provide an existing suite of operational, financial, maintenance and other TCS reports as the basis for reporting. The reports shall be updated as required for the States' Parties.</p>	X	
	<p>[REDACTED]</p> <p>[REDACTED]</p>		
BO-091	<p>The TCS shall have configuration management tools to manage Software and versioning in the TCS.</p>	X	
	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
BO-092	<p>The Toll System Provider shall provide training and access for the Joint Board to prepare its own user-designed, ad-hoc custom queries in addition to predetermined reports.</p>	X	

Req ID	Back office (Section BO)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-092.</p> <p>[Redacted]</p> <p>[Redacted]</p>		
BO-093	<p>The ERS shall be an integrated solution covering all report requirements for pre-determined, existing and ad-hoc reporting.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-093.</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p>		
BO-094	<p>The ERS shall provide central administrative control of user roles assignment in the System.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-094.</p> <p>The CAMS application provides CSRs with an account maintenance module where all account management functions are accessible from a single screen. All screens within the CAMS application are configurable and available to the users based on their role and role definition for access. System roles (such as CSR, financial manager, or image reviewer) are dynamically defined and assigned to the system users as a way of authorizing and restricting access to the different system areas, functions, and data. Every page, button, or UI control is seen as a resource that can be associated with the specific system role. The user is not able to see any objects on the screen that are not configured and associated with the user's particular role. Access is based on roles, job functionalities, and job titles.</p> <p>In addition the report manager console is a built in SSRS administration console available for system administrators to configure scheduled reporting and to designate</p>		

Req ID	Back office (Section BO)	Required	Value Add
	users access to reports, data sources, and other security settings.		
BO-095	The ERS shall provide one of the following electronic report and screen formats: Adobe PDF, HTML, XML, RTF, and Microsoft Office 2010. Any of these products used must have compatibility.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-095.</p> <p>[REDACTED]</p> <p>[REDACTED] [REDACTED] [REDACTED]</p> <p>[REDACTED] [REDACTED]</p> <p>[REDACTED]</p>		
BO-096	The ERS shall provide batch report processing that can run in the background concurrent with other applications. The ERS shall be in a separate layer from the BOS system that processes Transactions for the TCS.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-096.</p> <p>CAMS provides scheduled reports that are run on defined fixed schedules. They provide information that is directed at the daily, weekly, or monthly operations. The scheduling of these reports are done only by the system administrator through SSRS Manager. Reports are then sent via e-mail notification to each user that has applied for a subscription or can be stored in a shared directory.</p>		
BO-097	The ERS shall have a standard template for report formats and data formats that will be used for future report templates.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-097.</p> <p>Reports are created based on a standard template. SSRS supports a feature called ad-hoc reports, which allows the user to create new reports not currently available in the application using the same design template.</p>		
BO-098	It is desired that the ERS have a user interface which is browser-based and compatible with the user interfaces used throughout the TCS.		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-098.</p> <p>[REDACTED]</p>		
BO-099	The ERS shall have the following capabilities and administrative functions: provide data by report columns, dashboard reporting, reporting calendar for scheduling pre-determined reports, graphical representation capabilities, drill down and sideways capabilities, reporting of data source capture points and the data relationship(s), sort data by report columns, filter tools for search and for reporting purposes, support for segmentation reporting based on excluded criteria, recordkeeping for each report created, which shall include, at a minimum, report owner, date created, date last edited, and a brief description of the report's purpose.	X	
	<p>Note: The TSP shall indicate reports available in the system in its Technical Proposal Response Form.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-099.</p>		



Req ID	Back office (Section BO)	Required	Value Add
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BO-100	The ERS shall allow authorized users to receive regular reports automatically. A user interface shall be provided for the user registration and registration edit functions, together with details of current registrations and report links currently available to the user.	X	

Req ID	Back office (Section BO)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-100.</p> <p>CAMS provides scheduled reports that are run on defined fixed schedules. The scheduling of reports is done only by the system administrator through SSRS Manager. Reports are then sent, via e-mail notification, to each user that has applied for a subscription or can be stored in a shared directory.</p>		
BO-101	It is desired that standardized control data shall be shown on all reports.		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-101.</p> <p>[REDACTED]</p>		
BO-102	The ERS shall be configurable to include at least two logos provided by the Joint Board at any time and other facility information such as toll plaza name, facility, or lane numbers and location of the facility.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-102.</p> <p>TransCore's proposed solution provides project specific configuration allowing the user to easily manage location, site, and facility information. Reports are configured to dynamically pick up logos from a given location.</p>		
BO-103	The TCS shall query data imported and exported to other systems when generating reports. The TCS shall allow for unrestricted and flexible reporting of any and all data. States' Parties shall have complete access to any data in the TCS database. The TCS reports shall be batch, ad hoc, standard, and non-standard.	X	

Req ID	Back office (Section BO)	Required	Value Add
	<p>Proposer Response: The TransCore TCS complies with requirement BO-103.</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p>		
BO-104	<p>The Toll System Provider shall supply a reporting system that will utilize a query and run reports on the TCS. This reports system may be integrated into the TCS or can be an off- the-shelf system. The reports system shall provide reports for phases of Transactions and their movement through the TCS, and shall be capable of being queried using numerous methodologies. The reports system shall provide reports by ad hoc methodologies and through standard reports for Financial Transaction management, performance, and audits, The reports system shall be electronic; be compatible with Microsoft Office 2010 products; provide graphical representations of queries; save and query reports for future use; sort, add, edit or delete filters; and provide dashboards.</p>	X	
	<p>Proposer Response: The TransCore TCS complies with requirement BO-104.</p> <p>[Redacted]</p>		



Req ID	Back office (Section BO)	Required	Value Add
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	<p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p>			
	[Redacted]			
	[Redacted]			[Redacted]

BO-106	<p>The TCS shall provide functionality for offering promotions and promotional discounts that include but are not limited to: special pricing for certain customer groups, and prepaid trips on the Bridges. In the case of account holder promotions or discounts, the TCS shall be configured to discount the account on a transaction basis and also based on a configurable number of transactions posted to an account for a specific time period.</p>	X	
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	<p><b>Proposer Response:</b> <span style="color: green;">The TransCore TCS complies with requirement BO-106.</span></p> <p>[Redacted]</p> <p>[Redacted]</p>		
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Req ID	Back office (Section BO)	Required	Value Add
BO-107	The Toll System Provider shall have account functionality to designate that vehicles with approved Transponders or License Plates shall be charged a 100% discounted toll rate for trips made through the LSIORB Toll Zones.	X	
	<b>Proposer Response:</b> The TransCore TCS complies with requirement BO-107.		
BO-108	The TCS shall identify, resolve, and manage exceptions based on defined data, parameters and Business Rules.	X	
	<b>Proposer Response:</b> The TransCore TCS complies with requirement BO-108.		
BO-109	Only authorized personnel of the TCS shall add, update or delete entries on the list of TCS exceptions. A list of all actions of any authorized or unauthorized personnel shall be logged into the TCS and available in exception reports.	X	
	<b>Proposer Response:</b> The TransCore TCS complies with requirement BO-109.		
BO-110	The TCS shall have the configurable capability to handle exceptions by correcting the exception, charging the customer (including merging of Traffic Transactions), or by coding them off. These actions shall be based on the approved Business Rules.	X	
	<b>Proposer Response:</b> The TransCore TCS complies with requirement BO-110. In cases where a transaction is later determined to be in error, the back office allows for the reversal and correction of the transaction. All such reversals and corrections are completely documented in the financial accounting tables of the database to provide full auditability.		
BO-111	The TCS shall retain an audit trail of the occurrence of each exception including the time and date, type of exception, triggering event and resolution.	X	
	<b>Proposer Response:</b> The TransCore TCS complies with requirement BO-111. CAMS exception processing will allow detailed tracking of credit card processing issues, including tracking of declined authorizations by response code. Toll transaction exceptions are captured in the database to allow auditing of any anomalies.		
BO-112	The TCS shall set configurable Business Rules and thresholds for the purpose of managing exceptions and transaction processing as directed by and subject to the approval of the Joint Board.	X	
	<b>Proposer Response:</b> The TransCore TCS complies with requirement BO-112. [REDACTED]		

Req ID	Back office (Section BO)	Required	Value Add
BO-113	The TCS shall ensure that only authorized non-revenue Transponders are charged zero dollars for tolls. The TCS shall maintain a Project specific non-revenue account list for the Project.	X	
	<p>Note: For example, Traffic Transactions initiated by drivers holding Transponders that are designated as non-revenue Transponders from an account established with another E-ZPass agency shall not be treated as non-revenue Traffic Transactions in the TCS.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-113.</p>		
BO-114	The TCS shall retain records of non-revenue travel and the associated vehicle or Transponder number.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-114. Non-Revenue account information is tracked and can be easily reported on using many of the CSC and transaction reports included in the proposed solution.</p>		
BO-115	The TCS and the Toll System Provider operations shall prevent customers from being erroneously charged (overcharged, double charged or undercharged).	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-115.</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <ul style="list-style-type: none"> <li>[REDACTED]</li> </ul>		
BO-116	The Toll System Provider shall provide a lockbox service that is integrated into the TCS and that updates account records in the System when payments are recorded in the System.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-116.</p>		
BO-117	The TCS shall perform automated look-ups for customer name and address acquisition and check them against DMV records through interfaces with services provided by the Toll System Provider. The Toll System Provider shall coordinate access with the Joint Board and integrate directly through the Kentucky and Indiana DMV.	X	

Req ID	Back office (Section BO)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-117.</p> <p>CAMS performs a DMV lookup on all new unregistered vehicle or violator records. The lookup obtains the registered owner (RO) information based on the violator's license plate number, plate type, and state. We will provide direct interfaces with Indiana and Kentucky DMVs and use Duncan Solutions for any out of state plate lookups and according to Joint Board approved business rules. TCS can support any other direct state DMV interfaces to which the Joint Board has access.</p>		
BO-118	The TCS shall communicate court evidence packages with the courts through the following interfaces: Web Portal, Paper, FTP, USB drive, and CD-ROM.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-118.</p> <p>TransCore's violation system provides a court processing feature that allows the user to create and maintain a violator's evidence package to be used in court. The evidence package can be created for a single violator and can include one or more violation notices. The package contains all documents associated with the underlying violator and violation notices. The user can create multiple evidence packages for a single violator that would include the same or different notices. These packages can be shared with the courts through a Web portal, hardcopies, or electronic copies on a secure FTP server, USB-drive, or CD.</p>		
BO-119	The Toll System Provider shall provide all necessary mailing services for customer invoices and Correspondence services. The Toll System Provider shall ensure that all Customer Statements mailed to the customer are stored in the TCS and available to the customer service representatives. Postage will be reimbursed to the TSP as a Pass-Through Cost Item.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-119.</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
BO-120	The Toll System Provider shall manage Hardware, Software and equipment life cycles to ensure equipment is replaced prior to "end-of-life cycle" or at such earlier time when the manufacturer no longer provides support for the components.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-120.</p> <p>All equipment, hardware and software warranties, and expirations will be tracked in MOMS, and predictive work orders are created as notifications when expiration nears. This allows any item to be inspected and replaced as needed before the expiration of the warranty.</p>		
BO-121	The Toll System Provider shall use field-proven Hardware, Software and equipment configurations that have been deployed on toll projects of similar or larger size	X	

Req ID	Back office (Section BO)	Required	Value Add
	and complexity, and that support future upgrades to processors, memory, storage, operating system, database and other System components.		
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-121.</p> <p>CAMS system architecture is designed after well known software design patterns for the enterprise level systems. These patterns are accepted as best practice software engineering principles and deliver proven solution to common software problems, challenges, and requirements. They are used to achieve system scalability and reusability and to reduce the development and maintenance cost of the future system expansions. The system is built using the latest, best-of-breed technology and has a multi-tier architecture. This is a highly flexible architecture approach that provides decoupling between logical modules and system layers. TransCore is one of the largest toll systems providers in the world and we have been successfully delivering the same technology for many customers of larger or similar size throughout the U.S. and abroad.</p>		
BO-122	<p>The Toll System Provider shall provide an interface from the TCS to the Kentucky DMV and the Indiana DMV. The TCS shall provide an automated license plate file transfer interface to the Indiana DMV and the Kentucky DMV for look-up and return information for the registered owner. The methodology used to achieve this interface shall be at the discretion of the Toll System Provider. The TCS shall track all files transferred to each DMV with which it interfaces and track how many files were transferred successfully resulting in a license plate return and address, and also how many requests were returned unsuccessfully.</p>	X	
	<p>Note: The Kentucky and Indiana DMV support automated look-ups for outside organizations that successfully apply. Both Indiana and Kentucky allow multiple owners to be associated with a single vehicle and license plates stay with the prior owner when a vehicle is sold or otherwise transferred.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-122.</p> <p>CAMS performs a DMV lookup on all new, unregistered vehicle or violator records. The lookup obtains the registered owner (RO) information based on the violator's license plate number, plate type, and state. We will provide direct interfaces with Indiana and Kentucky DMVs according to Joint Board approved business rules. We will work with the Joint Board to define the business rules for dealing with multiple owners of the same vehicle.</p>		
BO-123	<p>The Toll System Provider shall provide a TCS that includes Transponder inventory and fulfillment application services. The TCS Transponder inventory and fulfillment services shall include Transponder purchasing, distribution, tracking, warranty data, returns to manufacturer, and reporting interfaced with the INDOT procurement process. The TCS shall import Transponder manifest lists from common file formats to be used in the TCS without additional manipulation. The TCS shall include bar code processing which results in automatic entry of Transponder identification numbers into the TCS. The TCS shall track the full life cycle of a Transponder from the time it is purchased through allocation to each of the centers for distribution, through the fulfillment process and finally through the end life of the Transponder when it is removed from inventory. The TCS shall provide a report of the total number of Transponders, the locations of those Transponders, where the Transponders are in the distribution process, the customer account to which they have been assigned, shipping information, and information for final delivery to the customer. The inventory process shall account for the locations (both physical and within the distribution process) of all Transponders during their life cycle. The TCS shall produce reports that detail the number of Transponders distributed, the number of Transponders requested to date, the number of Transponders fulfilled, the number of Transponders shipped, and the number of requests in progress. The TCS shall track and provide reporting for warranty information on the Transponders, returns to the manufacturer warranty expiration dates, and number of Transponders in inventory.</p>	X	

Req ID

Back office (Section BO)

Required

Value Add

Proposer Response: The TransCore TCS complies with requirement BO-123.

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Req ID	Back office (Section BO)	Required	Value Add				
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BO-124	<p>The Toll System Provider shall fully audit and reconcile Traffic Transactions throughout the life of the Traffic Transaction. The TCS shall provide for the ability to fully reconcile the flow of Traffic Transactions throughout the system to each end state of the Traffic Transactions from receipt of roadside activity through the TCS, through its final disposition. The TCS shall be fully auditable and provide robust reconciliation processes for customer service representative transactions, ETC Transactions, video Transactions, account balances, front counter and call center activity, adjustments, credit card Transactions, and payments. The methodology used for this reconciliation process shall be at the discretion of the Toll System Provider but shall provide auditable insight into each component of the TCS and into each step of the Transaction. The Toll System Provider shall have an auditable system to track all payments and any Financial Transactions as well. The TCS shall be required to reconcile Traffic Transactions with payment collections. Reports shall be generated for auditable and logical Transaction and payment reconciliation.</p>	X					
	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>						



Req ID	Back office (Section BO)	Required	Value Add
	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
BO-125	<p>The Toll System Provider shall provide a TCS that includes a retail distribution network for Transponders, Transponder reloading, account replenishment, and toll payment services such as would occur at local grocers, pharmacies, etc. The TCS shall support at least one type of such service such as kiosks, interaction with store clerks, or use of gift card type packages. The TSP shall be responsible for entering into all necessary agreements with merchants participating in the retail distribution network. All such agreements shall be assignable to the Joint Board or its designee.</p>	X	
	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
BO-126	<p>The TCS shall have functions to support a cash-replenishment network to provide cash based replenishments in retail locations and shall describe the customer experience for the cash replenishment network in the System Documentation. The BOS Operations Plan shall identify any differences in Business Rules to be applied at the retail locations.</p>	X	
	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		

Req ID	Back office (Section BO)	Required	Value Add
	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
BO-127	<p>The Toll System Provider shall provide financial and operations reporting for the cash based replenishments network.</p>	X	
	<p>Note: The Toll System Provider shall describe the interface with the cash replenishment network-provide and the operations and financial reporting for the interface in the System Documentation.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-127.  All payments made on every kiosk will be tracked in the same manner as all other payments and will be distinguishable when displayed on required accounting, auditing and reconciliation reports. Special GL accounts and transaction types will be created.</p>		
BO-128	<p>It is desired that the cash-replenishment network provide functionality for customers to purchase transponders, pay invoices or Violations and support balance inquiries on customer accounts.</p>		X
	<p>Note: The Proposer shall describe in this Technical Response Form the customer experience for the cash replenishment network.</p> <p><b>Proposer Response:</b> [REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		

Req ID	Back office (Section BO)	Required	Value Add
	[REDACTED]		
BO-129	It is desired the Toll System Provider provide functionality to allow customers without an account to pay for tolls prior to the issuance of a Customer Statement.		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-129.</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
BO-130	<p>The Toll System Provider is responsible for DMV lookup for all other States and Provinces. The TCS shall track all files transferred to each DMV with which it interfaces and track how many files were transferred successfully resulting in a license plate return and address, and also how many requests were returned unsuccessfully. The Toll System Provider shall also interface with Nlets through an existing INDOT agreement if existing access to Nlets is not included in the Proposer's response. Proposer will be required to establish and maintain all required certifications to utilize the Nlets interface regardless of which access is incorporated into the proposal.</p>	X	
	<p>Note: The Proposer shall describe its existing out of KY or IN State and Province lookup process in its Technical Response Form. The Proposer may use an existing Nlets interface if already available and functional within the Proposer's system.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement BO-130.</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		

Customer Service Center Requirements

Req ID	Customer Service Center (Section CS)	Required	Value Add
CS-001	<p>The Toll System Provider shall supply appropriate staffing for a fully functional and operational CSC to support tolling operations of the Project. These services shall include, but are not limited to, 1) account management and maintenance services, 2) Customer Website services, 3) mailroom operations, 4) customer communications through phone, email and or text, 5) interoperability and reciprocity, 6) internal or external financial and lockbox operations, 7) ETC and image review processing, 8) Transponder inventory and fulfillment, 9) Violation processing, 10) internal or external administrative and court collections processing, 11) Walk-up Center operations, 12) quality assurance and quality control, 13) training, 14) management, oversight and personnel services, 15) reporting, 16) security of information, and 17) equipment in order to successfully collect toll revenue for toll customers. The Joint Board shall have no responsibility for increases or decreases in actual levels of equipment, but the Joint Board will pay for some limited services and facilities using Pass-Through Cost Items as defined in the Contract.</p>	X	
	<p>[REDACTED]</p>		
CS-002	<p>The CSC shall be staffed with personnel that are experienced and knowledgeable in toll industry practices, and the Toll System Provider shall provide trained, competent and courteous customer service staff to assist individuals and businesses in managing their toll accounts. The CSC shall provide all services required to enable customers to pay tolls by use of a Transponder or image capture of their license plate or through the Violations and collections process; including accounts from interoperable toll agencies, and the resolution and payment of toll bills, notices and collection of civil penalties for unpaid tolls.</p>	X	
	<p>[REDACTED]</p>		

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p>Each staff member will be required to:</p> <ul style="list-style-type: none"> <li>• Have the skill level sufficient to meet quality and quantity processing requirements set by management</li> <li>• Understand the rules of appropriate behavior</li> <li>• Adhere to all Standard Operating Procedures (SOPs)</li> <li>• Maintain a professional and pleasant demeanor</li> <li>• Exhibit courteous behavior whether on the phone or in person</li> <li>• Participate in mandatory corporate business ethics and harassment training</li> </ul>		
CS-003	Customer service representatives shall provide all services related to toll accounts for toll customers, to include account opening, replenishments, account closings, answering inquiries, processing Violations, and handling collections or billing issues.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-003.</p> <p>TransCore has immense experience at providing all aspects of customer service, which is proven by several awards for customer service excellence in our customer service locations. We will provide all operational support needed to continue our level of excellence. We will provide account management, account opening, replenishment, account closing, inquiry resolution, violation processing and all of the related financial services including billing and collections. These are the basic services provided, but our goal is to provide these services with a positive attitude and to achieve customer satisfaction.</p>		
CS-004	The Toll System Provider shall provide customer service representatives who can provide basic customer service functions over the telephone, in person, or via mail or the web, for all account types. The Toll System Provider shall provide CSRs who can perform customer service tasks include opening accounts, retrieving account information, updating account information, vehicle information, replenishing accounts, changing credit card or replenishment sources, issuing new or replacement Transponders, accepting returns of Transponders, closing accounts, establishing and billing postpaid accounts, refunding errant charges or remaining balances on closed accounts and assisting customers with troubleshooting. Additional tasks such as cash collection, change runs, inventory control, etc. shall be provided as necessary to provide a complete CSC operational facility. Oversight of human resource issues such as time clocks, appropriate conduct and attire are the sole responsibility of the Toll System Provider.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-004.</p> <p>TransCore, with our level of excellence, is committed to a universal approach to customer services through the operational integration of all major functions within our system to help all customer experiences to be positive. This customer-centric view within the operation helps us to see beyond traditional operation organizational structures. Our operation is focused on the customer experience, whether it is by phone at the call center, in person at a walk-up counter, or via fax, the Web, regular mail, or e-mail. Production activities will focus on improving the customer experience by processing incoming and outgoing mail, supporting image review, invoice approval, and dispute processing. This logical alignment of activities toward the customer experience also allows a single CSR to assist a registered customer who received an invoice with disputing the tolls and adding the license plate to their account as well as trouble shooting the cause of the invoice – all in one call. Customers should not have to care about organizational structures within the service center. TransCore strives to make the organizational boundaries transparent for your customers.</p> <p>TransCore commits a human resources specialist to each service center that we operate. Our human resources specialist will support the local operations team to ensure that appropriate employment standards are set and monitored for each person employed in the operation. Training and accountability is required in the proper use of systems and facilities as well as dress code and ethical behavior.</p>		
CS-005	The TCS and the Toll System Provider’s policies and procedures shall support first contact resolution of any customer issues.	X	

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-005.</p> <p>Comprehensive, clearly written, and up-to-date standard operating procedures (SOPs) along with effective training and ongoing monitoring are critical to resolving customer issues on the first point of contact. Our staff, armed with desk reference materials as well as comprehensive training, has the tools they need to resolve customer issues on the first call. In addition, a percentage of all calls are monitored, and first call resolution is one of the key scoring categories by which CSR calls are evaluated.</p>		
CS-006	<p>The Toll System Provider shall provide a toll free number for inbound customer calls. The Toll System Provider shall minimize transfers and follow-up calls.</p>	X	
	<p><b>Note:</b> The Proposer shall demonstrate in this Technical Response Form how its policies and procedures will satisfy this requirement.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-006.</p> <p>TransCore sets high expectations for our customer center staff. Part of this system is to ensure each and every CSR has the tools, training, and experience needed to address customer concerns. We strive for one call resolution. Part of our experience has led us to understand the importance of rewarding excellence in our staff. We honor excellence and track individual performances. If a negative trend emerges we address it immediately. By providing ongoing training and our recognition program, our goal is to address each customer concern with minimal wait time and transfer time, and we help minimize customer frustration.</p>		
CS-007	<p>The Toll System Provider shall provide customer service staff access to a complete customer interaction history for all payment channels to support the resolution of a customer inquiry.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-007.</p> <p>Our proven application, CAMS, does provide a date range of all past payments, transactions, and any account changes. A CSR has the ability to view notes added to the system and our application allows a CSR to scan documents into our application that can be referred to at any time in the future and tied to an individual account. By allowing each and every CSR this level of detail we are further able to strive for excellence.</p>		
CS-008	<p>The Toll System Provider shall maintain a written record of all customer interactions with the BOS so that TSP shall maintain a complete history of account information.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-008.</p> <p>CAMS does maintain a history in each customer record of all interactions involving the back office system. In the Customer Service windows, the account history link provides a detailed running list of all interactions including a description, date, time, and the CSR's user ID. CAMS further provides a running balance for customers and has the ability to scan in copies of any documentation needed to support adjustments, change in history, or other needed documentation for audit purposes.</p>		
CS-009	<p>The Toll System Provider shall track and categorize all customer communications by customer, type of communication, dispute status and type of problem as recorded in the TCS.</p>	X	

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-009.</p> <p>All customer communication is documented by the CSRs within CAMS. This communication or notes is linked within the customer account and can be categorized by type. The type of documentation is configurable within CAMS and will allow a CSR to quickly access the information. Further is the ability to scan documents for backup purposes in the event there are questions about any transaction. This is another example of how we strive to achieve one call resolution and maintain records for oversight and audit purposes.</p>		
CS-010	The Toll System Provider shall access data to handle communications, interactions, and workflow management within the TCS.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-010.</p> <p>CAMS comes with a TRACER module which tracks and reports on all communications and interactions. Supervisors and managers use this TRACER module to assign work or escalate an issue to a manager. This also tracks workflow from beginning to end to ensure that nothing is dropped throughout the resolution process. We are able to utilize this module to ensure that customers are not kept waiting and that no issue is left unresolved.</p>		
CS-011	The Toll System Provider shall provide a consistent customer experience across all payment channels.	X	
	<p><b>Note:</b> Proposer shall describe in this Technical Response Form how its policies and procedures demonstrate that it will provide a consistent customer experience for customers interacting with the CSC to make payments in any of the available methods</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-011.</p> <p>Our trained CSRs will ensure all customers are treated consistently. Every CSR will be able to apply all payment types to ensure no one, regardless of how they are paying, needs to wait longer than another customer and are given the same level of excellent service. CAMS can allow customers to make payments via cash, check, credit card, debit card, or ACH. Customers may make these payments through several different methods including mail, IVR, Web, walk-in center, or by calling the CSC. Our system is monitored daily and has alarms that alert our IT department if there are issues utilizing the Web or IVR service. Further, our years of experience, past process and procedures audits, and customer surveys demonstrate customer satisfaction with the system and our processes.</p>		
CS-012	If the Proposer's system architecture is such that the images are stored at the Roadside System, it is desired that the Toll System Provider provide the ability to retrieve images and Transactions from the Roadside System for any customer communications.		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-012.</p> <p>[REDACTED]</p>		
CS-013	Toll System Provider shall maintain a record of all customer complaints and disputes. All contacts with customers regarding complaints and disputes shall be entered in a customer complaint log and linked to the customer's account, and all subsequent contacts, responses and actions shall be noted in the record, through resolution and final disposition. The record shall identify the customer, means of contact, date, time, issue, action, and identity of CSR responding to the customer information. The record shall be maintained in accordance with the data retention policy period and shall be available to the Joint Board upon request.	X	

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-013.</p> <p>TransCore does, at all our CSCs, maintain a customer complaint log. This log does identify the date of time of the complaint as well as preferred method of contact, and a brief description of the complaint. This log will be made available to the Joint Board upon request. Further, within the customer account, a note will be documented by the CSR and if further action is needed it will be tracked to capture all future actions taken. This note is searchable and will be maintained along with all other customer comments.</p>		
CS-014	The Toll System Provider shall support the Joint Board and its consultants in communicating with, media representatives, community representatives and other stakeholders.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-014.</p> <p>TransCore views our effort as a team effort and looks forward to working closely with the Joint Board and its consultants. We have vast experience in the area of communicating accurate, reliable, and timely information to the community as well as media representatives and other stakeholders.</p>		
CS-015	The System(s) shall record and report in the TCS the types of customer communications being received by the TCS including email, fax, SMS, phone call, letter, retail location or Walk-Up Center visits.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-015.</p> <p>TransCore takes pride in documenting all items into the customer record. Our experience, has led us to understand the importance of having all communication and documentation available at your finger tips. This documentation goes along with our one call resolution goal. If CSRs and other stakeholders have all needed information available, it is easier to help the customer to a satisfactory resolution. We do track, attach, and document all forms of communication within the system. Further, when documenting or making a payment, the CSR is able to select the form of communication or location. The type is configurable and will include e-mail, fax, SMS, phone, and mail, and will specify which retailer or walk-up facility each customer used. These are searchable and can provide a report to track types of interactions and location most utilized by customers.</p>		
CS-016	The Toll System Provider shall develop procedures, and training materials for responding to customer communications.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-016.</p> <p>We have had extensive experience in developing and maintaining effective SOPs. Additionally, we draw on years of experience in developing and managing operating practices that are focused on effective customer driven activities. Successful communications with customers is a core component to effective operating practices, including first call resolution as we discussed previously. Effective SOPs must be done collaboratively with the authority to ensure that our operating practices meet expectations. Equally important is the need for timely updates to SOPs and training materials, as well as ensuring the staff is familiar with the updates.</p>		
CS-017	The Toll System Provider shall provide an option that the customer may select on the IVR to obtain answers to a set of FAQs and answers developed by the Toll System Provider. Toll System Provider shall also include any FAQs and answers that the Joint Board submits to Toll System Provider for inclusion in the IVR FAQs.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-017.</p> <p>We anticipate that the development of the customer Web site will have FAQ's and answers as well. Our approach is to develop both concurrently to ensure consistency and include ongoing updates for both. Customers calling the CSC will have the option to select a prompt for FAQs and answer information. This prompt will direct them to recorded FAQs. TransCore will work with the Joint Board to refine the FAQs that will be recorded and included.</p>		

Req ID	Customer Service Center (Section CS)	Required	Value Add
CS-018	<p>The Toll System Provider shall regularly update the FAQs and responses for accuracy and timeliness. Toll System Provider shall describe its procedures for updating FAQs and responses in the CSC Operations Plan.</p>	X	
	<p>Note: Proposer shall describe in this Technical Response Form how it will develop a process and implement a procedure to ensure that the FAQs and responses are regularly updated.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-018.</p> <p>At a minimum, we will routinely evaluate potential changes to the current FAQs and answers quarterly. Included in the evaluation will be the recent customer inquiries our CSRs are receiving to determine if additional or modified information is recommended. These will be reviewed with the Joint Board to ensure agreement. At times, more immediate modifications may be needed due to business rule changes, toll adjustments, or other information of which toll customers may need to be informed. These modifications will also be discussed with and approved by the Joint Board.</p>		
CS-019	<p>The Toll System Provider shall ensure that the Customer Service Center staff are trained by system Suppliers, and are provided with TSP provided manuals including online manuals to support the resolution of interactions. CSR staff shall also be provided with a decision tree and referral directory.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-019.</p> <p>We will draw on our current CAMs user manuals and training materials that have been successfully utilized in our service centers, particularly in Houston, our proposed customer service center site. This documentation will be updated to address any and all modifications needed for this application. In addition, we will develop and implement a program-specific decision tree and referral directory for the customer service center staff.</p>		
CS-020	<p>The TCS shall have implemented appropriate security and controls to protect the data from unauthorized use and unauthorized users.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-020.</p> <p>The CAMS application provides the ability to create roles and assign roles with access to any level of the application. This feature in CAMS allows managers to provide staff with the level of access to the application that is appropriate and needed to do their specific job. Additionally, we will develop a controls program designed to ensure security over data and sensitive documentation. This program will identify critical control points and activities to be monitored by appropriate internal staff and will be subject to external audit.</p>		
CS-021	<p>The Toll System Provider shall provide reports on customer communications status and the resolved reason code for resolution in the Monthly Operations and Maintenance Report.</p>	X	

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-021.</p> <p>TransCore tracks communications from customers by type. We further track communication to ensure that any unresolved issues are monitored and, once resolved, the status will be updated. TransCore will report on type of customer communications along with resolution status in the Monthly Operations and Maintenance Report.</p>		
CS-022	<p>The average mean time for Toll System Provider to respond to all customer communications shall be as follows.</p> <ul style="list-style-type: none"> <li>• Response to customer emails - 3 days during Startup Operations and 1 day during Steady State Operations.</li> <li>• Response to Voicemails - 3 days during Startup Operations and 2 days during Steady State Operations.</li> <li>• Response to Written Correspondence - 5 days during Startup Operations and 3 days during Steady State Operations.</li> </ul> <p>The Toll System Provider shall report the average mean time for response to customer communications on a monthly basis in the Monthly Operations and Maintenance Report, and shall also report minimum and maximum customer communications times.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-022.</p> <p>The customer service center will respond to all customer communications as follows.</p> <ul style="list-style-type: none"> <li>• Response to customer e-mails – 3 days during Startup Operations and 1 day during Steady State Operations</li> <li>• Response to Voicemails – 3 days during Startup Operations and 2 days during Steady State Operations</li> <li>• Response to Written Correspondence – 5 days during Startup Operations and 3 days during Steady State Operations</li> </ul> <p>The CSC will report the average mean time for response to customer communications on a monthly basis in the Monthly Operations and Maintenance Report, and will also report minimum and maximum customer communications times.</p>		
CS-023	<p>The Toll System Provider and the TCS shall provide capabilities to record in writing customer disputes concerning Customer Statements, processing and enforcement actions.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-023.</p> <p>The CAMS application does have the capability to capture all correspondence, CSR notes, and activities related to customer statements, processing, and enforcement actions. Inbound correspondence and communications will be attached directly to the customer record for future viewing or printing. In addition, notes can be entered and stored directly in the Customer History section of CAMS, allowing for quick and easy retrieval of information.</p>		
CS-024	<p>The Toll System Provider (IVR and Web) customer communication channels shall provide information advising customers of the available service options including identification of the appropriate customer contact point for specific issues, payment of Customer Statements, and directions for converting a Customer Statement to a prepaid ETC Account or Registered Video Account.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-024.</p> <p>Both the IVR and the customer Web site will provide users with information needed to contact the service center and make payments, and how to convert a customer statement account (unregistered account) to a registered or video account. In the case of IVR, the caller may obtain information only, choose to speak with a CSR, or use one of the many self-service features. In the case of the customer Web site, customers may make payments, dispute violations, and manage their account. Also,</p>		

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p>a customer is able to create a TRACER ticket if the customer would like to submit a complaint or request additional assistance. TransCore will work with the Joint Board and a designated marketing company to deliver a complete content management system that will allow the Joint Board to add content to the Web site with no programming changes. The content of the Web site is provided by the Joint Board. TransCore will also work with the Joint Board to ensure the IVR system will contain needed content or messages needed to provide customers information.</p>		
CS-025	<p>The TCS shall post Traffic Transactions to existing accounts for customers who have Registered or Unregistered Video Accounts and the TCS shall create accounts based on Traffic Transactions for customers who do not have existing Registered or Unregistered Video Accounts.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-025.</p> <p>TransCore's robust system allows for several different types of accounts and options for how each of these accounts process transactions. When a customer with a registered account uses the facilities, a toll transaction will post to their account automatically. When the system detects an unregistered tag an unregistered account will automatically be created. Further, any unregistered video account will be able convert to an ETC account if:</p> <ul style="list-style-type: none"> <li>• A transponder is acquired</li> <li>• Any necessary payment is made</li> <li>• Payment method is established</li> </ul> <p>Unregistered video accounts will also be converted to a registered video account if:</p> <ul style="list-style-type: none"> <li>• Any necessary payment is made</li> <li>• A payment method is established</li> </ul> <p>The CAMS application is configurable to allow any account that has past due invoices to change to a violator account. Further, if there are any pending transactions, these will automatically post to the violation account. This process is very configurable and trigger points are determined based on the numerous settings and application parameters.</p> <p>The violator accounts will use any customer data which is retained in CAMS. Any necessary updates will be provided through the Indiana and Kentucky DMVs, as well as Duncan Solutions, based on the license plate data and the registration data.</p>		
CS-026	<p>The TCS shall provide the means for potential customers who do not yet have an account to access general information about the Project from the Customer Website, IVR or CSRs.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-026.</p> <p>We will collaboratively develop toll program information with the Joint Board for potential customer inquiries. During Web and IVR development, as well as training materials for CSRs, we will consider all three methods of inquires concurrently to ensure consistency of key program information.</p>		
CS-027	<p>The Customer Website shall provide access for customers who do not have a Transponder to pay tolls and Violations or sign up for a Registered Video Account.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-027.</p> <p>Any customer that utilizes the toll lanes has the option to log onto the customer Web site to pay a violation notice. The customer Web site will allow customers to open their account and establish online access with immediate account opening confirmation. The toll tag(s) for new accounts requested via the customer Web site will be mailed by the close of business on the following business day. Similar to the other account opening methods, customers with toll tag(s) purchased at a retail outlet will have the option to establish an account and activate the tag using our user friendly and secure Web site. Further, any account holder can log on to the Web to pay tolls, add funds to their prepaid balance, pay violations, and also make changes to payment methods – all through the Web site.</p>		

Req ID	Customer Service Center (Section CS)	Required	Value Add
CS-028	The Toll System Provider shall provide a user configurable fee structure to be used for customers to make arrangements to pay tolls and establish a payment plan.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-028.</p> <p>The CAMS application does allow for partial payments to be taken on account and fees are configurable. Part of this configuration will allow multiple fee structures to be established based on approved business rules. Once a customer selects a payment plan, fees will automatically post to their account. If at any time the customer pays their balance early, fees will stop posting to their account.</p>		
CS-029	The TCS shall address customer account communications including adding vehicles, requesting a Transponder, account maintenance and payments.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-029.</p> <p>All customer communication are managed to ensure timely and accurate account maintenance. Any request received through the mailed or fax will be scanned and linked to the customer account record. Additionally, electronic communications will be linked to the customer record to ensure proper QA reconciliation of processed account transactions. All requests will be addressed and updated within 24 hours of receipt of the communication, including adding vehicles, transponder requests, account maintenance, and payments.</p>		
CS-030	The CSC staff shall identify potential system and service issues from their interactions with customers. Customer Service Center staff shall communicate with and provide feedback to the Toll Operations Center or Joint Board in a timely manner.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-030.</p> <p>Monitoring and reporting of both potential and actual system and/or customer service issues are built into our SOPs and operational practices. This is a key component of our quality assurance program, and CSC staff is trained to identify and communicate this information to management and maintenance technicians. Often times this information is of great value for heading off potential issues before they become significant and for identifying potential system improvements.</p>		
CS-031	The Toll System Provider through the CSC shall monitor the Customer Website, provide notices and daily informational updates to the Customer Website as needed, and coordinate those updates for approval by Joint Board. The CSC shall ensure that Customer Website operations meet Performance Requirements by performing routine checks on the Customer Website account management system, and the Customer Website informational page.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-031.</p> <p>The customer Web site is among the most useful and effective method of communications and interactions with potential and current customers. The information provided on the Web site must be correct, current, and have value to the customer. We have developed and maintained customer toll Web sites for many toll authorities and will bring this expertise to Web development and ongoing maintenance. As part of routine daily monitoring, the system administrator will be scheduled to perform a daily customer Web site check to ensure that it is performing to expectations and to update the site with Joint Board approved notices and information.</p>		
CS-032	The Toll System Provider shall ensure that the toll customers' inbound and outbound mail is handled accurately, expeditiously and confidentially while at the same time operating in a cost-efficient manner. The CSC shall log any and all mail room activity which is not automatically tracked by the TCS. The CSC shall time and date stamp and log all incoming mail and shipments. The mailroom shall be kept clean and orderly with a minimum of materials out of storage at all times. Valuable items, particularly inventoried items such as Transponders, shall be stored under lock and key when not in use. Mail room services shall be appropriately staffed to ensure that all mail transactions are completed daily with no backlog before close of the mail room, and in compliance with Performance Requirements.	X	

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-032.</p> <p>TransCore is experienced at provided mailroom documentation, including safeguarding assets, tracking inventory, and maintaining a professional work environment. As part of our Standard Operating Procedures, inbound mail is time/date stamped and sorted by type. Sorted mail is counted and logged and then distributed appropriately for further processing. The mail room is organized for efficiency and also in such a manner so that valuables and mailing materials are stored safely. All transponders are kept in a secured and locked area when not being used. A dedicated team of mailroom staff ensure that all inbound and outbound mail is processed daily and in compliance with performance requirements.</p>		
CS-033	<p>The Toll System Provider and CSC operations shall be responsible for printed material and the preparation and mailing of all outbound mail or shipments including but not limited to: notices of expiring credit cards, notices of account balances dropping below a configurable balance, billing and Violation notices up to and including collection notices, Transponder kits to customers, Transponder retail packages to retail outlets, and Transponders being returned to the manufacturer for any reason. The Toll System Provider shall provide quality control and approval of all outgoing Correspondence before release from the mail house or internally at the CSC. TSP shall assemble typical mail distribution packages that may include a Transponder package kit with marketing branding logos, a mounting instructions sheet and a terms and condition statement. TSP shall use such marketing items, branding or logos as the Joint Board may direct during the Term. TSP shall obtain Joint Board prior approval of Transponder kits, instructions, and packaging.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-033.</p> <p>TransCore will prepare and mail all outbound correspondence and shipments including:</p> <ul style="list-style-type: none"> <li>• Customer notifications</li> <li>• Billing notices</li> <li>• Violation notices</li> <li>• Statements</li> <li>• Transponder kits to customers</li> <li>• Transponder retail packages to retail outlets</li> <li>• Transponders being returned to the manufacturer</li> </ul> <p>Quality checks will be conducted at every step of mail assembly and distribution to ensure that mail released internally or from the mail house meets all requirements. Transponder kits will contain appropriate and approved marketing branding logos, mounting instructions, and a statement of terms and conditions. TransCore will only use marketing items, branding, or logos as directed by the Joint Board, and any alterations or changes will be at the direction of the Joint Board.</p>		
CS-034	<p>The Toll System Provider shall provide for all users of the toll road the ability to pay tolls automatically with their toll account from interoperable and reciprocal tolling members of the IAG. TSP shall provide CSC services to interoperable agency customers. TSP shall perform regular transaction and financial reconciliation with each interoperable toll agency, and monitor all required file exchanges, dispute processing and resolution and the sending of final reciprocity amounts through the established Joint Board channels for fund exchanges. TSP shall perform all processing including final settlement. The CSC shall service Project toll customers in their use of other toll authorities' facilities to the greatest extent possible as well as fully support "away" customers using the Bridges.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-034.</p> <p>TransCore's broader national presence provides a basis of system interoperability experience and capability. Using the interface standards established by the IAG and others, TransCore will support the auditable exchange of transactions with other toll systems' account holders where the Joint Board may gain interoperability agreements. This account interoperability is accomplished with agreed to and established Interface Control Documents (ICDs) to technically define the data exchange and formats between systems, along with configurable system settings to align with the applicable toll authority business rules. This is provided for both transponder and video toll accounts with the exchange of image files and transaction files through that are fully auditable with reconciliation and settlement reports as defined in the IAG specifications.</p>		

Req ID	Customer Service Center (Section CS)	Required	Value Add
CS-035	<p>The Toll System Provider shall provide a lockbox operation that includes extensive oversight of the process, controlled access, CCTV monitoring, processes and procedures for disposal of incoming mail materials, archiving if available, control of paper usage in the lockbox area and attention to detail. The Toll System Provider shall provide a staff to support lockbox operations and provide mail opening processes, scanning of mail procedures, receipt of funds through the mail, acceptance of any Correspondence addressed to the lockbox P.O. Box, and any Correspondence for the Project.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-035.</p> <p>TransCore will provide a locked, secure post office box. We have extensive experience and vetted operation procedures to ensure this will be handled safely and securely. We will work with the post office to get this mail delivered to our location and, if delivery is not available, we will take every precaution to ensure it is safeguarded and delivered to the mailroom for processing. All mail will be processed within the mailroom, which will have secured access as well as CCTV monitoring. Mail is first date/time stamped and then sorted by type.</p> <p>We are committed to processing all levels of customer incoming mail consistently with proven quality assurance checks, security, and confidentiality. Our workflow process clearly documents the handling process for incoming mail, ensuring that checks and balances are instituted and that all incoming correspondence is recorded, reviewed, and properly routed. Management will ensure that all approved handling processes are instituted and adhered to and that they comply with internal control standards.</p> <p>TransCore is prepared to properly handle all the anticipated inbound mail types from account applications and change information to returned transponders, payments, returned mail, as well as other correspondence. Each mail type will be processed according to strict standard operating procedures. For example:</p> <ul style="list-style-type: none"> <li>• After payment processing credit card information is redacted prior to scanning.</li> <li>• Checks are scanned and delivered immediately to the finance group.</li> <li>• All scanned mail is linked directly to the customer's account.</li> <li>• Applications are scanned and then put into the work queue immediately for account set up.</li> <li>• All documents approved for disposal are shredded daily.</li> </ul>		
CS-036	<p>The Toll System Provider shall ensure that all money is handled and accounted for in a timely manner. Toll System Provider shall provide the Joint Board with all necessary tools to enable it to track all System activities involving the handling of money and verify reconciliation processes easily and quickly. Employees of the Toll System Provider who handle cash must pass a level of security clearance established by the Toll System Provider and approved by the Joint Board. All TSP Personnel with access to money or account information shall undergo and pass security screenings consistent with Good Industry Practices prior to assignment to the Project. These screenings shall be documented and available for Joint Board review.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-036.</p> <p>TransCore has established and proven internal controls for money handling and procedures required to maintain compliance with Payment Card Industry (PCI), Generally Accepted Accounting Principles (GAAP), and Sarbanes Oxley standards and will tailor those controls to best support the operation. For example, in order to maintain appropriate separation of duties, all service center finance managers have a different reporting structure to ensure that appropriate oversight is maintained. In addition, each service center employee is covered by a corporate five million dollar fidelity crime insurance policy.</p> <p>All TransCore employees undergo background screening as well as credit checks annually. When staffing agencies are used for supplemental or temporary staffing, the contracted staffing agency must also supply proof of the same coverage in order to do business with TransCore. We have experience in establishing and documenting sound detailed revenue management procedures.</p> <p>TransCore will account for all monies collected and ensure accuracy and reconciliation of all money drawers on a daily basis.</p>		

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p>All monies collected will be stored in a secure area until deposited in the bank on the same or next business day via armored car service.</p> <p>We will perform daily reconciliation of all revenues in accordance with the Joint Board's toll collection and services requirements. The CSC team will:</p> <ul style="list-style-type: none"> <li>• For each business day, reconcile and report to Joint Board all bank deposits deposited into the designated bank account.</li> <li>• Accept customer payments and ensure that all payments are accounted for and credited to the customer account in accordance with the performance requirements.</li> </ul> <p>TransCore staff is experienced in the provision of the PCI Security Standards Council (DSS) compliant processes necessary to accept payments from customers who pay using major credit cards including MasterCard, Visa, American Express, and Discover, or with debit cards, personal checks, or money orders as well as cash at the CSC walk-in centers.</p> <p>All checks, money orders, cash, credit cards, debit cards, and ACH are managed in compliance with all banking regulations and GAAP. Following payment processing procedures we will deposit all funds into the designated bank account with complete reconciliation, audit trails, and dual controls. For checks that cannot be processed, the staff will make every attempt to contact the customer, including searching the Web for any new phone numbers to notify them that the check is being returned for additional information. Checks that cannot be processed are posted to the Unapplied Check account and deposited. All checks, including checks that are posted to the Unapplied Check account, will be scanned into the system for future reference.</p> <p>Returned check and rejected credit card transactions will be reversed from the customer's account, and returned check fees will be applied to the account in accordance with standard operating procedures.</p> <p>Refunds for customers closing their accounts will be processed by the CSC based on NCTA's approved business rules for closing accounts. The finance manager or the CSC manager will provide refund information to the Joint Board for approval prior to the actual refund. In our experience, refunds are generally processed on a weekly or monthly basis. We will work with the Joint Board to determine the frequency of refunds and other business rules related to closing of accounts.</p> <p>TransCore will provide the Joint Board with revenue accounting and auditing reports of all financial services.</p>		
CS-037	<p>The Toll System Provider shall provide oversight of Transaction processing such that the CSC has valid, accurate and reliable information from the TCS to successfully service the customer accounts.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-037.</p> <p>Quality control is necessary in every operation to ensure constant process improvement. Meeting performance requirements is necessary; however improvement can only occur if we identify opportunities to provide better service at the best value. Technology evolves and business needs change over time. Only through an honest assessment of the quality of service being provided are we able to see opportunities for improvement. Performance monitoring and reporting is an important part of quality assurance and overall management of any service center operation.</p> <p>In addition to call and processing reports we employ a complete operations approach to our program. It is designed to continuously monitor and improve overall CSC excellence. This is done first to improve the service that is delivered to your customers and second to improve the efficiency of the overall operation. We constantly look for opportunities to "do it better" with less overhead! We hire highly qualified people and then we provide them with the feedback, support and training needed to help them become more skilled and efficient at their jobs. Our CSRs and production staff are proud of their work and that ensures their loyalty and job retention. Most importantly, this is conveyed to our customers via excellent customer service. Our operations team monitors and reports to the supervisors and management daily so that we are apprised in areas of weakness and opportunities for improvement.</p>		
CS-038	<p>The Toll System Provider shall provide an image review staff and supervisors to manually enter license plates which are not or cannot be read through OCR Software and maintain Performance Requirements for image review staff and backlogs. This team shall be responsible for review of all images that do not pass the OCR with a confidence level of percentage threshold that is configurable in the System.</p>	X	

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-038.</p> <p>TransCore’s image review and supervisor staff are trained in both the specific activities for image review that they will perform, an overview of how the system works and its interface to DMVs, customers and collections. We have found from experience that knowledge of the entire process helps tremendously in the image reviewer understanding of their specific role in the process. Image review training includes some of the following subjects:</p> <ul style="list-style-type: none"> <li>• <b>AVI and VTC Overview</b> – This segment covers how the lane equipment, OCR, transponder, host, and back office system work at a high level. Trainees learn about lane feedback, vehicle separation, cameras, OCR, hot lists, tag files, etc.</li> <li>• <b>Electronic Toll Collection Overview</b> – In this segment trainees learn about toll collection programs in this country and around the world. They learn about interoperability and program business rules.</li> <li>• <b>Image Identification</b> – In this segment trainees learn what to look for and appropriate actions to take. They learn business rules related to plate identification, what to keep what to reject, when to seek assistance from a supervisor, plate types, jurisdictions, etc. They also learn about commonly misidentified characters. They will understand video toll customer processing and video toll processing as well as invoice toll processing.</li> <li>• <b>Delinquent Invoice Processing</b> – In this segment trainees learn about the various stages of delinquent invoice processing including, invoice aging, toll disputes, and collection process, etc. Additionally, we will structure the review process to include a secondary review as needed to meet program performance requirements and assure correctness.</li> </ul>		
CS-039	<p>The TCS shall process Traffic Transactions and Financial Transactions in the same way for both Project Customers and interoperable customers (except for additional steps as identified within the E-ZPass Agreement) so that both customer groups have the same customer experience.</p>	X	
	<p>Note: This requirement is to ensure that all Transactions are processed in a timely manner and treated in a consistent manner regardless of Transaction type.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-039.</p> <p>TransCore has experience in dealing with both project customers and interoperability customers. We will use this vast experience to ensure that each and every customer is treated with the highest level of customer service. We process all transactions in this manner. Customer transactions are all posted to accounts in near real time and daily a file will be sent to away agencies for processing. Further, daily we process files from these away agencies to customer balances are up to date and accurate. Additionally, we have proven controls and operating procedures to ensure that each customer regardless of account origin has accurate information and has the ability to research and resolve issues in a timely fashion. We pride ourselves at being accurate, professional, and have the needed tools within CAMS to research and resolve any issues that may arise.</p>		
CS-040	<p>It is desired that the Toll System Provider provide a second image review by a different clerk or supervisor to verify the initial image review clerk’s results when a license plate was read and assigned a high confidence level, but the information appears to be incorrect, or the license plate has not been seen before or cannot be recognized or read.</p>		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-040.</p> <p>[REDACTED]</p>		
CS-041	<p>The Toll System Provider shall accurately identify new and un-matched license plates to the correct owner of record using search tools and mechanisms consistent with Good Industry Practices.</p>	X	

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-041.</p> <p>When images are reviewed a license plate match is conducted to search for an active account. When no match is found, license plate data is sent to the DMV or in the case of out of state plates, to our third party contractor to obtain owner information. When owner information is returned, our approval processes is engaged. Review clerks compare the image to the DMV record to ensure that the vehicle description returned matches the vehicle depicted in the image. If the image and record do not match, the review clerk will follow the specific process within the BOS system to either correct the license plate characters, plate type, jurisdiction, or reject the record. Approval clerks are specially trained to recognize vehicle makes and models and to observe vehicles that may be on car carriers. For tractor trailer vehicles, we will typically follow the business rule to select the front plate for identification at first image review so that the vehicle owner rather than the trailer owner is returned by the DMV. We will confirm the appropriate business rule(s) with the Joint Board as part of our development of the SOP's.</p>		
CS-042	<p>The Toll System Provider shall provide that license plate image interpretation results are accurately entered into Transaction records, through implementation of the image review Business Rules approved by the Joint Board, and shall provide spot checks and internal quality control checks of automated image processing system.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-042.</p> <p>We will work with the Joint Board to implement approved business rules, as well as quality review activities and image review SOP's for the automated image processing system.</p>		
CS-043	<p>The Toll System Provider shall ensure that image review clerks perform quality control procedures on images entered, and update data for those images not recognized automatically.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-043.</p> <p>As part of our SOPs and quality program, owner information returned from the DMV the vehicle information is carefully analyzed to ensure the vehicle described matches the vehicle image. If the image and record do not match, the review clerk will correct the license plate characters, plate type, and jurisdiction so that a correct transaction can be resent to the DMV. These corrections will be subject to the approved review process prior to being resent to the DMV.</p>		
CS-044	<p>The Toll System Provider shall provide that Transponders owned by or in the care of the Joint Board are handled and accounted for in a secure manner. Toll System Provider shall ensure that only authorized users are allowed access to the System or facilities to handle the Transponders. Reports of Transponder inventory shall be generated and reviewed by Toll System Provider not less than monthly. The Toll System Provider shall be responsible for all Transponders under its or its agents or subcontractors' control. This shall include financial responsibility for damaged or stolen Transponders in the Toll System Provider's inventory.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-044.</p> <p>We have extensive experience managing all facets of ordering, such as receipt of, testing, inventory, encoding, distribution, fulfillment, monitoring, replacing, recalling, returning, warranty management, and disposal of transponders. This extensive experience extends to the security of transponder inventory and is inclusive of CAMS user access authorizations, physical security of the transponders through a lockable facility with controlled access and use of camera and/or alarm systems. TransCore will be responsible for all transponder inventories under our control, including damaged or stolen transponders.</p> <p>We have worked with a variety of transponder sales kits including sticker tags and hard case tags and use of retail packaging We T will ensure that an adequate inventory of pre-packaged transponders are available until distributed to retail partners. We are prepared to maintain an inventory of retail packaging materials so that staff can package the transponders and sales kits in house.</p>		

Req ID	Customer Service Center (Section CS)	Required	Value Add
	We will provide the Joint Board with inventory reports on all transponders including sales kits for retail outlets, bulk transponders, or pre-packaged transponders. We will ensure that an adequate inventory of pre-packaged transponders is available until distributed to retail partners. We are prepared to maintain an inventory of retail packaging materials so that staff can package the transponders and sales kits in house.		
CS-045	The CSC shall accurately track and report the location and distribution of all Transponders. Controls such as bar coding, warranty and location of each Transponder shall be tracked upon initial receipt into inventory, whether in the CSC inventory storage, with a CSR in the CSC or Walk-Up Center, in the mail room or remote facility locations, at a retail outlet prior to sale and registration, assigned to a customer account, reported lost, damaged or stolen, returned to the CSC to be sent back to the manufacturer, or returned for disposal.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-045.</p> <p>TransCore has detailed operating procedures to track all tags throughout their lifecycle. CAMS inventory module supports ordering, receiving, assigning, warranty, exchanging, returning, and complete tracking of transponders. CAMS provides the functionality for transponders to be received into a central location then transferred to CSC locations to be assigned to accounts. CAMS records each movement of the transponder, status, and location, allowing the user to view the history throughout the transponder's life. In addition, our transponder management provides an integrated transponder purchasing module. The user can perform the following functions as part of transponder inventory management. When transponders arrive at our facilities, we enter them into our inventory system, which is designed to track each individual transponder through each step of the transponder lifecycle. After transponders are entered into inventory, we store them in a secure, locked compartment location until issued to a CSR or retail outlet. We also order and maintain packing supplies for transponder mailing to ensure that quantities are sufficient to meet customer demand.</p> <p>Our approach to ensuring the accuracy of transponder assignment and distribution includes a multi-step quality assessment of every fulfillment completed. We have implemented procedures to monitor the progress of each transponder through the inventory process, assignment to a CSR, placement into the customer account, and distribution to the customer. Transponder numbers are assigned into CAMS by box number. Each box contains a tracking sheet when issued to a CSR. The CSR uses a scanning device to enter the transponder into the customer account to ensure accuracy. The CSR records the transponder number, account number, date, and their name on the tracking sheet. At the end of each day, supervisors perform an inventory audit of transponders distributed into customer accounts. Utilizing transponder tracking sheets, we cross check system reports to verify accuracy of transponder distribution and proactively resolve any discrepancy immediately upon discovery.</p> <p>At the fulfillment center where the transponder is mailed to the customer, we perform an additional quality check. Before the transponder package is shipped, the information on the mailing label is verified against a mailing alert notification in CAMS to accurately track and verify that every transponder is both fulfilled and mailed.</p> <p>TransCore conducts monthly detailed inventory audits of all transponders in the warehouse and each CSC location against inventory reports in the system. Any variance discovered is researched and resolved. The CAMS transponder adjustment feature allows for reassignment of transponder location to complete the inventory process.</p> <p>The TransCore Team will provide a monthly report of the existing toll transponder inventory to serve as a basis for toll transponder orders. An integral part of daily fulfillment business is ensuring sufficient transponder quantities are maintained for customer service and retail management. Evaluating the reorder points include current levels, historical data, and knowledge of upcoming events such as coordination with agency marketing efforts that influence purchase requests and reorder lead times.</p> <p>We also monitor and maintain sufficient toll kits and packing supplies to ensure that all quantities of required toll transponder kit components are available to meet customer demand for fulfillment of all order requests. The purchase order information is also placed in CAMS for monitoring and reporting order status.</p> <p>When a toll transponder order arrives at our facilities, authorized staff receives and confirms the shipment against the Purchase Order and Bill of Lading to confirm completeness. We test a minimum of 15% of transponders to confirm transponder programming and functionality. The testing includes using an independent testing station or handheld reader with RF and barcode read capability that provides information on the health of the tag such as the level of handshakes to determine if the</p>		

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p>transponder is good or should be returned to the factory. This information will be recorded in CAMS and will become part of the transponder inventory history. Any discrepancies are reported to both the customer service manager and Joint Board. TransCore will also provide capability to import transponder lists from common files formats (CSV, Excel or similar) to the transponder inventory.</p> <p>We also understand the importance of providing a complete audit trail for all transponder transactions, and we designed CAMS to accommodate issuing transponders through various distribution methods and with configurable fees or fee waivers. CAMS handles lost, stolen, and damaged transponders and is configurable if business rules change.</p> <p>The customer has various venues from which they can report transponders lost or stolen, damaged, or defective – CSC, Web, IVR, and customer contact with call, and walk-in center. CAMS supports a lost/stolen fee by business rule, which is programmatically deducted from the customer’s account. Within the system, we identify the transponder as lost/stolen, which will render the transponder invalid in the lane. At the customer’s request, a replacement transponder is issued and is subject to transponder deposits/fees, as applicable. CAMS also supports transponder return and/or replacement functionality with fee payment, fee applied to account balance, or fee waived, as required. TransCore administers a transponder inventory program that supports defective transponder return and transponder lifecycle expiration replacement. CAMS supports transponder locations, warranty tracking reports, and customer communication options to facilitate these inventory management activities.</p> <p>CAMS maintains the physical inventory on toll transponders for service center operations. We understand that the most important element to good inventory management is strong system, physical, and procedural controls with active oversight and monitoring.</p>		
CS-046	<p>The CSC shall take a weekly physical count of Transponder inventory, and shall be responsible for inventory reconciliation every week, and when inventory is received, or transferred to and from locations. Inventory reports shall include minimum order levels. The Toll System Provider shall notify the Joint Board when new Transponders need to be ordered. The Joint Board shall purchase the Transponders in the types and quantities recommended by the TSP and transfer them upon receipt to the CSC for inventory management. The Toll System Provider shall verify the receipt of Transponders and shall acknowledge such receipt to the Joint Board. Toll System Provider’s notice to the Joint Board requesting Transponder orders must incorporate purchasing lead times to ensure there is never a shortage of Transponders on hand.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-046.</p> <p>TransCore has vetted controls and reconciliation process that will be utilized to ensure that not only do we do a weekly reconciliation but also a daily check of tags issued and a detailed monthly audit. Part of this monthly audit will include a physical count of transponders on hand and matching that to system totals. In the event any discrepancy is noted it will be immediately researched and resolved. As part of our already existing controls we do produce on a weekly “On-Hand, On-Order” Transponder Report that identifies the average number of each type of transponder issued, the inventory location, the recommended transponder order date, and the zero transponder inventory date. We will work closely with the Joint Board to proactively place orders with appropriate lead time and provide acknowledgement of orders received</p>		
CS-047	<p>The Toll System Provider shall keep Transponder kits in inventory and include them with Transponders distributed over-the-counter, via mail, or through retail outlets. The kits shall include read prevention bags, Bridge maps, mounting instructions, terms and conditions, marketing and branding logo mailer. The CSC shall be responsible for maintaining an adequate inventory of Transponder kits.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-047.</p> <p>TransCore has vast experience at ensuring all inventory levels, and has worked with a variety of transponder sales kits using retail packaging.</p> <p>We will work with you to develop an approved form for the sales kits to ensure the kits contain the necessary materials including an RF bag, i.e., foil bag, and a instruction manual which shows proper transponder mounting instructions. We will also provide information on accessing the user’s account along with the ECT</p>		

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p>account agreement. TransCore will ensure a proper inventory of sales kits is available for all sales channels, e.g., retail center, walk-in counter, or mail out. As the tag vendor, we will ensure adequate tag and packaging inventories are maintained at all times.</p> <p>TransCore will ensure that adequate inventories of pre-packaged transponders are available until distributed to retail partners. We are prepared and will maintain an inventory of retail packaging materials so that staff can package the transponders and sales kits in house.</p>		
CS-048	<p>The Toll System Provider shall provide adequate secured space for Transponder inventory storage, adequate secured space for fulfillment operations and adequate secured space for designated secured locations for mail drop.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-048.</p> <p>We will provide adequate secured space for transponder inventory storage as well as for fulfillment operations including mail drop.. As we discussed in C-044, We have had extensive experience in the secure management of transponders. Our facilities will be lockable, with controlled access and SOP's established to assure control from initial receipt, fulfillment and mailing to customers.</p>		
CS-049	<p>The Toll System Provider shall support and process Transponders purchased by customers at other E-ZPass interoperable toll agency customer service centers. The TCS shall provide functionality to support monthly fees for different types of Transponder accounts (e.g. E-ZPass accounts may have a service fee whereas the local 6C Transponder based accounts may have no fee or a different fee).</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-049.</p> <p>Based on the business rules defined by the Joint Board, our system can apply a monthly service fees to different account types. For E-ZPass transponders, CAMS does not create accounts. Instead, when a transaction is detected at the lane, the system sends it to the parent agency as part of the normal IAG file exchange interface, applying the toll amount defined in the Toll Rate Schedule for E-ZPass. If instructed by the Joint Board, before sending the transaction, the system may apply an additional fee on top of the toll amount. The fee amount is configurable.</p>		
CS-050	<p>The Toll System Provider shall provide staff to oversee, review, and process Violations that are generated from the TCS. This staff shall generate the paper version of the notices, review the notifications electronically and on paper, check the Violation for accuracy, ensure the Customer Statement is appropriate and legible and send the Customer Statement to the mail room for distribution. The Toll System Provider shall provide management that is responsible for answering escalated calls from customers not addressed by the CSR staff.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-050.</p> <p>Within the CAMS application is a violation notice review screen. Within this screen CSRs are able to review the actual notices for accuracy before the notice is sent to the mail house for printing and mailing. Further, a sample of all final printed notices is tested to ensure they are printed correctly and legibly. Additionally we will work with the mailing house to ensure they have adequate supplies to print notices and have all applicable mailing materials in the event additional items need to be sent along with notices.</p> <p>To manage customer interactions, CAMS makes use of the TRACER (Total Resource, Account and Contact Event Recorder) module. TRACER provides for the capture, tracking, resolution, and reporting of customer service-related complaints for account and non-account holders. TRACER is highly configurable and trigger points are determined based on the numerous settings and application parameters. Below are some of the key parameters.</p>		

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<ul style="list-style-type: none"> <li>• Auto escalate the ticket if the agent has not taken care of the ticket within this set time in hours</li> <li>• If the time to resolve the ticket is within an hour (configurable time in hours) to the configurable amount of time in hours before the automatic escalation process kicks in</li> <li>• Manually escalate the ticket if the agent has not taken care of the ticket within this set time in hours.</li> </ul>		
CS-051	<p>The Toll System Provider shall process all Customer Statements generated by the TCS based on approved Business Rules. It is desired that invoices clearly indicate fees and fines applicable to each individual Traffic Transaction included in the Customer Statement, and the total amount of fees and fines for the aggregate of all Traffic Transactions listed in the Customer Statement based on approved Business Rules. Invoices generated automatically by the TCS shall be reviewed for quality control and accuracy before processing the invoices and sending them to the customer.</p>	X	
	<p>Note: The Joint Board currently anticipates using a three-step Customer Statement process. The first Customer Statement will be for the amount of the toll owed. If that is not paid within thirty (30) days, a new Customer Statement will be sent which will act as a late notice. The charge on that Customer Statement will be for the amount of the toll and a late fee. If no payment is received within thirty (30) days, a final Customer Statement will be sent which will act as a Violation notice. The charge on that Customer Statement will be for the amount of the toll, the amount of the fee previously charged, and the amount of the Violation fine. If no payment is received within thirty (30) days after this Customer Statement is sent, the Violator's account will be moved to the Collection Agency process, whether internal or external to the TSP, and, if the Violator is a citizen of a state with which the Joint Board has a reciprocal video toll enforcement agreement, communications with the DMV in the Violator's state will begin and a hold will be put on the Violator's vehicle registrations. This description is preliminary, is for information purposes only, and is subject to change at the sole discretion of the Joint Board.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-051.</p> <p>CAMS generates invoices for customers based on billing option type (prepaid/postpaid), customer account balance and number of days that have passed from the previous invoice or since the account balance has become negative if there were no previous invoices. For prepaid customers that have a negative balance, a billing statement is sent regardless of their notification preferences. This process also updates the status of invoices to invoice past due and automatically, based on configurable business rules charges additional fees if applies.</p> <p>The system will invoice unregistered accounts in accordance with the Joint Board approved business rules. If the invoice is still unpaid after configurable number of days the account aging process will either move this account to violations or send it to the collection agency in accordance with the Joint Board approved business rules. Additional and configurable fees are typically accumulated for each transaction that has been sent to the violation workflow. The exact workflow and the fee structure will be defined and configured based on the specific Joint Board business rules.</p> <p>Invoices are generated within a configured time from the transaction date. If more than one transaction is associated with the same plate within a specific timeframe, all transactions are included in the invoice. Transactions occurring after the specified timeframe are included on a second invoice. The information on an invoice includes customer name, address, license plate state and number, vehicle make and model, transaction dates and times, transaction amount, facility, lane, total due, invoice number, invoice date, due date, FAQs regarding account and payment options, description of escalation process, contact information and remittance advice.</p> <p>The option to issue invoices to customers is configurable and can be turned on or off as needed. Also, parameters for invoicing are configurable and, as business rules change, the invoice settings can be changed easily. Invoices can be created for transactions within a specified timeframe, quantity of transactions, or the dollar amount due. Due dates for an invoice are based on a specified number of days after the invoice was generated.</p>		
CS-052	<p>The TCS shall support administrative hearings in accordance with Kentucky Revised Statute Chapter 13B. The TCS shall suspend collections and all determined escalation times during the administrative hearing process. The TCS shall notify the Joint Board by email within 24 hours when an administrative hearing process is requested and all records associated with an administrative hearing shall be linked to the customer account. The Toll System Provider shall provide reports on the current number of administrative hearings by account and current status (e.g. open, pending, closed and associated resolution).</p>	X	

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p>Note: An administrative hearing can only be initiated by a customer making a request. After the TSP notifies the Joint Board that a customer has made a request for an administrative hearing, the Joint Board will appoint a hearing officer. The hearing officer will send out the appropriate notices and provide the hearing schedule. The TSP will be asked to provide evidentiary support during the hearing. The hearing officer's authority is limited to determining whether the toll charged is owed. Some examples of reasons the hearing officer may determine a toll is not owed include misidentification of license plate, errors in registration look up, and incorrect vehicle classification. If the hearing officer determines that the toll was correctly charged, the Toll System Provider will resume normal collection activities at the point at which they were suspended due to the administrative hearing process, unless the customer appeals the hearing officer's determination to the Kentucky courts. If a customer appeals the hearing officer's decision, the Toll System Provider shall continue to suspend collection activities against that customer until the court issues its ruling. If an appeal is made, the TSP will be asked to provide evidentiary support and possibly to provide a representative to act as a witness.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-052. TransCore has experience with many different authorities and will provide all needed documentation and a representative if requested. The Court Processing function allows the user to create and maintain a violator's evidence package, the court hearing schedule and the results within the system. The evidence package is created for a single violator and can include one or more violation notices. The package contains all documents associated with the underlying violator and violation notices. The user can create multiple evidence packages for the single violator that would include same or different notices. Once a violator is moved through the court hearing workflow the violator aging process stops until further action is required. At this point the violator can be moved through the collection process, or the violation notice(s) can be dismissed.</p>		
CS-053	<p>The Toll System Provider shall provide collection services to collect Collection Status Violations in accordance with the approved collections process set forth in the Business Rules during the Collection Status Violation Period. The collection services may be provided by the Toll System Provider directly or subcontracted through the Toll System Provider to a third party service.</p>	X	
	<p><b>Note:</b> The total compensation to be paid to TSP for collection services as specified in the Toll Services Agreement shall be included within the Total Toll Collection System Operations and Maintenance Price (Years 1 through 7) as specified in the Proposer's Price Proposal, plus the Collection Status Violation Fee, regardless of whether collection services are provided directly by the TSP or through a subcontracted third party service.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-053. TransCore is experienced in the collection processes and CAMS has build in functionality to handle a variety of business rules to move accounts to various collect agencies. The system also allows payments to be received from these agencies and tracked within the customer record. We understand that the cost of collection services is included in the cost proposal. TransCore can send collection files to multiple collection agencies based on the specific Joint Board business rules and at the same time make sure that the same customer is not distributed to multiple collection agencies. All necessary support is provided to the collection agencies in order to resolve disputed accounts or balances. Payments are received from the collection agency and posted to the appropriate accounts. If an account still has a remaining balance and that balance is within a configurable amount, it can be written off upon Joint Board specific business rules and approval or it can remain a receivable. Fees, fines, and/or interest can be assessed or waived as needed. All payments received from a collection agency are reconciled as required by the business rules.</p>		
CS-054	<p>The TCS shall provide a threshold dollar amount for escalation of accounts sent to collection. If the threshold is less than the configured amounts, the accounts shall not be sent to the Collection Agency for future pursuit but shall remain as a receivable in the TCS with the outstanding debts including tolls and fees due to the Joint Board.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-054. CAMS has configurable parameters that can be set based on a minimum dollar amount for accounts to be sent to collections. Any amount less than that amount will not be sent and will remain as an accounts receivable. CAMS has the ability to perform write offs of lower balance accounts if directed or desired by the Joint Bridge.</p>		

Req ID	Customer Service Center (Section CS)	Required	Value Add
CS-055	<p>The Toll System Provider shall provide Walk-Up Centers to provide face-to-face account establishment and maintenance service for customers; to distribute Transponders directly to the public; and to support revenue collection and oversight by the Joint Board. The Walk-Up Centers shall accept cash along with credit cards, checks, debit cards, and money orders. TSP shall provide management of a cash bank, armored car pickups, and secured access control at the Walk-Up Centers.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-055. Our CAMS program supports account set up, maintenance, issuing of transponders and accepts the required forms of payment, as our normal course of business, we provide cash banks to our staff. Our Walk-up centers will include adequate space for customer walk ins, secured storage for transponders, vault facilities for the secure storage of revenue, armored courier services and have physical and procedural controls, as well as alarms and camera monitoring capability.</p>		
CS-056	<p>The Toll System Provider shall lease space in its own name for the Walk-Up Centers. Two locations shall be required. One location shall be in Louisville, KY and the other location shall be in Jeffersonville, IN. At least 3 potential locations for each Walk-Up Center shall be submitted by TSP to the Joint Board for review and approval. At a minimum, Walk-Up Centers shall be equipped with a waiting room with chairs and writing surfaces, counter surfaces or counter space for customers, customer service representative counters, a small mail room and space for backup fulfillment activities, a small printing and production area, an area for copier, printers, and fax machines, a small secured inventory and storage space for Transponder management, an IT closet, a small break room with sink, drinking water, lockers and microwave, a supervisor's office, separate accessible waiting room and hearing room, and one small office for a Joint Board employee on assignment or inspection. Walk-Up Centers shall meet American with Disabilities Act requirements for employees and customers and comply with all applicable Laws, building codes and standards.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-056. Upon successful selection of our team, we will develop the general layout and space requirements to fully meet the facility requirements. We will first establish facility criteria with the board's input which will likely include; adequate size for build out, convenient location(s), as near and accessible to the toll facilities/bridges as possible, adequate parking, accessibility for disabled customers, clean and safe area with security being a critical priority. The facilities will also include adequate space and security to maintain strict controls over revenue and inventory and is a comfortable and clean environment for customers. We will work with our facilities contractor to identify potential sites and once the walk in centers have been approved, to secure the lease and build out plan.</p>		
CS-057	<p>The Toll System Provider shall be responsible for the Walk-Up Center storefront build out and shall provide oversight and timely completion. The Walk-Up Center build out shall be subject to review and approval by the Joint Board. Furniture, equipment, Hardware, Software, supplies, computers, printers, faxes, chairs, waiting room chairs, IT equipment, etc. shall be the responsibility of the Toll System Provider. The budget for the Walk-Up Center build out, construction plans, the furniture plans, and all equipment and supply lists shall be submitted to the Joint Board for approval.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-057. We will have already established the needed square footage requirement, including general customer space, office and secure storage areas, as part of the facility location approval process. Once the locations are approved by the Joint Board, we will work with the lessor to develop detailed build out plans including furnishings, security equipment, office equipment as well as needed system hardware. These plans, along with the proposed construction schedule and budget will be brought before the Joint Board for approval.</p>		
CS-058	<p>Toll System Provider shall procure all necessary Utility services for the Walk-Up Centers. The Joint Board shall pay TSP's actual, direct costs incurred for such services as provided in the Agreement. All Utility services must be pre- approved by the Joint Board before TSP enters into any agreement for services to be paid for by the Joint Board as Pass Through Cost Items.</p>	X	

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-058.</p> <p>We will develop the proposed utility services needs as part of the build out plan that will come before the Joint Board for approval, which will be prior to actual lease procurement and build out.</p>		
CS-059	<p>The Walk-up Centers shall be highly secured retail outlets, with separate secured rooms for inventory, a safe, and cash handling area. Access control and CCTV monitoring shall be required at both locations.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-059.</p> <p>These requirements will be an integral component of the location selection process, as well as the build out. We have significant experience in establishing and operating toll facilities with secure and separate facilities with an emphasis on strong physical and system controls for the handling and storing of assets.</p>		
CS-060	<p>Call monitoring shall be part of the regular QA/QC process and shall be reported on the Monthly Operations and Maintenance Report. Toll System Provider shall cooperate and assist the Joint Board in the Joint Board's exercise of its right to conduct random monitoring of the CSC and the Walk-Up Centers and record the results.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-060.</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
CS-061	<p>The Toll System Provider shall perform ongoing customer satisfaction surveys regarding the CSC and submit the same for quarterly reviews by the Joint Board.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-061.</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		

Req ID	Customer Service Center (Section CS)	Required	Value Add
CS-062	<p>The Toll System Provider shall use a training program for employees, such that those trained employees shall present a positive, professional image. This training program shall be reviewed and approved by the Joint Board. Employees shall be well-trained before handling customers' money, customers' accounts, or interacting with customers in person, on the telephone or through mail or e-mail. The Toll System Provider shall provide a training plan included with the BOS Plan that addresses all areas of the CSC, including technical use of the TCS systems and TCS technical processes, information regarding the Project and customer relations, including dealing with difficult customers and situations. The training program shall be ongoing and continuous.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-062.</p> <p>We look forward to working with the Joint Board to achieve an approved comprehensive training program. We have developed and implemented many customer service training plans that provide the tools and instruction for successful development of skills for system use and effective and positive interaction with customers. We develop specific modules that are focused on each job assignment as they relate to the CAMS application, the toll program's business rules and specific job knowledge. Staff is trained through simulations and scenarios in individual, classroom, and field instruction environments. We assess the individual's readiness through direct testing and supervisor observation. Throughout our training, particularly for all staff that will interact with toll system customers, we work on service skills, such as active listening and first call resolution.</p>		
CS-063	<p>The Toll System Provider employees' appearance, demeanor, and behavior shall be professional and courteous at all times.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-063.</p> <p>Throughout the service centers we operate, we place a high priority staff appearance and performance. As we represent your program in interactions with your customers, we strive to put forth the best possible impression at all times. All staff is required to present at work in clean and appropriate attire and to be courteous and professional at all times. We monitor staff performance through observation and customer comments and address any performance issues in a timely manner.</p>		
CS-064	<p>It is desired that the Toll System Provider compensate full-time and part-time employees with competitive salaries and all normal privileges, benefits and guarantees of employment that are afforded to the Toll System Provider's existing regular and part-time employees. This includes providing benefits such as medical coverage, retirement plans, sick leave, vacation pay and holiday pay. The Toll System Provider shall provide employees with a benefit package that keeps employee turnover to a low rate.</p>		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-064.</p> <p>[REDACTED]</p>		
CS-065	<p>The Toll System Provider shall provide a dedicated CSC manager to oversee the CSC to ensure that procedures and internal controls within the CSC adhere to Performance Requirements. All CSC management and supervisory personnel assigned to the CSC shall be approved in advance by the Joint Board. The Toll System Provider shall submit a complete personnel and staffing plan included in the CSC Operations Plan outlining all job descriptions in each of the functional areas to the Joint Board for its review and approval.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-065.</p>		

Req ID	Customer Service Center (Section CS)	Required	Value Add
	We will submit a comprehensive staffing plan for personnel with job descriptions defined for each functional area to the Joint Board for approval. Additionally, we will work with the Joint Board to achieve approval for supervisory and management hires in advance of their employment. We will have a dedicated CSC manager to oversee service center operations, including meeting and exceeding program requirements while ensuring an effective, and efficient customer focused CSC.		
CS-066	The Toll System Provider shall submit requirements for employment at the Toll System Provider's company and affiliated Subcontractors for CSC services in the CSC Operations Plan. These employment requirements shall outline items such as legal citizen status, photo identification from a governmental agency, ability to clearly speak English or English and Spanish, education requirements, etc. These requirements shall be reviewed and approved by Joint Board.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-066.</p> <p>Minimum skill and education requirements along with desired qualifications will be included in the position descriptions submitted to the Joint Board for approval in our plan for personnel and staffing. These required and desired qualifications will address both TransCore and affiliated subcontractor staff.</p>		
CS-067	The Toll System Provider shall provide CSC supervisors and staff to monitor the IVR and associated dashboard to ensure Performance Requirements are met. The supervisors shall move staff to appropriate operational tasks to ensure performance levels meet or exceed the Performance Requirements.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-067.</p> <p>We will hire, train, and monitor CSC supervisory staff to oversee shift operations. Their responsibilities include monitoring dashboard and other real time information to allow adjustment of staff activities and levels to maximize CSC operational performance. The call center supervisor will also ensure that appropriate staffing levels are in place to meet or exceed the established performance requirements.</p>		
CS-068	The Toll System Provider shall provide reports on all customer service representative account-related activities on a monthly basis in the Monthly Operations and Maintenance Report, and at any time upon request by the Joint Board. These reports shall be in a format approved by the Joint Board and shall include, at a minimum, calls received per day and by hour, calls received by the IVR per day and by hour, calls received by the IVR then directed to a CSR per day and by hour, calls directly to CSR per day and by hour, customer service representative availability, customer service representative utilization, telephone center activity logs, average wait time by day and by hour, average talk time by day and by hour, average after call work time by day and by hour, and abandoned calls by day and by hour. These reports shall be graphically presented for use by Joint Board and the CSR supervisory staff.	X	

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-068.</p> <p>Call Center reports will be provided monthly in a format approved by the Joint Board. Call Center reports will include:</p> <ul style="list-style-type: none"> <li>• Calls answered by CSRs per day/hour</li> <li>• Calls answered by IVR per day/hour</li> <li>• CSR availability/utilization</li> <li>• Telephone activity logs</li> <li>• Average wait time by day/hour</li> <li>• Average talk time by day/hour</li> <li>• After call work time by day/hour</li> <li>• Abandoned calls by day/hour</li> <li>• Account activity performed by CSRs</li> </ul>		
CS-069	<p>The Toll System Provider shall provide reports on all mail room activities on a monthly basis in the Monthly Operations and Maintenance Report, and at any time upon request by the Joint Board. These reports shall be in a format approved by the Joint Board and shall include, at a minimum, inbound mail by source, category, type and origin, outbound mail printed and prepared, incoming mail received and processed by the post office, daily cost of postage which shall be paid by the Joint Board and any backlog of incoming or outgoing mail.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-069.</p> <p>TransCore will provide for Joint Bridge approval mail room activity reports that will provide tracking information including:</p> <ul style="list-style-type: none"> <li>• Inbound mail by source/category, type and origin</li> <li>• Outbound mail printed and prepared</li> <li>• Incoming mail received and processed by the post office</li> <li>• Daily cost of postage</li> <li>• Backlog of incoming or outgoing mail</li> </ul> <p>The approved report will be provided in the Monthly Operations and Maintenance reports or as required by the Joint Bridge.</p>		
CS-070	<p>The Toll System Provider shall provide accounting and reconciliation reports on a monthly basis in the Monthly Operations and Maintenance Report, and at any time upon request by the Joint Board. These reports shall be in a format approved by the Joint Board and shall include at a minimum an accounting of cash and all other payments collected at the CSC storefronts, Walk-Up Centers, retail distribution outlets under contract, and by mail; account deposits, shortages and overages, adjustments due to daily reconciliations, and customer accounts balances, CSC and VPS activities; tolls collected and tolls posted, recommended fund transfers, deposits and withdrawals by CSC for each shift, number of Transaction types, deposits by payment type, cash deposits, low, high and average values of, the account balance activity including beginning-of-day and end-of-day balances, all tolls and fees, and replenishments, and interoperable account activities for interoperable home and away Traffic Transactions and Financial Transactions reconciliation and settlements.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-070.</p>		

Req ID	Customer Service Center (Section CS)	Required	Value Add
	CAMS has several system reports including General Ledger reports, Customer Transaction Summary report, CSR Accountability report, CSR activity, Financial activity, account balance reports, and replenishment reports that provide the count and amount of all postings. These are used for the reconciliation process that is performed by the accounting department each business day. The Collections report will provide all home tolls and can be compared to the IAG 2 R report, Transaction Revenue and Reconciliation report and General Ledger posting for toll revenue. The away agency tolls are reported on the IAG 2 report and reconciled using the General Ledger for each away agency.		
CS-071	The Toll System Provider shall provide monthly staffing reports included in the Monthly Operations and Maintenance Report. The weekly staffing report shall be in a format approved by the Joint Board and shall include workforce number per job description, percentage of required positions filled, progress and efforts being made in filling the vacant positions and turnover rates.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-071.</p> <p>We will collect and maintain staffing data on weekly and monthly cycles. Our monthly staffing report, submitted in the Joint Board approved format, will include all required elements. Our key goals for this area are to fill open positions with competent, skilled staff and create a work environment that contributes to low turnover rates.</p>		
CS-072	The Toll System Provider shall provide daily, weekly and monthly production and productivity reports, and accuracy reports related to the number of OCR images which required changes. These reports shall be stored in the TCS and shall be sortable by location and by image review clerk.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-072.</p> <p>CAMS provides image processing reports that are used to determine accuracy of the OCR, image reviewer productivity and accuracy, image auditing, and image details. Reports are generated on demand and can be stored by the user on a shared network drive. Reports can be generated using different input parameters such as user name, location start and end dates and others.</p> <ul style="list-style-type: none"> <li>• <b>Image Activity by Location</b> – provides details about images processed, accepted and rejected by location.</li> <li>• <b>Image Review Operator Performance</b> – The Image Review Operator Performance Report displays the reviewer performance in terms of images reviewed and images sent to the supervisor queue for additional review.</li> <li>• <b>Image Rejected</b> – The Image Rejected Report displays the images rejected by rejection reason per each image reviewer. A drill-through report is available to display detailed information about the images that were rejected.</li> <li>• <b>Image Audit</b> – The Image Audit Report displays performance audit results for either all reviewers or a single one. Results are measured in terms of images reviewed which passed or did not pass the auditor review. A drill-through report is available to display detailed information about the images that were reviewed by the auditor.</li> <li>• <b>Image Review Status Summary</b> – The Review Status Summary Report displays the image status summary for either all reviewers or a single one. A drill-through report is available to display detailed information about the images counted in the summary section.</li> <li>• <b>LPR Image Processing Performance</b> – The LPR Image Processing Performance Report displays License Plate Read (LPR) processing performance in terms of images processed by LPR and validated by the user in manual review. A drill-through report is available to display detailed information about the images that were rejected by the image reviewer. By default the report is sorted by confidence level.</li> <li>• <b>Image Detail</b> – The Image Detail Report displays detailed information of images. This is a drill-through available to other image processing reports. The generation criteria used is the same as the main report. The report does not have a default sorting.</li> <li>• <b>Image Rejected Detail</b> – The Image Rejected Report displays the images rejected by rejection reason per each image reviewer. A drill-through report is available</li> </ul>		

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p>to display detailed information about the images that were rejected. The report is sorted by reviewer name.</p> <p>All report data is stored in the TCS and search criteria include location and – in the case of image review reports – the user name of the person doing the review is provided.</p>		
CS-073	<p>All facilities provided by the Toll System Provider shall be secure, and only authorized staff shall be allowed access into the facilities other than areas of the WUC designated for general public access. The Toll System Provider shall provide a security and access control management plan included with the BOS Plan that clearly identifies how access is granted, managed and maintained through employee attrition.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-073.</p> <p>[REDACTED]</p>		
CS-074	<p>The Toll System Provider shall ensure that no unauthorized personnel shall have access to individual records, payment histories, any personal information for Project Customers or interoperable toll customers. Paper records shall be locked when not in use, and password and identification controls shall be employed for data access.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-074.</p> <p>All customer personal information will be protected from unauthorized access. CSRs accessing customer account information may do so only through secured log in access. CAMS captures all customer account access made by authorized CSC staff and any activity is available for analysis and review. Paper documents will be retained at a minimum and confidential customer information will be redacted.</p>		
CS-075	<p>The Toll System Provider shall not allow cellular telephones, cameras, or other electronic mobile devices capable of capturing still images or video in any area where customer information is visible other than areas of the WUC designated for general public access. CCTV shall be utilized to monitor and deter any and all illegal or unauthorized activities in the CSC. CCTV coverage shall cover all areas of the CSC floor operations, lockbox operations, image review operations, and Transponder fulfillment operations.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-075.</p> <p>We will develop a security and compliance manual that includes approved security and compliance SOPs. The documentation will be comprehensive and will address all CSC security restrictions, inclusive of those addressed in this requirement. A CCTV program will be implemented to monitor CSC activities including the call center, counting and drop safe room(s), mail room, image review operations, and transponder fulfillment. Physical and data security is a critical CSC business function and will be subject to the system of controls that are developed and established with Joint Board approval.</p>		
CS-076	<p>The TCS shall protect all customer data from access by unauthorized users. The TCS shall ensure that only properly authenticated customers can obtain access to their own data.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-076.</p> <p>The CAMS solution is designed such that each account has a unique account number, Personal Identification Number (PIN), username, and password for online access. Each customer will be assigned a unique account number. The account number and PIN is automatically generated by the system. The CAMS system can only be accessed with a secure VPN connection provided by the system administrator. CSRs are assigned user names and a temporary password for CAMS, which must be changed the first time they log in and every 90 days.</p>		

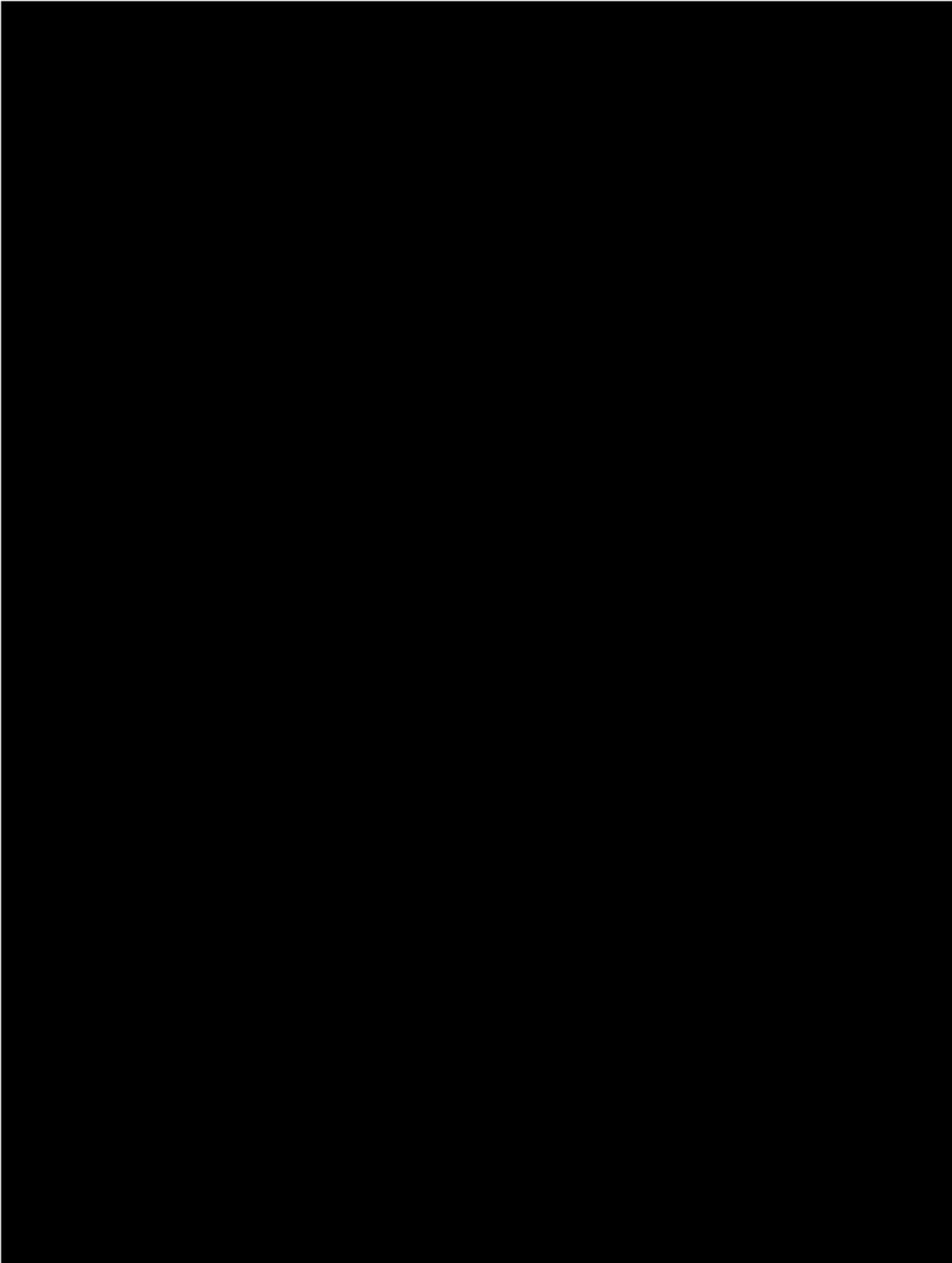
Req ID	Customer Service Center (Section CS)	Required	Value Add
	CAMS will require each account holder to use their unique username and password when accessing their account on the Web. In addition, when establishing Web access users are required to select security questions. If the user forgets their password, the user will be required to provide information about their account and respond to the questions they selected. If all questions are answered correctly, the system generates a random password and e-mails it to the e-mail on file.		
CS-077	[Intentionally not used.]		
CS-078	For customer authentication, the TCS shall require input of data fields (e.g., name, address, Transponder ID and license plate number) that uniquely identify that customer.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-078.</p> <p>Customers are required to provide three forms of authentication when calling the CSC. Examples include license plate number, name, address, telephone number, email address, account number, and transponder number.</p> <p>Customers who opt to open their account via the Web will be prompted to establish a four-digit PIN, username, and password at the time of account establishment. Customers opening accounts in person or by sending in an application will be provided information for the customer Web site to establish online access, if desired.</p>		
CS-079	For customer authentication, the Customer Website shall require input of data fields (e.g., name, address, phone number, Transponder ID and license plate number) that uniquely identify that customer.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-079.</p> <p>When customers open an account they will create a unique user name, password, and security PIN. They will select three security questions and provide the answers that will be used should they forget their user name or password. Existing accounts will be asked to provide the account number and the e-mail address on file. Upon validating the account number and the e-mail address, the user can set up access to their account.</p>		
CS-080	The Toll System Provider shall provide a separate phone system outside of the IVR system for typical business calls to be received by the CSC and the CSC staff.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-080.</p> <p>[REDACTED]</p>		
CS-081	The Toll System Provider shall provide an approved security and compliance policy manual to each of its employees and shall obtain a signed copy of the acknowledgement of the security and compliance manual and ensure that all employees working under the Toll System Provider in the CSC are aware of the security policies and enforce compliance.	X	

Req ID	Customer Service Center (Section CS)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-081.</p> <p>Security is a responsibility of each CSC and walk in staff member. Security requirements and compliance will be included in our approved Training Plan and materials. Each employee will be required to sign an acknowledgement of the security and compliance manual and will be provided with a copy of the manual for reference at the completion of training. The manual will contain approved policies and SOPs on building and systems access and use restrictions as well as proper use of the toll facilities. The manual will detail the prohibition of electronic equipment use within the CSC as required by CS-75. Any employee failing to comply with provisions detailed in the security and compliance manual will be subject to discipline up to and including termination.</p>		
CS-082	<p>It is desired that the Toll System Provider have a dashboard and monitor in the CSC, such that the screen is visible to all customer service representatives and supervisors for viewing the current status of calls, wait times, and number of customers on hold.</p>		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-082.</p> <p>[REDACTED]</p>		
CS-083	<p>The Toll System Provider shall provide weekly payroll statements to the Joint Board and have records easily accessible and viewable for review by the Joint Board. At a minimum, the employee name, hours and role of employee shall be included in the payroll statements.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-083.</p> <p>We will develop and maintain a weekly payroll statement that meets the expectations of this requirement. The form of access to the payroll statement will be finalized after discussion of options with the Joint Board.</p>		
CS-084	<p>The Toll System Provider shall provide operating procedures and manuals included with the BOS Plan that provide clear direction to CSC employees governing the basic roles of their job assignment. These manuals shall be available and on site for inspection and review by Joint Board throughout the Term of the Agreement.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-084.</p> <p>We will develop and maintain a weekly payroll statement that includes the criteria listed above. The form access to the payroll statement will be finalized after discussion of options with the Joint Board.</p>		
CS-085	<p>The Toll System Provider is responsible for providing all Hardware, Software and/or any other equipment for the Toll System Provider's internal or program use purposes. The Toll System Provider shall provide all Hardware, Software, furniture, chairs, phones, headsets, mice, computers, power cords, wireless connectivity, and any other equipment and supplies to provide a fully operational CSC with all capabilities required by the Contract Documents. These include, without limitation, CSR phone bank equipment, furnishings and supplies; image review equipment, furnishings and supplies, Transponder fulfillment equipment, furnishings and supplies, supervisor and management computers, equipment, furnishings and supplies; mailroom operations equipment, furnishing and supplies; Violation processing equipment, furnishings and supplies, interoperability equipment and supplies, lockbox equipment, furnishings and supplies; administrative and courts collection equipment, furnishings and supplies, internal Software programs, third party programs such as MS Office, internal company email applications, quality control programs and associated Software programs and Hardware, all training equipment and training stations, all training materials, all policy and procedure manuals, printers, copiers,</p>	X	

Req ID	Customer Service Center (Section CS)	Required	Value Add
	faxes, internet connections, desk and furniture supplies, office supplies, printer cartridges, and any types of shared drives or repositories, etc.		
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-085.</p> <p>Our CSC facility will be outfitted with all the appropriate office equipment and supplies, hardware, software, furniture, and documentation to provide the full range of services as required by contract documents and needed to perform the full range of CSC operations as outlined in this RFP.</p>		
CS-086	It is desired that the Toll System Provider provide the ability to provide color high quality customer Correspondence from the CSC. Applicable Correspondence includes but is not limited to escalation, Violation and collection notices.		X
	<p><b>Note:</b> The Proposer shall provide actual samples of all customer Correspondence in this Technical Response Form. This includes but is not limited to 1st, final and any intermediate invoices, Violations notices, debt referral letters, court templates, low balance notifications, credit card expiration or any other applicable Correspondence. Proposer shall identify text and configurable parameters on the Correspondence in this Technical Response Form.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement CS-086.</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		

Req ID Customer Service Center (Section CS)

Required Value Add

		Required	Value Add
			

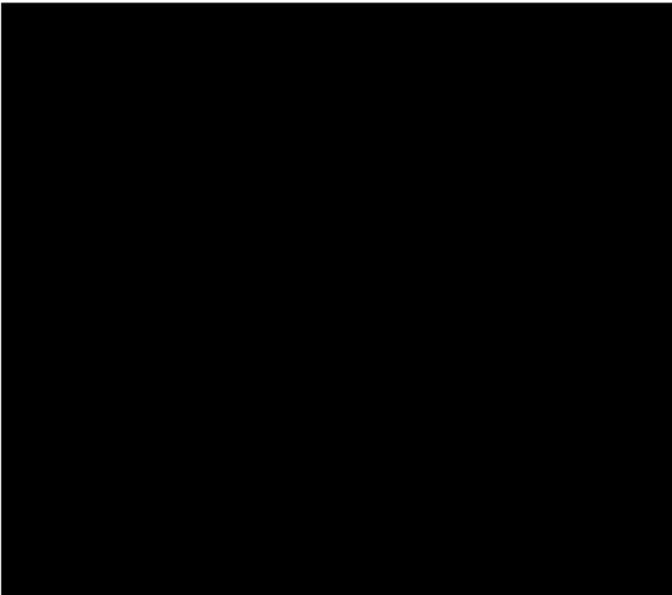


Req ID	Customer Service Center (Section CS)	Required	Value Add

**Toll Operations Center Requirements**

Req ID	Toll Operations Center (Section TO)	Required	Value Add
TO-01	<p>The Toll System Provider shall provide a Maintenance Online Management System (MOMS) that supports maintenance operations for all Software and Hardware provided in connection with the Project or otherwise pursuant to the Agreement. The Toll System Provider shall also operate the MOMS. MOMS shall have two major components, a system monitoring component that provides alarms and configuration management and the inventory management to track all devices.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-01.                      TransCore’s MOMS application is a mature, fully integrated software and hardware maintenance and inventory management control system. MOMS tracks status and movement of all tickets through the system and has a comprehensive inventory reporting system.                      MOMS provides an automated method of creating, updating, tracking, and reporting equipment health, alarms and failures for sites, facilities, host equipment, servers, networks, and software applications. Preventive maintenance activities are scheduled, generating work orders to notify staff and track reoccurring tasks to be performed. MOMS also allows authorized users to maintain inventory location, status, and stock levels. TransCore has operated this sophisticated MOMS tool for many years.</p>		
TO-02	<p>The Toll System Provider shall provide support and maintenance services for all Systems provided by the TSP, including but not limited to: 1) maintaining the access control system configuration; 2) maintaining the databases, applications, and the Data Mart including data aggregation processes, database optimization of the database schema and Data Mart schema; 3) maintaining proper indexing on all databases; 4) responding to all MOMS alerts and performing repairs and corrections, and 5) providing Software fixes for defects and malfunctions.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-02.                      TransCore’s proposed solution includes complete monitoring, maintenance, and optimization of all systems, applications, and databases. Work orders for all systems are responded to and repaired in a timely manner based on business rules and requirements and are recorded for proper reporting.</p>		
TO-03	<p>The TSP shall operate and maintain the TCS so as to provide comprehensive System monitoring services. The Toll System Provider shall include a secure web based real time monitoring system to monitor and report the status of all System components; and assign priorities and actions to events. The monitoring system shall at a minimum: 1) monitor Hardware and Software health; 2) provide and operate a dashboard that graphically displays components’ health; and 3) include comprehensive log reporting capabilities. Monitoring of Software shall include monitoring of databases, applications and processes in the system.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-03.</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		

Req ID	Toll Operations Center (Section TO)	Required	Value Add
	<p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p>		
TO-04	<p>The TSP shall provide and maintain the TCS by using the automated MOMS. The TCS shall provide system-generated maintenance job tickets, manually created job tickets, information indicating how the preventive maintenance work is scheduled in the System, information indicating how repair activity is logged, reported and resolved in the System.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-04.</p> <p>Work orders are used to track all action initiated on all systems components, including software, hardware, equipment, and parts. There are multiple types of work orders that can be created automatically or manually. The Work Order Management feature allows for the creation and maintenance all work orders and to track and report on repair activity and parts used from the time of generation until resolution. MOMS also allows for the grouping of multiple related work orders for greater efficiency.</p> <p>Work orders are categorized into priority levels: priority one (high), priority two (medium), and priority three (low). An optional priority four (very low) is also available.</p> <p>The following types of work orders are available:</p> <ul style="list-style-type: none"> <li>• <b>Corrective work orders</b> are created when a piece of equipment fails. System configurations determine if a Work Order is automatically created when the event message is received by MOMS. Priority configurations and staff schedules determine if and to whom automatic notifications are sent.</li> <li>• <b>Preventive work orders</b> are scheduled routine preventive maintenance tasks. The screen shot to the right is a sample of a Preventive Maintenance Schedule. The preventive maintenance schedules result in automatic preventive work orders on reoccurring dates. The schedules can be created for daily, weekly, biweekly, monthly, bimonthly, quarterly, semi-annual or annual tasks. Once a Work Order is created, the maintenance date is automatically updated to the next occurrence.</li> <li>• <b>Predictive work orders</b> are automatically generated as a result of the failure analysis calculation. Using configurable parameters a Work Order is generated when a piece of equipment exceeds the number of failures within the specified timeframe. A Predictive Work Order priority level is set to low by default, but can be configured to be higher if needed.</li> </ul> <p>Along the same lines, MOMS can be configured to automatically create and send notifications for events that do not require the creation of a work order such as:</p> <ul style="list-style-type: none"> <li>• Warranty analysis – based on warranty information kept in the part inventory.</li> <li>• License analysis – based on license expiration information kept in the part inventory.</li> </ul>		

Req ID	Toll Operations Center (Section TO)	Required	Value Add
	<p>11a. Sample Preventive Maintenance Schedule</p>  <p>Figure</p>		
TO-05	<p>The MOMS shall monitor activities, provide alerts and generate tickets in real-time for all processes and unusual activity triggered by the System and System operators, including but not limited to: communication, Hardware, Software, and database failures.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-05.</p> 		
TO-06	<p>The MOMS shall provide monitors and alerts, and shall calculate and generate tickets in real-time for all processes, including but not limited to: high number of image rejects in a lane, high number of Violations or image Traffic Transactions in a lane; threshold limits exceeded (e.g. Violations, class mismatch); and response times, repair times, and down time from the data entered by the maintenance staff and automatically generated by the TCS.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-06.</p> <p>MOMS integrates very closely with our back office solution. MOMS events can be created for such thresholds mentioned in this requirement and, as such, work orders can be created when they are received. CAMS keeps track of these configurable thresholds and, when reached, alerts are raised and events are sent to MOMS. The Manage Event Codes interface provides easy creation and maintenance of an unlimited variety of events such as error detection alarms, equipment condition alerts, and server issue warnings as well as quantity of violations and rejected violations.</p>		

Req ID	Toll Operations Center (Section TO)	Required	Value Add
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TO-07	The Toll System Provider shall provide a MOMS that includes but is not limited to receiving and monitoring status messages of all System Hardware and Software and providing local trouble ticket manual entry or email entry by authorized users. The MOMS shall store data in a relational database to permit data recovery and flexibility in reporting via Ad-hoc reporting.	X	
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<b>Proposer Response:</b> The TransCore TCS complies with requirement TO-07.					
				✓	✓
				✓	
				✓	✓
				✓	✓
				✓	✓
				✓	✓
				✓	✓

TO-08	The Toll System Provider shall report and log all maintenance activities into the MOMS. The Toll System Provider shall document all information and issues related to a failure condition including all actions taken to complete the correction into the MOMS.	X	
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<b>Proposer Response:</b> The TransCore TCS complies with requirement TO-08.					

Req ID	Toll Operations Center (Section TO)	Required	Value Add
	   <p><i>Figure 12. Work Order Detail History Report</i></p>		
	TO-09	The Toll System Provider's maintenance staff shall have real-time access to the MOMS, and the Toll System Provider shall establish and maintain all the required connections to ensure that the maintenance staff has remote access. Maintenance staff shall be trained in the use of the MOMS.	X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-09.</p> <p>The MOMS product is user friendly with intuitive icons and organization. It is efficient, accurate, dependable, easily expandable, and modifiable. </p>		

Req ID	Toll Operations Center (Section TO)	Required	Value Add
	<p>Extensive training is performed and detailed for the different user levels. For example, managers are trained on how to add and maintain configurations and settings, and technician training focuses on how to update work orders and move inventory as needed. MOMS support is continuously available to all projects.</p>		
TO-010	<p>The Toll System Provider shall enter and update in MOMS all incidents within 4 hours of the incident. All updates shall be reported by the MOMS.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-010.</p> <p>MOMS uses an automatic Work Order assignment and notification feature for corrective work orders to ensure prompt updates to the Work Order status. Based on parameters such as priority level, maintenance schedule, location and time of day, the system determines if the Work Order should be assigned, to whom it is assigned, and if an automatic notification should be sent. When a technician receives an electronic notification, a reply is made, which sends a message back to the system and automatically updates the Work Order to the next status in the cycle. Notifications are sent and can be responded to electronically for open, acknowledged, arrived on site, repaired, and closed statuses. Secondary notifications can also be sent to configured e-mail addresses or groups for open, repaired, and closed statuses. If the assigned technician fails to acknowledge the notification within a configured timeframe, the system sends an Escalated Notification to the assigned back-up technician. Back-ups are assigned to each technician using the Escalation Management feature.</p>		
TO-011	<p>It is desired the Toll System Provider provide a MOMS that accepts trouble tickets using mobile applications that can be used by technicians to enter information.</p>		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-011.</p> <p>[REDACTED]</p>		

Req ID	Toll Operations Center (Section TO)	Required	Value Add
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TO-012	<p>The MOMS shall record all configuration data, and log and retain that data in configuration control after each System component change, including deployment of system patches, backup, archival, data restoration, disaster recovery data transfer and synchronization.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-012. TransCore uses a comprehensive configuration management system that applies the disciplines of change management, configuration management, and lifecycle management to products, programs, documentation, and infrastructure. History versions of software and databases allow detailed auditing of any changes in configuration data. The updating of configuration data does not require the system to be taken offline.</p>		
TO-013	<p>MOMS shall calculate response times, repair times, and down time from the data entered by the maintenance staff and automatically generated by the System and shall provide role-based security.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-013. The Application Parameter screens allow the user to set the lengths of time, default priorities, minimum quantities, and more that are used throughout the system, including the Time to Repair and Time to Respond Exception values. Once a Work Order has exceeded either of these time limits, the record is displayed on the Exception Time Reports, which are standard in the MOMS application.</p>		

Req ID	Toll Operations Center (Section TO)	Required	Value Add
	<p>The Manage User screens allow the user to add or update users providing access to the application. The Manage Roles screens allow the user to add, update, or delete roles that define a user's authorization level. The Function and Reports Mapping screens allow the user to provide access for each role to specific functionality, screens, buttons, and links based on a User Authorization Matrix.</p>		
TO-014	<p>All preventive maintenance shall be scheduled through the MOMS and automatic work orders shall be generated at the scheduled times.</p>	X	
	<p><b>Proposer Response:</b> The TransCore CS complies with requirement TO-014.</p> <p>MOMS supports a comprehensive preventive maintenance (PM) program for installed site and location equipment. The user creates a schedule to describe what the task is, where it needs to be performed, and how often it should occur. Once a PM Schedule is defined for a task, a MOMS automatic process generates a Work Order for the schedule on the selected maintenance date. The automatic process also immediately updates the Maintenance Date to the next occurrence.</p>		
TO-015	<p>The MOMS system shall track all system Hardware and Software elements from purchase to their disposal. These include but are not limited to: 1) All system Hardware and Software items, locations and versions; 2) All maintenance and service agreements; 3) A list of suppliers from whom products were procured, original purchase order numbers, Supplier numbers and reference numbers; 4) All warranty information for the individual item; 5) Alerts prior to warranty expiration; and 6) Automatic alerts for Spare Parts levels.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-015.</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		

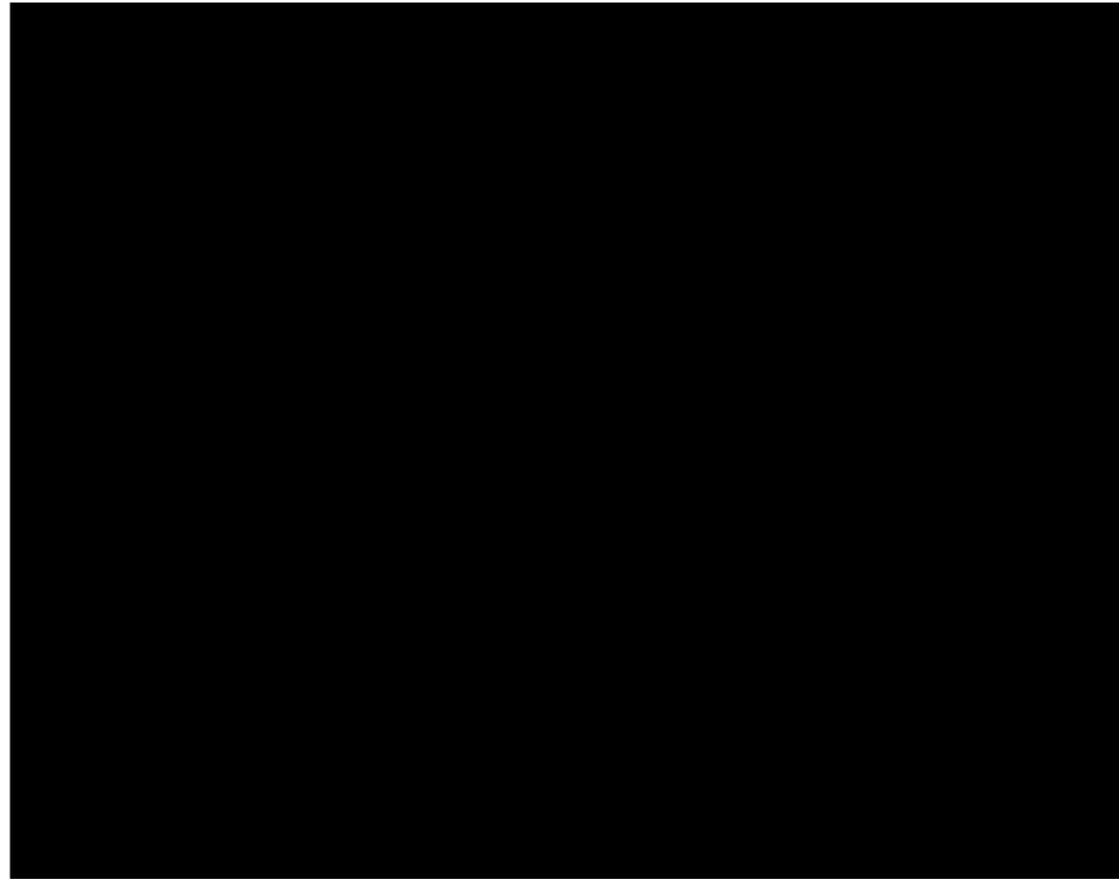
Req ID	Toll Operations Center (Section TO)	Required	Value Add
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TO-016	<p>The MOMS shall automatically generate reports demonstrating performance, exceptions, availability, and compliance to Performance Requirements (if applicable) for the System and all of its components such as the IVR and Customer Website. MOMS daily, weekly and monthly reports shall be available on-demand.</p>	X	
	<p><b>Note:</b> The TSP shall provide a list of reports available in the system in its Technical Proposal Response.</p> <p><b>Proposer Response:</b> <span style="color: green;">The TransCore TCS complies with requirement TO-016.</span></p> <div style="background-color: black; width: 100%; height: 100%; min-height: 300px;"></div>		

Req ID	Toll Operations Center (Section TO)	Required	Value Add
TO-017	<p>Toll System Provider shall include the Maintenance and Support Plan for the Joint Board's approval that demonstrates serviceability of components and the overall system, with attention to how performance metrics will be tracked and reported to the Joint Board. The Maintenance and Support Plan shall illustrate how the proposed structure and position of equipment provides optimum ease of service and maintenance during lane closures, and ease of access during regular maintenance.</p>	X	
	<p><b>Note:</b> The Proposer shall include in this Technical Response Form detailed descriptions of how it will service the System components, including but not limited to 1) camera cleaning and lighting replacement; 2) remote and on-site equipment calibration and tuning; 4) Hardware replacement during live operations; and 4) remote Software upgrades and maintenance including patch management.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-017.</p> <p>TransCore will provide a detailed Maintenance and Support Plan for approval by the Joint Board. Detailed in the plan is the serviceability of components and the overall system. Calculations of the performance metrics will be documented and reported to the Joint Board monthly. To support the performance metrics the Maintenance Activity Form is completed during all Preventive Maintenance (PM) and emergency repairs detailing what the issue was, the resolution and time to repair. These forms are provided to the Joint Board. To keep the equipment performing at the optimum level, technical manuals detailing the maintenance of components are delivered with the system. All technical staff is trained on the maintenance of the TCS components. Supporting the local staff is a team of technicians at various locations in the USA. Listed in the manual are scheduled maintenance items that are strictly adhered to. Because the components are modular, their removal and replacement take a minimum of time in the field. The component is taken back to the local repair shop to be worked on. The component is returned to the factory if it requires factory repair.</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p><u>Roadside Functional Requirements</u></p> <p>The <i>Infinity</i> system meets the Project's goals for accuracy and reliability:</p> <ul style="list-style-type: none"> <li>• <b>Accurate</b> – the Intelligent Vehicle Identification System (IVIS) patented algorithms provide a highly accurate vehicle detection, separation, and axle counting system. The integration of Optical Profile Unifying System (OPUS) with IVIS provides higher vehicle separation accuracy, plus the ability to provide the vehicle characteristics to support the Project's classification model with the flexibility to alter the model or extend it in the future.</li> </ul>		

Req ID	Toll Operations Center (Section TO)	Required	Value Add
	<ul style="list-style-type: none"> <li>• <b>Redundant</b> – the zone controller includes redundancy for the key modules, specifically the lane controller, ORT controller, and the AVI controller, which have primary and secondary units, with automatic failover to the secondary (Section 4.1.6 describes the various components of the zone controller). The VCARS license plate capture units contain dual cameras, dual power supplies, and dual strobe illumination units.</li> <li>• <b>Auditable</b> – the Digital Video Auditing System (DVAS) system provides an independent auditing capability through independent video capture of lane activity linked back to vehicle transaction records.</li> </ul> <p>The <b>Infinity</b> roadside system, consisting of zone controllers, automatic vehicle identification (AVI), automatic vehicle classification (AVC), and violation enforcement system (VES) subsystems, is the single source of all toll collection data across the entire ORT zone, including all travel lanes and shoulders. A transaction is created for every vehicle, including transponder number (if present), classification, and license plate images.</p>		
TO-018	Toll System Provider shall provide monitoring services with a secure web-based real time monitoring system to monitor and report the status of all System components.	X	
	<p>Note: The Proposer shall clearly provide in this Technical Response Form examples of how its existing MOMS system detects changes and anomalies and how this information is reported from the TCS.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-018.</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p>		

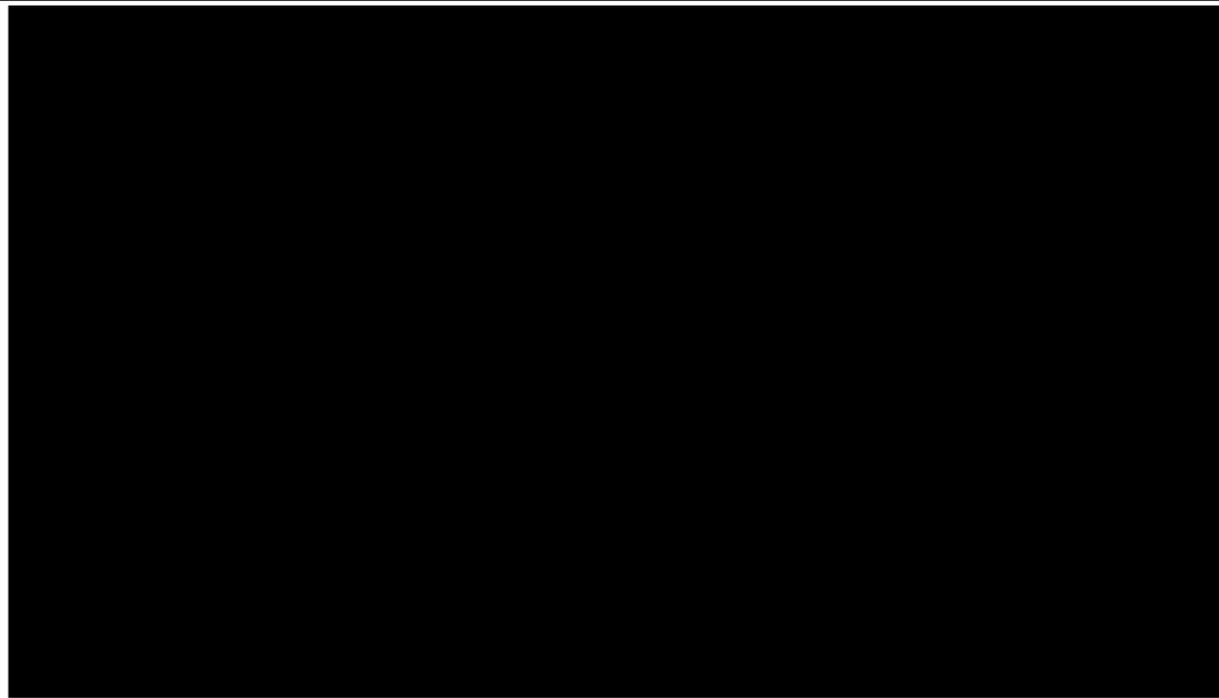
Req ID Toll Operations Center (Section TO)

Required Value Add



Req ID Toll Operations Center (Section TO)

Required Value Add



TO-019	<p>The TCS shall provide reports that provide trouble ticket detailed and summary status for Hardware and Software processes for the TCS and any external or internal interfaces.</p>	X	
	<p>Note: The Proposer shall provide in this Technical Response Form a list of its existing suite of standardized reports for MOMS along with a brief description of each one as to its purpose and how it is used for monitoring the health of the System and performance in the field.</p> <p><b>Proposer Response:</b> <span style="color: green;">The TransCore TCS complies with requirement TO-019.</span></p>		

Req ID	Toll Operations Center (Section TO)	Required	Value Add
[REDACTED]	[REDACTED]		
	[REDACTED]		
[REDACTED]			





[Redacted]	[Redacted]	[Redacted]		
	[Redacted]	[Redacted]		

Req ID Toll Operations Center (Section TO)

Required Value Add

[Redacted]	[Redacted]	[Redacted]		
	[Redacted]	[Redacted]		

Req ID	Toll Operations Center (Section TO)	Required	Value Add
TO-021	It is desired that the MOMS system monitor Software processes including but not limited to cron jobs, operating system services, application processes, database management metrics such as available memory in cache and other critical performance areas in the System.		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-021.</p> 		
TO-022	<p>The Toll System Provider shall provide storage space for all Spare Parts.</p> <p>The Toll System Provider shall be responsible for the inventory of all Spare Parts at a Toll System Provider-provided Warehouse Facility that is within 10 miles of one of the Walk-up Centers and co-located if feasible. The Toll System Provider shall provide a Warehouse Facility to store all Spare Parts and equipment and serve as the maintenance depot.</p> <p>The Toll System Provider shall account for all Spare Parts and shall provide safeguards against theft, damage, or loss of the Spare Parts. The Toll System Provider shall ensure that only Spare Parts and equipment required to service the Project are stored at the Warehouse Facility and that such stored Spare Parts and equipment shall only be used for the Project.</p>	X	
	<p>Note: The Joint Board shall have final approval of the location of the Warehouse Facility. The Toll System Provider shall obtain and maintain a lease for the necessary Warehouse Facility, subject to the Joint Board's approval.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-022.</p> <p>Upon the Joint Board's approval, TransCore will obtain secured storage space which is connected to a security network to house the toll system spare parts within 10 miles of one of the walk-up centers. It will be secured against theft and laid out in such a manner to prevent damage to the parts during normal warehouse activity. Inventory of the spare parts will be done with frequency to prevent loss. The storage facility will contain the maintenance depot for toll system parts not requiring manufacturer repair. TransCore's preference is to have the storage area integral to one of the walk-in service centers.</p>		
TO-023	<p>The Toll System Provider shall maintain an adequate Spare Parts inventory as specified in the Agreement. The Toll System Provider shall identify the existing spares for the Roadside System and propose the quantity needed to maintain the required performance.</p> <p>The Toll System Provider shall make available all necessary test and warranty repair resources for replacement including test repair and warranty repair, spare modules and spare components to support availability of the TCS in accordance with the Performance Requirements. The Joint Board reserves the right to purchase any and all Hardware for the Project from the Supplier directly.</p> <p>The Toll System Provider shall recommend and periodically update a Spare Parts Inventory Plan identifying the quantity to be maintained in order to support the Project, its Roadside System, BOS, and CSC Revenue Service.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-023.</p>		

Req ID	Toll Operations Center (Section TO)	Required	Value Add
	<p>TransCore will provide a recommended spare parts list and spare parts level based on its experience maintaining Infinity systems that will meet the performance requirements. All technicians and repair depot will have test equipment required to keep the spares in working order. Technicians have the background required to maintain a TCS and TransCore specific training to keep the TCS Infinity parts and components in serviceable conditions. Periodic inventories will be taken and the results will update the Spare Parts Inventory Plan and be provided to the Joint Board. Because of the upgradability of the Infinity system upgraded parts will be stocked and included in the updated inventory list.</p> 		
TO-024	<p><b>Spare Parts Inventory and Tracking:</b> The Toll System Provider shall monitor the inventory quantity and ensure that the inventory is maintained to the levels required in the Agreement. The Toll System Provider shall keep accurate records of all Spare Parts entering and leaving inventory including but not limited to: the time and date the Spare Part was dispensed, and the location within the Project to which the Spare Part was dispatched and used.</p> <p>The Toll System Provider shall track of all warranty replacement through a returned materials authorization (RMA) process. If the replaced part is under warranty, the part shall be immediately replaced with a new part. If the replaced part is out of warranty, the Toll System Provider shall make every effort to repair the replaced item to a usable status and place the part back into the Spare Parts inventory.</p> <p>If the part is unable to be repaired, a new part shall be purchased and placed into the Spare Parts inventory. The details of the repair efforts including problem, status, inventory, and repair disposition shall be included in the MOMS inventory and repair database.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TO-024.</p> <p>TransCore's experience maintaining toll systems dictates how inventory and spare parts placement are handled. TransCore has a spare parts process that all technicians follow. The level of spare parts is monitored during the month and usage of spares is tracked on the Maintenance Activity Form (MAF) filled out by the technician. A subset of the information gathered is the date and time the part was utilized and where it was placed in service. Reviewing the inventory list by part number, this data is compared with the inventory for warranty items.</p> <p>TransCore tracks and records all RMA items. This keeps a constant record of where a warranty item is and the state of its warranty period. When parts are out of warranty every effort will be made to repair it to serviceable condition and placed back into service.</p> <p>Items that are not repairable will be documented indicating the problem, status of the repair, inventory status and recommendation to the Joint Board.</p>		



Req ID	Toll Operations Center (Section TO)	Required	Value Add
[REDACTED]	[REDACTED]		
	[REDACTED]		

Req ID	Toll Operations Center (Section TO)	Required	Value Add
[Redacted]	[Redacted]		

Operations and Maintenance Requirements

Req ID	Operations and Maintenance (Section OM)	Required	Value Add
	<b>Warranty</b>		
OM-001	The Roadside System Hardware and Software warranty shall be 1 year from the Revenue Service Date for each Bridge.	X	
	[REDACTED]		
OM-002	The BOS and all associated interfaces Hardware and Software warranties shall be a minimum of 3 years from the commencement of Revenue Service for the first Toll Zone.	X	
	<p>Note: For purposes of this requirement, the BOS shall include the account management system, transactions system, reporting system, MOMS, external systems provided and any systems required by the Toll Operations Center, and CSC and Walk-up Centers.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement OM-002.</p>		
OM-003	The Toll System Provider shall provide all labor, parts and materials to keep the System performing in accordance to the Performance Requirements.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement OM-003.</p> <p>TransCore commits to providing all labor, parts and materials to keep the system performing in accordance to the performance requirements. TransCore understands these requirements in regards to providing support staff, parts, and material levels to meet or exceed the performance requirements.</p>		
OM-004	The TCS Software Warranty shall cover all defects and failures.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement OM-004.</p> <p>TransCore will provide TCS software warranty to cover all defects and failures attributed to software deficiencies.</p>		
OM-005	The Toll System Provider shall modify Software and configurations as necessary to maintain and support the TCS in the normal course of business. Toll System Provider shall provide any and all version changes, parameter changes and changes that improve the Toll System Provider's ability to maintain and support the TCS at no additional cost to the Joint Board.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement OM-005.</p> <p>TransCore will support modification of the software and configuration changes to maintain and support the TCS in the normal course of business. TransCore's process for documenting all version, parameter and system changes will be utilized. It provides documentation and client approval of changes to the system. It provides information supporting the change, what is involved in the change, impact to production processing, date and time of the changed implementation. Once the client approves the change it is scheduled to be implemented. After implementation, a follow up meeting with the client is held presenting the results. This process provides documented historical data covering versions and parameter changes within systems.</p>		

## Quality Control

The function of TransCore's quality assurance (QA) program is to ensure and demonstrate to the Joint Board that we are doing everything required to achieve successful results. This section of our proposal details our approach to providing that proof or assurance, what we will measure, how we will measure it, and how and when we will report it to the Joint Board. The success of our system on this project is assured by our quality program specifically applied to the executed contract, deliverable work, performance measures, and key performance indicators. Our consistent dedication to quality over the years has produced a clear roadmap to ensure all products provided are efficient, dependable, and compliant, and that we meet highest standards of our profession.

We subscribe to the total quality management (TQM) philosophy that quality must be designed and built into a product and cannot be obtained by either inspection or test methods. Therefore, the quality of our products and services is the responsibility of each of our employees. This concept is supported by management and is reflected in the departmental procedures and directives that guide day-to-day operations. Our Quality Plan will detail the prevention and detection of discrepancies for timely and positive corrective action. We continuously strive to improve quality by maintaining an environment that promotes a proactive customer partnership. We meet our commitments through active management participation, employee ownership, and a skilled, trained workforce. Our quality commitment is demonstrated by the following:

- Personnel in the organization are knowledgeable of our processes and quality practices that affect their respective functions.
- Implementation of the quality system is consistent for all work performed and undertaken.
- The organization structure provides for an integrated development team environment that promotes quality practices to be used by every member of the organization.
- Clear visibility is provided to all levels of management, and the quality system is periodically reviewed and actions taken to correct deficiencies.
- A continued spirit of process improvement is implemented to enhance the practices and provide our customers with high-quality products that meet every requirement at the lowest cost.

The Quality Plan is the foundation of the quality function. It documents the philosophy, processes, and procedures for implementing a quality assurance program for both the development and the operations. The central strategy makes quality a top priority goal and is the basis for day-to-day operations and maintenance decisions. This document identifies specific quality assurance and quality control processes to be followed throughout the life of this project to achieve the quality objective. Included in our Quality Plan are specific processes that address the RFP, as well as processes that address monitoring and measurement, control of nonconforming product, software quality assurance, continual improvement, and corrective and preventive action. From this, specific SOPs are developed for each functional area of the program.

- **Configuration Management System** – Configuration management (CM) provides the method for uniquely naming, marking, and tracking configuration items for purposes of change control, status accounting, storage, retrieval, reproduction, and distribution. Specific configuration management procedures are in place for documentation, hardware and materials, and software. TransCore uses Microsoft's Visual SourceSafe (VSS) to manage its Windows-based host and workstation software. We use the open-source tool Concurrent Versions System (CVS) to manage our Linux-based lane and zone controller applications. Both VSS and CVS track software versions allowing for back-tracking to earlier versions and support collaborative editing and sharing of data.
- **Change Control Process** – All changes to the project will be documented and processed through a formal change control process. TransCore uses a configuration control board (CCB) to ensure effective integration management. The role of the CCB is to provide review and approval authority over all changes to the product from requirements to as-builts. The QA Plan will document our change management process, including specific procedures for requirements, documentation, software, and hardware changes.
- **Record Control** – Quality records are maintained in a computer retrievable or hardcopy format. The records are readily available for review and inspection. Quality records are maintained on suppliers, subcontractors, and consultants that have supplied products or services. All records that verify the integrity of the company product are maintained for a prescribed time period in accordance with the applicable record retention schedule. The QA Plan details the record control process, including specific locations, responsibility, and purpose of each document.
- **Purchasing Control** – TransCore ensures that purchased products or services conform to specific order requirements. The project purchasing flow procedure defines the purchasing process for the project and ensures that the proper steps are taken for each purchase. Purchase orders requiring special processing, testing, and source inspection include the necessary specifications and requirements to ensure contract compliance. Amendments or change orders to purchasing data are processed in the same manner as the original purchase order (PO). Reference is made to the original PO by use of a modification code

	<p>appended to the original PO agreement. The receiving organization is informed of purchases made through our integrated purchasing and receiving database. Relevant details are easily identified to the receiving department, and any non-conformity to specifications is clearly stated.</p> <ul style="list-style-type: none"> <li>• <b>Inspection and Verification</b> – TransCore’s Quality Assurance/Quality Control (QA/QC) Manual details procedures for inspection and verification for all components of the system to ensure that contractual, functional and performance requirements are achieved. These are signed by the program manager and forwarded to the QA manager with copies of all test plans, test reports and final inspection documents. For project materials, our QA system specifies requirements and methods for controlling incoming materials from subcontractors and vendors to ensure that contractual and company requirements are met. Nonconforming materials are identified, segregated, and handled by the non-conforming materials procedure. The procedures for secure storage of products are in place to prevent damage, deterioration, or pilferage. These procedures include appropriate methods of documentation for the receipt and release of products from storage. A nonconforming product is stored in an isolated area and is appropriately marked or otherwise identified in records as being unsuitable for delivery.</li> </ul>		
OM-006	<p>All warranty information shall be tracked and notification of expiration sent out to distribution list approved by the Joint Board. The warranty provisions shall be tracked for Major Spare Parts and Components excluding consumables.</p>	X	
	<p>Note: It is not necessary to track consumables.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement OM-006. TransCore tracks warranty items noting the expiration date and will provide the Joint Board’s approved distribution list the status of warranty items. Notification of expiring warranties will be distributed 90 days prior to the expiration.</p>		
OM-007	<p>The Toll System Provider shall maintain warranty records, review Software and Hardware discrepancies and make available patch management reports to demonstrate Software compliance with the warranty.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement OM-007. TransCore will maintain all warranty records. TransCore will maintain all software and hardware records and any discrepancy will be noted and resolved. Patch management and patch implementation will be performed on a monthly basis. The patches will be reviewed and tested prior to installation. Monthly reports of all patches installed will be reviewed with the Joint Board.</p>		
OM-008	<p>The Toll System Provider shall conduct a System Certification Audit at the start of the third full year after the Revenue Service Date of the last Bridge that will include a compliance audit of all Hardware and Software including operating systems, databases and applications that demonstrates that all Software and Hardware meets a configuration audit and test that demonstrates that the System complies with all Performance Requirements. Any variances shall be reported along with a corrective action plan.</p>	X	
	<p>Note: The Joint Board may conduct its own certification and audit at any time. TSP shall cooperate with and assist the Joint Board in any such audit.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement OM-008. TransCore will conduct a system certification audit following the third full year marked by the revenue service date of the last bridge. This system certification audit will be of the hardware and software, which will include the operating systems, databases and applications. The Test Plan and/or configuration workbook used during initial acceptance of the system by the Joint Board will be updated with any changes that occurred during the two-year period. The audit will demonstrate that the software and hardware meets the configuration parameters. The results will demonstrate that the system complies with all documented performance requirements.</p>		

	<p>A report of the results with a corrective action plan will be presented to the Joint Board within 10 days. The Joint Board will have 10 days to comment/approve the report. If comment/approval is not provided in the 10 days the results with corrective action plan will be considered approved.</p> <p>TransCore will cooperate and assist the Joint Board in conducting its own certification and audit. Notice of the certification and audit test by the Joint Board will be provided to TransCore 30 days prior to the test. This will allow TransCore to schedule and assemble the resources necessary.</p>		
OM-009	<p>The Toll System Provider shall plan, implement and remove lane closures for toll equipment preventative or emergency maintenance. The Toll System Provider shall utilize the most current state traffic control plans and standards applicable to the Roadside System for the state where the lane closure will occur. The Toll System Provider shall request lane closures in writing and in accordance with the applicable state policy. Any preventative maintenance lane closures shall be requested in writing at least 14 calendar days in advance. Emergency lane closures shall be requested with 12 hours prior written notice. Notice of any immediate lane closures shall be communicated to the Joint Board representative via phone and email as soon as possible.</p>	X	
	<p>Note: The Proposer shall include in the Price Proposal a unit price for each of the traffic control configurations outlined in the TCS. The States' Parties will reimburse the Toll System Provider for each lane closure required during installation and during maintenance of traffic.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement OM-009.</p> <p>TransCore will plan, implement and remove lane closure equipment used for all preventative and emergency situations in accordance with KY and IN policies. Notification, in writing, will be no less than 14 calendar days in advance of a scheduled preventative maintenance. Notification, in writing, will be no less than 12 hours prior to an emergency lane closure.</p> <p>TransCore has provided in the price proposal the unit price for each of the traffic control configuration outlined in the TCS. Cost adjustments due to COLA or other extenuating circumstances will be documented and provided to the Joint Board for approval.</p>		
OM-010	<p>The Toll System Provider shall log any lane closures including incidents reported by the Roadside System into MOMS. Any unusual circumstances shall also be noted in the incident report. If the information can be tracked and reported separately in MOMS, MOMS may be used to log incidents. A lane closure report shall identify who closed the lanes, start and end time of the closure, lane numbers closed and any comments or unusual events regarding the lane closure. If the lane closure was conducted by the Toll System Provider, a reason for the lane closure shall be included in the report. Any lane closures that occur within the Toll Zone area, defined as 1000 feet on either side of the Toll Zone, shall be reported to the States' Parties on a monthly basis.</p>	X	
	<p>Note: This information is required so that the States' Parties or their agents can confirm the TSP accurately reconciles and identifies anomalies in traffic or revenue with these special events, and to reconcile any Customer Statements sent by the Toll System Provider for reimbursement.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement OM-010.</p> <p>TransCore will log lane closures into MOMS. The MOMS report will identify who closed the lane, start and end time, lane number, reason for the lane closure and comments/notes about the lane closure.</p> <p>During the lane closure, incidents reported by the roadside system or unusual circumstances will be entered into MOMS.</p> <p>Lane closures within 1000 feet on either side of the toll zone will be reported to the States' Parties on a monthly basis.</p>		

Performance Requirements

Req ID	Performance Requirements (Section PR)	Required	Value Add
	<b>Roadside System</b>		
PR-001	Roadside System shall be available 99.5% of the time.	X	
	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
PR-002	The Roadside System shall be fully capable of reading and processing a minimum of 1,200 images per camera per Equipment Lane per hour.	X	
	<p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p> <p>[REDACTED]</p>		
PR-003	The Toll System Provider shall be fully capable of processing all license plate numbers including stacked letters.	X	
	<p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		

Req ID	Performance Requirements (Section PR)	Required	Value Add
	[Redacted]		
PR-004			X
	[Intentionally not used].		
PR-005	The Roadside System shall process and create Traffic Transactions for a minimum of one vehicle per second per equipment lane for fifteen (15) seconds at each Toll Zone.	X	
	[Redacted]		
PR-006	For each vehicle passing through a Toll Zone with properly mounted Transponders in or on the Vehicle, the TCS shall accurately detect, report, and correlate with the correct vehicle all required Transponder information (i.e., date, time, Transponder numerical id) at an overall accuracy rate of 99.95%; if more than one Transponder is properly mounted in or on the Vehicle, the TCS shall report all such Transponders identified, but the requirements specified in this Section shall only apply to one Transponder's reads.	X	
	Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis. [Redacted]		
PR-007	Each vehicle passing through a Toll Zone shall be detected and reported once and only once (no exception for lane equipment or network degradation).	X	
	Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis. [Redacted]		
PR-008	Each vehicle passing through a Toll Zone shall have at least one image that includes the vehicle make, model and license plate number captured and correlated with the correct vehicle at an accuracy rate of 99.9%. All Images of a vehicle passing through a Toll Zone shall be human readable at an accuracy rate of 99%.	X	
	Note: The Proposer shall identify in this Technical Response Form the size (in feet for the length and height), and the number of images captured and made available to the BOS. This requirement will be evaluated by the Joint Board for compliance on a monthly basis.		

Req ID	Performance Requirements (Section PR)	Required	Value Add
	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
PR-009	<p>The Toll System Provider shall comply with the following times to respond to issues, deficiencies and problems and to repair equipment. These times are based on priority classification by event location and exclude provision of maintenance of traffic responsibilities (so long as such maintenance of traffic times are strictly within the time periods of this PR-009 section); These times apply 24 hours per day, 7 days per week:</p> <ul style="list-style-type: none"> <li>• Priority 1 –Four hours to respond</li> <li>• Priority 2 –72 hours to respond</li> <li>• Priority 3 –10 days to respond</li> </ul> <p>In all cases, setup of maintenance of traffic shall be no more than 1 hour upon approval, and demobilization of maintenance of traffic once repair is complete shall be no more than 1 hour.</p>	X	
	<p>The Priority Levels are defined as follows:  Priority 1 is defined as – any failure that will result in loss of ability to collect or accurately collect revenue, including lane closures, safety hazard, or loss of traceability and loss of auditability in the TCS.  Priority 2 is defined as – any failure of a System component that will result in a degradation of System performance or results in the loss of redundancy in a key System component, but does not qualify as a Priority 1 event.  Priority 3 is defined as – minor failure of the equipment, network or Software or an indication that an event may occur that would result in a malfunction or degradation of the System.</p> <p>In order to ensure maintenance of traffic notification is measured in a timely manner, the Joint Board shall be copied on the notification to the maintenance of traffic provider. The Joint Board, in its sole discretion, shall determine the priority of an event (and any delay or failure by the Joint Board to identify the priority shall indicate that the event has a priority level of Priority 1).</p> <p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
	<b>Back office System</b>		
PR-010	<p>The BOS, including the IVR and Customer Website shall be available 99.9% of the time (See <u>Exhibit N</u> to the Agreement for details regarding calculation of BOS availability.) The BOS shall provide all functional service at a 99.9% availability excluding approved routine or approved scheduled maintenance periods of up to 80 hours per year.</p>	X	

Req ID	Performance Requirements (Section PR)	Required	Value Add
	<p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
PR-011	[Intentionally not used.]		
PR-012	Home and away agency Transponder status files shall be loaded and distributed to the TCS within 2 hours of receipt at least 99% of the time. If the Toll System Provider has written proof that the away Transponder status file was not sent by the away agency, failure to load and distribute a Transponder file for such away agency shall not be counted as a failure in the calculation.	X	
	<p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
PR-013	The BOS shall post 99.8% of Traffic Transactions, Financial Transactions, and Event Transactions completely and accurately to the TCS. Any exceptions shall be recorded with an "exception" transaction in the system with an appropriate exception code.	X	
	<p>Note: This requirement will be evaluated for by the Joint Board for compliance on a monthly basis.</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
PR-014	The Toll System Provider shall review and accurately post to the appropriate account all Traffic Transactions in accordance with the approved Business Rules no later than 2 days after the vehicle passed through the Toll Zone, at an accuracy level of 99.5% or higher.	X	

Req ID	Performance Requirements (Section PR)	Required	Value Add
	Images embedded in any Correspondence shall include a color picture that clearly identifies the make, model, color and license plate of the vehicle.		
	Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis. [Redacted]		
PR-015	All required Financial Transactions shall be processed within one (1) business day of business day closure on the day they occurred. Financial Transactions shall include all payments (regardless of payment method). Weekend or holiday Transactions shall be processed no later than the following business day.	X	
	Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis. [Redacted]		
PR-016	All required financial exceptions shall be processed within one (1) business day of business day closure on the day they occurred. Financial exceptions are adjustments, reversals or refunds.	X	
	Note: This requirement will be evaluated for compliance by the Joint Board on a monthly basis. The timeframe for a disputed transaction for E-ZPass transactions outside of Toll System Provider's control will be determined during development of the approved Business Rules. [Redacted]		
PR-017	The Toll System Provider shall enter into the System all license plate and demographic information received from a DMV within one (1) day of data receipt.	X	
	Note: This requirement will be evaluated for compliance by the Joint Board on a monthly basis. [Redacted]		
	<b>Customer Center</b>		
PR-018	The average call wait time shall not exceed a monthly average of 2 minutes during Startup Operations and shall not exceed a monthly average of 60 seconds during Steady State Operations as reported on the phone system reports. The average call wait time is measured based on all calls received during a monthly period.	X	
	Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis. [Redacted]		

Req ID	Performance Requirements (Section PR)	Required	Value Add
PR-019	All calls shall be handled in a professional and courteous manner all of the time. The Toll System Provider shall monitor at least 2% of all calls, measured monthly commencing with Pre-Toll Operations. For calls monitored the TSP shall have a regular quality control process and results shall be reported in the Monthly Operations and Maintenance Report.	X	
	<p>Note: This requirement will be evaluated for compliance by the Joint Board on a monthly basis.</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
PR-020	Best efforts shall be made to resolve escalated calls related to TCS services and policies while the customer is on the telephone without need for a call-back. Escalations that require involvement of an external agency are not included for purposes of calculating compliance with this requirement. TSP shall open a service request for all escalations that cannot be addressed while the customer is on the phone, and shall track the service request through the reporting system.	X	
	<p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement PR-020.</p> <p>The TRACER report will provide data for all issues that have been opened for which the CSR was not able to resolve on the first call. The TRACER report will be provided to the Joint Board on a monthly basis.</p>		
PR-021	The TSP shall not escalate more than 5% of the total calls received by the CSC outside of the CSC.	X	
	<p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement PR-021.</p>		
PR-022	The CSC shall resolve a minimum of 65% of calls during Startup Operations and 80% of the calls during Steady State Operations regarding ETC transactions, video transactions, Violations, products, services and policies accurately on the first contact made by the customer.	X	

Req ID	Performance Requirements (Section PR)	Required	Value Add
	<p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis. The resolution of the call shall mean that the customer's questions were answered in way such that the customer does not have to call back for the same issue or information was provided in response to the customer inquiry in way such that the customer does not have to call back for the same issue.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement PR-022.</p> <p>We understand that there is a direct link between first call resolution and customer satisfaction. This is a performance metric that we monitor actively at all our other CSC operations. The key element for success is providing the proper training and tools such as reference materials and tips along with active monitoring by supervisory staff. We will draw on our experience to create a focus on this performance area. Our frequent monitoring will form the basis for our monthly reporting.</p>		
PR-023	All call monitoring shall be part of the regular QC process and reported in the Monthly Operations and Maintenance Report. The TSP shall cooperate with and assist the Joint Board in conducting random monitoring and recording the results.	X	
	<p>Note: This requirement will be evaluated by the Joint Board for compliance with this requirement on a monthly basis.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement PR-023.</p> <p>We consistently perform call monitoring as an effective staff performance tool throughout our customer service center operations. It serves as a key quality assurance activity and is effective in gathering information for targeted training as necessary. A percentage of calls of CSR staff shall be monitored, with results reported in the Monthly Operations and Maintenance report. TransCore will assist the Joint Board as needed in conducting random monitoring and recording of the results.</p>		
PR-024	Customer Correspondence shall be stamped as received the business day it is received. Correspondence received on non-business days shall be stamped as received on the first business day after the non-business day.	X	
	<p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement PR-024.</p> <p>Our standard operating procedures require all customer correspondence received by mail or fax to be date stamped on the business date received.</p>		
PR-025	All new customer account applications shall be processed and recorded within the System within two (2) business days of receipt of the completed application.	X	
	<p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement PR-025.</p> <p>All customer account applications received with complete information will be processed in the CAMS application within two business days of receipt. If the application is incomplete the customer will be contacted if possible, or the application will be returned with details of the missing information that needs to be provided for the account to be opened.</p>		
PR-026	All payment types (check cash or credit card) shall be processed for payment by the System within one business day.	X	
	<p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p>		

Req ID	Performance Requirements (Section PR)	Required	Value Add
	<p><b>Proposer Response: The TransCore TCS complies with requirement PR-026.</b>  All check and credit card payments received by mail or fax are date stamped and will be posted into the CAMS application within one business day of receipt. Cash payments are occasionally received in the mail and will also be processed within one business day.</p>		
PR-027	<p>100% of all correspondence types other than payments shall be processed and recorded in the System within three (3) business days.</p>	X	
	<p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p> <p><b>Proposer Response: The TransCore TCS complies with requirement PR-027.</b>  All correspondence received by mail or fax will be date stamped and recorded in CAMS within three business days of receipt.</p>		
PR-028	<p>All money paid to the CSC shall be credited into the designated bank accounts provided by the Joint Board. All customer payments shall be deposited within 24 hours of when they are received; if such day is a weekend or holiday day on which the relevant bank is closed, the deposit shall be made by the next Day on which the relevant bank is open for business.</p>	X	
	<p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p> <p><b>Proposer Response: The TransCore TCS complies with requirement PR-28.</b>  TransCore reconciles the payments and account activity each business day for the prior day(s). All checks and cash that were posted will then be deposited into the Joint Bridge bank account on the same business day they are reconciled.</p>		
PR-029	<p>The CSC availability shall meet the following minimum requirements.  Self Service – 24 hours x 7 days per week  For Startup Operations: Customer Service Representative and Walk Up Center - Monday-Friday 7 am-7pm Saturday 8am-2pm, Eastern Standard Time, excluding approved holidays.  For Steady State Operations: Customer Service Representative and Walk Up Center - Monday-Friday 8 am-6pm, Eastern Standard Time, excluding approved holidays.  Holidays on which the CSC may be closed include New Year’s Day, Memorial Day, the 4th of July, Labor Day, Thanksgiving Day, Christmas Day and other holidays mutually agreed to by the Toll System Provider and the Joint Board. The Toll System Provider shall work with the Joint Board to jointly develop the Holiday schedule for each Contract year.</p>	X	
	<p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p> <p><b>Proposer Response: The TransCore TCS complies with requirement PR-029.</b>  We will certainly support the start up and steady state requirements for both CSC and walk-up centers availability. Having experienced many toll program start ups and expansions, we understand the critical need for extended hours of operation as part of a successful start up.</p>		
PR-030	<p>The Toll System Provider shall notify the Joint Board of all planned outages at least one week in advance. The Toll System Provider shall notify the Joint Board within 2 hours of a known unplanned outage with notice of the planned up time.</p>	X	
	<p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p>		

Req ID	Performance Requirements (Section PR)	Required	Value Add
	<b>Proposer Response:</b> The TransCore TCS complies with requirement PR-030.		
PR-031	99.99% of Transponder orders placed in person shall be filled within the same business day. All Transponder orders placed in person not filled in the same business day in which the order was placed shall be filled before the end of the next business day. 90% of Transponder orders not placed in person shall be filled before the end of the day after the day in which the order was placed. All Transponder orders not filled before the end of the day after the day in which the order was placed shall be filled before the end of the second business day after the day in which the order was placed. In person orders are those placed at a WUC or at a retail provider. An order is filled when it is either handed to the customer or mailed to the customer at the best address available to the TSP as indicated in the Business Rules.	X	
	<p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement PR-031.</p> <p>All transponder orders placed in person will be filled with onsite inventory. If the location is unable to provide a transponder to the customer in person the transponder order will be filled before the end of the next business day. Transponder orders not placed in person will be filled by the end of the next business day from receipt for at least 90% of the orders. Any remaining orders will be filled by the end of day on the second business day and mailed or handed to the customer.</p>		
PR-032	The Toll System Provider staff shall be scheduled according to expected call arrivals in order to comply with the requirement that a minimum of 80% of calls be answered by a live representative within 30 seconds, calculated by dividing the number of calls answered by a live representative within 30 seconds by total number of calls received by the IVR.	X	
	<p>Note: This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
PR-033	It is desired that the IVR answer in one ring cycle for inbound calls and customers enter the IVR tree to be presented self-service options or allowed to speak with a customer service representative during business hours.		X
	<p>Note: If Proposer indicates it will provide this functionality, this requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
PR-034	[Intentionally not used.]	X	
	<b>Proposer Response:</b>		
PR-035	[Intentionally not used.]		

Req ID	Performance Requirements (Section PR)	Required	Value Add
PR-036	The CCTV system shall be available no less than 99% of the time.		
	<p>Note: Availability is defined as access to the CCTV system by remote users and the ability to use and view video in near- real-time for TCS operations. Near-real-time is defined for this requirement as the video being displayed within 2 seconds of the user requesting a camera view. This requirement will be evaluated by the Joint Board for compliance on a monthly basis.</p> <p>[REDACTED]</p>	X	

## Financial Requirements

Req ID	Financial Requirements (Section FR)	Required	Value Add
FR-01	All elements of the TCS shall be subject to audit of Financial Transactions, Traffic Transactions and Event Transactions.	X	
	<p>Note: The Revenue Control Manager, external auditors or other entities will audit and require Transaction reconciliation of the TCS from the Roadside System through the BOS.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-01. CAMS comes with the comprehensive set of reports that are used in order to audit toll transactions and toll revenue. These reports are used to audit lane transactions by transponder and license plate. Each transaction has a unique transaction ID that is used to identify and audit in all reports. Toll transactions can be audited from the lane to the toll posting on an account. Report parameters allow these reports to be generated using selected criteria. The reports can be exported to Excel for analysis, comparison, graphs to provide trends and comparative statistics. Another set of CAMS reports is used to audit all transactions performed by customer service representatives (CSRs). Activity for each day is calculated and verified to the change in account balances and deposits on transponders if applicable. CAMS can export report data for use by other applications such as the Joint Board's external general ledger accounting package in standard formats such as XML, CSV, PDF, MHTML, Excel, TIFF, and Word.</p>		
FR-02	The Toll System Provider shall provide a TCS that meets US GAAP policy and procedures and is subject to US GAAP audits and compliance on a regular basis. All elements of the TCS shall be subject to audit of Financial Transactions, Traffic Transactions, and Event Transactions.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-02. CAMS financial accounting was designed by accounting staff and a CPA who work in operations centers to provide timely, reliable, and accurate financial information. With our knowledge base of standard operating procedures, real world operations, and experience with customer service centers, TransCore's accounting staff has a solid understanding of financial management, accounting policies, procedures, and compliant reporting. The capabilities of CAMS provide a robust financial accounting component that includes double-entry accounting as required by GAAP and the Governmental Accounting Standards Board (GASB). As the program relies on accurate and timely financial information and funds management, TransCore's strong, experienced financial team closely monitors and audits the financial, toll, and event transactions of the service center operation.</p>		
FR-03	The Toll System Provider shall coordinate with the Revenue Control Manager and Custodian. The Toll System Provider shall be a party to the Custody and Revenue Control Agreement, substantially in the Form of Exhibit O to the Agreement, once finalized prior to Revenue Service.	X	
	<p>Note: The Joint Board anticipates that Transaction reconciliation will be performed, and top level secure financial accounts will be established and managed, substantially as outlined in Attachment C-3. The Joint Board has contracted with a Revenue Control Manager that will be responsible for the confirmation and certification of reconciled funds received from the Toll System Provider. A Custodian established pursuant to the Custody and Revenue Control Agreement will serve as the trustee's representative to distribute revenues into the States' Parties' accounts.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-03. TransCore will coordinate with the revenue control manager and custodian and has experience in working with outside parties for reconciliation. TransCore reconciles all deposits, credits, refunds, returned items, adjustments, and notifications of change of payment type daily. Additionally, the file sent to the Joint Board financial management system will also be reconciled back to CAMS to ensure both systems stay in balance. We identify any exception through this reconciliation process and tie it to the transactions unique ID. CAMS has detailed transaction information, which can be used to research exceptions.</p>		
FR-04	The Toll System Provider shall adhere to the Flow of Funds diagram in Attachment C-3 in handling all Funds.	X	

Req ID	Financial Requirements (Section FR)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-04.</p> <p>CAMS has GL ledger accounts for each transaction that post to the appropriate account types including prepaid, postpaid, and IAG. Payments and refunds are recorded in CAMS as shown on the flow of funds diagram. Journal entries are made for funds received and paid for IAG activity and any other wired funds. TransCore understands and follows the same flow of funds in all monthly reconciliations.</p>		
FR-05	<p>The Toll System Provider shall reconcile Financial Transactions transmitted to Custodian Accounts on a daily basis. All revenues and funds shall be swept on a daily basis to the Custodian to ensure that all revenues are deposited in a secure account and reconciled prior to the distribution to the States' Parties' accounts.</p>	X	
	<p>Note: The Proposer shall describe in this Technical Response Form how the TCS handles movement of funds and reconciliation of Transactions in the System.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-05.</p> <p>Funds will be fully reconciled before distributing per the direction of the Joint Bridge. Journal entries by authorized user are posted in CAMS to track the movement of these funds to properly record with unique transaction IDs on the Balance Sheet.</p>		
FR-06	<p>The Toll System Provider shall interface the TCS with a commercial accounting system provided by the Revenue Control Manager.</p>	X	
	<p>Note: The accounting system will be determined at a later date, currently anticipated to be available by March 1<sup>st</sup>, 2015.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-06.</p> <p>We have experience developing and operating electronic interface for numerous other authorities. We will utilize the existing interfaces and work with the Joint Board to fine tune the interface from CAMS to meet any requirements the Joint Board may have for import into their financial system. The interface will include all the required transaction types and will group them as yet to be defined by approved business rules. The interface will include a back end process that can be developed individually based on a specific set of business rules that can be then attached to the main process that groups all individual into a final output. This process will allow for developing small units of processing functionality that provides flexibility and adaptability to new requirements, formats, or integration to a new system.</p>		
FR-07	<p>The Toll System Provider shall update the accounting system with current financial elements of the System (debits/credits) no less frequent than every 24 hours.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-07.</p> <p>All transactions including debits/credits update the GLs when entered in to CAMS. Financial reports including the Balance Sheet and P&amp;L are summarized by a scheduled nightly task.</p>		
FR-08	<p>The TCS shall track interoperable Financial Transactions by interoperable agency.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-08.</p> <p>CAMS design conforms to the current IAG specs. All reports were designed accordingly and revised when appropriate. New agencies are easily added to record properly on reports, in the GL, and on financial reports. The chart of accounts includes an Accounts Receivable and Accounts Payable for each IAG agency for ease of financial reporting and reconciliation.</p>		

Req ID	Financial Requirements (Section FR)	Required	Value Add
FR-09	The Toll System Provider shall map financial (cash management and custodial) accounts established by the Joint Board to multiple Financial Transaction codes (e.g. tolls, fees, credit payments, adjustments and reversals) and such accounts and codes shall be traceable in the TCS to demonstrate that the financial accounting system (provided by others) reconciles with the TCS.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-09.</p> 		
FR-010	The Toll System Provider shall make customer refunds within 24 hours of confirmation that a refund is owed, and shall make payments to interoperable agencies and transfer funds received for deposit into Joint Board accounts, in accordance with the approved Business Rules.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-010.</p> <p>CAMS supports refund processing and the tracking of refund status from request through refund issuance. Users may request refunds through a variety of customer interfaces, and the system will process approved refunds to the last replenishment method (credit card on file) or check if that replenishment method is invalid, or for accounts where the replenishment method is cash or check. The system will create a report, along with supporting documentation for approving and processing refund checks. The report will include quantity, dollar value, and reason for the refund. These will be done as per the business rules defined by the Joint Board.</p>		
FR-011	The Toll System Provider shall track receipt and disbursement of payments in the TCS by payment type and source, including but not limited to: by interoperable agency, by payment type (credit card, cash, check), by refunds or adjustments, and by tolls or fees such as invoice fees, administrative fees or penalties.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-11.</p> <p>CAMS uses different transactions types for payments, tolls, fees, and reversals (refunds or adjustments) of each type. These records in the GL daily report which is used for reconciliation and auditing.</p>		
FR-012	Overpayments or underpayments shall be applied to an account, and records of the overpayments and underpayments to an account shall be readily available for review in reports generated by the TCS. Unapplied balances shall be transferrable to the customer account Customer Statements where applicable. An unapplied balance report shall be available on a daily, weekly and monthly basis.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-012.</p> <p>All payments are applied to accounts; overpayment will credit to the account to be used for future tolls or can be refunded depending on the business rules. Any overpayments will be reported on Positive Balance Report with billing method of post-paid or if required to be refunded will be report on the Ready to Refund Report. Any underpayment made will be applied to an account leaving the remaining balance due which will show on the Accounts Receivable Aging or Negative Balance reports.</p>		

Req ID	Financial Requirements (Section FR)	Required	Value Add
FR-013	The Toll System Provider shall provide exceptions management system functionality and an exceptions operation process for payment. For example, the TCS shall have an operational procedure so that if payments without an account remittance slip are received by the lockbox, the operator is able to research and locate the account holder in the system, and apply the unallocated funds to a credit on a customer account. The TCS shall include a coding mechanism in the ERS that provides sufficient reporting to track any exceptions.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-013.</p> <p>An exceptions report will be used to research accounts by name, address, license plate and various other search criteria based on what is provided by the lockbox provider to identify the correct account. These will be manually posted using an appropriate payment type to credit the account and record properly in the GL. As the exceptions are worked resolved and properly applied to the correct account they will be removed from the report.</p>		
FR-014	Updates to Financial Transactions shall never modify existing Transactions. All Financial Transactions shall be appended to the original record when fees, fines, or tolls are partially or wholly discounted or escalated manually by an operator of the System. A list of all Financial Transactions (including codes) shall be provided in the System Documentation and logged with the associated Traffic Transactions in the TCS.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-014.</p> <p>CAMS does not modify or change original transactions. All adjustments for payments, fees, or tolls are done by posting a reversal of the amount in full and posting the correct amount (including zero) into the account on the day the adjustment or refund is posted. This is done in a reversal wizard format, which instructs the authorized user to enter the correct amount of the transaction.</p>		
FR-015	It is desired that the Toll System Provider provide manual processes to associate unspecified funds (i.e. a check without payment coupon or correct account information) to the proper customer account and apply these funds to the proper account.		X
	<p>Note: The Proposer shall describe in this Technical Response Form the complete process including manual efforts required to locate the proper account and apply the funds to that account.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-015.</p> <p>[REDACTED]</p>		
FR-016	The Toll System Provider shall safeguard cash deposits and shall provide any necessary or advisable armored car services and other means to secure all cash that is in Toll System Provider's custody or control.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-016.</p> <p>Cash deposits will be secured in a drop safe under video surveillance until deposited at the bank. An armored car or bonded courier service would be secured to ensure the safety of our employees and the Joint Bridge cash collected.</p>		
FR-017	All money paid to the CSC shall be credited into the Custodian Accounts. All customer payments shall be recorded in the TCS within 24 hours of when they are received by the Toll System Provider.	X	

Req ID	Financial Requirements (Section FR)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-017.</p> <p>All payments are posted in real time to the customer's accounts. Payments received by mail are date stamped when received in the mailroom and will be posted within 24 hours. Lockbox payments will post daily within the 24 hours requirement.</p>		
FR-018	<p>The Toll System Provider shall process refund requests from customers. Credit card or debit card-based toll accounts shall be refunded to the same card. Cash toll accounts shall be refunded with a check mailed to the address of record on the account.</p>	X	
	<p>Note: The Proposer shall outline in this Technical Response Form its existing refund process including escalation processes for unresolved refund requests and authorization levels.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-018.</p> <p>Reporting will be provided to quantify the number of refund requests and the method of refund. The system will process approved refunds to the last replenishment method. Refunds will be reported on a Ready for Refund report that will be reviewed to insure they comply with the Joint Board's rules and guidelines. Those that clearly do will be refunded in the manner prescribed by the Joint Board. Those that require further research will be reviewed by dedicated staff that will make quick and accurate decisions about the validity of each refund request.</p>		
FR-019	<p>The Toll System Provider shall provide reports used for accounting and reconciliation of financial data. The reports must address the following functions at a minimum: 1. Cash and all other payments collected at the CSC storefronts and other retail outlets under contract, 2. Account deposits, shortages and overages, 3. Adjustments, 4. Daily reconciliations, customer accounts balances, CSC and VPS activities, tolls collected and tolls posted, images received versus video images processed, 5. Recommended fund transfers, deposits and withdrawals, 6. By CSC for each shift, number of Transaction types, deposits by payment type, cash deposits, low, high and average value, 7. Aggregate account balance activity including beginning-of-day and end-of-day balances, all tolls and fees, and replenishments, and 8. Interoperable account activities for home and away Transactions for Traffic Transactions reconciliation and settlement. Additional financial related reports may be submitted for evaluation.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-019.</p> <p>CAMS has various reports that provide all required functions listed in the requirement. The CSR Activity report, Financial Activity, Credit Card Authorization and Customer Transaction Summary reports provide amount and count summary and details for all payments and transactions processed. The CSR reconciliation and CSR Accountability reports provide CRS shift activity. The Prepaid Balance report and Negative Balance report contain the end of day balances for all accounts. Invoice Aging and Negative Aging reports provide aging of the Account Receivables. The IAG reconciliation, Daily Customer ETC Summary, Traffic Revenue and Reconciliation report and Collections reports are used to reconcile home and away transactions. Image Processing reports and the DMV Activity report show all VPS activity. The General Ledger, Profit and Loss, and Balance Sheet report financial data by date range and (Fiscal) Year to Date. These are used daily each business day by the finance team to reconcile the prior day(s) activity.</p>		
FR-020	<p>The Toll System Provider shall interface to an accounting system (provided by the Revenue Control Manager) to support reporting of the cash flow and all resources.</p>	X	
	<p>Note: The Toll System Provider shall submit in this Technical Response Form a summary of data that can be provided by the TCS in a system to system interface (e.g. FTP site) daily to support a financial management system. While the TCS and Accounting System will transmit data, there will be no system to system integration between the accounting system (provided by others) and the TCS, except the file transfer of reconciled data shall be automated in the System.</p>		

Req ID	Financial Requirements (Section FR)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-020.</p> <p>TransCore has experience developing and operating electronic interface for numerous other authorities. We will utilize the existing interfaces and work with the Joint Board to fine tune the interface from CAMS to meet any requirements the Joint Board may have for import into their financial system. The interface will include all the required transaction types and will group them as yet to be defined by approved business rules. The interface will include a back end process that can be developed individually based on a specific set of business rules that can be then attached to the main process that groups all individual into a final output. This process will allow for developing small units of processing functionality that provides flexibility and adaptability to new requirements, formats or integration to a new system.</p>		
FR-021	The TCS shall provide for a methodology to batch process refund checks to the third party accounting system or Custodian who disburses revenue.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-021.</p> <p>CAMS Ready for Refund reports provides the account information including name, address, account number, and refund amount, which can be exported to various formats and can be used to import into other systems to produce refund checks. TransCore also has experience using the QuickBook computer application for refund tracking and reconciliation of cleared checks.</p>		
FR-022	The Toll System Provider shall provide an interface to the accounting system.	X	
	<p>Note: The Proposer shall provide in this Technical Response Form a list of configurable financial accounting codes that track debits, credits and adjustments and reversals to all payments received in the System, including but not limited to credit cards by type, lockbox, check, and any other payments received in the System.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-022.</p> <p>The interface will be configurable to include required transactions types of cash, check, credit card, ACH and lockbox payments, toll and fee transactions, credits, debits, and related reversals. Desired/required transaction types will be checked "yes" to be included in the data transmitted in the interface to the Joint Board's accounting system.</p>		
FR-023	The Toll System Provider shall have financial codes for Traffic Transactions and Financial Transactions that will be transmitted to an external accounting system that separates administrative fees, fines and discounts from the tolls so they can be accounted for separately during reconciliation. All financial codes and associated Transactions shall meet all system availability and data retention requirements.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-023.</p> <p>Transaction types report each type of toll, fee, fine or discounts separately. Examples of these include toll charge, video toll charge, statement fees, account replenishment fees, and invoice or notice fees or fines. These will be transmitted by selecting the transaction type to be included in the data transmitted to an external accounting system. System availability and data retention will be as maintained as per the Joint Board's requirements.</p>		
FR-024	The Toll System Provider shall provide double entry recording for all Financial Transactions in the System.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-024.</p> <p>[REDACTED]</p>		

Req ID	Financial Requirements (Section FR)	Required	Value Add
			
FR-025	The Toll System Provider shall provide reports that provide the existing debits and credits no less than every 24 hours. All reports shall be automated for delivery and shall be reconciled against the data transmitted to the commercial accounting system (e.g. general ledger) provided by others.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-025.</p> <p>All reports are updated with debits and credits at least every 24 hours. Scheduled reports are run on defined fixed schedules. They will provide information daily, weekly, or monthly based on the desired criteria. It is more productive and efficient to run these during non-production hours. The scheduling of reports is only done by the system administrator through SSRS Manager. Reports are then sent, via e-mail notification, to each user who has applied for a subscription or can be stored in a shared directory.</p>		
FR-026	The TCS shall provide an audit trail for all Traffic Transactions and Financial Transactions that shows all changes made in the system with respect to the relevant Traffic Transaction and Financial Transactions, including what was changed and by whom (system or non-system user) including a reason for the change if applicable.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-026.</p> <p>CAMS automatically provides an audit trail of all transaction changes. User identification will be stored with each user transaction and the source of the each account change. The original transaction is never changed. The original transaction, reversal and changed amount will all be recorded with unique transaction IDs which provide an appropriate audit trail.</p>		
FR-027	Every payment (receivable) in the TCS shall be traceable to payment method, payment type and source of payment.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-027.</p> <p>All payments in CAMS have separate transaction types for each payment method. These are reported on the CSR Activity Details, General Ledger Daily, and ACH Activity reports. The Credit Card summary and Credit Card Detail reports include credit card types.</p>		
FR-028	The TCS shall provide self-balancing, double entry accounting consistent with GAAP.	X	

Req ID	Financial Requirements (Section FR)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-028.</p> <p>[REDACTED]</p>		
FR-029	<p>The Toll System Provider shall provide functionality to support home or away interoperable Traffic Transactions processed by the Roadside System. The TCS shall process all types of Traffic Transactions including but not limited to ETC, Unregistered Video, and registered video Traffic Transactions.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-029.</p> <p>TransCore has a broad national presence which provides a basis of system interoperability experience and capability. Employing the interface standards established by the IAG and others, TransCore will support the auditable exchange of transactions with other toll systems' account holders where the Joint Board may gain interoperability agreements. CAMS supports all type traffic transactions as defined in the requirement.</p>		
FR-030	<p>The TCS shall provide adjustments and reversals to support refund processing to accounts for the disbursement of money to customers, States' Parties, interoperable agencies, and external service providers, including but not limited to the lockbox provider, collection agency and credit card payment processors.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-030.</p> <p>The adjustment function allows for the reversal of toll and payment transactions by authorized staff. Refunds processed are fully supported in CAMS. The system allows manual journal entries to be made by an authorized user for expenses including the costs for external service providers, IAG settlements and checks issued to customers for refunds.</p>		
FR-031	<p>The Toll System Provider shall issue refund checks for overpayments of prepaid ETC Accounts or Registered Video Accounts that are closed or inactive (after a configurable time period) to customers. The TCS shall automatically change an account status to closed or inactive when there has been no activity for a configurable (from 0 to 999 days) number of days.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-031.</p> <p>CAMS can close accounts based on a configurable aging process. Once the account is closed or put in inactive status CAMS supports refund processing and the tracking of refund status from request through refund issuance.</p>		
FR-032	<p>The Toll System Provider shall describe how unclaimed property is handled within the System for in-active accounts with one (1) year or more of no activity. The inactivity period shall be configurable.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-032.</p> <p>Tracking and reporting will be provided to move inactive accounts for escheatment purposes. CAMS will identify and move on an annual basis accounts eligible for escheatment as required by the Joint Board. This process is based on parameters that are configurable. Prior to moving any account balance the customer will be notified of their inactive status by an automated call and U.S. mail or e-mail depending on customer preference. We will aggregate escheated accounts for the same person and electronically send the account balances to the appropriate state(s) per their unclaimed property requirements. When these payments are escheated the account status will be changed to a closed status and any auto-replenishment methods will be deactivated.</p>		

Req ID	Financial Requirements (Section FR)	Required	Value Add
FR-033	<p>All funds received from all payment sources external to the TCS shall be provided to the Joint Board on a gross basis unless an approved external vendor does not support gross payment remittance. If an external vendor(s) does not support gross payment remittance, the Toll System Provider shall provide a separate transaction record that clearly itemizes gross revenue and all deductions therefrom made by the external vendor(s).</p>	X	
	<p>Note: The Proposer shall describe all such instances and the associated fees, which shall be on an actual cost basis only.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-033. The TSP will try to ensure all vendors procured deposit funds on a gross basis. However in the event this is not offered by the vendor and is approved by the Joint Board CAMS will report on the fees separately. CAMS has several GLs which can be configured to track these fees. Manual journal entries will be posted by authorized users using the journal entry screen to the appropriate GL accounts. Examples of these are credit card fees, bank fees, and other transaction fees.</p>		
FR-034	<p>The Toll System Provider shall accept MasterCard, Visa, and American Express.</p>	X	
	<p>Note: The Proposer shall indicate any others credit card types that it can accept in its Technical Response Form.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement FR-034. TransCore's CAMS system has transactions for all the credit card types for this requirement. We are also able to accept Discover cards. The payment screen and various reports including CSR activity, credit card reconciliation summary, and detail reports allow the ability to see the counts and amounts by card type.</p>		

## Access Control and CCTV Requirements

Req ID	Access Control and CCTV Requirements (Section AC)	Required	Value Add
	<b>Access Control Requirements</b>		
AC-001	The Toll System Provider shall provide an access control system for all the Roadside System cabinets provided by the Toll System Provider. The access control system shall be a card system that provides restricted access for the Toll System Provider staff. The Joint Board staff shall be provided 10 cards for access, but Toll System Provider is anticipated to be the only entity that will access the Roadside System cabinets.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-001.</p> <p>TransCore’s proposed facility access controller solution is an integrated hardware and software product within the <i>Infinity</i> solution that manages physical security of the doors based on configured schedules. Door security transactions are formed in the system for any door that is equipped with a mechanism for detecting it being opened or closed and is registered with the facility access controller. Door security transactions are integrated with DVAS where DVAS cameras are deployed.</p>		
AC-002	The Toll System Provider shall provide setup, install and configure a CCTV pan title zoom camera and all data communications to monitor the equipment cabinets. The Toll System Provider shall trigger CCTV events for recording and pre-sets to position camera at the point of alarm.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-002.</p> <p>See PR-036 separate document detailing the DVAS being used as the CCTV system.</p> <p>The TransCore proposed DVAS supports both the CCTV-type security system with pan-tilt-zoom cameras for surveillance as well as fixed position, fixed focus cameras for transaction audit. The camera types are provided distinct roles for “observation” or “audit” within the DVAS system configuration. We recommend this approach because, if a single camera is used for both functions, the ability to collect video for audit is temporarily lost should a user move a camera.</p>		
AC-003	The Toll System Provider shall track data and provide reports showing entry and exit times for facilities, secure areas, toll equipment and other devices requiring secure access. If a door is not closed within a preset time (configurable) an alarm shall be generated by the access control system.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-003.</p> <p>TransCore’s proposed facility access controller solution is an integrated hardware and software product within the <i>Infinity</i> solution that manages physical security of the doors based on configured schedules. Door security transactions are formed in the system for any door that is equipped with a mechanism for detecting it being opened or closed and is registered with the Facility Access Controller. Door security transactions are integrated with DVAS where DVAS cameras are deployed.</p> <p>The stored door events can be searched based on the type of the event, the door, and by the employee that was granted or denied access.</p> <p>These events are recorded as transactions in the system for use in standard Toll Management Console (TMC) reports of entry, exit, and the user associated with the access card, length of door opening, etc. These are also available in real time within the TMC supervisor monitoring modules. The system can be configured to raise an event when a door remains open longer than a configured period of time.</p>		
AC-004	The Toll System Provider shall provide an Access Control System with the capability for authorized users to manage user roles, including but not limited to: create new roles, assign and un-assign users to roles, adjust roles, deactivate roles; and, in general, control all rights within the System through the assignment of user roles.	X	

Req ID	Access Control and CCTV Requirements (Section AC)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-004.</p> <p>An authorized user with a secure connection to the system (local or via VPN) logs into the toll system through the TMC application. They can manage user roles such as create new roles, assign and un-assign users to the roles, deactivate roles, and can control all rights within the system.</p> <p>Access to the TMC is through username and password. The TMC applies security through user roles (employee types), allowing access to only the functions assigned to a user's assigned role in the system. User login records and audit of changes are recorded in the system databases.</p>		
AC-005	<p>The Toll System Provider shall utilize an existing Access Control System for the CSC with additional staff or roles added for the Project. The Toll System Provider shall have an Access Control System for the Walk-up Centers that provides for key or access card access to the Walk-up Centers. The Toll System Provider shall make available Access Control System audit reports on-demand, including but not limited to: 1) logged activity by activity type; 2) logged activity by user accounts; and 3) logged activity by user.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-005.</p> <p>TransCore's proposed facility access controller solution is an integrated hardware and software product within the <i>Infinity</i> solution that manages physical security of the doors based on configured schedules. Door security transactions are formed in the system for any door that is equipped with a mechanism for detecting it being opened or closed and is registered with the facility access controller. Door security transactions are integrated with DVAS where DVAS cameras are deployed.</p> <p>The stored door events can be searched based on the type of the event, the door, and by the employee that was granted or denied access.</p> <p>These events are recorded as transactions in the system for use in standard TMC reports of entry, exit, and the user associated with the access card, length of door opening, etc. These are also available in real time within the TMC supervisor monitoring modules. The system can be configured to raise an event when a door remains open longer than a configured period of time.</p>		
	<p><b>CCTV</b></p>		
AC-006	<p>The CCTV roadway cameras shall be used for observation, to audit traffic as it passes the Roadside System, and to monitor Toll Zones and toll equipment sites for security purposes.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-006.</p> <p>Every vehicle that travels through every lane 24 hours a day, 365 days a year is captured and stored in motion activated video and high resolution still images if configured to do so. The image capture is done through motion video or triggered events. Each lane or monitored location can be configured for primary, secondary, and tertiary cameras, as applicable for the location.</p>		
AC-007	<p>CCTV video shall have the following Transaction data correlated to the video: 1) The live feed of the CCTV roadway camera shall be available to the CSC; 2) The Transactions shall be indexed to the roadway overview camera for auditing; and 3) The CCTV roadway overview cameras and recordings shall require separate identification and password authentication requirements from those of the CCTV site security cameras and recordings.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-007.</p> <p>The toll lanes and the DVAS cameras are time-synchronized with a common time source, and all recordings are time stamped and stored independently of any transaction that may be created within the system. Therefore, transactions can be synchronized based on a specific time period.</p>		

Req ID	Access Control and CCTV Requirements (Section AC)	Required	Value Add
	The recordings are accessed in the TMC. The TMC is a role based system. Employees will only have access to what they are authorized to perform. This prohibits unauthorized users from accessing the different systems; roadway vs. security.		
AC-008	It is desired for the live feed of the CCTV roadway camera to be available to the Walk-up Centers.		X
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-008.</p> <p>[REDACTED]</p>		
AC-009	The CCTV cameras shall have Pan-Tilt-Zoom control for observation of each Toll Zone. The CCTV cameras shall be mounted in such locations that the full Toll Zone and toll equipment is visible by the CCTV camera. The CCTV cameras for roadway overview and site security shall record to a digital video recorder for motion video storage. The CCTV cameras shall record periods of inactivity at lower frame rates or resolution than the normal settings, and shall have a viewable image on a 24 hour per day, 7 day per week basis. The CCTV camera shall provide a continuous capture of the tuned field of view.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-009.</p> <p>[REDACTED]</p>		
AC-010	The CCTV cameras provided by the Toll System Provider shall be color digital cameras supporting a minimum resolution of 540 vertical lines. The CCTV camera shall be a proven commercial product with a second source that can be expanded or updated, in a modular fashion, over time, applicable to both Hardware and Software without modification to any portion of the TCS. The CCTV camera shall provide clear video in both normal day and night conditions, and adjust for poor light conditions.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-010.</p>		
AC-011	CCTV cameras and all of the associated electronic equipment shall be housed in a weatherproof NEMA rated enclosure and be protected against vandalism and mounted out of physical reach.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-011.</p> <p>The camera is housed in a NEMA rated enclosure and will be mounted in a manner that mitigates vandalism and accidental damage.</p>		
AC-012	The CCTV camera and associated digital video recorder (DVR) shall include an administrative application at the toll facility host which shall enable authorized managers to determine access authorizations and CCTV settings. The CCTV system shall configure the CCTV network recordings, data, all other network settings, and events based on motion detection in the field of view or other event triggering, for a configurable number of seconds before and after the event, and shall allow playback, such that configurable specific fields of data are only visible by specific categories of users.	X	

Req ID	Access Control and CCTV Requirements (Section AC)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-012.</p> <p>The recording is accessed in the TMC, which is a role based system. An authorized manager can configure employees' access. Settings for the camera are maintained in the Maintenance Monitoring System (MMS) application utilized by local and remote authorized personnel.</p>		
AC-013	The CCTV camera DVR and associated Hardware shall be time synchronized with the TCS and CCTV cameras, and applications shall remain in operation and continue recording when the communications fail, such as a failure of any Roadside System equipment.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-013.</p> <p>The CCTV and DVAS cameras, DVR and associated hardware are time-synchronized with a common time source and all recordings are time stamped.</p> <p>The CCTV recording is independent of the road side system equipment, and the cameras will continue to record despite a failure of any element of the roadside system.</p>		
AC-014	CCTV Cameras shall detect movement for specific zones near cabinets or building doors. CCTV cameras have the capability to be aimed in any of 360 degrees of direction and 180 degrees of tilt, with a zoom capability of ten times.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-014.</p>		
AC-015	The Toll System Provider shall provide a digital video recorder to record the CCTV camera video. Authorized users shall access and query the DVR to search video by date, time and location.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-015.</p> <p>An authorized user can access the video by date, time and location.</p>		
AC-016	The DVR shall be configurable to provide a range of recording frames per second and shall be write-protected to prevent anyone from altering the recording. All video recordings shall be accessed within two (2) seconds of a request to review the video and the DVR shall store sixty (60) days of recording on the DVR and be configurable between one (1) and sixty (60) days.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-016.</p>		
AC-017	Authorized users on the TCS network shall be able to access, open and display cameras on a personal computer through a DVR application provided by the Toll System Provider. The Toll System Provider shall provide VPN access for users to remotely access the TCS network. The authorized user shall access the DVR through the network to play back previously recorded video with selected lane activity data for review.	X	
	<p>Note: It is expected that the Toll Operations Center staff and the Joint Board will be the primary users of these videos.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-017.</p> <p>A user with a secure connection to the system (local or via VPN) logs into the toll system through the TMC application. Access to the TMC is through username and password. The TMC applies security through user roles (employee types), allowing access to only the functions assigned to a user's assigned role in the system. User login records and audit of changes are recorded in the system databases.</p>		

Req ID	Access Control and CCTV Requirements (Section AC)	Required	Value Add
AC-018	The DVR shall enable an authorized user to copy, save, and print segments of recorded data as images or full-motion video and to crop and alter those copies if necessary without altering the original. The DVR recordings shall all be in one industry standard open format for recording and displaying live streaming video and full-file downloads. The DVR shall automatically purge CCTV data not marked for archive after a configurable period of time, with the default set at 60 calendar days. The DVR shall provide the ability to automatically archive alarm events and other designated critical events regardless of purge cycle.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-018.</p> <p>Recorded motion video may be printed or saved to a file or disk for later use. Saving images through the viewing tools also allows the selected images to be permanently saved and not purged during the normal purging cycles designated by the Joint Board. The saved image can be manipulated without altering the original.</p>		
AC-019	Toll System Provider shall provide CCTV and DVR report(s) that include but are not limited to the following information: 1) user access to the CCTV camera system including date and time stamp and camera name; 2) firmware version and date, and 3) camera and DVR configuration. It is expected that these reports are commercially available from these devices.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-019.</p>		
AC-020	It is desired that the CCTV system utilize the latest applicable version of NTCIP 1205 - Object Definitions for Closed Circuit Television (CCTV) Camera Control.		X
	<p><b>Proposer Response:</b> [REDACTED]</p>		
AC-021	The Toll System Provider shall provide CCTV maintenance to satisfy Mean Time Between Failures(MTBF) – of 10,000 hours based on continuous operations of 24 hours a day 7 days a week usage.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-021.</p> <p>The CCTV and DVAS systems are capable of the 10,000 hours MTBF as required. TransCore’s preventive maintenance of these systems further assures this MTBF goal will be surpassed.</p>		
AC-022	The CCTV system shall be sized such that a minimum of ten (10) concurrent users may use the system without degradation of the system.	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement AC-022.</p> <p>There will be no degradation of the system with ten concurrent users.</p>		

TCS Workflows

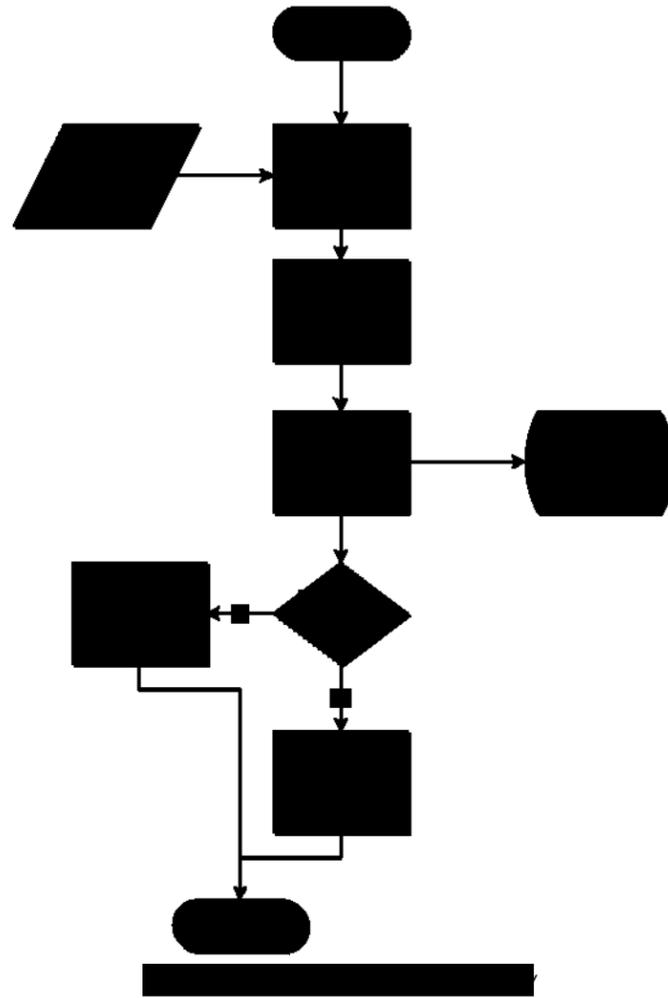
Req ID	Work Flows (Section WF)	Required	Value Add
WF-001	<p><b>Transaction Creation and Processes</b>                      The Toll System Provider shall provide System functionality to process Transactions that are created at the Roadside System and sent to a BOS.</p>	X	
	<p>Note: The Proposer shall describe in this Technical Response Form all data available in the System, and specify configurable data available in the System. The system and operations work flows shall also demonstrate traceability of Traffic Transactions and Financial Transactions within the System from the Roadside System into the BOS. Proposer shall describe in this Technical Response Form the toll rating design within this workflow. If the toll rating is conducted outside of this work flow, Proposer shall state where the rating is done in the TCS. The Proposer shall describe in this section of the Technical Response Form the toll rating functions and configurability of the toll rating functions regardless of where it resides in the TCS architecture. The Proposer shall describe in this Technical Response Form all operational configurable parameters and system configurable parameters that impact operations.</p> <div style="background-color: black; width: 350px; height: 15px; margin-bottom: 5px;"></div> <div style="background-color: black; width: 570px; height: 15px; margin-bottom: 5px;"></div> <div style="background-color: black; width: 360px; height: 160px; margin: 10px auto;"></div> <div style="background-color: black; width: 340px; height: 15px; margin-bottom: 5px;"></div> <div style="background-color: black; width: 700px; height: 130px; margin-bottom: 5px;"></div> <div style="background-color: black; width: 710px; height: 100px; margin-bottom: 5px;"></div>		

Req ID	Work Flows (Section WF)	Required	Value Add
[Redacted]	[Redacted]		
	[Redacted]		

Req ID

Work Flows (Section WF)

Required Value Add

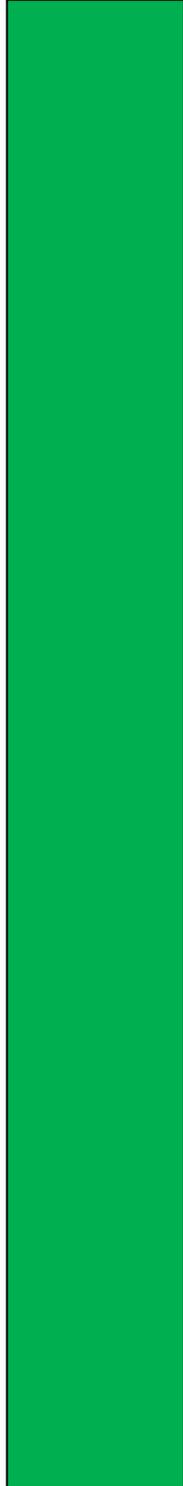


[Redacted content]

Req ID	Work Flows (Section WF)	Required	Value Add
	<p>[Redacted]</p> <ul style="list-style-type: none"> <li>[Redacted]</li> </ul>		
WF-002	<p><b>Transaction payment processing and settlement</b>  The Toll System Provider shall provide system functionality and operations processes to process Transaction payments and settlements on all account types.</p>	X	
	<p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p>		

Req ID	Work Flows (Section WF)	Required	Value Add
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	[Redacted]		
	[Redacted]		
	[Redacted]		

Req ID	Work Flows (Section WF)	Required	Value Add
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<div> </div>									
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<div> </div>									
<div> </div>									
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<div> </div>	<div> </div>	<div> </div>	<div> </div>	<div> </div>	<div> </div>	<div> </div>			

Req ID	Work Flows (Section WF)	Required	Value Add
	[Redacted]		

Req ID

Work Flows (Section WF)

Required Value Add

[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
	[Redacted]	[Redacted]	[Redacted]	[Redacted]
	[Redacted]	[Redacted]	[Redacted]	[Redacted]
	[Redacted]	[Redacted]	[Redacted]	[Redacted]
	[Redacted]	[Redacted]	[Redacted]	[Redacted]
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	[Redacted]	[Redacted]	[Redacted]	[Redacted]
	[Redacted]	[Redacted]	[Redacted]	[Redacted]
	[Redacted]	[Redacted]	[Redacted]	[Redacted]
	[Redacted]	[Redacted]	[Redacted]	[Redacted]

Req ID	Work Flows (Section WF)	Required	Value Add
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WF-003	<p><b>Account management system functions (open, close, update accounts)</b>  The TCS shall provide account management system functions and operational processes for Traffic Transactions received from the Roadside System and sent to an account for payment.</p>	X	
	<p>Note: The Proposer shall provide operations and system workflows in this Technical Response Form that describe how accounts are created, updated and maintained in the System. The Proposer shall provide in this Technical Response Form a list of all account types and their functions available in the System including but not limited to ETC Accounts, Registered Video Accounts and Unregistered Video accounts. The Proposer shall also provide in this Technical Response Form a list of configurable fields and functions that can be used by the system operator or customer in interacting with accounts. The Proposer shall describe in this Technical Response Form all operational configurable parameters and system configurable parameters that impact operations.</p> <div style="background-color: black; height: 253px; width: 100%;"></div>		

Req ID	Work Flows (Section WF)	Required	Value Add
[REDACTED]	[REDACTED]		
	[REDACTED]		
[REDACTED]			

Req ID	Work Flows (Section WF)	Required	Value Add
	[Redacted]		
	<div style="background-color: black; width: 100%; height: 100%;"></div> <div style="text-align: center; color: green; font-style: italic;">Figure 24. Account Management Main Features</div>		
	[Redacted]		
	[Redacted]		
	[Redacted]		

Req ID

Work Flows (Section WF)

Required Value Add

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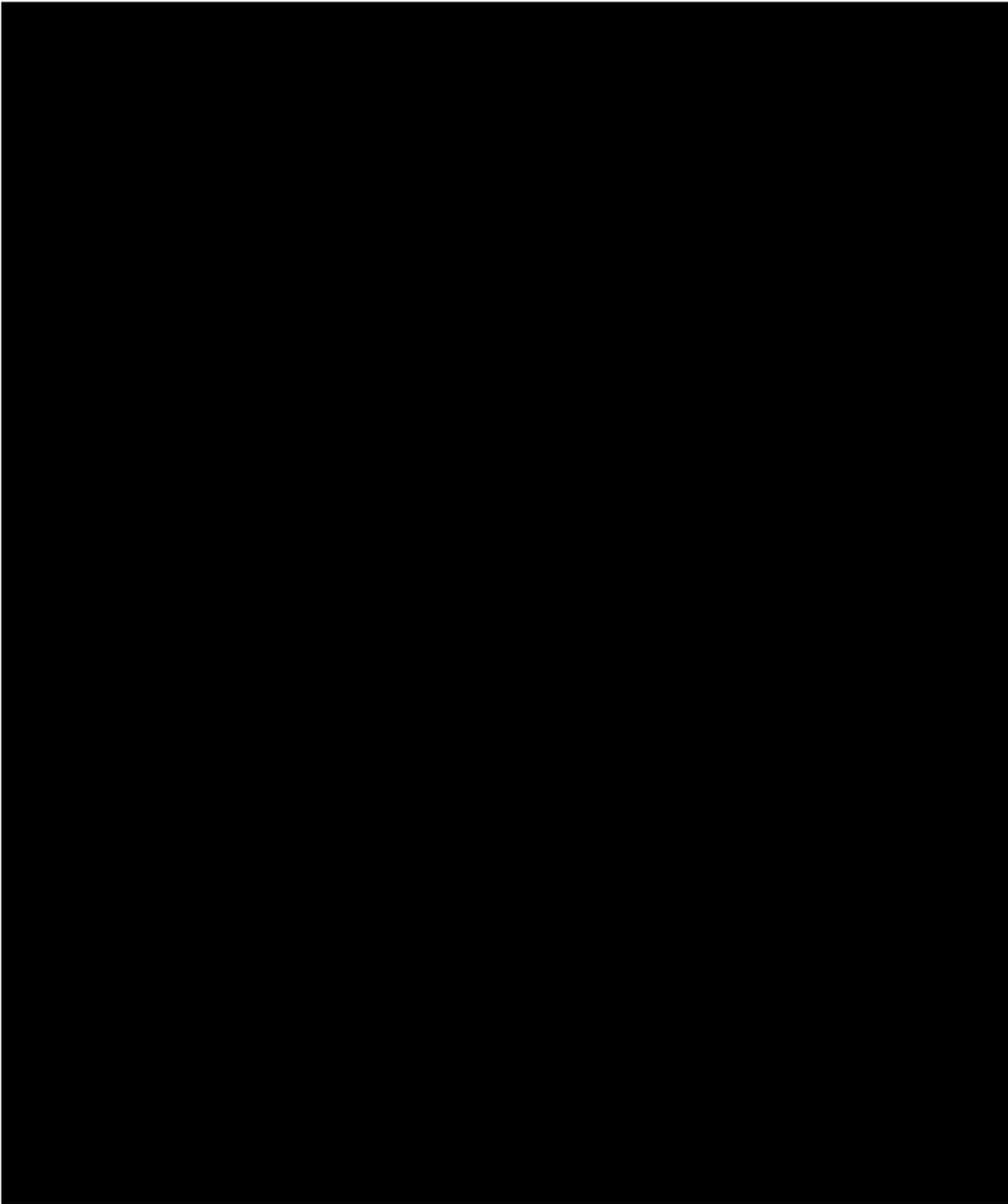
[Redacted text line]

[Redacted header]		
[Redacted]	[Redacted]	[Redacted]

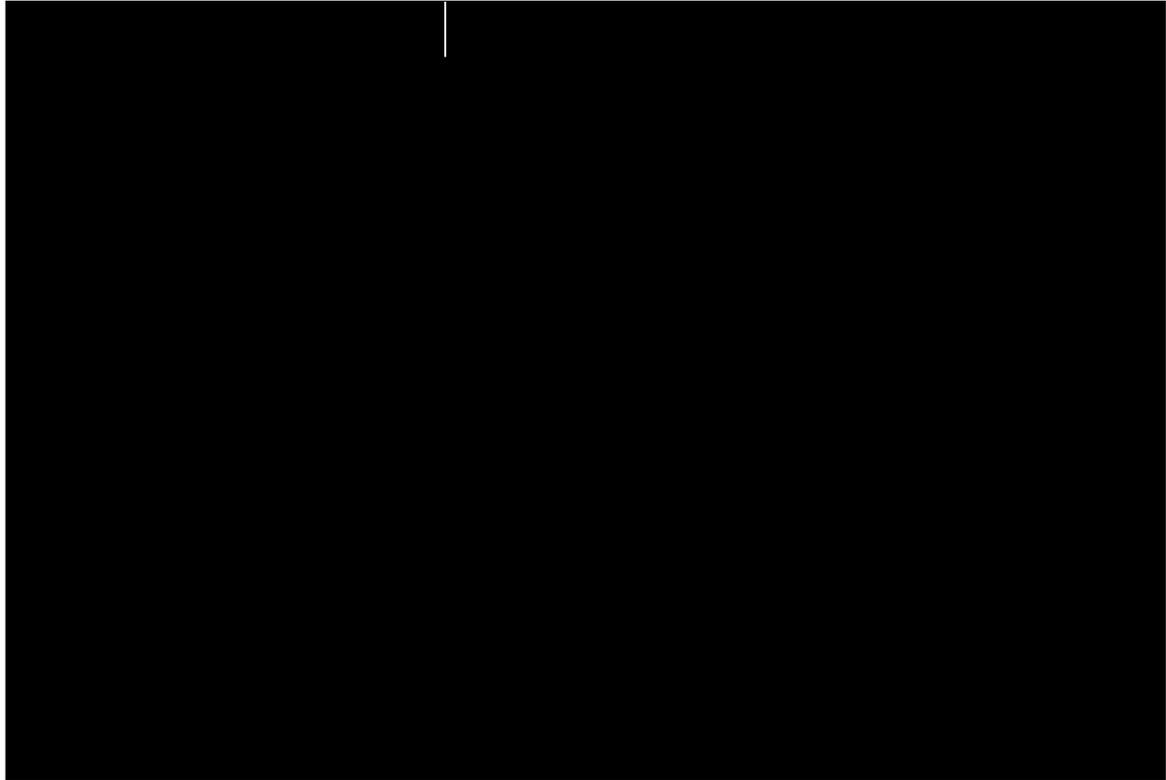
[Redacted text block]

[Redacted text line]

Req ID	Work Flows (Section WF)	Required	Value Add
WF-004	<p><b>Customer service representative customer interactions</b>            The TCS shall provide functional customer interfaces that include updates to the account, maintenance of the account or handling of special cases such as habitual violators or other special circumstances.</p>	X	
	<p>Note: The Proposer shall provide in this Technical Response Form system and operations work flows that illustrate how the customer service representatives interact with the System. This includes but is not limited to account opening, updates of demographic or payment information, escalation of unresolved issues and dealing with an irate customer. The Proposer shall provide in this Technical Response Form a list of existing work flows on how case management is handled within the TCS. Case Management shall include but not be limited to how unresolved customer contacts are escalated until resolved. The Proposer shall describe in this Technical Response Form all operational configurable parameters and system configurable parameters that impact operations.</p>		
	<div style="background-color: black; height: 20px; width: 100%;"></div> <div style="background-color: black; height: 85px; width: 100%;"></div> <div style="background-color: black; height: 50px; width: 100%;"></div> <div style="background-color: black; height: 50px; width: 100%;"></div> <div style="background-color: black; height: 180px; width: 40%; margin: 20px auto;"></div> <p style="text-align: center; color: green;"><i>Figure 25. TRACER Homepage</i></p> <div style="background-color: black; height: 50px; width: 100%;"></div> <div style="background-color: black; height: 10px; width: 100%;"></div>		

Req ID	Work Flows (Section WF)	Required	Value Add
			

*Figure 26. Ticket Queue State Diagram*

Req ID	Work Flows (Section WF)	Required	Value Add
	<p><i>Table 29. Tracer Queue Definitions</i></p>  <p>[Redacted text]</p> <p>[Redacted text]</p> <p>[Redacted text]</p> <p>[Redacted text]</p> <p>[Redacted text]</p> <p>[Redacted text]</p> <p>[Redacted text]</p> <p>[Redacted text]</p> <p>[Redacted text]</p>		
WF-005	<p><b>Image Review</b></p> <p>The TCS shall provide System functionality and operations processes to process images in Traffic Transactions and post the Transaction to the BOS prior to the issuing of Customer Statements.</p>	X	

Req ID	Work Flows (Section WF)	Required	Value Add
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Note: The Proposer shall provide in this Technical Response Form system and operations work flows for the review, identification and disposition of license plate numbers and state jurisdictions including establishment of thresholds for automatic OCR confidence levels, double blind reviews, presentation of the image to the reviewer, aids to complete the correct license plate and jurisdiction to the operator and any other operations quality assurance tools that can aid the operator with identifying and coding the correct image for post processing. The Proposer shall describe in this Technical Response Form all operational configurable parameters and system configurable parameters that impact operations.

[Redacted text block]

[Redacted text block]



*Figure 27. Image Review*

[Redacted text block]





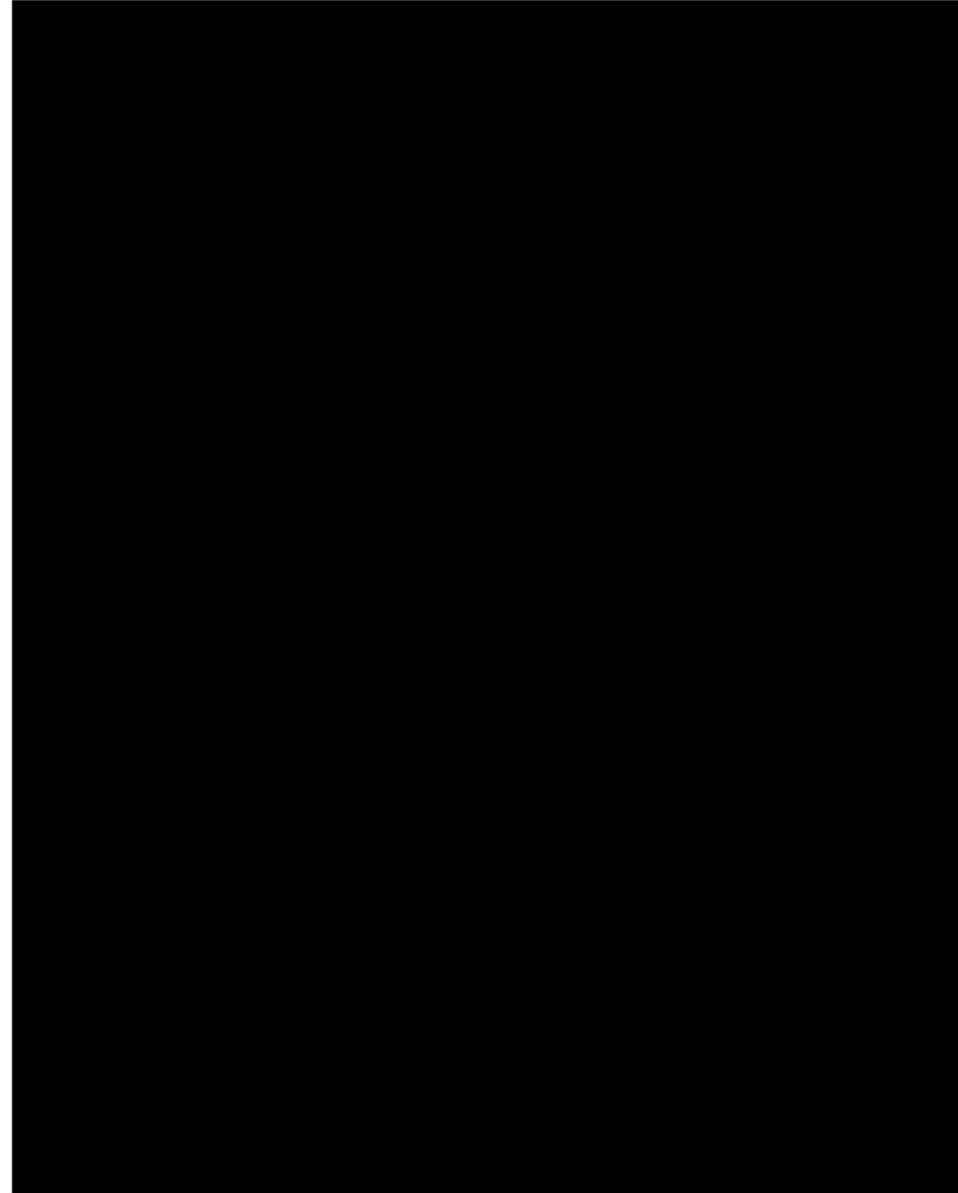
Req ID	Work Flows (Section WF)	Required	Value Add
[Redacted]	[Redacted]		

Figure 28. Account Correspondence Screen (1 of 2)

Req ID

Work Flows (Section WF)

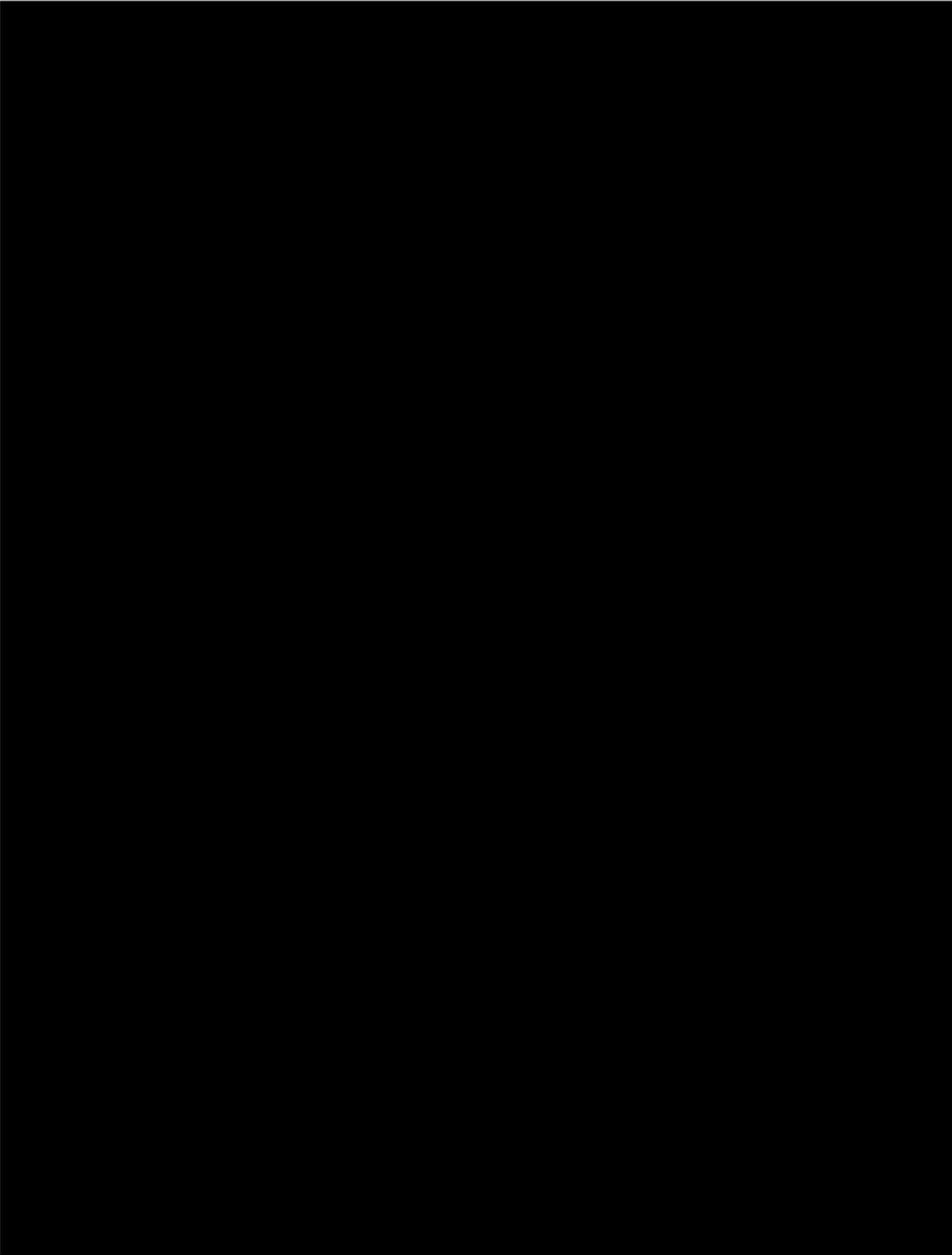
Required Value Add



*Figure 29. Account Correspondence Screen (2 of 2)*

[Redacted text block]

Req ID	Work Flows (Section WF)	Required	Value Add
	<div style="background-color: black; width: 100%; height: 100%;"></div>		
WF-007	<p><b>Violations processing (post-paid no payment)</b>  The TCS shall provide system functionality and operations processes for Customer Statements after unsuccessful collection through the invoice notices for video account customers or now invalid ETC Account customers.</p>	X	
	<p>Note: The Proposer shall provide in this Technical Response Form system and operational work flows for Violation creation, escalation and advancement through initial and final notices including collections, escalation to an administrative hearing process or traffic court process. The Proposer is responsible for the evidentiary package for administrative hearing process and court on the LSIORB Project. The Proposer shall describe all operational and system configurable parameters that can be modified in the system in this Technical Response Form. The Proposer shall also describe in this Technical Response Form available triggers that escalate a Violation in each stage, such as automatic timers and those levels which have manual override or require a manual escalation to the next stage in the Violation. The Proposer shall also describe in this Technical Response Form how Violations escalate for payments below or above partial payment thresholds. The Proposer shall also describe in this Technical Response Form any quality assurance measures that are taken to confirm the Customer Statement prior to being issued to the customer.</p> <div style="background-color: black; width: 100%; height: 100%;"></div>		

Req ID	Work Flows (Section WF)	Required	Value Add
			

*Figure 30. Violation Work Flow*

Req ID

Work Flows (Section WF)

Required Value Add



Req ID	Work Flows (Section WF)	Required	Value Add
	<p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <ul style="list-style-type: none"> <li>[Redacted]</li> </ul>		
WF-008	<p><b>Incoming payments at the Walk-up Center – Credit, Check, Cash</b>  The TCS shall provide system functionality and operational processes to accept credit cards, checks, and cash at the Walk-up Centers.</p>	X	
	<p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p>		

Req ID	Work Flows (Section WF)	Required	Value Add

Req ID	Work Flows (Section WF)	Required	Value Add
WF-009	<p><b>Payment Processing (including lockbox, reversals, payment plans, refunds or mitigated deals)</b>            The TCS shall provide system functionality and operational processes to accept, process and settle lockbox payments, issue refunds, reverse Transactions and fees and perform mitigated deals for a customer on all account types.</p>	X	
	<p>Note: The Proposer shall provide in this Technical Response Form a list of existing work flows with regards to how lockbox payments are posted to the system, how the system or users of the system can issue refunds, reverse Transactions and fees and tolls on an account and how mitigated deals can be made for payment for a customer for all account types. The Proposer shall describe in this Technical Response Form all operational configurable parameters and system configurable parameters that impact operations.</p> <p><b>Proposer Response:</b> [REDACTED]</p> <p>[REDACTED]</p>		
	WF-010	<p><b>Collection agency and court interfaces</b>            The TCS shall provide system functions and operational processes for use of internal collections process or external collection agency and court processes after failure to collect funds from invoice, Violation, and collection notice process.</p>	X



Req ID Work Flows (Section WF)

Required Value Add

Note: The Proposer shall provide a list of work flows for all self-service account functions on the Customer Website and IVR including but not limited to how to open an account, add funds to an account, add, update, and delete a payment method, and dispute tolls. The Proposer shall describe any other self-service functions available in the TCS. The Proposer shall also provide a list of all workflows for cash replenishments including the media used for the cash based solution (i.e. reloadable card, account number only, self-service kiosk or cashier). The Proposer shall describe in this Technical Response Form all operational configurable parameters and system configurable parameters that impact operations.

Proposer Response: [Redacted]

[Redacted]

[Redacted]

[Redacted]	[Redacted]

[Redacted]

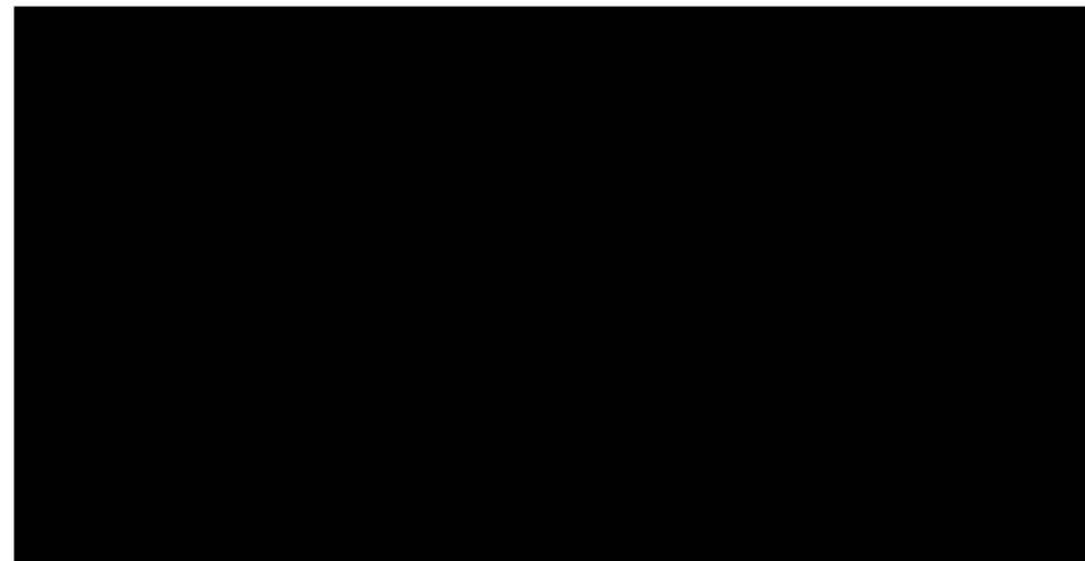


Figure 35. Sample Customer Web Site Page

[Redacted]

Req ID	Work Flows (Section WF)	Required	Value Add
[REDACTED]	[REDACTED]		
	[REDACTED]		
[REDACTED]			



Req ID	Work Flows (Section WF)	Required	Value Add
WF-013	<p><b>TCS incident management</b> The TCS shall provide System functionality and operations processes to create, manage, and dispose of incidents within the TCS (e.g. Roadside System, BOS and TOC).</p>	X	
	<p>Note: These work flows shall address how priority levels are established in the System, how work tickets are created and how dispatchers will be notified, take action and resolve the incident. This is classically the incident management component of a Maintenance Online Management System (MOMS) and shall include the functions of the Toll Operations Center responsible for managing these incidents. The Proposer shall describe in this Technical Response Form all operational configurable parameters and system configurable parameters that impact operations.</p> <p><b>Proposer Response:</b> [REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		

Figure 37. Open List Summary

Req ID	Work Flows (Section WF)	Required	Value Add
	<p>[Redacted content]</p>		
WF-014	<p><b>TCS monitoring</b>  The Toll System Provider shall provide system functionality and operations processes that provide Hardware, Software and System alarm generation, priority levels assignments and final disposition.</p>	X	

Req ID	Work Flows (Section WF)	Required	Value Add
	<p>Note: The Proposer shall include in this Technical Response Form a list of all alarms, whether it is Hardware, Software or System and what triggers the alarm. For example, if the alarm is triggered more than 5 times in 3 minutes, the frequency for a time period shall be provided with the alarm message description. This is typically the System monitoring component of a Maintenance Online Management System (MOMS) and shall include the functions of the Toll Operations Center responsible for managing these incidents. The Proposer shall describe in this Technical Response Form all operational configurable parameters and system configurable parameters that impact operations.</p> <p><b>Proposer Response:</b> [REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		
WF-015	<p><b>TCS inter-agency Transaction processing and settlement</b>  The TCS shall provide system functionality and operations processes to interact with other agencies to process, settle and reconcile interoperable Transactions.</p>	X	
	<p>Note: The Proposer shall also describe in this Technical Response Form how the TCS is able to audit all transactions processed by other agencies to be settled on home accounts and how Traffic Transactions within the System are processed for “away customers” who hold an account with another system. The Proposer shall describe in this Technical Response Form all operational configurable parameters and System configurable parameters that impact operations.</p> <p><b>Proposer Response</b> [REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>		

Req ID	Work Flows (Section WF)	Required	Value Add
	<p>[Redacted content]</p>		
WF-016	<p><b>TCS configuration management</b>  The TCS shall provide system functionality and operations processes to provide configuration management of the Hardware and Software in the TCS.</p>	X	
	<p>Note: The Proposer shall describe in this Technical Response Form all work flows and its configuration management system to ensure that all systems provide traceability and a clear audit trail of the approved configuration for the operational system. The configuration shall include all operational parameters, system level parameters, Hardware and Software. The Proposer shall describe in this Technical Response Form how changes are made through its configuration control board and how the client (i.e. Joint Board) participates in this configuration control process. The Proposer shall also describe in this Technical Response Form workflows for patch management as well as release management for software patches. The Proposer shall describe in this Technical Response Form all operational configurable parameters and System configurable parameters that impact operations.</p>		



Req ID	Work Flows (Section WF)	Required	Value Add

Figure 39. CAMS Build Package Lifecycle

Req ID	Work Flows (Section WF)	Required	Value Add
[REDACTED]	[REDACTED]		

Req ID	Work Flows (Section WF)	Required	Value Add
[Redacted]	[Redacted]		

Figure 40. Process Flow Diagram

Req ID	Work Flows (Section WF)	Required	Value Add
[Redacted]	[Redacted]		
	[Redacted]		

Plans and Testing

Req ID	Plans and Testing (Section TP)	Required	Value Add
TP-001	<p><b>Roadside System and Network System Plan</b>                      The Toll System Provider shall provide a Joint Board-approved Roadside System and Network System Plan including but not limited to how the System is designed, installed, configured and commissioned <b>no later than 90 days after NTP</b>. The Roadside System and Network System Plan are comprised of two components, the roadside system plan documentation and the network system plan documentation. Each component of the Roadside System and Network System Plan shall include operations and maintenance manuals, System architecture documents and diagrams, installation manuals and all external and internal Interface Control Documents. The Toll System Provider shall also provide a copy of the Software licenses and Hardware cut sheets.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-001.                      TransCore will provide to the Joint Board per their specifications and for their approval a Roadside System and Network System Plan within 90 days after NTP.</p>		
TP-002	<p><b>Back office System Plan</b>                      The Toll System Provider shall provide a Joint Board-approved Back Office System Plan, which shall include but not be limited to how the System is designed and configured, <b>no later than 90 days after NTP</b>. The Back Office System Plan shall include operations and maintenance manuals for all users of the System, System architecture documents and diagrams, installation manuals and all external and internal Interface Control Documents.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-002.                      TransCore will provide to the Joint Board per their specifications and for their approval a Back Office System Plan within 90 days after NTP.</p>		
TP-003	<p><b>TOC System Plan</b>                      The Toll System Provider shall provide a Joint Board-approved TOC System Plan and documentation <b>no later than 90 days after NTP</b>. The Toll System Provider shall provide Toll Operations Center System Documentation for the monitoring of the TCS. The TOC System Plan shall include all the System monitoring plans and procedures, monitoring alarms, priorities and how issues are identified, tracked and resolved. The Toll System Provider shall provide any existing manuals for incident response externally and internally, levels of escalation for incidents and tracking methodologies for incidents and their resolution.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-003.                      TransCore will provide to the Joint Board per their specifications and for their approval a Toll Operations Center System Plan within 90 days after NTP.</p>		
TP-004	<p><b>Roadside System and Network Installation Plan</b>                      The Toll System Provider shall provide a Joint Board-approved Roadside System and Network Installation Plan <b>no later than 180 days after NTP</b>. The Roadside System and Network Installation Plan shall describe the TCS installation approach, configuration parameters, schedule, methodology, proposed maintenance of traffic, and required resources (including those of the Joint Board, if applicable).</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-004.                      TransCore will provide to the Joint Board per their specifications and for their approval a Roadside System and Network Installation Plan within 180 days after NTP.</p>		

Req ID	Plans and Testing (Section TP)	Required	Value Add
TP-005	<p><b>BOS Installation Plan</b> The Toll System Provider shall provide a Joint Board-approved BOS Installation Plan <b>no later than 180 days after NTP</b>. The BOS Installation Plan shall describe the installation approach, proposed installation schedule, configuration parameters schedule, methodology and required contract resources and Joint Board (if applicable) resources in the plan.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-005. TransCore will provide to the Joint Board per their specifications and for their approval a BOS Installation Plan within 180 days after NTP.</p>		
TP-006	<p><b>TCS As-Built System Documentation</b> The Toll System Provider shall provide Joint Board-approved As-Built System Documentation for the deployed System at the Project <b>no later than 30 days after the successful completion of the System Acceptance Test</b> with any updates made since the first submission addressed in the second submission. As-Built System Documentation shall be provided in native format as well as PDF document format. The As-Built System Documentation shall include all Business Rules, Hardware cut sheets and design, Software configuration and code (where applicable) as well as installation drawings, schematics and other diagrams that describe the physical, logical, business and operational configuration of the System.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-006. TransCore will provide to the Joint Board per their specifications and for their approval TCS As-Built System Documentation no later than 30 days after the successful completion of the System Acceptance Test with any updates made since the first submission addressed in the second submission.</p>		
TP-007	<p><b>Training Plan</b> The Toll System Provider shall provide a Joint Board-approved Training Plan <b>no later than 180 days after NTP</b>. The Training Plan shall provide a list of all training courses planned to be delivered to new and existing staff on the Project. The Training Plan shall also describe training facilities, typical training equipment, proposed training for local staff, and provide course outlines for the training program. A list of all user manuals shall be described in the Training Plan as well. The Training Plan shall describe where the Joint Board staff will be trained throughout the Contract Term. The Joint Board and/or its representatives shall be invited to observe and participate in all elements of the training.</p> <p>The Training Plan shall also include a list and description of all user roles and access rights for the TCS. This list shall include all users of the TCS including Joint Board Designated Representatives.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-007. TransCore will provide to the Joint Board per their specifications and for their approval a Training Plan within 180 after NTP.</p>		
TP-008	<p><b>TCS Project Management Plan</b> The Toll System Provider shall submit a Joint Board-approved TCS Project Management Plan for the installation and delivery phase of the Project and update the TCS Project Management Plan for the operations and maintenance phase of the project <b>no later than 90 days after NTP</b>. The TCS Project Management Plan shall adhere to the Toll System Provider's project management methodology to deliver the Project, but shall include a roles and responsibilities matrix that clearly identifies roles and responsibilities within the Toll System Provider's organization and any interfaces to the Toll System Provider, including but not limited to the Joint Board, ETC Vendor, Developer and DBT. The TCS Project Management Plan shall also address resources, schedule, communications and delivery of the Work.</p>	X	

Req ID	Plans and Testing (Section TP)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-008.</p> <p>TransCore will provide to the Joint Board per their specifications and for their approval a TCS Project Management Plan within 90 days after NTP.</p>		
TP-009	<p><b>Safety Plan</b> The Toll System Provider and each Major Subcontractor shall submit a Joint Board-approved Safety Plan <b>no later than 90 days after NTP</b>. The Safety Plan shall address how the Toll System Provider shall conduct its work using safe methods. The Safety Plan shall also describe how safety is communicated with its employees, how safety audits are completed and any other information necessary to perform Work on the Project.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-009.</p> <p>TransCore will provide to the Joint Board per their specifications and for their approval a Safety Plan within 90 days after NTP</p>		
TP-010	<p><b>System Configuration and Management Plan</b> The Toll System Provider shall provide a Joint Board-approved System Configuration and Management Plan <b>no later than 90 days after NTP</b>. The System Configuration and Management Plan shall describe how Hardware, Software and system configuration settings will be managed from Tolling Readiness through the Operations and Maintenance Term. The System Configuration and Management Plan shall describe how any change is identified, documented, controlled and verified during the Installation Work and the Operations and Maintenance Term. Any change proposed by TSP shall be submitted to the Joint Board for review and approval pursuant to the Approval Process.</p>		
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-010.</p> <p>TransCore will provide to the Joint Board per their specifications and for their approval a System Configuration and Management Plan within 90 days after NTP.</p>		
TP-011	<p><b>Maintenance and Support Plan</b> The Toll System Provider shall provide a Joint Board-approved Maintenance and Support Plan <b>no later than 180 days after NTP</b>. The Maintenance and Support Plan shall describe how the Toll System Provider shall conduct preventative and corrective maintenance and support activities for the Roadside System and the BOS. The Maintenance and Support Plan shall describe preventative maintenance, corrective maintenance, Spare Parts and inventory management procedures and how Operations and Maintenance Work is managed for the System. While one plan is required, the Toll System Provider may submit a separate MSP for each functional area, for example there may be a Roadside System MSP and a BOS MSP as two separate plans. However, if more than one MSP is submitted, the MSPs shall demonstrate end to end coverage of the System. If the Toll System Provider has predictive maintenance activities this should also be described in the MSP, and the MSP shall address how the Toll System Provider shall meet all Performance Requirements, priority response and repair times for each item. The Toll System Provider shall include an organization chart and notifications for incidents as well a description of how MOMS is used to track incidents through resolution.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-011.</p> <p>TransCore will provide to the Joint Board per their specifications and for their approval a Maintenance and Support Plan within 180 days after NTP.</p>		
TP-012	<p><b>Transition Plan</b> The Toll System Provider shall provide a Joint Board approved Transition Plan <b>no later than 180 days after NTP</b>. The Transition Plan shall describe how the System will be transitioned from test environments to production using the testing approach described in the Technical Requirements. Further the Transition Plan shall include all resources, scheduling and detailed step by step transition procedures for the overall System transition from test environments to production.</p>	X	

Req ID	Plans and Testing (Section TP)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-012.</p> <p>TransCore will provide to the Joint Board per their specifications and for their approval a Transition Plan within 180 days after NTP.</p>		
TP-013	<p><b>Third Party Manuals and Documentation</b>  The Toll System Provider shall provide and maintain standard, commercially available, updated documentation for third-party provided Hardware, Software, and services. This set of manuals shall be maintained on a Toll System Provider provided shared collaboration site (e.g. SharePoint, eRoom) and be available to the Joint Board <b>no later 180 days of NTP to review and download</b>. The Toll System Provider shall update these documents as required no less frequently than every 180 calendar days.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-013.</p> <p>TransCore will provide to the Joint Board per their specifications and for their approval Third Party Manuals and Documentation within 180 days after NTP.</p>		
TP-014	<p><b>End of Contract Transition Plan</b>  The Toll System Provider shall provide a Joint Board approved End of Contract Transition Plan <b>at the completion of the System Acceptance Test</b>. This End of Contract Transition Plan shall address how the Toll System Provider will efficiently and seamlessly transition, without any disruption to users or the Joint Board, the operation and maintenance of all aspects of the System to another toll system provider or providers. The End of Contract Transition Plan is subject to Joint Board review and approval and shall be updated no less frequently than annually after approval. All updates are also subject to Joint Board review and approval. The End of Contract Transition Plan shall address the items described in Section 4.13 of the Agreement, and if the BOS and CSC services are provided at a commingled facility the End of Contract Transition Plan shall take into account special considerations related to the commingled facility.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-014.</p> <p>TransCore will provide to the Joint Board per their specifications and for their approval an End of Contract Transition Plan at the completion of the System Acceptance Test.</p>		
TP-015	<p><b>Business Rules and Operational Requirements (BROR)</b>  The Toll System Provider shall provide an initial BROR for the Project <b>no later than 90 days after NTP</b>. Once approved by the Joint Board, the Business Rules and Operational Requirements shall be attached to the Technical Requirements. The Business Rules and Operational Requirements <b>shall be updated 180 days prior to the Tolling Readiness Date and again 90 days after the System Acceptance Test is successfully completed</b>. The Business Rules and Operational Requirements shall be submitted to the Joint Board each time for review and approval. The Business Rules and Operational Requirements shall describe all Business Rules for the Operations and Maintenance Work for all components of the System, including any external systems used to operate and maintain the System.</p>	X	
	<p>Note: The Joint Board will make itself available to discuss the Business Rules with the TSP during the Business Rule development period.</p> <p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-015.</p> <p>TransCore will provide an initial BROR no later than 90 days after NTP. Further, TransCore will provide to the Joint Board per their specifications and for their approval an updated BROR 180 days prior to the Tolling Readiness Date and then a final BROR 90 days after the System Acceptance Test is successfully completed.</p>		

Req ID	Plans and Testing (Section TP)	Required	Value Add
TP-016	<p><b>Monthly Project Management Report and Meeting</b>            Every month of the Contract Term, the Toll System Provider shall deliver a Monthly Project Management Report that describes the current status of the Project, current or new risks on the Project, a summary of work completed in the last 30 days and expected work to be completed in the next 30 days. The form of the Monthly Project Management Report shall be subject to the review and approval of the Joint Board. The Monthly Project Management Report shall also include an updated resource loaded GANTT schedule delivered in MS project and delivered in PDF. The Project schedule shall reflect current staff and progress measured against the baseline schedule. The Monthly Project Management Report shall highlight the Critical Path and near Critical Path items on the Project and the Toll System Provider's current plan to ensure no delays are incurred during the delivery. If the Toll System Provider is behind schedule or also upon the request of the Joint Board, the Toll System Provider shall provide a written corrective action plan that describes how and when the Toll System Provider will recover to meet the baseline approved Project schedule. Toll System Provider shall continuously monitor its compliance with this requirement commencing with Pre-Toll Operations, and report its compliance or noncompliance with this requirement each month in this Monthly Operations and Maintenance Report. <b><u>The Monthly Project Management Report and an updated Project Schedule shall be delivered at least 3 business days before the Project management review meeting with the Joint Board.</u></b>            The Toll System Provider Project Manager - Installation shall attend this meeting in person.</p>	X	
	<p><b>Proposer Response: The TransCore TCS complies with requirement TP-016.</b>            TransCore will deliver a Monthly Project Management Report that describes the current status of the Project, current or new risks on the Project, a summary of work completed in the last 30 days and expected work to be completed in the next 30 days.</p>		
TP-017	<p><b>Quality Management Plan (QMP)</b>            The Toll System Provider shall provide a Joint Board approved Quality Management Plan <b><u>no later than 90 days after NTP.</u></b> The QMP shall be subject to the review and approval of the Joint Board and shall describe how the Toll System Provider manages the quality assurance and quality controls throughout the Contract Term. The QMP shall address verification and validation of changes including coordination with the change management plan, supply chain management including how all Suppliers and subcontractors are addressed in the delivery, operations and management of the TCS. The QMP shall address handling of materials, control of records on the Project, and how the Toll System Provider shall conduct audits to ensure the efficient and complete performance of the Work and other obligations of the TSP under the Contract.             The Toll System Provider shall develop and maintain a quality assurance and quality control program to ensure compliance to all requirements and obligations in the Contract. The Toll System Provider QMP shall establish key performance measures, regular audits and reporting to ensure requirements compliance is repeatable and the customer experience is consistent and revenue collection is at the highest efficiencies possible. The quality assurance program shall be documented in the Quality Management Plan during delivery and shall be addressed in a quality assurance section to be included in the Monthly Project Management Report provided to the Joint Board.</p>	X	
	<p><b>Proposer Response: The TransCore TCS complies with requirement TP-017.</b>            TransCore will provide to the Joint Board per their specifications and for their approval a Quality Management Plan (QMP) within 90 days after NTP.</p>		
TP-018	<p><b>Configuration and Change Management Plan</b>            The Toll System Provider shall provide a Joint Board approved Configuration and Change Management plan <b><u>no later than 90 days after NTP.</u></b> The Configuration and Change Management Plan shall describe how the Toll System Provider identifies and manages change including the identification of a change control board to be used during the installation and configuration of the System as well as during operations. The Configuration and Change Management Plan will outline the process in which changes are identified, escalated and brought to the owner, process to notify the Joint Board of changes, and final resolution and tracking of changes throughout the TCS Operations and Maintenance Term.</p>	X	

Req ID	Plans and Testing (Section TP)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-018.</p> <p>TransCore will provide to the Joint Board per their specifications and for their approval a Configuration and Change Management Plan within 90 days after NTP.</p>		
TP-019	<p><b>Master Testing and Commissioning Plan</b></p> <p>The Toll System Provider shall provide a Joint Board-approved Master Testing and Commissioning Plan (MTCP) <b>no later than 90 after NTP</b>. The MTCP shall include a list of all of the testing including a description of each test, a sample and representative completed test procedure for the Project, roles and responsibilities for each test phase, the entry and exit criteria for each test including test environment for each test, a requirements traceability matrix used to verify the requirements and failure reporting, tracking and analysis. The MTCP shall be developed to satisfy the testing requirements as outlined below in Technical Requirements TP-020 thru TP-024 outlined below.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-019.</p> <p>TransCore will provide to the Joint Board per their specifications and for their approval a Master Testing and Commissioning Plan within 90 days after NTP.</p>		
TP-020	<p><b>Baseline Test</b></p> <p>The Baseline Test will provide an initial validation of the System's compliance with the Technical Requirements. The Baseline Test is not intended to be a performance test but rather an initial component level and end to end functional test of the System. The Baseline Test Plan shall include component level testing for the following areas. In addition it shall demonstrate the end to end functionality of the System as it is available in its current state. External interfaces shall be used in all instances possible but simulated external interfaces or external interfaces may be used with Joint Board approval in this test phase. The Baseline Test shall be conducted at the Toll System Provider's test facility or factory environment. A simulated Roadside System or test facility may be used for the Baseline Test. The Baseline Test planning shall be an end to end view of all testing on the Project but the Baseline Test plan and procedures shall provide component level tests that exercise elements of each of the major functional systems below to demonstrate compliance with the Technical Requirements.</p> <p>The Baseline Test Plan shall, at a minimum, encompass the following areas:</p> <ol style="list-style-type: none"> <li>1. Roadside System Transaction creation, processing</li> <li>2. System Monitoring and incident management (MOMS)</li> <li>3. Image Review</li> <li>4. IVR</li> <li>5. BOS ETC and Violations account management</li> <li>6. BOS, credit cards, Violations, collections and court processes</li> <li>7. Payment processes and exception management</li> <li>8. Toll Operations Center including all interfaces</li> <li>9. Payment processing for all available payment methods</li> <li>10. Customer Website</li> <li>11. Disaster recovery including failover of the BOS and CSC.</li> </ol>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-020.</p> <p>TransCore will provide to the Joint Board per their specifications a Baseline Test.</p>		
TP-021	<p><b>Pre-Production Controlled Test</b></p> <p>The Pre-Production Controlled Test shall occur after the configuration of the external interfaces and Business Rules for the TCS. The same test procedures may be</p>	X	

Req ID	Plans and Testing (Section TP)	Required	Value Add
	<p>used for the Pre-Production Controlled Test as are used in the Baseline Test, and the Pre-Production Controlled Test shall be conducted at the Toll System Provider's test facility. With the exception of the Roadside System at the Project Sites, the Pre-Production Controlled Test shall use the configured interfaces for the System. The Pre-Production Controlled Test as it relates to the Roadside System shall reflect the System intended to be installed on the Project but shall be connected to the Toll System Provider's test facility. Vehicles shall be run at speeds from 0 MPH to 65 MPH at the test facility to conduct the Pre-Production Controlled Test. A minimum of four Equipment Lanes shall be configured to conduct this test. It is also understood that the network connections may be different than the network planned for the Project but all interfaces shall be configured to operate in near-real-time as close to a production environment of the Project as possible. To allow for integration of the Roadside System to the ETC equipment, use of a single ETC reader integrated with the Roadside System is anticipated for the Baseline Test.</p>		
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-021. TransCore will provide to the Joint Board per their specifications a Pre-Production Controlled Test.</p>		
TP-022	<p><b>System Production Readiness Test</b> The System Production Readiness Test shall be the same as the Pre-Production Controlled Test but shall be conducted with all final components required for revenue service and using the Project Toll Zones and vehicles and customer accounts at the LSIORB Project Toll Zones in Kentucky or Indiana. No simulated interfaces may be used in the System Production Readiness Test. The same test procedures used for the Baseline Test may be used for the System Production Readiness Test, but without the use of simulators. The first available Toll Zone full configuration may be used for this test. The System Production Readiness Test shall be performed prior to live traffic conditions to verify that the System is ready to open to traffic and verify preparedness for toll collection activities. The TCS is considered ready to open to traffic and able to collect revenue when the following conditions are met: The TCS is available and functioning properly, including System Hardware and network communications, and each component of the TCS is available to collect revenue, receive information from the Roadside System, process information/Transactions correctly and provide customer service operations. The System is able to successfully identify from the Roadside System equipment that a Transaction has occurred through either Transponder identification or license plate identification. The Transaction should successfully process through the Roadside System and then successfully move that Transaction to the appropriate Transaction route in the BOS solution. The route the Transactions may take are varied depending upon the System but should result in a rate assignment for each Transaction, associate the correct customer account for that Transaction, or the System shall send the Transaction through the OCR process to either associate with a known account or proceed to identify the Transaction to an appropriate vehicle owner. The System shall be capable of performing these functions for 1100 Transactions of varying types encompassing all Transaction types prior to Tolling Readiness. The distribution of Transaction types will be agreed upon by the Toll System Provider and the Joint Board. The Toll System Provider is prepared to collect data per the agreed upon methodology upon Revenue Service. The methodology to measure SLAs has been established, the methodology to report Performance Requirements and the reporting tools and medium has been agreed upon by the Joint Board and the Toll System Provider Network communications have been tested and are successfully operating. All required interfaces and file transfers have been tested and are successfully operating for required interfaces, including interoperable interfaces. The CSC must be open and operational and able to provide all customer service functions as required in Section CS of the Technical Requirements. The IVR and Customer Website must be operational at the time of Tolling Readiness and comply with Business Rules and PCI DSS compliance rules and regulations. All cash handling operations must be verified and ensure compliance with all rules and regulations as well as all other payment processing procedures. All Correspondence capabilities will be reviewed, verified and validated including the</p> <ul style="list-style-type: none"> <li>• Ability to process all types of invoicing including pay by plate, Violations, collections and final collection process through court documentation preparation and procedures</li> <li>• Ability to process Customer Website Correspondence, and the</li> <li>• Ability to process different types of Transactions by IVR, process payments, process Violations and validate the IVR system, and</li> <li>• Timeliness.</li> </ul>	X	

Req ID	Plans and Testing (Section TP)	Required	Value Add
	<p>All TCS reporting and monitoring are operational and have begun to collect data from different components of the TCS. Report formatting and report generation are complete. Typical responses to system incidents have been outlined and tested.</p> <p>Media data submission and reporting has been developed and agreed to by the Joint Board and the Toll System Provider for daily submission upon opening, weekly submissions in the future as agreed to by the Joint Board and monthly submissions as agreed to by the Joint Board.</p>		
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-022. TransCore will provide to the Joint Board per their specifications a Systems Production Readiness Test.</p>		
TP-023	<p><b>Operations Tests</b> The Toll System Provider shall conduct four Operations Tests: i) a BOS, CSC, TOC operations test, ii) Temporary Downtown Traffic Configuration iii) East End Bridge, and the iv) Final Downtown Traffic Configuration. Each Operations Test shall be a live Operations Test of the System using controlled and live test vehicles and accounts to demonstrate that the TCS operates within the approved Business Rules and Technical Requirements. The Toll System Provider shall conduct this operations test for a minimum of 120 days after the commencement of Revenue Service for each Bridge including the BOS. The Operations Test for the BOS, CSC, and TOC shall be conducted after the first bridge commences Revenue Service. The Operations Tests shall verify the following elements on a weekly basis be submitted no more than 2 business days after the conduct of the test. The Operations Test requirements shall be addressed in the MTCP but should include the following at a minimum: 1. ETC and Image Transaction Creation and flow and posting to all 10 test accounts and trace Transactions in at least 10 production accounts selected by the States' Parties to ensure Transactions are created, posted and processed according to requirements. 2. Test IVR to make payments, and exercise the IVR tree to ensure information is available to the customer per the specified Business Rules. 3. Test Customer Website to validate invoice information is available and makes payments and validate that the website is available and operating in accordance with the Business Rules and requirements. 4. Validate payment processing for credit cards, checks, retail cents, and lockbox posting. 5. Validate Violation escalations, invoice information presented on the account, escalation to collections and court. The escalation configurable periods used for collections and court may be manually adjusted but the escalated configurable periods for Customer Statements must use the configured production System times. 6. Confirm all payments and Transactions for test accounts and selected production accounts are reflected properly in the financial reports and any financial records transmitted to the accounting system provided by others. 7. Confirm all interoperable accounts and Transactions are posting in accordance with E-ZPass rules and funds are reconciled within the TCS. 8. Monitor and record all incidents, and report all priority 1 incidents to the Joint Board with resolution plan including a root cause analysis.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-023. TransCore will provide to the Joint Board per their specifications and for their approval four Operations Tests: i) a BOS, CSC, TOC operations test, ii) Temporary Downtown Traffic Configuration iii) East End Bridge, and the iv) Final Downtown Traffic Configuration.</p>		
TP-024	<p><b>System Acceptance Test (SAT)</b> The System Acceptance Test will be performed in live traffic conditions after all the Bridges have been opened for Revenue Service. SAT will be performed to ensure that the TCS functions as required by the Technical Requirements, the Guaranteed Performance Requirements as provided in Exhibit N of the Agreement, and all other requirements of the Contract Documents. The purpose of the SAT is to validate that the Roadside System equipment identifies the Traffic Transactions properly and collects the appropriate data, the BOS solution successfully processes that data, and the customer service operations perform as required to support the needs of the toll patrons while supporting maximum revenue collection with minimum leakage at the required service levels. SAT will be performed after</p>		

Req ID	Plans and Testing (Section TP)	Required	Value Add
	<p>numerous component tests occur as listed in TP 0020-0024 of the Technical Requirements (Appendix C). SAT will verify that the overall TCS, including Hardware and Software, performs at the required service levels and at the required throughput.</p> <p>In order for SAT to be requested and agreed upon by the Joint Board, SAT will be performed after all outstanding trouble tickets other than those with respect to immaterial items that don't affect System functionality have been resolved; all prior operational component testing is complete as outlined in Technical Requirements TP-020, TP-021, TP-022, TP-022, and TP-023 and accepted; and an established methodologies have been utilized for a first collection of the data required to measure compliance with Performance Requirements. SAT testing will occur after the completion of the Operations Tests and will run for a period of 48 hours of roadside traffic operations and for a period of 60 days for all TCS components and operations.</p>		
	<p>SAT will verify that:</p> <p>Each component of the TCS is available and performing to the required Performance Requirements in TR Section PR</p> <p>All processes and work flows will be verified including but not limited to WF-001 through WF-016.</p> <p>Ensure compliance with all Business Rules.</p> <p>System network and system architecture requirements have been successfully implemented, completed, tested, verified, validated and performing and are available for use by the Joint Board's TCS. Test and verify timeliness of response to potential network and communications failure.</p> <p>Test the disaster recovery systems and test the Disaster Recovery System Plan.</p> <p>Ensure Transaction record accuracy has been achieved at all Toll Zones. Traffic Transactions and Event Transactions from each Toll Zone will be reviewed, verified and followed to each end state of the Transaction.</p> <p>BOS requirements have been successfully implemented, completed, tested, verified, validated and are performing and available for use by the Joint Board's TCS through account sampling, setup, verification, and validation.</p> <p>Toll Operations Center and system monitoring have been successfully implemented, completed, tested, verified, validated and are performing and available for use by the Joint Board's TCS. Test system messaging and response times to different message types and ensure timeliness and responsiveness of operation and maintenance staff.</p> <p>All Correspondence capabilities will be reviewed, verified and validated including the</p> <ul style="list-style-type: none"> <li>• Ability to process all types of invoicing including registered and unregistered license plate accounts, Violations, collections and final collection process through court documentation preparation and procedures;</li> <li>• Ability to process Customer Website Correspondence, and the</li> <li>• Ability to process different types of Transactions by IVR, process payments, process Violations and validate the IVR system.</li> </ul>		
	<p>CSC operations will be fully reviewed to ensure all SLAs are met including all requirements as outlined in Section CS of the Technical Requirements including the additional items below: 1) Verification of live call handling by CSRs, 2) Secret shopping to the Walk-up Centers and remote operations (if implemented), 3) Random spot check and review of lockbox and lockbox compliance with operational procedures and 4) Confirm and test money handling procedures at each retail location and/or remote locations (if applicable).</p> <p>The SAT will also verify the following:</p> <ol style="list-style-type: none"> <li>1. Review HR policies and HR procedures of all staff on the TCS team to ensure the policies and procedures are followed in accordance with the Joint Board approved Toll System Provider policy.</li> <li>2. Confirm that all transfers of files and interfaces to all outside systems are tested, validated and are functioning according to requirements. Process file transfer in near-real-time and verify transfer of data with outside interfaces</li> <li>3. Financial transfers of funds are occurring timely with maximum availability of cash funds to the Joint Board on a daily basis with concise, timely, and precise reconciliation of all funds, accounts, sub ledgers, etc.</li> </ol>		

Req ID	Plans and Testing (Section TP)	Required	Value Add
	4. Confirm that all interoperable accounts are handled and processed in a timely manner and ensure all interoperable Transactions are processed according to each interoperable agency's agreed upon Business Rules and operational agreements. 100 interoperable Transactions will be traced and verified and validated throughout the TCS to final financial reconciliation from each interoperable agency.		
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-024.</p> <p>TransCore will provide to the Joint Board per their specifications and for their approval a System Acceptance Test (SAT).</p>		
TP-025	<p><b>Document Reviews</b></p> <p>The Toll System Provider shall plan for 2 document reviews for submittals and allow for 10 day review cycles by the Joint Board for all documents submitted for Joint Board Review and approval. No new comments are expected after the third cycle but additional review cycles may be required if the Joint Board's comments are not addressed in the first three review cycles to the Joint Board's satisfaction. All documents shall be provided in PDF and native versions including MS Office, AutoCAD, Visio or other similar products.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-025.</p> <p>TransCore will plan for 2 document reviews for submittals and allow for 10 day review cycles by the Joint Board for all documents submitted for Joint Board review and approval.</p>		
TP-026	<p><b>Maintenance of Traffic Plan</b></p> <p>The Toll System Provider shall be responsible for the planning and implementation and removal of lane closures for toll equipment preventative or emergency maintenance. The Toll System Provider shall utilize the most current state traffic control plans and standards applicable to the Toll Zone. The Toll System Provider shall request lane closures in writing and accordance with the applicable state policy. Any preventative maintenance lane closures must be requested in writing at least 14 calendar days in advance. Emergency lane closures require 12 hours written notice. The Toll System Provider shall include a unit price for each of the traffic control configurations outlined in the price proposal. The Joint Board will reimburse the Toll System Provider for each authorized lane closure required during installation and Maintenance Of Traffic.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-026.</p> <p>TransCore will provide to the Joint Board per their specifications and for their approval a Maintenance of Traffic Plan.</p>		
TP-027	<p><b>Incident Management Coordination</b></p> <p>States' Parties have two separate, but coordinated traffic management centers (TMC) to manage traffic incidents in each respective state and jointly coordinate incidents that impact both states. INDOT has a state operated traffic management center and KYTC contracts its traffic management services through TRIMARC in the Louisville Metropolitan area. It is anticipated that the designated Traffic Management Centers in KY or IN will notify the Toll System Provider by email and phone of incidents that occur that may impact tolling which may or may not require suspension. INDOT and KYTC TMC's are responsible for all incident management and will notify the Toll System Provider of any incidents within proximity of the Toll Zone by email. The Toll System Provider shall establish, maintain and support a dedicated phone line and maintain the phone system used for coordination with the traffic management centers. This phone number shall be a toll free number and shall be established at least 9 months prior to Tolling Readiness Date. No system to system integration or interface is required for the TMC. Phone, email and one way really simple syndication feeds shall be configured for the TMC operations.</p>	X	

Req ID	Plans and Testing (Section TP)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-027.</p> <p>TransCore will establish, maintain, and support a dedicated phone line and maintain the phone system used for coordination with the traffic management centers.</p>		
TP-028	<p><b>CSC Operations Plan (separate from BOS)</b>  The Toll System Provider shall provide a Security and Access Control Plan for CSC, Lockbox Operation Staffing and Operational Plan, Training Program for CSC staffing, Organizational Chart for all staffing of CSC, Employment Policy for CSC employees and HR Policy and HR Benefits plan <b>no later than 180 days after NTP</b>. It is intended that the Toll System Provider provide these plans for the Joint Board review. No approval or comments are anticipated. However, due to federal requirements and funding on the Project, the Joint Board may provide comments on elements that are applicable to federal or state law.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-028.</p> <p>TransCore will provide to the Joint Board per their specifications and for their approval a CSC Operations Plan within 180 days after NTP.</p>		
TP-029	<p><b>Walk-up Center Build out Plan</b>  The Toll System Provider shall provide a Walk-up Center Plan <b>no later than 90 days after NTP</b>. This Walk-up Center Plan shall identify the overall scope and construction and operational opening schedule for the Walk-up Centers as well as lease information, layout functions and deployment approach, and required marketing information needed from the Joint Board.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-029.</p> <p>TransCore will provide to the Joint Board per their specifications and for their approval a Walk-up Center Build Out Plan within 90 days after NTP.</p>		
TP-030	<p><b>Monthly Operations and Maintenance Report</b>  Monthly O&amp;M Performance Report that accurately describes the actual System performance as measured against the Performance Requirements section <b>shall be submitted in writing to the Joint Board each month no later than the 5th business ay of the month</b>. If there is a deviation from the approved Performance Requirements agreements, the Toll System Provider shall identify a corrective action plan for all deviations. The Monthly O&amp;M Performance Report shall also include the inventory levels and performance of all equipment in the TCS. The first Monthly O &amp;M Performance Report shall be delivered 30 days after commencement of the Pre-Toll Operations. The Monthly O&amp;M Performance Report also shall include a statement of the number and type of accounts serviced during such month and the associated staffing levels for each account type during this reporting period. For non-ETC accounts, the Monthly O&amp;M Performance Report shall identify the number of accounts and full time equivalent staff that were serviced for all Customer Statements in each of the following statuses: 1) invoices, 2) Violations, and 3) Collection Status Violations (stated in total and separately for each state). The Toll System Provider shall also indicate the number of accounts and full time equivalent staff used for administrative hearings, and those accounts that were sent to court during the monthly reporting period. The Monthly O&amp;M Performance Report shall specify for each Customer Statement status the number of accounts in such status during the reporting period and the corresponding full time equivalent staff associated with each status on a monthly basis.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-030.</p> <p>TransCore will provide to the Joint Board per their specifications a Monthly Operations and Maintenance Report each month no later than the 7th calendar day of the month.</p>		
TP-031	<p><b>Access to TSP Facilities</b>  The Joint Board's Designated Representatives shall have access to the Toll System Provider's facilities and personnel at all times. The TSP shall provide an office for 2 people at the CSC for the Joint Board's use at any time. This office shall include a network workstation, phone and location for a member of the Joint Board's team to remain on site 100% of their time, if desired by the Joint Board.</p>	X	

Req ID	Plans and Testing (Section TP)	Required	Value Add
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-031.  TransCore will provide to the Joint Board access to our facilities. [REDACTED]</p>		
TP-032	<p><b>Disaster Recovery System Plan</b>  The Toll System Provider shall provide a TCS Disaster Recovery System Plan and subsequent disaster recovery procedures for the TCS and CSC, which shall be reviewed and approved by the Joint Board <b>no later than 180 days after NTP</b>. The TCS Disaster Recovery System Plan shall include a description of each system along with a description of how each system in the TCS will be recovered. This plan shall describe all resources required to recover each system to operations. The Disaster Recovery System Plan shall also describe any single failure points in the System and the Toll System Provider’s plan to recover the System.</p>	X	
	<p><b>Proposer Response:</b> The TransCore TCS complies with requirement TP-032.  TransCore will provide to the Joint Board per their specifications and for their approval a Disaster Recovery System Plan within 180 days after NTP.</p>		

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## E Schedule Narrative

The project team developed a summary level Preliminary Project Schedule for all planning, installation, integration and operations and maintenance during delivery and operations and maintenance phases of the Project. Per the guidance in the LSIORB RFP this preliminary schedule contains only key activities and milestones included in the baseline planning, installation and integration schedule and the operations and maintenance baseline schedule. This preliminary plan represents our plan for completing the Project from Notice to Proceed until acceptance of the results of a successful System Acceptance Test. For this preliminary schedule we have assumed that the Revenue Service Date is the same as the Tolling Readiness Date.

An operational baseline schedule will be developed based on this preliminary schedule and submitted within thirty days from NTP. The operational baseline schedule will include more detail on the tasks required to achieve the milestones depicted in this preliminary schedule. It will also include a map to the payment milestones outlined in Exhibit CC of the LSIORB RFP documentation.

### Monthly Reports

Every month of the Contract Term, we will deliver a Monthly Project Management Report that describes the current status of the Project, current or new risks on the Project, a summary of work completed in the last 30 days and expected work to be completed in the next 30 days. This report will include an updated resource loaded GANTT schedule delivered in MS project and delivered in PDF. These updates will reflect current staff and progress measured against the baseline schedule. The Critical Path and near Critical Path items will be highlighted.

### Sequence of Work

#### Summary Plans

The work will begin at NTP with the development and submission of the summary plans. The first group will be delivered and approved within the first 90 days of the contract and the second group will be delivered and approved within the 180 days of the contract.

#### Software Development and Configuration

Software Development and configuration will begin at NTP and will complete prior to the Pre-Production Controlled Test.

#### Hardware Procurement, Assembly and Configuration

Planning for hardware will begin at NTP with the receipt, assembly and configuration completed at least two weeks prior to the planned installation of the hardware (TOC, BOS, CSC, Roadside, Disaster Recovery).

#### CSC & Walk Up Centers

Preparation for the CSC and Walk-Up Center operations will commence at NTP with an initial focus on finalizing the location. Both the CSC and Walk-Up Center will be ready for operations at the start of the System Production Readiness Test.

The CSC staff will begin opening accounts once the Pre-Toll Operations Readiness milestone is reached and the Joint Board has granted permission.

## Pre-Operations Readiness Testing

The first test, Baseline Test, will occur within the first 180 days of the contract. The Pre-Production Controlled Test will occur within the first 240 days and the System Production Readiness Test will be complete within the first 365 days.

The System Production Readiness test requires at least one toll zone to be installed prior to the commencement of the test. In order to complete this test within the prescribed 365 days from NTP at least one toll zone must be available for this installation of the roadside tolling equipment by September 8, 2015.

## Roadside Installation

Planning for the roadside installation will begin on Day 1. Mobilization for each bridge will occur at the time of notification. During the mobilization period, final planning will occur including the finalization of Maintenance of Traffic planning and a final inventory of equipment. Roadside installation will begin 30 days after the notification and the Tolling Readiness milestone will be achieved within 120 days.

The roadway will be open for Revenue Service once the Tolling Readiness milestone has been achieved and the Joint Board has granted permission.

Operations Tests will run for 120 days after the roadway is open for revenue collection.

For the purposes of the initial schedule we assumed that the Mobilization Notification for each of the three bridges would be as listed in the table below. The schedule will be adjusted as additional information is available regarding the availability of the toll zones for installation.

Bridge	Notification Date
Downtown Bridge (Initial)	3/10/16
East End Bridge	8/7/16
Downtown Bridge (Final)	2/4/17

## SAT

SAT will commence 120 days after the final Operational tests.

## Critical Path

The critical path begins with Notice to Proceed. It is highlighted in the schedule Gantt chart view of the MS Project schedule provided below.

## Schedule Updating Process

The CPM schedule represents a dynamic management tool and will be used throughout the duration of the project as a recording and predictive tool, as well as the baseline plan to adapt to any changes of any kind that are encountered during the project. The Project Manager and

Project Scheduler will memorialize the schedule status on a bi-weekly basis for activities for all work, and focus more frequently for any activities that are running ahead or behind their projected durations. These bi-weekly updates will be incorporated into the formal monthly progress reports.

## **Use of Schedule Information by the Project Manager, Design Manager and Site Supervisors**

In all internal project meetings with the project team, the second most important topic after Safety is the current status of the schedule and the forecast for its near- and long-term maintenance. A continual analysis of the schedule is necessary on a weekly basis at a minimum. Factors that influence the schedule will inevitably include weather events, third party actions or events, quality control issues, delivery delays and resource restrictions. The team managers will use the updated schedule and weekly look-ahead schedules as a primary tool to minimize risk by assessing alternate means and methods, revising work shifts, re-allocating resources, or re-sequencing of activities.

## **Schedule Recovery**

Although the project leadership team will strive to prevent significant scheduling issues we recognize that these do sometimes occur. Once an issue is identified that could negatively impact the completion milestones a recovery plan will be put in place. There are many mitigation strategies for realigning a project schedule such as schedule crashing, adding additional staff, adding additional shifts, and changing the approach for completion of critical tasks. Each strategy has inherent risks and the project manager will work with the rest of the project leadership team to plan and implement the schedule recovery plan that addresses the issues with the minimum amount of risk possible.

In the event that we are behind schedule at any point during the project, we will provide a written corrective action plan that describes how and when we will recover to meet the baseline approved Project schedule.

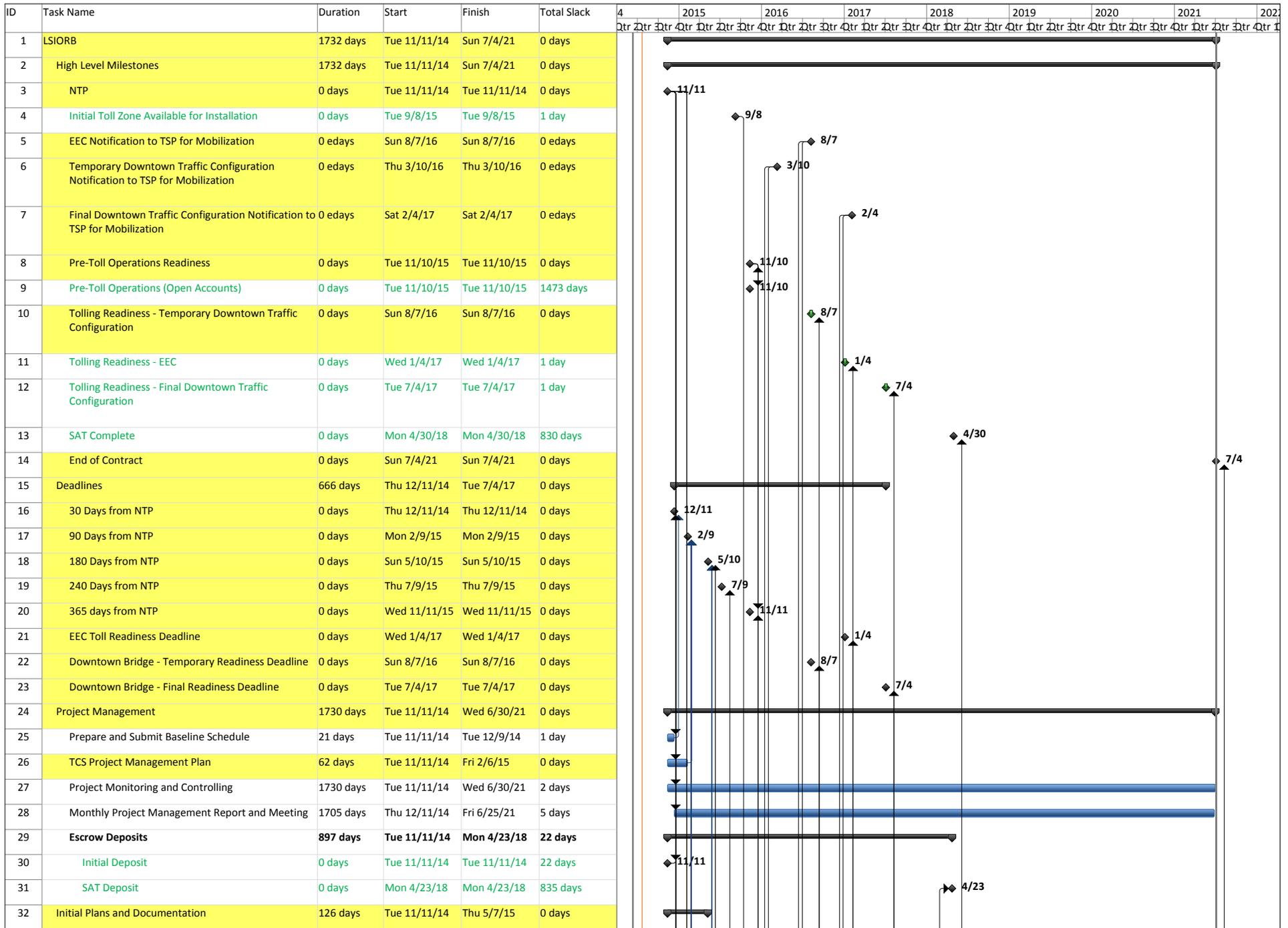
## **Schedule Float**

By definition, the non-critical path tasks have one or more days of float/slack available. All Float contained in the Project Schedule, as initially approved or generated thereafter, shall be considered a Project resource available to either party or both Parties as needed to achieve Progress Milestones, Progress Milestone Dates and/or Completion Deadlines. Float will be included in all schedule reports provided as part of this contract.

## **Project Calendars**

A standard calendar with a 40 hour work week will be used for the majority of the project tasks. However, it is likely that an installation calendar will be used for the Roadway installation tasks. This calendar will mirror the work schedule being followed by the crews (weekends, evenings, etc.). The installation calendar will preclude work on the days of the following regional special events: (i) Derby Festival Thunder Over Louisville (roadside Installation Work may recommence at 10:00 a.m. the following Day); and (ii) the day before (Oak's Day) and the day of the Kentucky Derby (the first Saturday in May; roadside Installation Work may recommence at 10:00 a.m. on the day following the Kentucky Derby).

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ID	Task Name	Duration	Start	Finish	Total Slack	4	2015			2016			2017			2018			2019			2020			2021			2021
						Qtr	Qtr	Qtr	Qtr	Qtr																		
33	Roadside System and Network System Plan	59 days	Tue 11/11/14	Tue 2/3/15	0 days																							
34	Prepare & Submit Roadside system plan documentation	59 days	Tue 11/11/14	Tue 2/3/15	0 days																							
35	Prepare & Submit Network system plan documentation	59 days	Tue 11/11/14	Tue 2/3/15	0 days																							
36	Prepare and Submit Back office System Plan	60 days	Tue 11/11/14	Wed 2/4/15	1 day																							
37	Prepare and Submit TOC System Plan	60 days	Tue 11/11/14	Wed 2/4/15	2 days																							
38	Prepare and Submit Roadside System and Network Installation Plan	66 days	Wed 2/4/15	Wed 5/6/15	2 days																							
39	BOS Installation Plan	66 days	Thu 2/5/15	Thu 5/7/15	1 day																							
40	Walk-up Center Build out Plan	60 days	Tue 11/11/14	Wed 2/4/15	2 days																							
41	Safety Plan	60 days	Tue 11/11/14	Wed 2/4/15	2 days																							
42	System Configuration and Management Plan	60 days	Tue 11/11/14	Wed 2/4/15	2 days																							
43	Maintenance and Support Plan	126 days	Tue 11/11/14	Thu 5/7/15	1 day																							
44	Transition Plan	126 days	Tue 11/11/14	Thu 5/7/15	1 day																							
45	Third Party Manuals and Documentation	126 days	Tue 11/11/14	Thu 5/7/15	1 day																							
46	Business Rules and Operational Requirements (BROR)	60 days	Tue 11/11/14	Wed 2/4/15	1 day																							
47	Quality Management Plan (QMP)	60 days	Tue 11/11/14	Wed 2/4/15	2 days																							
48	Configuration and Change Management Plan	60 days	Tue 11/11/14	Wed 2/4/15	2 days																							
49	Master Testing and Commissioning Plan	60 days	Tue 11/11/14	Wed 2/4/15	2 days																							
50	Training Plan	126 days	Tue 11/11/14	Thu 5/7/15	1 day																							
51	CSC Operations Plan (separate from BOS)	126 days	Tue 11/11/14	Thu 5/7/15	1 day																							
52	Disaster Recovery System Plan	125 days	Tue 11/11/14	Wed 5/6/15	0 days																							
53	Spare Parts Inventory Plan	126 days	Tue 11/11/14	Thu 5/7/15	1 day																							
54	<b>Software Development &amp; Configuration</b>	<b>85 days</b>	<b>Thu 2/5/15</b>	<b>Wed 6/3/15</b>	<b>1 day</b>																							
55	BOS, CSC, TOC	85 days	Thu 2/5/15	Wed 6/3/15	1 day																							
56	Roadside	85 days	Thu 2/5/15	Wed 6/3/15	1 day																							
57	Interfaces Complete (except Roadside)	85 days	Thu 2/5/15	Wed 6/3/15	1 day																							
58	Data Mart Design, Development & Testing	85 days	Thu 2/5/15	Wed 6/3/15	1 day																							
59	MOMS Configuration	85 days	Thu 2/5/15	Wed 6/3/15	1 day																							
60	Archival Process	85 days	Thu 2/5/15	Wed 6/3/15	1 day																							
61	BOS, CSC, TOC Hardware Procurement, Assembly & Configuration	85 days	Wed 2/4/15	Tue 6/2/15	2 days																							
62	Disaster Recovery Hardware Procurement, Assembly & Configuration	80 days	Thu 5/7/15	Wed 8/26/15	0 days																							



ID	Task Name	Duration	Start	Finish	Total Slack	4	2015	2016	2017	2018	2019	2020	2021	2021
97	BOS, CSC, TOC operations test	120 edays	Sun 8/7/16	Mon 12/5/16	1672 edays									
98	BOS, CSC, TOC operations As-Built Documentation	30 edays	Tue 11/10/15	Thu 12/10/15	2032.63 edays									
99	<b>Training</b>	<b>150 days</b>	<b>Wed 6/17/15</b>	<b>Tue 1/12/16</b>	<b>1428 days</b>									
100	Execute Training Plan	150 days	Wed 6/17/15	Tue 1/12/16	1428 days									
101	Begin Ordering Network Circuits	0 days	Tue 11/10/15	Tue 11/10/15	1473 days									
102	Pre-Toll Operations	9 emons	Tue 11/10/15	Sat 8/6/16	0.02 emons									
103	Downtown Bridge (Initial Configuration) Toll, ITS & Communication Equipment Installation & Testing	192 days	Thu 3/10/16	Mon 12/5/16	0 days									
104	Notification for Mobilization	0 days	Thu 3/10/16	Thu 3/10/16	1387 days									
105	Mobilization	30 edays	Thu 3/10/16	Sat 4/9/16	0 edays									
106	Installation and Initial Testing	120 edays	Sat 4/9/16	Sun 8/7/16	0 edays									
107	Spare Parts Requirements	5 days	Fri 7/1/16	Fri 7/8/16	1216 days									
108	Downtown Bridge (Initial Configuration) Toll Readiness	0 days	Sun 8/7/16	Sun 8/7/16	0 days									
109	As Built Documentation	30 edays	Sun 8/7/16	Tue 9/6/16	1672 edays									
110	Temporary Downtown Traffic Configuration Operations Test	120 edays	Sun 8/7/16	Mon 12/5/16	1462 edays									
111	East End Bridge Toll, ITS & Communication Equipment Installation	193 days	Sun 8/7/16	Thu 5/4/17	0 days									
112	Notification for Mobilization	0 days	Sun 8/7/16	Sun 8/7/16	1280 days									
113	Mobilization	30 edays	Sun 8/7/16	Tue 9/6/16	0 edays									
114	Installation and Initial Testing	120 edays	Tue 9/6/16	Wed 1/4/17	0 edays									
115	Spare Parts Requirements	5 days	Mon 11/28/16	Mon 12/5/16	1195 days									
116	East End Bridge (Initial Configuration) Open for Revenue	0 days	Wed 1/4/17	Wed 1/4/17	0 days									
117	As Built Documentation	30 edays	Wed 1/4/17	Fri 2/3/17	1522 edays									
118	East End Operations Test	120 edays	Wed 1/4/17	Thu 5/4/17	1312 edays									
119	Downtown Bridges (Final Configuration) Toll, ITS & Communication Equipment Installation	192 days	Sat 2/4/17	Wed 11/1/17	0 days									
120	Notification for Mobilization	0 days	Sat 2/4/17	Sat 2/4/17	1150 days									
121	Mobilization	30 edays	Sat 2/4/17	Mon 3/6/17	0 edays									
122	Installation and Initial Testing	120 edays	Mon 3/6/17	Tue 7/4/17	0 edays									
123	Spare Parts Requirements	5 days	Mon 5/29/17	Sun 6/4/17	830 days									
124	Downtown Bridges (Final Configuration) Open for Revenue Collection	0 days	Tue 7/4/17	Tue 7/4/17	0 days									
125	As Built Documentation	30 edays	Tue 7/4/17	Thu 8/3/17	1341 edays									

