



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

June 29, 2022
AGENDA ITEM #7

Discuss and consider approving an agreement with Deloitte Consulting, LLP for toll operations and maintenance services related to the Mobility Authority's Data Platform System

Strategic Plan Relevance:	Explore and Invest in Transformative Technology and Adopt Industry Best Practices; Deliver Multi-faceted Mobility Solutions; Invest in Effort that Extends Beyond Roadways
Department:	Operations
Contact:	Tracie Brown, Director of Operations and Greg Mack, Assistance Director of IT & Toll Systems
Associated Costs:	\$1,492,450
Funding Source:	FY23 Operating Budget
Action Requested:	Consider and act on draft resolution

Project Background: To provide more flexibility in the future, in March 2021, the Mobility Authority awarded a contract to Deloitte Consulting LLP (Deloitte) to develop a system wherein all toll transaction processing and data management capabilities after the point of transaction creation are advanced to a Mobility Authority-managed solution. The Data Platform System (DPS) is the next step in the agency's evolution to a mature toll entity that controls transaction pricing and revenue recognition timing. The DDPS will also provide the Authority with more insight into its transactional data, providing the ability to make better informed decisions regarding collection initiatives, transportation improvements, and other planning efforts.

Project Description: As stated above, the objective of the DPS is to transition all toll transaction data processing and data management capabilities after the point of transaction creation to a Mobility Authority-managed solution. Kapsch and ETC, the Authority's lane vendors, will collect the toll transaction at the roadside and forward the transaction and vehicle images to the DPS. Business logic will then consume the

transaction and route the data to either the Central United States Interoperability (CUSIOP) Hub or the Pay by Mail (PBM) vendor for payment. The payment status is ultimately passed back to the DPS allowing complete reconciliation of all the Authority's toll transactions.

Development for the first two project releases was completed September 2021 on schedule. These releases created the base code as well as the routing and exchange processes. Release 3 supports development for pricing and billing transactions, defining how data governance is handled in the new processing schema, and identifying the suite of reports necessary to account for the agency's revenue and monitor performance. Release 3 is anticipated to be completed in July 2022. The DPS is projected to go-live in November 2022, after a period of time in which the DPS will run in parallel to the current processing system.

The Mobility Authority will need support to monitor the system and reconciliation processes. Today's action is directly related to the engagement of those resources.

Summary of Action Requested: The Tolling Operations Management Solution ("TOMS") is a function of the DPS that aggregates multiple integrated solutions to support the Mobility Authority's transaction-to-cash lifecycle. TOMS automates business processes across several functional areas to accomplish this task. The TOMS functional areas are Application Support & Maintenance, Database Maintenance, Data Exchange Maintenance, Reporting & Analytics Maintenance and Support & Triage Management.

The Statement of Work (SOW) outlines the suite of services necessary to support and maintain the successful daily availability, capacity, and functionality of the integrated TOMS architecture. The SOW also defines the services, performance level, required capabilities and estimated hours for each area. Finally, the SOW provides the ability to engage one or more tolling operations support staff to assist with the end-to-end business processes managed within the TOMS.

Per the Authority's Policy Code, staff utilized the Texas Department of Information Resource's (DIR) deliverable-based information technology services contract with Deloitte to obtain a response to the SOW. The response meets the required operations and maintenance performance levels. Deloitte's response also provides the opportunity for up to two support staff. In considering Deloitte's response, staff noted that Deloitte

would be in the best position to correct any defects or improve performance since they developed the code base.

The initial term of the SOW is 12 months. During this period staff will monitor Deloitte's work while also assessing the processes and resources required to manage TOMS. This information will facilitate the development of a longer-term support and staffing plan. This long-term vision will consider the Authority's future as expands its suite of offerings to end users. This plan will be presented to the Board for action in Spring 2024.

Deloitte's **fee for supporting the Authority's TOMS is \$1,492,450**, payable in monthly amounts of \$124,370. The agreement is covered by Deloitte's overarching agreement with DIR which provides protections for performance failures and termination provisions if needed.

Previous Actions: An initial contract for the development of DPS Releases 1 & 2 was awarded to Deloitte in February 2021; the contract was subsequently approved in March 2021. A contract for the development of Release 3 was awarded to Deloitte in September 2021. Staff anticipates bringing forth a separate SOW for Release #4 in July 2021 as well as work authorization to support any needed system enhancements.

Financing: FY 2023 Operating Budget (GL Code 74176)

Staff Recommendation: Staff recommends approving an agreement with Deloitte Consulting LLP for toll operations and maintenance services related to the Mobility Authority's Data Platform System.

Backup provided:

- Draft Resolution
- CTRMA TOMS Operations and Maintenance Statement of Work (dated 6/9/22)
- Deloitte Consulting Response to the TOMS Operations and Maintenance Statement of Work (dated 6/13/22)
- DIR Public Records Act Agreement - Deloitte Consulting TOMS Statement of Work
- DIR Vendor Agreement - Deloitte Consulting TOM Statement of Work

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

RESOLUTION NO. 22-0XX

**APPROVING AN AGREEMENT WITH DELOITTE CONSULTING LLP FOR TOLL
OPERATIONS AND MAINTENANCE SERVICES RELATED TO THE DATA
PLATFORM SYSTEM**

WHEREAS, Mobility Authority staff is developing a data platform to transition all toll transaction data processing and data management capabilities after the point of transaction creation from a third-party vendor to the Mobility Authority (the “Data Platform System”); and

WHEREAS, a Mobility Authority managed data platform will support new business capabilities such as external reporting, data analytics and a connection to the Texas Department of Motor Vehicles’ datasets to allow better informed agency decision making; and

WHEREAS, by Resolution No. 21-018, dated March 31, 2021, the Board of Directors approved a contract with Deloitte Consulting LLP for the first and second releases of the Data Platform System to establish the data platform and create the routing and exchange processes; and

WHEREAS, by Resolution No. 21-059, dated September 29, 2021, the Board of Directors approved a contract with Deloitte Consulting LLP for the third release of the Data Platform System to support development for pricing and billing transactions, define how data governance is handled in the new processing schema, and identify the suite of reports necessary to account for the Mobility Authority’s revenue and monitor performance for an amount not to exceed \$2,069,364 including ten percent project contingency; and

WHEREAS, the Data Platform System is projected to go-live in November 2022, after a period of time in which it will run in parallel to the current processing system; and

WHEREAS, the Mobility Authority desires support to monitor the Data Platform System and reconciliation processes through a Tolling Operations Management Solution (“TOMS”) as a function of the Data Platform System which aggregates multiple integrated solutions including Application Support & Maintenance, Database Maintenance, Data Exchange Maintenance, Reporting & Analytics Maintenance and Support & Triage Management, to support the Mobility Authority’s transaction-to-cash lifecycle; and

WHEREAS, the Executive Director has negotiated a scope of work with Deloitte Consulting LLP in an amount not to exceed \$1,492,450 for a TOMS as a function of the Data Platform System which is attached hereto as Exhibit A; and

WHEREAS, pursuant to Texas Government Code Section 2054.0565 and Mobility Authority Policy Code Section 401.008, the Mobility Authority may utilize procedures established by the

Texas Department of Information Resources (DIR) to procure goods and services through DIR cooperative contracts; and

WHEREAS, the Executive Director recommends entering into an agreement with Deloitte Consulting LLP for a TOMS as a function of the Data Platform System in an amount not to exceed \$1,492,450 through their DIR cooperative contract.

NOW THEREFORE BE IT RESOLVED that the Board of Directors hereby approves the scope of work for a Tolling Operations Management Solution as a function of the Data Platform System which is attached hereto as Exhibit A; and

BE IT FURTHER RESOLVED, that the Executive Director is authorized to enter into an agreement with Deloitte Consulting LLP in an amount not to exceed \$1,492,450 through their cooperative contract with the Texas Department of Information Resources for the first phase of the Data Platform System.

Adopted by the Board of Directors of the Central Texas Regional Mobility Authority on the 29th day of June 2022.

Submitted and reviewed by:

Approved:

James M. Bass
Executive Director

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

Exhibit A

DIR Vendor Agreement

This is to signify that the Central Texas Regional Mobility Authority and Deloitte Consulting LLP Corporation have entered into an Agreement **in an amount not to exceed \$1,492,450.00** pursuant to Texas Government Code Section 2054.0565 utilizing Texas Department of Information Resources Contract No. #DIR-CPO-4919 for the deliverable-based information technology services described in this proposal. All terms and conditions of Texas Department of Information Resources Contract No. #DIR-CPO-4919 are applicable to and made part of this agreement.

DELOITTE CONSULTING LLP



Uday Katira, Managing Director
Deloitte Consulting LLP

06/17/2022

Date

**CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY**

James Bass
Executive Director

Date

Public Records Act Agreement

Contractor acknowledges and agrees that all records, documents, drawings, plans, specifications and other materials in the Authority's possession, including materials submitted by Contractor, are subject to the provisions of the Texas Public Information Act (see Texas Government Code § 552.001). Contractor shall be solely responsible for all determinations made by it under such law, and for clearly and prominently marking each and every page or sheet of materials with "Trade Secret" or "Confidential", as it determines to be appropriate. Contractor is advised to contact legal counsel concerning such law and its application to Contractor.

If any of the materials submitted by the Contractor to the Authority are clearly and prominently labeled "Trade Secret" or "Confidential" by Contractor, the Authority will endeavor to advise Contractor of any request for the disclosure of such materials prior to making any such disclosure. Under no circumstances, however, will the Authority be responsible or liable to Contractor or any other person for the disclosure of any such labeled materials, whether the disclosure is required by law, or court order, or occurs through inadvertence, mistake or negligence on the part of the Authority or its officers, employees, contractors or consultants.

In the event of litigation concerning the disclosure of any material marked by Contractor as "Trade Secret" or "Confidential," the Authority's sole obligation will be as a stakeholder retaining the material until otherwise ordered by a court, and Contractor shall be fully responsible for otherwise prosecuting or defending any action concerning the materials at its sole cost and risk; provided, however, that the Authority reserves the right, in its sole discretion, to intervene or participate in the litigation in such manner as it deems necessary or desirable. All costs and fees, including reasonable attorneys' fees and costs, incurred by the Authority in connection with any litigation, proceeding or request for disclosure shall be reimbursed and paid by Contractor.

DELOITTE CONSULTING LLP

**CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY**



Uday Katira, Managing Director
Deloitte Consulting LLP

James Bass
Executive Director

06/17/2022

Date

Date

Deliverables-based Information Technology Services (DBITS)

DIR-CPO-4919

Pursuant to above DBITS contract, the following terms will be applicable for TOMS Operations and Maintenance SOW.

Limitation of Liability

- Vendor shall not be liable for any claims, liability or expenses arising under or related to this Purchase Order (“Claims”) for an aggregate amount in excess of two-times (2x) the total value of the Purchase Order. Such value includes all amounts paid and amounts to be paid over the life of the Purchase Order to Vendor by such Customer as described in the Purchase Order. Notwithstanding the foregoing or anything to the contrary herein, any limitation of Vendor’s liability contained herein or in a Purchase Order shall not apply to: (i) claims of bodily injury; (ii) violation of intellectual property rights including but not limited to patent, trademark, or copyright infringement; (iii) indemnification requirements under the Agreement, except as allowed by subparagraph (B) below; and (iv) violation of State or Federal law including but not limited to disclosures of confidential information and any penalty of any kind lawfully assessed as a result of such violation.
- Vendor’s liability for indemnification requirements under Section 10.1.1(A)(i) and Section 10.1.1(A)(iii) of the DBITS Agreement shall be limited to (i) \$1 million or (ii) two-times (2x) the total value of the Purchase Order, whichever is greater. Such value includes all amounts paid and amounts to be paid over the life of the Purchase Order to Vendor by such Customer as described in the Purchase Order.
- In no event shall either party, its subsidiaries, subcontractors, or their respective personnel be liable to the other for punitive, special, or consequential damages, even if it is advised of the possibility of such damages.

DELOITTE CONSULTING LLP



Uday Katira, Managing Director
Deloitte Consulting LLP

06/17/2022

Date

**CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY**

James Bass
Executive Director

Date



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

Statement of Work

**Tolling Operations Management Solution (TOMS)
Operations and Maintenance**

June 9, 2022

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1. Statement of Work Purpose and Overview

The Tolling Operations Management Solution (“TOMS”) is an aggregate of multiple integrated solutions that support the CTRMA transaction to cash lifecycle. TOMS fully or partially automates business processes across a number of operational domains including Transaction Management, Product Management, Payment Path Management, Discount Management, Billing Management, Data Exchange Management, and Reporting & Analytics Management.

The purpose of this Statement of Work (“SOW”) is to define a suite of services necessary to support and maintain the successful daily availability, capacity, and functionality of the integrated TOMS architecture. This SOW is intended to serve as a basis of understanding between CTRMA and a 3rd party service provider (“Vendor”) of the services and their respective performance levels (“SLAs”).

The Operations & Maintenance Services areas are defined as follows:

- TOMS Application Support & Maintenance
- TOMS Database Maintenance
- TOMS Data Exchange Maintenance
- TOMS Reporting & Analytics Maintenance
- TOMS Support & Triage Management

1.1. General Assumptions

- 1.1.1. Support, as referenced in this SOW, does not include Call Center Services.
- 1.1.2. Vendor is only responsible for operating systems that are managed by Vendor (see Appendix A).
- 1.1.3. Vendor technical support for regulatory or compliance audits is limited to providing access to TOMS application, data, and reporting environments which may include standing up staging environments and loading instances of current or archived TOMS application, TOMS data schemas, TOMS reporting architecture, and/or historical transaction data
- 1.1.4. Virus protection is limited to the specific TOMS components referenced in this SOW. Vendor is not responsible for end-user system virus protection
- 1.1.5. Any downtime during maintenance window or outages due to infrastructure will not be count towards availability SLA metrics

2. TOMS Application Support & Maintenance

Vendor will maintain and operate the TOMS application, user interfaces, code, components, and operating systems managed by Vendor including deployment and maintenance of dependent elements of the TOMS applications and related components. This service does not include the TOMS data architecture or TOMS data exchanges which are covered elsewhere within this agreement.

2.1. Basic Services

- 2.1.1. Manage TOMS application availability and performance, per SLAs
- 2.1.2. Assist in issue triage as a representative of the TOMS application, user interfaces, code, components, and operating systems managed by Vendor (see appendix)
- 2.1.3. Manage and track application inventory including code, UI/UX components, and other dependent TOMS application elements
- 2.1.4. Install, maintain, monitor, and provide for the ongoing operation of production, development, and test TOMS application instances
- 2.1.5. Manage break/fix services for TOMS application production, development, and test instances
- 2.1.6. Maintain, create, and delete TOMS application user roles that depend on CTRMA IT security processes and tools
- 2.1.7. Administrate TOMS application backup and recovery services
- 2.1.8. Refresh TOMS application, user interfaces, code, components, and operating system versions managed by Vendor (see appendix) as required to stay current
- 2.1.9. Support the development, maintenance, and audit of disaster recovery procedures for TOMS application, user interfaces, code, components, and operating systems managed by Vendor (see appendix)
- 2.1.10. Provide technical support for regulatory and compliance audits related to the TOMS application
- 2.1.11. Manage and maintain virus protection for the TOMS application, user interfaces, code, components, and operating systems managed by Vendor (see appendix) (excluding physical infrastructure)

2.2. Premium Service

- 2.2.1. Implement DevOps/DevSecOps that automates build, deploy and release activities
- 2.2.2. Refactoring/re-platform of TOMS application user interface, code and components as required
- 2.2.3. Augment specialized Security resources to support regulatory and compliance reporting
- 2.2.4. Monitor and support vulnerability/DDoS activity protection for TOMS application environment

2.3. Service Not Offered

- 2.3.1. None listed

2.4. Performance Level

Service Component	Scope	Service Measurement
TOMS Application Availability	TOMS Application Code TOMS Application User Interfaces (UIs) TOMS Application Integration with TOMS Data	Available 24x7x365, >=99% of available time Maximum outage: 7 hours per month Average outage: 30 minutes Source: Host monitoring systems and Service Center reports
TOMS Application Backup	TOMS Application Code TOMS Application User Interfaces (UIs) TOMS Application Integration with TOMS Data	Daily, weekly, monthly, quarterly, and annual backups Recovery available 24x7x365, >=99% of available time Time to recover < 24 hours Scheduled recovery audits

2.5. Required Capabilities and Estimated Hours:

Required Capabilities	Estimated Monthly Hours	Estimated Yearly Hours
Angular, .Net Core, GCP AppEngine, Tester	110	1320

3. TOMS Database Support & Maintenance

Vendor will maintain and operate the TOMS data architecture, data storage, and database operating systems managed by Vendor including deployment and maintenance of dependent elements of the TOMS data architecture. This service does not include the TOMS application or TOMS data exchanges which are covered elsewhere within this agreement.

3.1. Basic Services

- 3.1.1. Provide TOMS database maintenance and administration
- 3.1.2. Manage TOMS data storage availability, capacity, and performance, per SLAs
- 3.1.3. Assist in issue triage as a representative of the TOMS data architecture, data storage, and database operating systems
- 3.1.4. Manage and track TOMS data storage inventory including architecture, data schemas, data catalogs, and other dependent TOMS data items
- 3.1.5. Install, maintain, monitor, and provide for the ongoing operation of production, development, and test TOMS database instances
- 3.1.6. Manage break/fix services for TOMS database production, development, and test instances
- 3.1.7. Maintain, create, and delete TOMS database user roles that depend on CTRMA IT security processes and tools
- 3.1.8. Administrate TOMS database and TOMS data backup and recovery services

- 3.1.9. Refresh TOMS data architecture, data storage, and database operating systems version managed by Vendor (see appendix) as required to stay current
- 3.1.10. Support development, maintenance, and audit of disaster recovery procedures for TOMS data architecture, data storage, and database operating systems
- 3.1.11. Provide technical support for regulatory and compliance audits related to the TOMS database and TOMS data
- 3.1.12. Manage and maintain virus protection for the TOMS data architecture, data storage, and database operating systems (excluding physical infrastructure)

3.2. Premium Service

- 3.2.1. Augment specialized Security resources to support regulatory and compliance reporting
- 3.2.2. Monitor and support vulnerability/DDoS activity protection for TOMS application and database environment

3.3. Service Not Offered

- 3.3.1. None listed

3.4. Performance Level

Service Component	Scope	Service Measurement
TOMS Database Availability	TOMS Database Tables, Relationships, and Schema TOMS Database Code TOMS Data	Available 24x7x365, >=99% of available time Maximum outage: 7 hours per month Average outage: 30 minutes Source: Host monitoring systems and Service Center reports
TOMS Application Backup	TOMS Database Tables, Relationships, and Schema TOMS Database Code TOMS Data	Daily, weekly, monthly, quarterly, and annual backups Recovery available 24x7x365, >=99% of available time Time to recover < 24 hours Scheduled recovery audits

3.5. Required Capabilities and Estimated Hours:

Required Capabilities	Estimated Monthly Hours	Estimated Yearly Hours
DBA - PostgreSQL, and BigQuery, Tester	48	576

4. TOMS Data Exchange Maintenance

Vendor will maintain and operate the TOMS data exchanges (DEXs), exchange code, and 3rd party integration points to ensure expected data throughput meets or exceeds stated SLAs. This service does not include the TOMS application or TOMS database which are covered elsewhere within this agreement.

4.1. Basic Services

- 4.1.1. Provide TOMS DEX maintenance and administration
- 4.1.2. Manage TOMS DEX availability, capacity, and performance, per SLAs
- 4.1.3. Manage and track TOMS DEX inventory including architecture, DEX code, and other dependent TOMS DEX items.
- 4.1.4. Install, maintain, monitor, and provide for the ongoing operation of production, development, and test TOMS DEX instances
- 4.1.5. Manage break/fix services for TOMS DEX production, development, and test instances.
- 4.1.6. Maintain, create, and delete TOMS DEX user roles that depend on CTRMA IT security processes and tools
- 4.1.7. Administrate TOMS DEX backup and recovery services
- 4.1.8. Refresh TOMS DEX architecture, exchange code, 3rd party integration points and operating systems versions managed by Vendor (see appendix) as required to stay current
- 4.1.9. Support development, maintenance, and audit of disaster recovery procedures for TOMS DEX instances, DEX code, and 3rd party DEX integration points
- 4.1.10. Manage and maintain virus protection for the TOMS DEX instances, DEX code, and 3rd party DEX integration points (excluding physical infrastructure).
- 4.1.11. Assist in issue triage as a representative of the TOMS DEX instances, DEX code, and 3rd party DEX integration points.
- 4.1.12. Provide technical support for regulatory and compliance audits related to the TOMS DEX instances, DEX code, and 3rd party DEX integration points.

4.2. Premium Service

- 4.2.1. Refactoring/re-platform of TOMS data exchange, code and components
- 4.2.2. Augment specialized Security resources to support regulatory and compliance reporting
- 4.2.3. Monitor and support vulnerability/DDoS activity protection for TOMS application environment

4.3. Service Not Offered

- 4.3.1. None listed

4.4. Performance Level

Service Component	Scope	Service Measurement
TOMS Data Exchange Availability	TOMS Data Exchange Architecture TOMS Data Exchange Code TOMS Data Exchange Integrations	Available 24x7x365, >=99% of available time Maximum outage: 7 hours per month Average outage: 30 minutes Source: Host monitoring systems and Service Center reports
TOMS Data Exchange Backup	TOMS Data Exchange Architecture TOMS Data Exchange Code TOMS Data Exchange Integrations	Daily, weekly, monthly, quarterly, and annual backups Recovery available 24x7x365, >=99% of available time Time to recover < 24 hours Scheduled recovery audits

4.5. Required Capabilities and Estimated Hours:

Required Capabilities	Estimated Monthly Hours	Estimated Yearly Hours
Python, Data Fusion, Cloud Run, Cloud Functions, Apigee, Tester	230	2760

5. TOMS Reporting & Analytics Maintenance

Vendor will maintain and operate the TOMS Reporting & Analytics architecture including maintenance of dependent elements of the reporting cache databases, master record integrations, data use governance compliance, reporting data and related components. This service does not include the TOMS application, TOMS data architecture or TOMS data exchanges which are covered elsewhere within this agreement.

5.1. Basic Services

- 5.1.1. Manage TOMS reporting & analytics environment availability and performance, per SLAs
- 5.1.2. Assist in issue triage as a representative of the TOMS reporting & analytics architecture, data cache, reporting data, and master record integrations
- 5.1.3. Manage and track reporting cache inventory including schemas, databases, master record integrations, and other dependent TOMS reporting & analytics elements
- 5.1.4. Install, maintain, monitor, and provide for the ongoing operation of production, development, and test TOMS reporting & analytics instances
- 5.1.5. Manage break/fix services for TOMS reporting & analytics production, development, and test instances.
- 5.1.6. Maintain, create, and delete TOMS reporting & analytics user roles that depend on CTRMA IT security processes and tools
- 5.1.7. Administrate TOMS reporting & analytics backup and recovery services
- 5.1.8. Refresh TOMS reporting & analytics code, components, and operating systems versions managed by Vendor (see appendix) as required to stay current
- 5.1.9. Support the development, maintenance, and audit of disaster recovery procedures for TOMS reporting & analytics code, components, and operating systems managed by Vendor (see appendix)
- 5.1.10. Provide technical support for regulatory and compliance audits related to the TOMS reporting & analytics architecture, data cache, reporting data, and master record integrations
- 5.1.11. Manage and maintain virus protection for the TOMS reporting & analytics code, components, and operating systems managed by Vendor (see appendix) (excluding physical infrastructure)

5.2. Premium Service

- 5.2.1. Refactoring/re-platform of TOMS application user interface, code, and components
- 5.2.2. Augment specialized Security resources to support regulatory and compliance reporting
- 5.2.3. Monitor and support vulnerability/DDoS activity protection for reporting and analytics environment

5.3. Service Not Offered

5.3.1. None listed

5.4. Performance Level

Service Component	Scope	Service Measurement
TOMS Reporting & Analytics Availability	TOMS Reporting Cache Tables, Relationships, and Schema TOMS Reporting Cache Code TOMS Reporting Cache Reports	Available 24x7x365, >=99% of available time Maximum outage: 7 hours per month Average outage: 30 minutes Source: Host monitoring systems and Service Center reports
TOMS Reporting & Analytics Backup	TOMS Reporting Cache Tables, Relationships, and Schema TOMS Reporting Cache Code TOMS Reporting Cache Reports TOMS Reporting Cache Data (TBD)	Daily, weekly, monthly, quarterly, and annual backups Recovery available 24x7x365, >=99% of available time Time to recover < 24 hours Scheduled recovery audits

5.5. Required Capabilities and Estimated Hours:

Required Capabilities	Estimated Monthly Hours	Estimated Yearly Hours
BI/SQL Development - PostgreSQL/BigQuery, Looker, Tester	65	780

6. TOMS Support & Triage Management

Vendor will provide first and second tier support for the TOMS application, database architecture, data exchange architecture, reporting & analytics architecture, and all dependent elements. This service covers all break-fix issues for TOMS where SLAs are affected. Typical delivery of these services involves the problem diagnosis, resolution determination and implementation of the solution covering the TOMS application, TOMS data architecture, TOMS data exchange architecture, TOMS reporting & analytics architecture, and all TOMS-dependent elements.

6.1. Basic Services

- 6.1.1. Perform continuous monitoring of all critical TOMS architecture elements that drive availability, capacity, and throughput
- 6.1.2. Serve as a first point of contact and primary stakeholder for issues identified within the TOMS application, TOMS database, TOMS data exchange, and TOMS reporting & analytics architectures
- 6.1.3. Participate in service request logging, categorization, escalation, and closure of issues in the CTRMA IT incident management system
- 6.1.4. Conduct triage and analysis for issues dependent upon, or directly impacting the TOMS application, TOMS database, TOMS data exchange, and TOMS reporting & analytics architectures

- 6.1.5. Identify, communicate, and resolve issues within the TOMS application, TOMS database, TOMS data exchange, and TOMS reporting & analytics architectures, per SLAs
- 6.1.6. Provide notification of problems and service outages to appropriate CTRMA stakeholders, per SLAs
- 6.1.7. Provide and maintain issue analysis and resolution documentation for issues identified within the TOMS application, TOMS database, TOMS data exchange, and TOMS reporting & analytics architectures
- 6.1.8. Administrate TOMS application, TOMS database, TOMS data exchange, TOMS reporting & analytics, and TOMS data backups using CTRMA-defined backup schedule, tools, and approaches
- 6.1.9. Assist CTRMA with TOMS application, TOMS database, TOMS data exchange, TOMS reporting & analytics, and TOMS data recovery from available backups

6.2. Premium Service

- 6.2.1. None Listed

6.3. Service Not Offered

- 6.3.1. None listed

6.4. Performance Level

Reporting Component	Scope
Weekly Standup Meeting	Weekly meeting at a mutually agreeable time with documentation and topics to be determined. Suggested topics include: <ul style="list-style-type: none"> • recap accomplishments and incidences from previous week • plans for the coming week
Monthly Report	Monthly report and meeting at a mutually agreeable time with documentation and topics to be determined. Suggested topics include: <ul style="list-style-type: none"> • SLA Reporting by Area • Availability, Capacity, Throughput Measures • Count of incidents reported • Count and duration of outages • Estimated hours consumed • Past and Planned Maintenance Outages
Quarterly Performance Retrospective	Quarterly retrospective meeting at a mutually agreeable time with documentation and topics to be determined. Suggested topics include: <ul style="list-style-type: none"> • Performance to Date •

6.5. Required Capabilities and Estimated Hours

Required Capabilities	Estimated Monthly Hours	Estimated Yearly Hours
Support Manager/Tolling SME	90	1080

7. Tolling Operations Support Staff Augmentation

Vendor will provide one or more Tolling Operations Support Staff to assist with the facilitation of the end-to-end business processes managed within the TOMS.

This role will manage and control all automated transaction pricing, discounting, and billing workflow activities and address issues that occur within the lifecycle. This includes the monitoring and support of all inbound and outbound data exchanges between the CTRMA cloud, the Central US Interoperability Hub (CUSIOP), Pail by Mail vendor (PBM), Department of Motor Vehicles (DMV), Public Reporting solutions, and other data and information exchanges with 3rd-party partners or clients.

7.1. Staffing Process

Vendor will provide qualified candidates for CTRMA consideration. Qualified candidates will be interviewed by CTRMA IT leadership and the CTRMA TOMS Support Lead. Accepted candidates will be required to complete training on the TOMS system and the related CTRMA end-to-end business processes.

Candidates will report directly to CTRMA and will be managed by the CTRMA Transaction Operations Support Lead.

7.2. Job Responsibilities

Enhancements that CTRMA determines will follow a waterfall approach will consist of 5 formal phases: Requirements, Design, Development, Testing, and Deployment.

- Transaction Processing Operations Support
 - Transaction Processing Workflow
 - Assigning holds to transactions
 - Assigning “Do Not Process” to transactions
 - Product Management Workflow
 - Discount Management Workflow
 - Veterans Discounts
 - Exempt Vehicle Discounts
 - Billing Management Workflow
 - Product Pricing Management Workflow
 - User Role Management
 - Adding / editing / removing access
 - Password Management
 - Issue Management & Tracking
- Data Exchange Operations Support
 - Central US Interoperability Hub (CUSIOP)
 - File management
 - Processing Stop / Start intervention
 - Reconciliation
 - Pay by Mail Vendor (PBM)

- File management
 - Processing Stop / Start intervention
 - Reconciliation
 - Roadside Vendor
 - Image processing monitoring
 - File management
 - Processing Stop / Start intervention
 - Reconciliation
 - Department of Motor Vehicles (DMV)
 - File Management
 - As needed coordination with DMV for issue management (typically minimal)
 - Public Reporting
 - Administrating access to Public Reporting Cache
 - API Monitoring
 - Coordination with partner agencies
 - Support of enhancements changes / defects related to CUSIOP Hub, PBM, DMV, RMA, and Roadside processing
 - Troubleshooting transaction processing issues
 - Stop / start processing
- TOMS Performance Monitoring
 - KPI / SLA verification
 - Trend analysis / identifying processing anomalies
 - Coordination with infrastructure group
 - Coordination with application / database support group
- Reporting & Analytics Support
 - Troubleshooting system issues (ad-hoc queries)
 - Static reports
 - Operations
 - Revenue
 - System performance / throughput
 - Traffic analysis / trends
 - Researching customer issues
 - Performing adjustments / dismissals
 - Public Information Requests
 - Large data extracts / queries
 - Reconciliation between systems (CUSIOP, Roadside, DMV, and PBM to the Host)
 - Transactions
 - Revenue
 - Ad-hoc queries / data analysis
 - Business analysis / trends / reports
 - Cost analysis
 - Traffic and revenue data (e.g., large data extracts for T&R consultants)
- Other Responsibilities

- Communication
 - Information and Issue notification and escalation
- Data Governance
 - Ensuring Policies and Procedures adherence
- Compliance
 - SOC II Audit Support
- Training & Knowledge Management Support
 - For new TOMS users (expect it to be minimal for CTRMA staff)

7.3. Education & Experience

Candidates provided by the Vendor must meet the following skills and experience criteria:

- Bachelor's degree (Business Management, Information Systems or equivalent)
- Previous experience in business analysis, transaction processing, workflow management, and/or Tolling
- Familiarity with Google Cloud services, Looker, Postgres DB, and/or Python preferred, but not required
- Strong collaboration and communication skills
- Demonstrated analytical and problem-solving skill

APPENDIX A

Supporting References

Figure A-1: Targeted Business Domains & Capabilities for TOMS

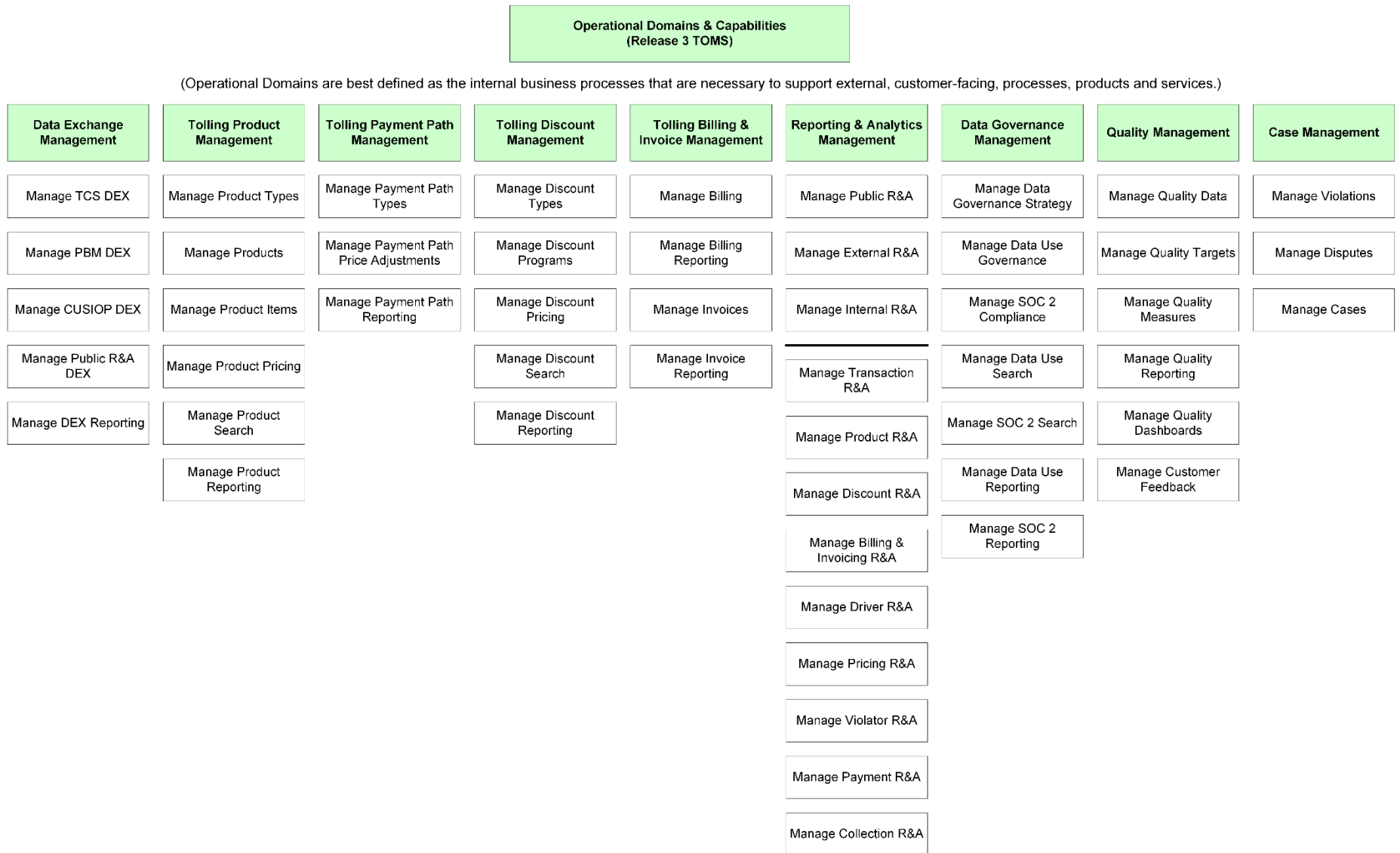


Figure A-2: Example Sprint Schedule (3-week sprint cycle) and Features-based Kanban Chart

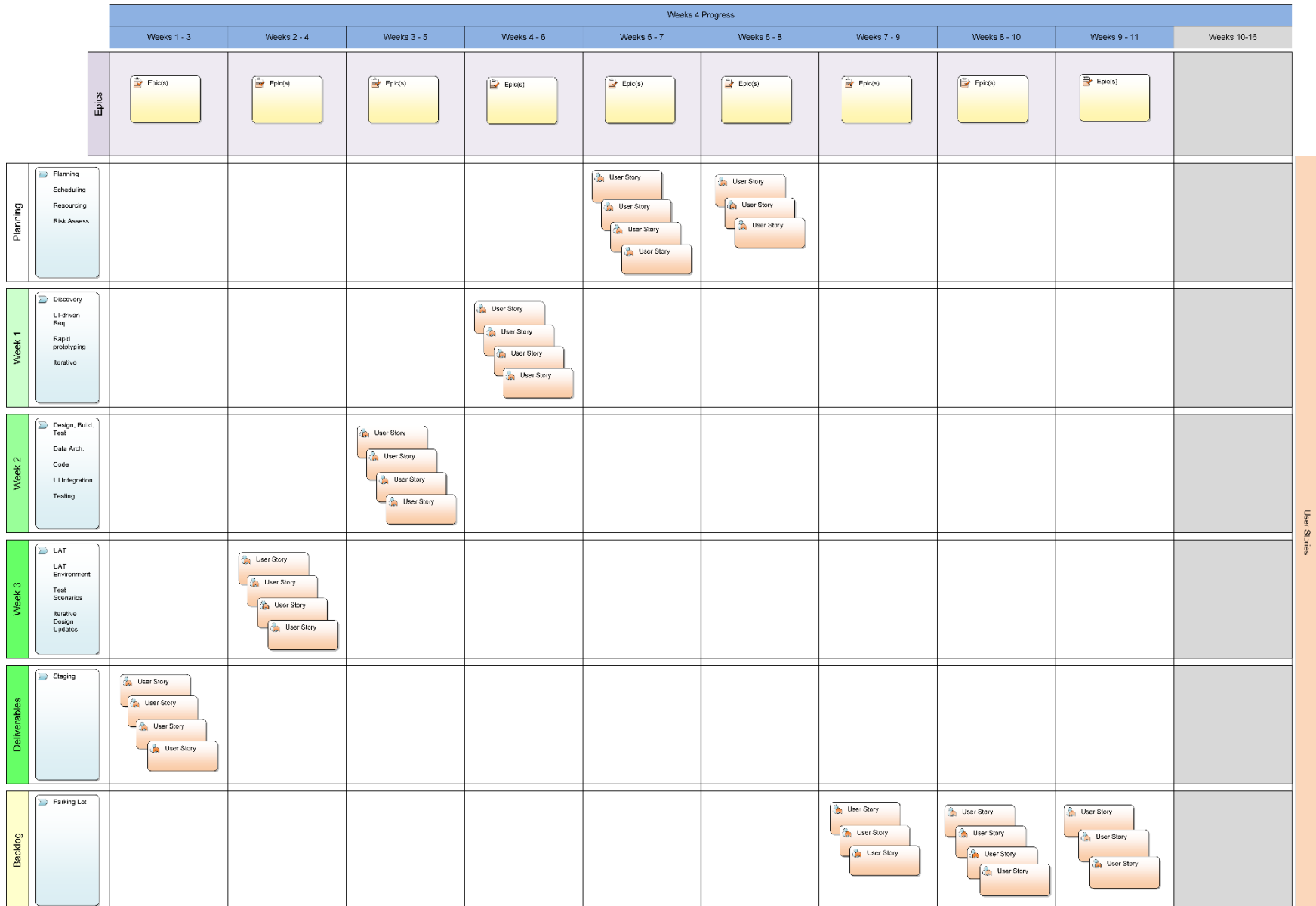


Figure A-3: Example: Daily Stand-up Kanban Chart

