



2021 TOLL REVENUE AUDIT

April 2021

**CENTRAL
FLORIDA
EXPRESSWAY
AUTHORITY**

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EXECUTIVE SUMMARY

Overview

The Central Florida Expressway Authority (“CFX”) currently owns and operates 125 centerline miles of roadway in Orange County. The roadways include 22 centerline miles on State Road (SR) 408 (Spessard L. Holland East-West Expressway), 23 centerline miles on SR 528 (Martin B. Andersen Beachline Expressway), 33 centerline miles on SR 417 (Central Florida GreeneWay), 30 centerline miles on SR 429 (Daniel Webster Western Beltway), six centerline miles on SR 414 (John Land Apopka Expressway), two centerline miles on SR 451, two centerline miles on SR 453, and seven centerline miles on SR 538 (Poinciana Parkway).

In accordance with the 2021 Internal Audit Plan, Internal Audit reviewed and tested key controls of the two primary components of Toll Revenue in CFX’s Comprehensive Annual Financial Report: Electronic Toll Collections (consisting of E-PASS and Pay By Plate) and Cash Toll Collections. Toll revenue collections for fiscal year 2021, from July 1, 2020 through February 28, 2021 totaled \$224 million for E-PASS (74%), \$65 million for Pay By Plate (21%), and \$15 million for cash (5%) for a combined total of \$304 million at the time of audit.

Cash Toll Collections

The CFX system includes manned lane terminals (MLT) and Automatic Coin Machines (ACM) lanes at most mainline plazas. Ramp toll plazas are not manned and cash collected at these plazas is limited to ACM lanes. The number of manned lanes and ACM lanes at each plaza vary based on traffic patterns, construction, and other factors influencing plaza operations.

CFX engages a third-party contractor (Shimmick) to manage day-to-day lane operations and cash toll collections. The contractor is responsible for the following:

- Staffing the toll plazas, including hiring, training, and monitoring employees,
- All controls around the physical security of cash maintained at the plazas from the point of collection through the time of deposit,
- Monitoring of the electronic tolling system, and
- Audit procedures to identify variances between tolls collected, expected revenue, and cash deposited.

The third-party contractor has been performing this function for CFX since 1995 (under varying company names). The contract was rebid in 2005 and 2015. On-site management of the contract has remained greatly the same despite name and ownership changes.

EXECUTIVE SUMMARY

Overview

Electronic Toll Collections

E-PASS

Customers who drive on CFX's roadways have the option of utilizing a prepaid E-PASS account via a transponder. Each time customers use a toll facility where E-PASS is accepted, devices at the toll plaza (Automatic Vehicle Identification, or "AVI") read the transponder and identify the customer's account. The appropriate toll is electronically deducted from the prepaid account. CFX has entered into interoperability agreements with other agencies that allow transponders maintained with SunPass, LeeWay, and E-ZPass, among others, to be utilized on CFX's roadways. In addition, CFX has interoperability agreements that allow E-PASS customers to use transponders in certain parking facilities in the Central Florida area, including the Orlando International Airport.

The day-to-day operations associated with E-PASS accounts are outsourced to a third-party contractor (Alliance One). The contractor is responsible for providing the personnel necessary to operate the E-PASS Customer Service Centers, including servicing customers and processing account maintenance through walk-in service centers, a call center, mail, email, fax and the E-PASS website. Operations include other back-office activities and reconciliation activities.

The contract was rebid in 2020 and day-to-day operations transitioned to a new third-party contractor as of September 1, 2020. Many key personnel transitioned to the new third-party contractor and remain engaged in daily operations with the new contractor.

Pay By Plate Toll Collections

Pay By Plate (PBP) toll invoicing is an option for customers to "pay as you go" and forego the benefits of discounted E-PASS toll rates. With Pay By Plate, an image of the driver's license plate is captured as they pass through the toll plaza. Pay By Plate rates are twice the E-PASS rates and are assessed via the vehicle owner's account in TRIMS. For Pay By Plate transactions, a monthly toll invoice is generated and mailed to the registered owner of the vehicle. The vehicle owner can pay over the phone, online, or through a Touch-n-Buy kiosk powered by Blackstone, located throughout the state in check-cashing stores, local grocery stores, and gas stations.

When a Pay By Plate account becomes delinquent and meets the established timing and dollar thresholds, the vehicle owner is assessed a citation, which must be paid through the Clerk of Courts. Also, CFX may issue a vehicle registration hold if the vehicle owner's account becomes delinquent for unpaid tolls.

EXECUTIVE SUMMARY



Overview

Infinity System Implementation

CFX is nearing the completion of an \$85 million project with a third-party contractor (Transcore) to design, install and maintain a new, innovative electronic toll collection system for over 300 toll lanes. The new system, Infinity Digital Lane System, supports improved accuracy, reliability and automation of electronic and Pay By Plate tolling operations.

This technology upgrade includes advanced vehicle classification and identification systems combined with a digital video audit module called Q-Free, designed to enhance the system's precision and auditability. The contractor working with CFX on the design and install also established a Maintenance Monitoring Center (MMC) to track performance of the new toll collection system in real time, 24 hours a day, 365 days a year. The contractor is responsible for the ongoing maintenance of the toll system and will use the MMC to monitor, respond to and prevent system equipment issues before they occur. System implementation and go-live continues to proceed in a phased approach, with the remaining lanes and plazas to be converted near the end of fiscal year 2021.

The toll revenue capture process is highly dependent on various electronic systems to capture, process, and report toll revenue. The systems that significantly impact the toll revenue process are as follows:

- **Advanced Revenue Collection System (ARCS)** – The ARCS database stores transactional data generated and transmitted by the respective toll plazas. For this database, Internal Audit tested the effectiveness of controls in place around Computer Operations (e.g., data backups, job scheduling, and batch processing).
- **Toll Revenue Information Management System (TRIMS)** – TRIMS supports customer service center operations including the maintenance of customer account information and processing of payments.
- **EDEN** – EDEN is CFX's general ledger system provided by a third-party vendor, Tyler Technologies, Inc.
- **Infinity Digital Lane System** – Infinity is the new electronic tolling system currently being implemented across CFX's network of plazas and ramp gantries.
- **Q-Free Image Review Software** – Q-Free is a component of the newly installed Infinity system, which captures images of vehicles passing through Pay By Plate toll lanes.

EXECUTIVE SUMMARY



Objectives, Scope, and Approach

The objectives of the toll revenue audit were to review that the following processes and internal controls are in place and operating effectively:

1. Processes and internal controls to verify that revenue data captured at the point of origin is completely and accurately recorded to the financial statements,
2. Physical safeguarding controls around cash (including the use of security and surveillance, data analytics, monitoring and reporting, counts, and other reconciling activities),
3. Controls around processing revenue adjustments to customer accounts,
4. Controls related to Pay By Plate billing, collection, and monitoring,
5. Reconciliation controls to monitor revenue related to interoperability agreements, and
6. IT general controls around supporting systems and information technology.

The scope of work included documenting current state processes, identification of internal controls and review of control design, and testing of key controls for cash toll collections, electronic toll collections, and supporting IT general controls. The timeframe for processes and testing of transactions in scope for this audit was July 1, 2019 through December 31, 2020, with the exception that vendor (E-Pass Customer Contact Center) services performed by Alliance One were evaluated as of September 1, 2020.

The audit approach included the following:

1. Conducting interviews with key CFX and subcontractor personnel to gain an understanding of current-state processes and updating of existing audit process documentation where applicable,
2. Identifying key risks and internal controls, and reviewing for gaps in internal control,
3. Evaluating key controls for design effectiveness, and
4. Performing procedures to evaluate the operating effectiveness of key controls related to the objectives above.

EXECUTIVE SUMMARY



Summary of Procedures Performed and Results

Internal Audit reviewed the revenue capture processes, supporting technology, key controls identified within the cash toll and electronic toll collection processes for the period of July 1, 2019 through December 31, 2020.

Internal Audit reviewed and evaluated approximately 54 internal controls specific to cash toll collections, electronic toll collections, and the IT supporting systems. Overall, the results of this audit confirmed that numerous internal controls are in place and operating effectively and as intended to ensure revenue capture completeness and accuracy. As a result of the audit procedure performed, Internal Audit identified four audit observations that create opportunity for CFX to further strengthen its control environment. An overview of these findings is provided in the table below:

Area	# of Controls Tested	Number of Observations	Observation Reference	Relative Priority
Toll Operations and IT (CFX)	6	1	1	High
E-PASS (Alliance One)	16	2	2, 3	Moderate
Accounting (CFX)	12	1	4	Moderate
Pay By Plate and Image Review	2	-	-	
Toll Plaza Operations (Shimmick)	18	-	-	
TOTALS:	54	4	-	

DETAILED OBSERVATIONS

DETAILED OBSERVATIONS

Observation 1 – Toll System Performance Monitoring

Relative Priority

High

Toll Operations and IT
(CFX)

E-PASS (Alliance One)

Accounting (CFX)

Pay By Plate and
Image Review

Toll Operations
(Shimmick)

Observation

The Infinity tolling system is designed to identify duplicate transactions captured at the source equipment through a series of business rules. Transactions meeting the duplicate criteria are “flushed” or halted from further processing and billing (e.g., system detects multiple transponders in one vehicle and flushes one to avoid duplicate billing). This represents a significant enhancement in duplicate transaction handling compared to the Legacy toll system. However, while CFX monitors the volume of flushed transactions by plaza and lane, no reporting mechanism currently exists to efficiently validate the appropriateness of flushed transactions at large volumes. Additionally, no mechanism exists to efficiently identify failures to appropriately flush duplicate transactions. Individual transactions may be reviewed manually to verify the appropriateness of the transaction handling. Without a process to evaluate flush handling at scale, CFX is unable to assess the impact of improper flush treatment and determine the extent of potentially lost or improperly collected revenue.

Recommendation

Management should consider a phased approach to identify and monitor flush transaction errors:

- Short-term:
 - Perform a manual review of transaction handling for a sample of transactions within the population of flushes with the highest estimated frequency and material impact to determine the rate and impact of error;
 - Perform the above review monthly until a long-term solution is developed
- Long-term:
 - Catalogue all known scenarios for flush handling failure (i.e., improper flush and failure to flush);
 - Define criteria for each scenario; identify characteristics which can be used to identify;
 - Perform manual review of a sample of transactions in each scenario to determine relative material impact;
 - Prioritize development of monitoring mechanisms (for each scenario according to relative material impact) to facilitate real-time identification of issues utilizing thresholds and alerts;
 - Perform periodic manual review of transactions in each scenario to validate monitoring mechanisms.

DETAILED OBSERVATIONS

Observation 1 – Toll System Performance Monitoring

Relative Priority

High

Toll Operations and IT
(CFX)

E-PASS (Alliance One)

Accounting (CFX)

Pay By Plate and
Image Review

Toll Operations
(Shimmick)

Management Response

Management concurs.

Management Action Plan

Management will pursue the following phased approach:

- Short-term: Management has identified a population of flushes having the highest combined expected rate of error and materiality and will coordinate with Internal Audit to establish a sampling methodology for use in a manual review of transactions to be performed periodically until a permanent solution enables review of the full population.
- Long-term: Management will implement the solution as described.

Action Plan Owner / Due Date

David Boston, Manager of Toll Technical Systems

- Short-term: June 30, 2021
- Long-term: June 30, 2022

DETAILED OBSERVATIONS

Observation 2 – Logical Access to TRIMS

Relative Priority

Moderate

Toll Operations and IT
(CFX)

E-PASS (Alliance One)

Accounting (CFX)

Pay By Plate and
Image Review

Toll Operations
(Shimmick)

Observation

Upon the termination of any employee or contractor, the responsible manager is required to submit a ticket through the IT Help Desk to request access removal for relevant applications. Management is also required to perform periodic review of users' access to key applications. Access to the Toll Revenue Information Management System (TRIMS) is reviewed by Alliance One management on a monthly basis.

Although a TRIMS access review control is in place, 37 terminated employees were identified as still having access to TRIMS as of the time of the audit. Nineteen of the terminated employees identified also retained access to Active Directory, which is a prerequisite for logging into TRIMS.

The failure to remove terminated employees' access to sensitive applications in a timely manner increases risk of unauthorized use of the application or unauthorized access to confidential information.

Recommendation

Management should consider the following:

- Perform an impact assessment to confirm potential instances of terminated users having access to TRIMS and enabled Active Directory accounts.
- Remove TRIMS access and disable Active Directory for all terminated employees.
- As part of the monthly user access review process, incorporate a review of users with last login dates that suggest possible termination in order to detect users not removed during the normal termination process.

DETAILED OBSERVATIONS

Observation 2 – Logical Access to TRIMS

Relative Priority

Moderate

Management Response

Management concurs.

Management Action Plan / Owner / Due Date

Management will perform the following:

- Perform an impact assessment to confirm instances of inappropriate access and removed access where needed
- Coordinate with Alliance One to realign responsibilities related to personnel changes to ensure timely notification of CFX IT for any terminations and personnel changes
- Enhance procedures around periodic user access review to ensure sufficient coverage

Owners / Due Date

Dave Wynne, Director of Toll Operations / June 30, 2021

Rafael Milan, Director of Information Technology / June 30, 2021

Toll Operations and IT
(CFX)

E-PASS (Alliance One)

Accounting (CFX)

Pay By Plate and
Image Review

Toll Operations
(Shimmick)

DETAILED OBSERVATIONS

Observation 3 – Review of Badge Access

Relative Priority

Moderate

Toll Operations and IT
(CFX)

E-PASS (Alliance One)

Accounting (CFX)

Pay By Plate and
Image Review

Toll Operations
(Shimmick)

Observation

Upon the termination of any employee or contractor, the responsible manager is required to submit a ticket through the IT Help Desk to request the deactivation of badges which grant physical access to the building. Alliance One management performs a monthly review of users with active badges.

For the two months tested, the badge access report distributed for review contained only users with inactive badges; therefore, a review of active badges for reasonableness was not possible. Additionally, no evidence exists to demonstrate that the reviewer detected the error and pursued resolution.

After further evaluation of the current badge access listing for Alliance One employees, no terminated employees were found to have badge access.

Lack of a regular, sufficiently detailed review of badge access increases the likelihood that terminated employees retain inappropriate access to physical assets, increasing the risk of unauthorized acquisition, use, theft or damage to company assets. While current procedures include recovery of badges from terminated employees by Building Security, badge access should be deactivated immediately upon termination.

Recommendation

Management should ensure that review of badge access is performed with a degree of detail sufficient to uncover errors in report parameters which may hinder the efficacy of the review.

Management Response

Management concurs.

Management Action Plan

- Management revised the badge access report parameters to permit effective review as of February 2021
- Management will implement enhanced procedures around periodic user access review to ensure sufficient coverage

Owner / Due Date

Dave Wynne, Director of Toll Operations / June 30, 2021

DETAILED OBSERVATIONS

Observation 4 – Negative Discrepancy Billing

Relative Priority

Moderate

Toll Operations and IT
(CFX)

E-PASS (Alliance One)

Accounting (CFX)

Pay By Plate and
Image Review

Toll Operations
(Shimmick)

Observation

CFX is contractually entitled to reimbursement from the third-party toll collections contractor (Shimmick) for lost revenue due to toll collector error within the manned lane terminals (MLT). The CFX Accountant performs a monthly review of actual-to-expected toll collections to review variances meeting the criteria for reimbursement and bills the contractor for the “negative discrepancies” identified. The criteria used by the Accountant to calculate the negative discrepancy billing each month is not documented, which increases the risk of billing disputes and loss of historical knowledge with employee turnover.

Recommendation

Documented criteria should exist to facilitate consistent and efficient review, reduce the likelihood of billing disputes, and allow other CFX personnel to perform the process in the absence of the assigned Accountant. Management should coordinate with the toll collections contractor to mutually document and approve the criteria governing negative discrepancy billing.

Management Response

Management concurs.

Management Action Plan

Management has established a plan to document the negative discrepancy billing review criteria and will update the documentation periodically along with other Accounting procedures.

Action Plan Owner / Due Date

Michael Carlisle, Director of Accounting and Finance / December 31, 2021

APPENDIX

Opportunities for Digitalization

APPENDIX

Additional Procedures – Digitizing Toll Collection Operations

Toll Operations and IT
(CFX)

E-PASS (Alliance One)

Accounting (CFX)

Pay By Plate and
Image Review

Toll Operations
(Shimmick)

Procedures Performed

Internal Audit reviewed physical paper documentation generated through the following daily processes to identify opportunities for reduction paper:

- Toll Operations
 - Manned lane terminal (MLT)
 - Automated Coin Machine (ACM) operations
 - Plaza operations, including cash deposits and movements
- Daily and monthly audit processes
- Bank deposit processes and reporting
- E-PASS deposit and adjustment processes

Internal Audit reviewed 22 reports in total through review of the daily operations, audit, banking, and E-PASS processes, and identified ten (10) potential candidates for digitization.

Recommendation

Management has begun efforts to reduce paper reporting by identifying relevant reports generated in the toll operations processes. Management should coordinate with representatives from third-party contractors responsible for daily toll operations processes and E-PASS customer service processes, and with representatives from the bank to evaluate opportunities to reduce paper through increased reliance on electronic reporting of key information.

Management Response

Management concurs.

Face the Future with Confidence

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