

AUDITOR'S REPORT

HARRIS COUNTY TOLL ROAD AUTHORITY VIOLATION CONTROLS FOR THE SIX MONTH PERIOD ENDED AUGUST 31, 2018



September 13, 2019

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HARRIS COUNTY AUDITOR

September 13, 2019

Mr. Gary Trietsch, Executive Director
Harris County Toll Road Authority
7701 Wilshire Place Dr.
Houston, Texas 77040

RE: Harris County Toll Road Authority Toll Road Violation Controls for the six month period ended August 31, 2018

The Audit Services Department performed procedures relative to the Harris County Toll Road Authority (HCTRA) Toll Road Violation Controls. The objective of the engagement was to document and assess the adequacy of HCTRA's internal controls over the toll violation process.

Our procedures included selectively testing:

1. Compliance with statutes and internal policies related to violations.
2. Controls over HCTRA's collection process for violations.
3. Controls related to adjustments of violation fees, fines and/or tolls.
4. To determine whether the financial transactions related to violations processed in the RITE 2.0 system are timely and accurately recorded in the County's Financial Records (IFAS).
5. Controls over the automated interface between HCTRA's RITE 2.0 system, the third party collection agency's system, and the invoicing agency's systems.
6. Controls over access rights and privileges to HCTRA's RITE 2.0 system, including end users, superusers, database and system administrators with access to violation-related data.
7. Controls over changes performed to the violation-related software modules within RITE 2.0.
8. Controls over network security for the RITE 2.0 application.

The work performed required our staff to exercise professional judgement in completing the scope procedures. As the procedures were not a detailed examination of all transactions, there is a risk that fraud, errors, or omissions were not detected during this engagement. The official, therefore, retains the responsibility for the accuracy and completeness of their financial records and for ensuring sufficient controls are in place to detect and prevent fraud, errors, or omissions.

The enclosed Auditor's Report includes the issues identified during our procedures, recommendations developed in conjunction with your staff, and any actions you have taken to implement the recommendations.

Mr. Gary Trietsch, Executive Director
Harris County Toll Road Authority

We appreciate the time and attention provided by you and your staff during this engagement.

Sincerely,



Michael Post
County Auditor

cc: District Judges
County Judge Lina Hidalgo
Commissioners:
 R. Jack Cagle
 Rodney Ellis
 Adrian Garcia
 Steve Radack
Kim Ogg
Vince Ryan
William J. Jackson

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OVERVIEW

HCTRA was established on September 22, 1983 by the County's Commissioners Court pursuant to Chapter 284 of the Texas Transportation Code. Also in 1983, Harris County voters authorized issuance of up to \$900 million in bonds to construct, operate and maintain toll roads in Harris County.

Toll violations occur when vehicles pass through a toll lane without paying the toll. If the vehicle's license plate number is not associated with an active electronic toll tag (EZ Tag) account, the license plate is matched to the registered owner of the vehicle according to the Texas Department of Motor Vehicles. After the third violation, a violation letter is generated and sent to the registered owner of the vehicle.

Pursuant to Section 284.0701 of the Code, "on issuance of a written notice of nonpayment, the registered owner of the nonpaying vehicle is liable for the payment of both the proper toll and an administrative cost. The county may impose and collect the administrative cost so as to recover the expense of collecting the unpaid toll, not to exceed \$100. HCTRA's administration fee is \$10 per violation. Pursuant to Section 284.2032, "in addition to other costs, there will be a fee of \$1 as an administrative cost associated with collecting a toll or charge for each event of nonpayment of a required toll or charge". The specific HCTRA fees were obtained from the *Interim Tolling Policy*, which was approved by Commissioner Court in 2007 and was still in effect during our audit period.

SUMMARY OF AUDIT RESULTS

Based on the procedures performed, HCTRA's internal controls relative to the violation collection process need to be strengthened. Specifically, the opportunities for improvement were noted below.

Database Administrator and Program Developer Access

HCTRA does not have adequate segregation of duties controls in place to prevent Database Administrators (DBAs) from accessing HCTRA production systems (application and Control-M job scheduler). HCTRA IT Management should review access to the production environments of the RITE 2.0 application, RITE 2.0 database and Control-M application, and consider the removal of DBAs and developers (as appropriate). Additionally, all activities performed by System Administrators, DBAs and Program Developers should be reviewed on a frequent basis (i.e., weekly or monthly) and suspicious activities should be escalated and investigated until resolution. HCTRA IT Management should disable all accounts (including DBAs and System Administrators) that have been inactive 90 days in accordance with their internal policy.

Terminated Employee Access

HCTRA RITE 2.0 application access is not consistently removed or disabled after an employee's termination. Two of 60 (3%) sampled accounts were not removed within 90 days from Active Directory as required by HCTRA's IT policy. HCTRA IT Management should implement additional controls to improve compliance with their IT policy, *IT2012-000 - Data Access and User Authentication Standard* by removing or disabling system access for all terminated employees upon the user's termination date. Consideration should be given to implementing a monitoring control to periodically review a listing of all terminated employees to ensure access to RITE 2.0 is appropriately removed or disabled.

Monitoring of Adjustments

The system controls within RITE 2.0 are not being used to block adjustments to toll violation fees and fines until the required authorization is provided by the appropriate level of management based on Management's defined thresholds within the Matrix. In addition, there is no monitoring of fee adjustments for Customer Service Representatives (CSRs) making adjustments under the \$1,500 threshold. System controls should be implemented to ensure the appropriateness and accuracy of adjustments made by CSRs and that proper authorization is enforced pursuant to the Matrix. Furthermore, a monitoring function should be implemented to help ensure the appropriateness and accuracy of adjustments less than \$1,500 made by CSRs which currently do not require supervisor approval.

RITE 2.0 Interface Tracking and Monitoring Controls

HCTRA does not have a formal control to document tracking and monitoring of interface job errors through resolution. HCTRA IT Management should design and implement a formal control that requires IT Operations to document resolution of failed data exchanges that occur between HCTRA and the 3rd party invoice vendor.

Timeliness of Violation Invoices

HCTRA does not currently have a process in place to monitor the timeliness of invoices mailed to customers by the 3rd party invoice vendor. HCTRA Management should implement monitoring controls to verify the 3rd party invoice vendor mails invoices to customers in a timely manner.

These audit results are discussed in more detail within the attached Issues and Recommendations Section.

ISSUES AND RECOMMENDATIONS

Database Administrator and Program Developer Access

Background

Pursuant to the, *Control Objectives for Information and Related Technologies* (COBIT 5) framework, section DSS06.03, organizations should allocate roles and responsibilities based on approved job descriptions and allocated business process activities; allocate roles for sensitive activities so that there is a clear segregation of duties; and, allocate access rights and privileges based on only what is required to perform job activities, based on pre-defined job roles."

HCTRA's IT policy IT2012-000, *Data Access and User Authentication Standard*, section *Removal of Access Rights Requirements*, requires disabling inactive user accounts at least every 90 days.

The RITE 2.0 Back Office System application is HCTRA's enterprise business application that records and processes key tolling data, including violations.

Boulette, Moore's and Cloer (BMC) Software's Control-M application builds violation-related data files from RITE 2.0 and transmits those files to a 3rd party vendor.

Electronic Transaction Consultants Corporation (ETC) manages the operations of both RITE 2.0 and Control-M. DBA and Program Developers with access to the RITE 2.0 Back Office System and BMC Control-M systems are employed by ETC.

Issue

HCTRA does not have adequate segregation of duties controls in place to prevent DBAs from accessing HCTRA production systems (application and Control-M job scheduler). Specifically, the following deficiencies were noted:

1. Seven of 10 (70%) accounts with System Administrator rights to the Control-M file belong to the DBA group. System Administrators should not have DBA rights and privileges in any system.
2. Ten of 70 (14%) accounts with System Administrator rights to the RITE 2.0 Back Office System belong to the DBA group, with 3 of these DBAs assigned more than 1 role in the application. System Administrators should not have DBA rights and privileges in any system.
3. One of the 10 (10%) DBAs with System Administrator rights to the RITE 2.0 application is assigned dual job roles of DBA and Programming Developer. System Administrators should not have DBA rights and privileges in any system. Also, DBAs should not have Programmer/Developer rights and privileges.
4. Four of 33 (12%) DBAs of the RITE 2.0 production database are also assigned the Programming Developer role. DBAs should not have Programmer/Developer rights and privileges.
5. Four of 33 (12%) total DBA accounts on the RITE 2.0 production database have been inactive 90 days or longer and not locked by HCTRA IT to prevent usage. Additionally, 1 of

ISSUES AND RECOMMENDATIONS

Database Administrator and Program Developer Access (cont.)

these DBAs has 2 accounts on the RITE 2.0 production database.

Technical users with access to HCTRA systems inconsistent with their job responsibilities allows segregation of duties conflicts that could compromise sensitive data and a potential financial loss to the County. Inactive accounts could be reactivated by unauthorized technical personnel to gain access to the HCTRA systems.

Recommendations

1. HCTRA IT Management should review access to the production environments of the RITE 2.0 application, RITE 2.0 database and Control-M application, and consider the removal of DBAs and developers (as appropriate). Additionally, all activities performed by System Administrators, DBAs and Program Developers should be reviewed on a frequent basis (i.e., weekly or monthly) and suspicious activities should be escalated and investigated until resolution.
2. HCTRA IT Management should disable all accounts (including DBA and System Administrators) that have been inactive 90 days in accordance with their internal policy.

Management Action Plan

Due to the nature of HCTRA's operations and the response time required when there are system issues, some multi-functional vendor staff need administrative access to the RITE 2.0 application, database, and to the Control-M application. HCTRA's IT Management is working to minimize the segregation of duties issues while still maintaining the required depth of coverage by requesting to hire three (3) additional resources for key System Administration duties.

HCTRA's Privileged Access Management system records all activity on RITE 2.0 systems made by individuals with elevated system access; logged activities are reviewed as needed to determine who and when unauthorized changes were made to the systems. In June 2019, HCTRA implemented a data monitoring and protection system from Imperva; the Imperva solution logs all RITE 2.0 database activity, identifies suspicious activity and sends alerts and reports to HCTRA Information Security for daily review. Additionally, Tripwire has been implemented as a tool to monitor changes to RITE 2.0 servers. The reports generated by Tripwire will be regularly reviewed by IT Security looking for changes by unauthorized users or unauthorized changes to the systems.

HCTRA IT Management has reviewed the list of users with access to the tolling systems and removed any users that did not require access to certain applications. A process to review this list periodically has been established; the IT Security team will perform a quarterly review.

Responsible Party

HCTRA IT Security team.

ISSUES AND RECOMMENDATIONS

Database Administrator and Program Developer Access (cont.)

Agreed Upon Completion Date

HCTRA Management stated they expect full implementation by February 29, 2020.

ISSUES AND RECOMMENDATIONS

Terminated Employee Access

Background

HCTRA's IT policy, *IT2012-000 - Data Access and User Authentication Standard*, stipulates that Access to each system, application, or database shall be disabled immediately (upon termination).

Windows Active Directory is utilized to grant access to the RITE 2.0 application. Only users with access to Active Directory can gain access to the RITE 2.0 application.

Issue

HCTRA RITE 2.0 application access is not consistently removed or disabled after an employee's termination.

Two of 60 (3%) sampled accounts were not removed within 90 days from Active Directory by HCTRA's IT policy. This could allow unauthorized personnel to potentially gain access to the system and compromise the application and database, as well as cause a financial loss to HCTRA and to the County.

However, we reviewed these 2 accounts noted above and no activity occurred on these accounts subsequent to their termination dates.

Recommendations

1. HCTRA IT Management should implement additional controls to improve compliance with their IT policy, *IT2012-000 - Data Access and User Authentication Standard* by removing or disabling system access for all terminated employees upon the user's termination date.
2. Consideration should be given to implementing a monitoring control to periodically review a listing of all terminated employees to ensure access to RITE 2.0 is appropriately removed or disabled.

Management Action Plan

HCTRA's Employee Separation process (through Cherwell) was modified to include a task for the Help Desk to disable RITE user access as well as Active Directory accounts after an employee's termination.

An additional step in the Employee Separation process will be implemented to reconcile Active Directory access to RITE access as a final step to ensure both have been disabled. HCTRA IT Risk Management will review a listing of accounts disabled in Active Directory compared to RITE user accounts to ensure both reports are in alignment.

ISSUES AND RECOMMENDATIONS

Terminated Employee Access (Cont.)

Responsible Party

HCTRA IT Security and HCTRA IT Risk Management teams.

Agreed Upon Completion Date

HCTRA Management stated the recommendations are fully implemented.

ISSUES AND RECOMMENDATIONS

Monitoring of Adjustments

Background

Pursuant to HCTRA's internal Adjustment/Waiver Matrix (Matrix), all adjustments to fees, fines, and tolls must be properly authorized. CSRs must follow this Matrix when determining the authorization levels required for adjustment. According to the Matrix, the CSR has authorization to approve any adjustment less than or equal to \$1,500. For adjustments greater than \$1,500 up to \$2,500 it requires authorization from a Lead Customer Service Representative and adjustments greater than \$2,500 up to \$5,000 require authorization from a Supervisor. Also, adjustments greater than \$5,000 up to \$9,999 require authorization from a Manager and adjustments \$10,000 or more require authorization from the County Attorney(s) assigned to HCTRA as well as Commissioners Court.

Issue

The system controls within RITE 2.0 are not being used to block adjustments to toll violation fees and fines until the required authorization is provided by the appropriate level of management based on Management's defined thresholds within the Matrix. In addition, there is no monitoring of fee adjustments for CSRs making adjustments under the \$1,500 threshold.

As a result, an adjustment can be made without the appropriate management approval which could result in misappropriation and/or financial loss to the County.

Recommendations

1. System controls should be implemented to ensure the appropriateness and accuracy of adjustments made by CSRs and that proper authorization is enforced pursuant to the Matrix. This may include requesting HCTRA's IT Group to require authorization within RITE 2.0, based on the authorization levels outlined in the Matrix, before an adjustment can be completed in RITE 2.0.
2. A monitoring function should be implemented to help ensure the appropriateness and accuracy of adjustments less than \$1,500 made by CSRs which currently do not require supervisor approval. This may include HCTRA Management reviewing a sample of violation adjustments less than \$1,500 for indication of any noticeable trends or suspicious activity, and signing the review indicating their approval.

Management Action Plan

RITE has the capability to control adjustment/waiver amounts. HCTRA's IT Department can coordinate with HCTRA's Customer Service Department to enable the existing functionality to follow the documented thresholds.

In the Customer Service Department there are different "roles" that allow specific groups of CSRs (Lead, supervisors, front line CSRs, etc.) to perform certain actions, but they are not tied to dollar amount adjustments. A strong management system is now in place and all staff is aware

ISSUES AND RECOMMENDATIONS

Monitoring of Adjustments (cont.)

that certain adjustments must not be made without prior approval; Customer Service uses direct and indirect monitoring throughout the month to supervise adjustments and waivers performed by CSRs. Supervisors and managers now use RITE reports such as the '728 – Reconciliation Summary by CSR' and the '012 – End of Day Clerk Activity report' monthly to monitor waivers and adjustments.

The Customer Service Department will coordinate with HCTRA's Finance Department to perform periodic internal audits to review the proper application of adjustments/waivers.

Responsible Party

HCTRA IT Management, HCTRA Customer Service Management and HCTRA Finance Management.

Agreed Upon Completion Date

HCTRA Management stated the recommendations are partially implemented and expect full implementation by February 29, 2020.

ISSUES AND RECOMMENDATIONS

RITE 2.0 Interface Tracking and Monitoring Controls

Background

HCTRA exchanges violation and invoicing data with the 3rd party invoice vendor.

HCTRA's interface logging system records unsuccessful inbound and outbound 3rd party invoice vendor file transmissions and also sends automated email alerts notifying management at the time of the job failure.

Issue

HCTRA does not have a formal control to document tracking and monitoring of interface job errors through resolution. Instead, there is an informal error resolution process where emails or phone communications occur between HCTRA and the 3rd party invoice vendor.

This situation could allow transmitted data to be lost or incomplete in the event that manual notifications between the parties do not occur, resulting in a potential financial loss to the County.

Recommendation

HCTRA IT Management should design and implement a formal control that requires IT Operations to document resolution of failed data exchanges that occur between HCTRA and the 3rd party invoice vendor.

Management Action Plan

HCTRA IT has introduced risk assessment and a mitigation strategy for managing issues that arise, such as jobs that fail to run or files that produce errors during processing that affect business operations or revenue. A risk event is created on occurrence of a failure of file transmission between HCTRA and the 3rd party invoice vendor. HCTRA IT Risk Management team will track the risk event identification numbers associated with each risk event. The risk event process is a process that documents all events, including failed data exchanges, through resolution.

Responsible Party

HCTRA IT Risk Management team.

Agreed Upon Completion Date

HCTRA Management stated the recommendations are fully implemented.

ISSUES AND RECOMMENDATIONS

Timeliness of Violation Invoices

Background

Pursuant to Texas Transportation Code Section 284.0701, *Administrative Costs Notice Offense*, “The county shall send a written notice of nonpayment to the registered owner of the vehicle at that owner’s address as shown in the vehicle registration records of the Texas Department of Motor Vehicles (DMV) by first-class mail not later than the 30th day after the date of the alleged failure to pay and may require payment not sooner than the 30th day after the date the notice was mailed”.

The 3rd party invoice vendor mail invoices to customers indicating the dates, times, locations, picture of the latest violation, and amounts due for each violation to the registered owner as provided by the DMV.

Issue

HCTRA does not currently have a process in place to monitor the timeliness of invoices mailed to customers by the 3rd party invoice vendor.

Invoices not mailed to customers in a timely manner could result in the inability to collect violation fees and fines which could result in financial loss to the County.

Recommendation

HCTRA Management should implement monitoring controls to verify the 3rd party invoice vendor mails invoices to customers in a timely manner. For example, an aging report based on violation date, invoice date and payment due date could be created and monitored.

Management Action Plan

The current logic in the system states: “After three (3) violation events within a 365-day period, a Toll Violation Invoice (TVI) will be prepared and sent within 30 days of the last violation event after all required (DMV) data becomes available. A violation event, where required TVI data is not present or is incorrect, may be invoiced for up to 365 days if/when required data becomes available. A violation event is deemed a “non-invoiceable” event after 365 days of occurrence.”

HCTRA now monitors the status of all TVI files mailed and processed by the 3rd party invoice vendor. HCTRA Customer Service, HCTRA Toll System Project Manager and team receive daily reports from the 3rd party invoice vendor when a TVI file is processed that includes the mailing date of an invoice. HCTRA Customer Service also receives a daily report showing the number of invoices mailed. The 3rd party invoice vendor has an in-house web application that is accessible by HCTRA IT and Customer Service, and contains all of the “event” information from the time the 3rd party invoice vendor receives the file until the file is delivered. The 3rd party invoice vendor also sends the National Change of Address (NCOA) electronic files to HCTRA and generates a report of undeliverable/returned mail.

ISSUES AND RECOMMENDATIONS

Timeliness of Violation Invoices (cont.)

The 3rd party invoice vendor contractually has a 4 business day turnaround for mailing violation invoices once files are received. As of July 2019 to shorten the time it takes to get the invoice to the customer, HCTRA Customer Service coordinated with the 3rd party invoice vendor to process violation invoice files, previously held due to holiday and weekend closures on the subsequent business day in a single batch.

Responsible Party

HCTRA Customer Service Management and HCTRA IT Management.

Agreed Upon Completion Date

HCTRA Management stated the recommendations are fully implemented.