April 24, 2019

To: Finance and Administration Committee

From: Darrell E. Johnson, Chief Executive Officer

              Janet Sutter, Executive Director
              Internal Audit

Subject: Mobile Ticketing Operations, Internal Audit Report No. 19-505

Overview

The Internal Audit Department has completed an audit of mobile ticketing operations. Based on the audit, controls over revenue collection, recording, reconciliation, and invoice review are adequate, and the contractor complies with contract terms. The Internal Audit Department offered two recommendations to improve system access controls and to develop written policies and procedures.

Recommendation

Direct staff to implement two recommendations provided in Mobile Ticketing Operations, Internal Audit Report No. 19-505.

Background

In an effort to modernize the fare collection system, the Orange County Transportation Authority (OCTA) contracted with Moovel North America, LLC (moovel), in September 2015, for a mobile ticketing solution. By implementing a mobile ticketing solution, OCTA hoped to simplify fare collection, increase ease of use for riders, foster regional transit fare integration, reduce cash handling costs, and unify the riding experience.

Full fleet rollout of mobile ticketing occurred in December 2016, and deployment of on-board ticket readers provided by Init Innovations in Transportation, Inc., occurred in February 2017.

The mobile ticketing application (app) can be downloaded on both iOS and android devices. The app is hosted and maintained by moovel in their

Transaction and Operations Management System (System). A user can select ticket options and quantities and add them to their cart for checkout. Upon checkout, the app will be connected to Braintree, a subsidiary of Paypal, Incorporated (Paypal), for payment with either a credit card, Paypal, Google Wallet, or Apple Pay. Once the transaction is complete, a confirmation e-mail is sent to the user and the ticket is available in the app.

To board, the rider selects a ticket from within the app, and a barcode is generated that will continuously refresh every 10 seconds to prevent duplicate usage. The on-board reader will read the barcode, validate the ticket, and instantaneously collect data, such as fare type, time of boarding, and boarding location. This information is stored in OCTA's data warehouse for ridership performance analysis and reporting.

Discussion

The Internal Audit Department (Internal Audit) identified several employees of OCTA's customer service center provider, Alta Resources, who had terminated employment but still had access to the System. Internal Audit recommended controls be implemented to ensure timely removal of system access upon employee termination. Management responded that controls will be implemented, and periodic review of system users will be performed going forward.

Internal Audit also noted that written policies and procedures have not been developed. Since mobile ticketing was first implemented in mid-2016, staff has worked to refine activities to effectively address revenue reconciliation, chargeback oversight, invoice review, etc., but has not yet documented these activities. Internal Audit recommended management document policies and procedures. Management agreed and indicated that policies and procedures will be developed to ensure proper identification and assignment of responsibilities, and continuity of operations in the absence of key staff.

Summary

Internal Audit has completed an audit of mobile ticketing operations and has offered two recommendations for improvement.

Attachment

A.   Mobile Ticketing Operations, Internal Audit Report No. 19-505

Prepared by:

Gabriel Tang
Principal Internal Auditor
714-560-5746

Approved by:

Janet Sutter
Executive Director, Internal Audit
714-560-5591

ORANGE COUNTY TRANSPORTATION AUTHORITY
INTERNAL AUDIT DEPARTMENT

Mobile Ticketing Operations

Internal Audit Report No. 19-505

April 5, 2019

Performed by:	Gabriel Tang, CPA, Principal Internal Auditor
	Janet Sutter, CIA, Executive Director
Distributed to:	Andrew Oftelie, Executive Director of Finance and Administration
	Sean Murdock, Bill Mao, Sam Kaur, Stella Lin

ORANGE COUNTY TRANSPORTATION AUTHORITY
INTERNAL AUDIT DEPARTMENT
Mobile Ticketing Operations
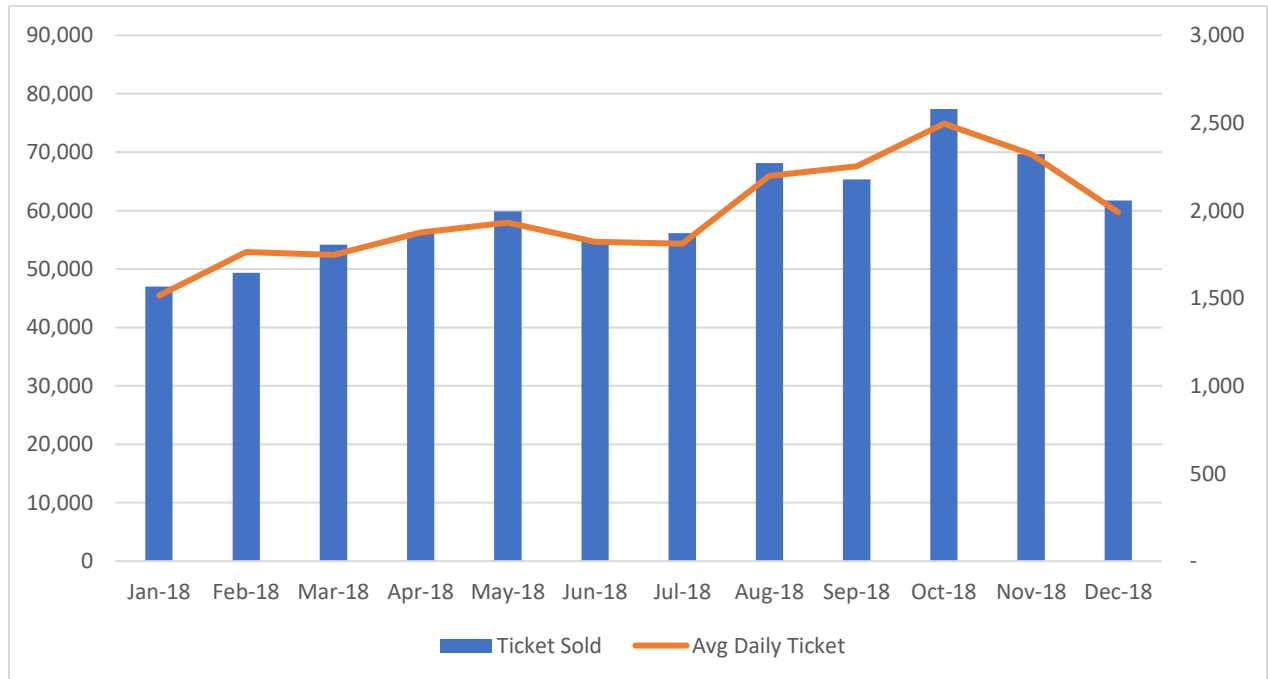**April 5, 2019**

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Conclusion

The Internal Audit Department (Internal Audit) has completed an audit of mobile ticketing operations. Based on the audit, controls over revenue collection, recording, reconciliation, and invoice review are adequate, and the contractor complies with contract terms. Internal Audit offered two recommendations to improve system access controls and to develop written policies and procedures.

Background

Mobile Ticketing

In an effort to modernize the fare collection system, OCTA contracted with Moovel North America, LLC (moovel) in September 2015, for a mobile ticketing solution. By implementing a mobile ticketing solution, OCTA hoped to simplify fare collection, increase ease of use for riders, foster regional transit fare integration, reduce cash handling costs, and unify the riding experience.

Full fleet rollout of mobile ticketing occurred in December 2016, and deployment of on-board ticket readers provided by Init Innovations in Transportation, Inc. (INIT), occurred in February 2017. System-wide, OCTA records about 40 million transactions each year. The following chart reflects mobile tickets sold each month during 2018:

Mobile Ticketing App

The Mobile Ticketing App (APP) can be downloaded for both iOS and android devices. The APP is hosted and maintained by moovel in their Transaction and Operations Management System (TOMS). A user can select ticket options and quantities and add them to their cart for checkout. Upon checkout, the APP will be connected to Braintree, a subsidiary of Paypal, Incorporated (Paypal), for payment with either a credit card, Paypal, Google Wallet, or Apple Pay. Once the transaction is complete, a confirmation e-mail is sent to the user and the ticket is available in the APP. The chart below reflects the total number of mobile ticket accounts open during 2018:
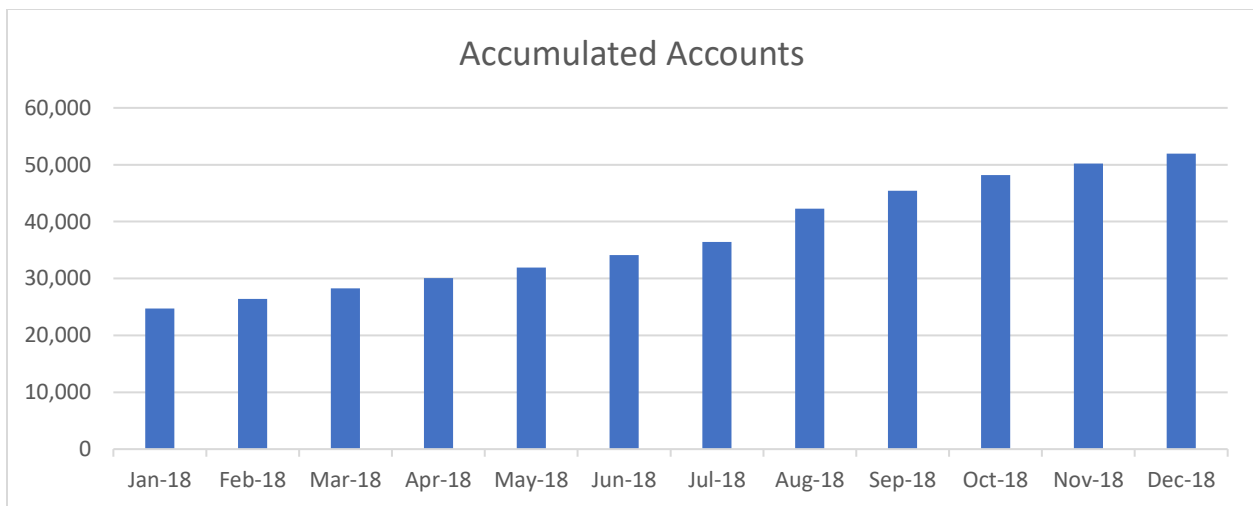
Boarding

To board, the rider selects a ticket from within the APP and a barcode is generated that will continuously refresh every 10 seconds to prevent duplicate usage. The on-board reader will read the barcode, validate the ticket, and instantaneously collect data, such as fare type, time of boarding, and boarding location. This information is stored in OCTA's data warehouse for ridership performance analysis and reporting.

FareShare - College Pass Program

OCTA manages employer and university pass programs to provide access to the OCTA bus system to respective employees and students. In May 2017, OCTA began a pilot program whereby students at partner colleges are provided with a bus pass upon enrollment. The costs of the College Pass Program (CPP) are covered by grant funds and/or student tuition fees. The student can choose to use their student identification card or to use a bus pass code provided through the mobile ticketing application. This functionality, known as FareShare, distributes bus pass codes through e-mails for those students who opt-in. Currently, OCTA partners with Santa Ana College, Rancho Santiago Community College District, and Santiago Canyon College for the CPP.

Objectives, Scope, and Methodology

The <u>objectives</u> were to assess and test controls over mobile ticketing revenue collection, reconciliation, and recording; to assess and test compliance with key contract terms; and to assess and test invoice review controls.

According to generally accepted government auditing standards, internal control, in the broadest sense, encompasses the plans, policies, procedures, methods, and processes adopted by management to meet its mission, goals, and objectives. Internal controls significant within the context of the audit objectives were evaluated as part of this audit.

The <u>scope</u> is limited to mobile ticketing operations and related controls over revenue collections, reconciliation and recognition, monitoring of credit card chargebacks, invoice review, and the CPP, Fareshare. The scope also included assessment of policies and procedures, TOMS access controls, and contractor insurance status as of the audit date. The scope is limited to Agreement No. C-5-3244 with moovel and Agreement No. C-0-0942 with INIT.

The <u>methodology</u> consisted of interviews, review of contracts, review of insurance certificates, system user access reports, and policies and procedures as of the audit date; testing a haphazard sample of six monthly revenue reconciliations and recordings during 2017 and 2018; a haphazard sample of 16 credit card chargebacks during 2017 and 2018; testing of a judgmental sample of moovel invoices since inception in September 2016, with a bias towards obtaining coverage of billings for implementation fees, maintenance fees, and commissions fees; and evaluation of CPPs in place at the time of audit. Since all samples were non-statistical, any conclusions are limited to the sample items tested

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Audit Comments, Recommendations, and Management Responses

System Access Controls Should be Enhanced

Controls should be implemented to ensure timely removal of system access upon employee termination.

Internal Audit identified several employees of OCTA's customer service center provider, Alta Resources, who had terminated employment but still had access in the system to view ridership information.

Recommendation 1:

Internal Audit recommends management implement controls to ensure access privileges are removed timely for departing staff. In addition, periodic review of user access should be performed.

Management Response:

Information Systems management agrees to put procedures in place to ensure timely removal of system access upon employee termination or reassignment.

The management team will provide a report of user accounts every six months for review and staff approval of all TOMS user accounts. Additionally, Customer Relations staff will request Alta Resources provide immediate notification upon the termination or reassignment of Customer Information Center employees. Based on the information provided, Customer Relations will notify Information Systems to remove any unneeded system access.

Policies and Procedures Should be Developed

Written policies and procedures have not yet been developed for mobile ticketing operations and activities. Mobile ticketing was first implemented in mid-2016 and staff has been refining activities to effectively address revenue reconciliation, chargeback oversight, invoice review, etc. Without policies and procedures to document responsibilities and activities, certain control activities may not be consistently performed.

Recommendation 2:

Internal Audit recommends management develop policies and procedures for the mobile ticketing program to ensure proper identification and assignment of responsibilities and continuity of operations in the absence of key staff.

Management Response:

Management agrees with the recommendation and will develop policies and procedures to ensure proper identification and assignment of responsibilities, and continuity of operations in the absence of key staff.