

Audit Report

Maryland Transportation Authority

September 2021



OFFICE OF LEGISLATIVE AUDITS
DEPARTMENT OF LEGISLATIVE SERVICES
MARYLAND GENERAL ASSEMBLY

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DEPARTMENT OF LEGISLATIVE SERVICES
OFFICE OF LEGISLATIVE AUDITS
MARYLAND GENERAL ASSEMBLY

Victoria L. Gruber
Executive Director

Gregory A. Hook, CPA
Legislative Auditor

September 13, 2021

Senator Clarence K. Lam, M.D., Senate Chair, Joint Audit and Evaluation Committee
Delegate Carol L. Krimm, House Chair, Joint Audit and Evaluation Committee
Members of Joint Audit and Evaluation Committee
Annapolis, Maryland

Ladies and Gentlemen:

We have conducted a fiscal compliance audit of the Maryland Transportation Authority (MDTA) for the period beginning May 10, 2016 and ending March 4, 2020. MDTA is responsible for the supervision, financing, construction, operation, maintenance, and repair of the State's toll facilities.

We received allegations on our fraud, waste, and abuse hotline alleging that MDTA was not taking sufficient action to detect and address the overbilling of customers for electronic tolling due to issues with its new toll equipment. Our audit disclosed that MDTA was inconsistent in its actions related to the impact of issues with its electronic toll collection system on its customers and potential customer overbillings. We noted where MDTA's response to tolling problems at four facilities during several time periods was not consistent for each event. For example, in one situation at the Thomas J. Hatem Memorial Bridge, significant overbillings of \$67,000 were identified and returned to customers, while at other facilities the extent of the overbilling issue was not determined. In each case, once aware of the issue, it does appear that MDTA did take timely action to resolve the toll equipment or software deficiencies responsible for the problems. Although, our review found operational deficiencies regarding certain MDTA actions, we did not identify any issues that warranted a referral to the Office of the Attorney General – Criminal Division.

Our audit also disclosed that MDTA did not perform periodic documented reviews of system access capabilities granted to State and contractor employees on the old electronic tolling and customer service system used during our audit period.

For this audit we conducted our fieldwork entirely during the period of the State's COVID-19 pandemic health crisis. The crisis also had an impact on MDTA's operations. Specifically, a Governor's executive order effective March 5, 2020 resulted in MDTA closing its Customer Service Centers, ceasing the collection of cash tolls, suspending notifications of video tolls due, and suspending collection efforts of unpaid tolls previously billed. According to MDTA management, on October 15, 2020, MDTA resumed the mailing of video toll notices and collection efforts on previously unpaid tolls. Additionally, on August 6, 2020 the Governor announced a permanent cessation of cash toll collection and that electronic tolling (*E-ZPass* or Video Tolling) would be the exclusive method for toll collection across the State.

The Maryland Department of Transportation's (MDOT) response to this audit, on behalf of MDTA, is included as an appendix to this report. We reviewed the response and noted general agreement to our findings and related recommendations, and while there are other aspects of MDOT's response which will require further clarification, we do not anticipate that these will require the Joint Audit and Evaluation Committee's attention to resolve.

We wish to acknowledge the cooperation extended to us during the audit by MDTA. We also wish to acknowledge MDOT's and MDTA's willingness to address the audit issues and implement appropriate corrective actions.

Respectfully submitted,



Gregory A. Hook, CPA
Legislative Auditor

Background Information

Agency Responsibilities

Title 4 of the Transportation Article, Annotated Code of Maryland, establishes the Maryland Transportation Authority (MDTA) as an agency of the State, to act on behalf of the Maryland Department of Transportation with regard to the supervision, financing, construction, operation, maintenance, and repair of the State's toll facilities. The governing board of MDTA consists of eight members who are appointed by the Governor with the advice and consent of the Senate. The Secretary of Transportation serves as the Chairman.

Financial Statement Audits

MDTA engaged an independent accounting firm to perform audits of its financial statements for the fiscal years ended June 30, 2017, 2018, 2019, and 2020. In the related audit reports, the firm stated that MDTA's financial statements presented fairly, in all material respects, the respective financial position of the business type activities of the MDTA as of June 30, 2017, 2018, 2019, and 2020, and the respective changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

According to the audited financial statements, MDTA's operating revenues and expenses totaled \$733 million (including \$584.6 million in toll revenue) and \$475 million, respectively, during fiscal year 2020, and its net position totaled \$5.1 billion as of June 30, 2020. MDTA's operating expenditures primarily consisted of payroll, contractual services, and according to the State's budget books, bond debt service. The majority of MDTA's net position represents a net investment in capital assets; the unrestricted portion of this net position is approximately \$622 million. Finally, according to the State's budget books, MDTA's capital expenditures totaled \$464.8 million during fiscal year 2020.

Resource Sharing Agreements

On August 3, 2018, we issued a performance audit report on *Telecommunication Resource Sharing Agreements* to evaluate the State's use and oversight of telecommunications resource sharing agreements between multiple State agencies and private companies. This report included a number of findings related to selected agencies, but emphasized the need for the Department of Information Technology to exercise greater oversight of resource sharing agreements entered

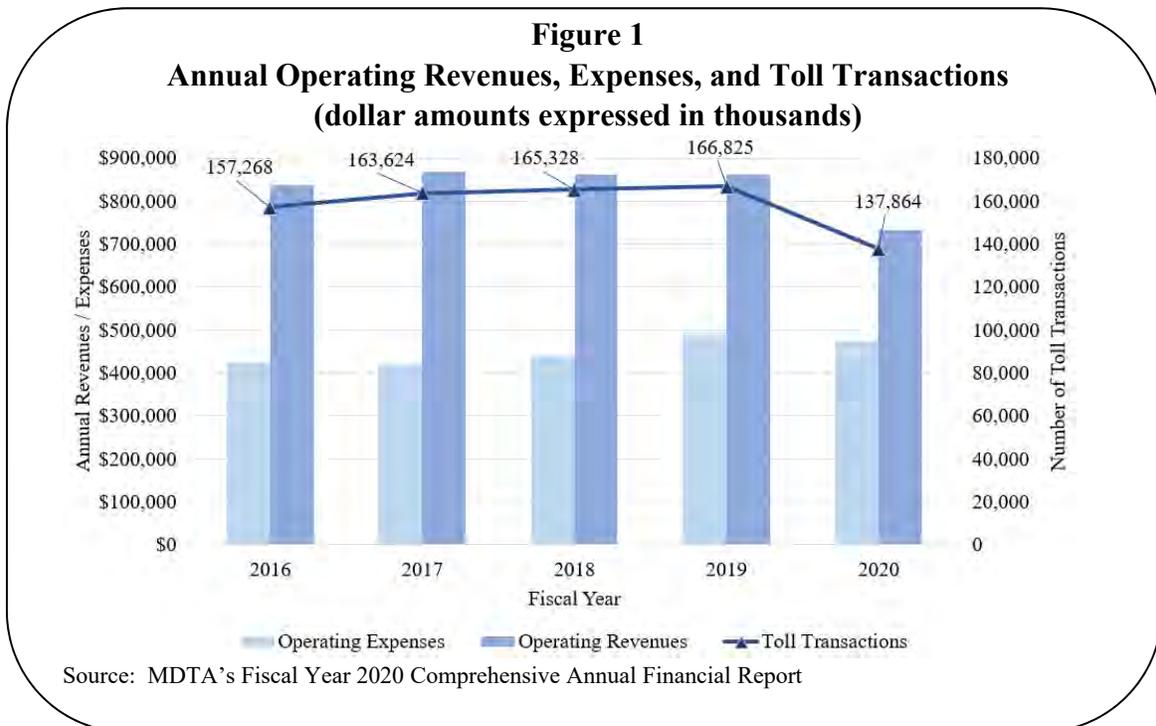
into by State agencies in general. The performance audit included the following select findings related to MDTA.

- MDTA did not treat certain agreements as resource sharing resulting in lost opportunities to maximize compensation,
- MDTA did not verify all monetary compensation was received in accordance with the agreements and failed to collect all compensation,
- MDTA did not always include adequate provisions in its agreements to protect the State,
- MDTA executed and renewed resource sharing agreements without proper approvals, and
- MDTA allowed telecommunications companies to continue using State resources after agreements had expired.

The Maryland Department of Transportation, on behalf of MDTA, agreed to the findings and recommendations in the report.

Significant Decline in Toll Transactions

MDTA’s toll facilities experienced a system-wide 17.4 percent decline in traffic volume from 167 million toll transactions (or trips) to 138 million transactions between fiscal year 2019 to 2020 (see Figure 1), which MDTA attributed to the COVID-19 pandemic health crisis. As a result, MDTA’s fiscal year 2020 revenue was \$129.5 million less than fiscal year 2019.



Findings and Recommendations

Toll Collections

Background

The Maryland Transportation Authority (MDTA) is responsible for the collection of toll revenue at the State’s nine toll collection facilities. During the audit period, customers paid tolls via cash at toll booths, electronically through *E-ZPass*, or through video tolling billing notices. MDTA also operates twelve walk-in Customer Service Centers (six at toll facilities and six at Motor Vehicle Administration offices) and one Customer Service Call Center. During fiscal year 2020 toll collections totaled \$584.6 million (see Figure 2). *E-ZPass* collections are recorded when a vehicle with a transponder travels through a toll facility. Video Tolling occurs when a customer drives through a toll booth or toll lane without paying cash or using an *E-ZPass* transponder, triggering an image to be taken of the front and rear license plate. Video tolls are billed to vehicle owners after being manually reviewed and verified.

Figure 2
Toll Collections by Facility
Fiscal Year 2020
(expressed in millions of dollars)

Toll Facility	Cash Tolls	<i>E-ZPass</i> Tolls	Video Tolls	Total Toll Revenue
Fort McHenry Tunnel	\$26.2	\$157.8	\$9.6	\$193.6
John F. Kennedy Memorial Highway/I-95	19.1	128.8	5.5	153.4
Intercounty Connector	-	50.0	6.2	56.3
Francis Scott Key Bridge	3.4	40.3	4.2	47.8
Baltimore Harbor Tunnel	10.1	34.3	3.0	47.4
William Preston Lane Jr. Memorial (Bay) Bridge	8.8	34.6	2.6	46.0
Governor Harry W. Nice Memorial / Senator Thomas “Mac” Middleton (Nice) Bridge	5.3	11.3	0.9	17.6
Thomas J. Hatem Memorial (Hatem) Bridge	0.7	9.5	1.5	11.7
I-95 Express Toll Lanes	-	10.4	0.4	10.8
Total	\$73.7	\$476.9	\$34.0	\$584.6

Note: Numbers may not sum to total due to rounding.
Source: MDTA Fiscal Year 2020 Financial Statements

During our audit fieldwork, MDTA's operations were significantly impacted by the COVID-19 pandemic health crisis. Specifically, a Governor's executive order effective March 5, 2020 resulted in MDTA closing its Customer Service Centers, ceasing the collection of cash tolls, suspending notifications of video tolls due, and suspending collection efforts of unpaid tolls previously billed. According to MDTA management, on October 15, 2020, MDTA resumed the mailing of video toll notices and collection efforts on previously unpaid tolls. Additionally, on August 6, 2020 the Governor announced a permanent cessation of cash toll collection and that electronic tolling (*E-ZPass* or Video Tolling) would be the exclusive method for toll collection across the State. Consequently, our audit objective and scope focused on MDTA's electronic tolling operations.

In February 2018, the Board of Public Works (BPW) approved two separate contracts totaling \$359.4 million to replace MDTA's existing contractor that provided both the toll collection system (hardware and software for toll facilities) and the customer service center (including related software to process toll transactions). Specifically, one contractor was awarded a nine-year contract for the customer service center totaling \$200.4 million with two renewal options valued at an additional \$72.4 million. A separate contractor was awarded a nine-year contract for the toll collection system totaling \$71.9 million with two renewal options valued at an additional \$14.7 million.

The transition to the new toll collection system contractor began in May 2019, which involved installing new tolling system equipment and software. As of December 31, 2020, although the installation of the equipment and software was completed in July 2020, MDTA was still in the process of testing and calibrating the toll collection system. Additionally, the new customer service center contractor was still in the development and testing phase of its system. Therefore, in order to maintain continuity of services, MDTA obtained BPW approval in January 2021 to extend the contract of the previous tolling contractor until March 2022 at a cost of \$38 million.

We received allegations on our fraud, waste, and abuse hotline alleging that MDTA was not taking sufficient action to detect and address the overbilling of customers for electronic tolling due to issues with its new toll equipment. We reviewed MDTA's processes to monitor its electronic tolling system and the actions taken to address any deficiencies it had identified. Based on our review, we were able to substantiate the allegations regarding certain insufficient MDTA actions. Specifically, although we noted that MDTA investigated certain errors during the implementation of the new system and took action to correct those errors with tolling equipment, it did not ensure all customers were refunded for any overbilling (see Finding 1). While our review found operational deficiencies

regarding the scope of certain MDTA actions, we did not identify any issues that warranted a referral to the Office of the Attorney General – Criminal Division.

Finding 1

MDTA actions did not determine the impact of electronic toll collection system issues on its customers and identify and correct certain related customer overbillings.

Analysis

MDTA did not sufficiently determine the impact of certain issues with its electronic toll collection system on its customers and identify and correct related customer overbillings. MDTA began transitioning to the new electronic tolling contractor in a series of scheduled facility upgrades from approximately May 2019 to July 2020. The tolling system has edits and other processes designed to proactively detect and automatically correct tolling mischarges (such as, customers charged twice for the same toll event). MDTA also operates a service center for customer complaints, and center staff have the ability to correct customer *E-ZPass* accounts when tolling errors occur that are not automatically detected and corrected by the system.

In December 2019, MDTA became aware of issues with its new system implementation (including overbilling of customers due to tolling equipment or software failures) through observations of toll transactions and customer complaints. For example, according to MDTA records, during the period from December 2019 to October 2020, it documented certain incidents of tolling errors resulting from problems with tolling equipment at four facilities (the Fort McHenry Tunnel, Intercounty Connector, the I-95 Express Toll Lanes, and the Thomas J. Hatem Memorial (Hatem) Bridge). Our review of these incidents also disclosed an issue at the Francis Scott Key Bridge that MDTA had not previously documented. Although MDTA worked with its vendor to implement corrective action, the resultant actions were not always sufficient to determine the impact of these issues on customers during its investigation of the tolling errors as further described below.

Fort McHenry Tunnel

In December 2019, MDTA conducted an investigation of a tolling equipment malfunction that resulted in incorrect axle counts causing customer overbillings (that is, two axle vehicles being charged for additional axles). MDTA records indicated it had questioned its new tolling contractor about the extent of preventative tolling equipment maintenance and employee training performed, pointing out that even though there was no loss of revenue, the

possibility of customer overbillings could potentially generate unwanted publicity for MDTA.

While MDTA could provide documentation that the tolling equipment was fixed, it could not provide us with documentation that it researched the impact of the problem on customers until the corrective actions were taken. After we brought our concern about the impact on customers to MDTA's attention in April 2021, it further investigated the issue and determined it related to equipment malfunctions in one of the twenty-two lanes over a period of 25 hours. MDTA advised us that it subsequently identified approximately 7,700 customers were overbilled \$84,400. As of August 2021, MDTA advised us it was in the process of correcting these customers' accounts.

In addition, we identified another concern with customers being billed twice on certain dates in January, March, August, and September 2020 due to cameras misreading vehicles in other toll lanes (similar to the issue noted below at the Francis Scott Key Bridge). MDTA management advised us that they were not aware of this issue and that these types of errors are extremely rare since its tolling system is supposed to automatically detect and correct such errors. Nevertheless, upon us bringing the issue to MDTA's attention in April 2021, it performed limited research (two separate 24-hour periods during March and September 2020) to determine if the errors resulted in customers being overbilled. MDTA advised us that a small number of customers were overbilled but it did not determine the amount of the overbillings or conduct further research by reviewing other time periods.

Francis Scott Key Bridge

We identified customers being billed twice on certain dates in April and May 2020 due to cameras misreading vehicles in other toll lanes (similar to the issue noted above at the Fort McHenry Tunnel). In this instance, customers were both correctly charged for a 2-axle vehicle (\$3), and then incorrectly charged again for a 5-axle vehicle (\$24) one second later. As with the aforementioned Fort McHenry Tunnel issue, MDTA management advised us that they were not aware of this issue and that these types of errors are extremely rare since its tolling system is supposed to automatically detect and correct such errors. Nevertheless, upon us bringing the issue to MDTA's attention in April 2021, it performed limited research (two separate 24-hour periods during April and May 2020) to determine if the errors resulted in customers being overbilled. MDTA again advised us that a small number of customers were overbilled, but it did not determine the amount of the overbillings or conduct further research by reviewing other time periods.

Intercounty Connector and the I-95 Express Toll Lanes

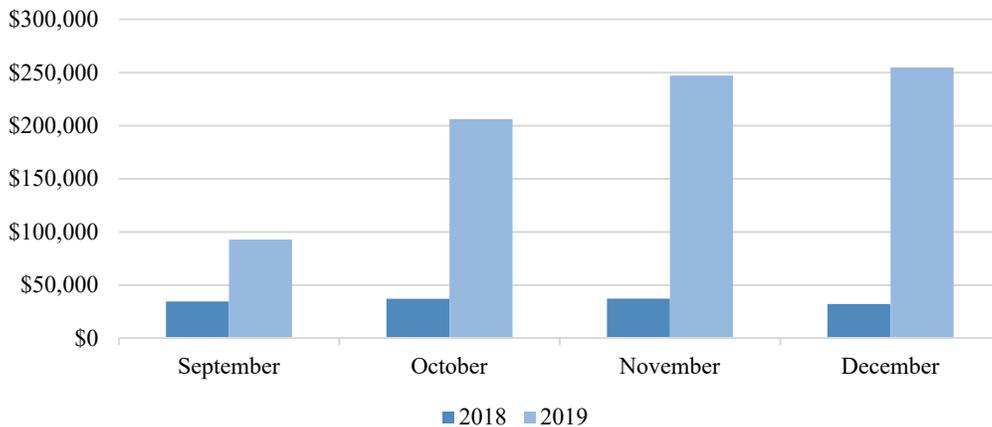
According to MDTA’s records, during the period from April 6, 2020 to August 18, 2020, there were issues with the equipment (such as camera cables) at the Intercounty Connector that resulted in vehicle misreads, which could have caused incorrect toll charges or overbillings. A similar situation was noted for the I-95 Express Toll Lanes during the period from October 6, 2020 to October 9, 2020. While MDTA could document that the equipment issues were fixed, it had not determined the extent of customer overbillings.

Thomas J. Hatem Memorial (Hatem) Bridge

MDTA identified an overbilling issue due to the miscounting of axles at the Hatem Bridge. In this instance, MDTA proactively performed a review of transactions for commuter plan customers between October 21, 2019 and November 26, 2019 and identified 5,646 transactions for 2-axle vehicles that may have been overbilled. MDTA management advised the related accounts were credited \$67,000.

We were unable to quantify the potential overbilling related to these issues due to the lack of available data; however, MDTA acknowledged that it would be expected that tolling errors would increase during the new system implementation and there was a general increase in tolls dismissed from tolling errors, but could not cite the above issues as the cause. Specifically, according to MDTA records, during the period September 2019 to December 2019 there was a significant increase in the amount of tolls dismissed due to errors compared to September 2018 to December 2018 (see Figure 3). The dismissed tolls in 2019 represented almost five percent of tolls billed compared to one percent in 2018.

**Figure 3
Comparison of Toll Dismissed
2018-2019**



Source: MDTA Records

Recommendation 1

We recommend that MDTA

- a. review and evaluate significant tolling issues (such as, an increase in similar customer complaints or a pattern of tolling abnormalities). For example, MDTA may want to consider developing a formal policy to review and evaluate tolling issues and determine the extent of customer overbillings for appropriate corrective actions (such as making restitution); and
- b. review previously identified electronic toll issues to determine the extent of customer overbillings and in consultation with legal counsel, assess the practicality of related customer restitution.

System Access

Finding 2

MDTA did not perform periodic documented reviews of system access capabilities granted to State and contractor employees on the old electronic tolling and customer service system used during our audit period.

Analysis

MDTA did not perform periodic documented reviews of system access capabilities granted to State and contractor employees on the old electronic tolling and customer service system used during our audit period. The electronic tolling and customer service system was used to record vehicles traveling through its various tolling facilities and collect tolls through its *E-ZPass* and video toll applications. Customers are assessed and billed for tolls by the system, which is also used to collect tolls and maintain electronic accounts receivable records. According to available system records, as of July 2020, there were 296 active users that had access to the old system, and the new systems had not yet been fully implemented.

We could not readily determine the propriety of the system access, because MDTA could not provide us with a detailed system report of user capabilities. For example, MDTA provided us with a report that identified 121 users that had the ability to dismiss a toll violation, but MDTA could not confirm whether this capability was subject to appropriate supervisory review and approval.

The State of Maryland *Information Technology Security Manual* requires agencies to perform system access reviews at least annually. The Manual also requires agencies to ensure that access is strictly controlled, audited, and that it supports the concept of “least privilege.”

Recommendation 2

We recommend that MDTA perform periodic documented reviews of user access to its electronic tolling and customer service system, including the new systems once implemented, and take appropriate corrective action for any improper or unnecessary user access.

Audit Scope, Objectives, and Methodology

We have conducted a fiscal compliance audit of the Maryland Transportation Authority (MDTA) for the period beginning May 10, 2016 and ending March 4, 2020. The audit was conducted 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.

As prescribed by the State Government Article, Section 2-1221 of the Annotated Code of Maryland, the objectives of this audit were to examine MDTA's financial transactions, records, and internal control, and to evaluate its compliance with applicable State laws, rules, and regulations.

In planning and conducting our audit, we focused on the major financial-related areas of operations based on assessments of significance and risk. The areas addressed by the audit included procurements and disbursements for construction, architecture and engineering contracts, as well as MDTA's operating expenses, and certain cash receipts and payroll activities.

MDTA engages an independent accounting firm to audit its annual financial statements. In the related audit reports for the fiscal years ended June 30, 2017, 2018, 2019, and 2020 the firm stated that MDTA's financial statements presented fairly, in all material respects, the respective financial position of the business-type activities of the MDTA as of June 30, 2017, 2018, 2019, and 2020 and the respective changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America. We relied on the work of the independent accounting firm to provide audit coverage pertaining to bank and investment accounts, debt issuances and related debt covenants, and certain cash receipts and payroll activity. Our audit procedures in those areas were generally limited, therefore, to obtaining a sufficient basis for that reliance.

Our assessment of internal controls was based on agency procedures and controls in place at the time of our fieldwork. Our tests of transactions and other auditing procedures were generally focused on the transactions occurring during our audit period of May 10, 2016 to March 4, 2020, but may include transactions before or after this period as we considered necessary to achieve our audit objectives.

To accomplish our audit objectives, our audit procedures included inquiries of appropriate personnel, inspections of documents and records, tests of transactions and to the extent practicable, observations of MDTA's operations. Generally, transactions were selected for testing based on auditor judgment, which primarily considers risk, the timing or dollar amount of the transaction, or the significance of the transaction to the area of operation reviewed. As a matter of course, we do not normally use sampling in our tests, so unless otherwise specifically indicated, neither statistical nor non-statistical audit sampling was used to select the transactions tested. Therefore, unless sampling is specifically indicated in a finding, the results from any tests conducted or disclosed by us cannot be used to project those results to the entire population from which the test items were selected.

We also performed various data extracts of pertinent information from the State's Central Payroll Bureau (payroll data), as well as from the contractor administering the State's Corporate Purchasing Card Program (credit card activity). The extracts are performed as part of ongoing internal processes established by the Office of Legislative Audits and were subject to various tests to determine data reliability. We determined that the data extracted from these various sources were sufficiently reliable for the purposes the data were used during the audit. We also extracted data from MDTA's general ledger and purchasing and disbursement systems for the purpose of testing purchases and disbursements. We performed various tests of the relevant data and determined that the data were sufficiently reliable for the purposes the data were used during the audit. Finally, we performed other auditing procedures that we considered necessary to achieve our audit objectives. The reliability of data used in this report for background or informational purposes was not assessed.

MDTA's management is responsible for establishing and maintaining effective internal control. Internal control is a process designed to provide reasonable assurance that objectives pertaining to the reliability of financial records; effectiveness and efficiency of operations, including safeguarding of assets; and compliance with applicable laws, rules, and regulations are achieved. As provided in *Government Auditing Standards*, there are five components of internal control: control environment, risk assessment, control activities, information and communication, and monitoring. Each of the five components,

when significant to the audit objectives, and as applicable to MDTA, were considered by us during the course of this audit.

Because of inherent limitations in internal control, errors or fraud may nevertheless occur and not be detected. Also, projections of any evaluation of internal control to future periods are subject to the risk that conditions may change or compliance with policies and procedures may deteriorate.

Our reports are designed to assist the Maryland General Assembly in exercising its legislative oversight function and to provide constructive recommendations for improving State operations. As a result, our reports generally do not address activities we reviewed that are functioning properly.

This report includes a finding related to conditions that we consider to be a significant deficiency in the design or operation of internal control that could adversely affect MDTA's ability to maintain reliable financial records, operate effectively and efficiently, and/or comply with applicable laws, rules, and regulations. Our report also includes a finding regarding a significant instance of noncompliance with applicable laws, rules, or regulations. Other less significant findings were communicated to MDTA that did not warrant inclusion in this report.

We conducted our audit fieldwork from March 5, 2020 to December 31, 2020. During this period of time, MDTA's operations were significantly impacted by the COVID-19 pandemic health crisis. Specifically, the Governor's executive order effective March 5, 2020 resulted in MDTA closing its Customer Service Centers, ceasing the collection of cash tolls, suspending notifications of video tolls due, and suspending collection efforts of unpaid tolls previously billed. According to MDTA management, on October 15, 2020, it resumed mailing video toll notices and performing collection efforts on previously unpaid tolls. Additionally, on August 6, 2020 the Governor announced a permanent cessation of cash toll collection and that electronic tolling (*E-ZPass* or Video Tolling) was the only method for toll collection. Consequently, our audit objective and scope focused on MDTA's electronic tolling operations.

The response from the Maryland Department of Transportation (MDOT), on behalf of MDTA, to our findings and recommendations is included as an appendix to this report. As prescribed in the State Government Article, Section 2-1224 of the Annotated Code of Maryland, we will advise MDOT regarding the results of our review of its response.

Office of the Secretary

September 9, 2021

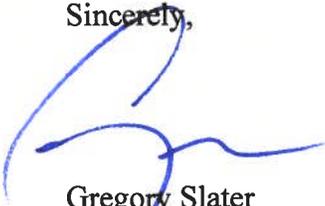
Gregory A. Hook, CPA
Legislative Auditor
Office of Legislative Audits
Department of Legislative Services
301 West Preston Street, Room 1202
Baltimore MD 21201

Dear Mr. Hook:

Enclosed please find responses from the Maryland Transportation Authority (MDTA) to the audit report from the Office of Legislative Audits for the period beginning May 10, 2016 and ending March 4, 2020.

If you have any additional questions or concerns, please contact Ms. Jaclyn D. Hartman, MDOT Chief Financial Officer, at 410-865-1035 or jhartman1@mdot.maryland.gov. Ms. Hartman will be happy to assist you. Of course, you may always contact me directly.

Sincerely,



Gregory Slater
Secretary

Enclosure

cc: Ms. Jaclyn D. Hartman, Chief Financial Officer, MDOT
Mr. James F. Ports, Jr., Executive Director, MDTA

Maryland Transportation Authority

Agency Response Form

Toll Collections

Finding 1

MDTA actions did not determine the impact of electronic toll collection system issues on its customers and identify and correct certain related customer overbillings.

We recommend that MDTA

- a. review and evaluate significant tolling issues (such as, an increase in similar customer complaints or a pattern of tolling abnormalities). For example, MDTA may want to consider developing a formal policy to review and evaluate tolling issues and determine the extent of customer overbillings for appropriate corrective actions (such as making restitution); and
- b. review previously identified electronic toll issues to determine the extent of customer overbillings and in consultation with legal counsel, assess the practicality of related customer restitution.

Agency Response	
Analysis	
Please provide additional comments as deemed necessary.	<p>The Maryland Transportation Authority (MDTA) acknowledges that in certain limited circumstances, customers were charged an incorrect toll rate; however, the MDTA respectfully disagrees with the suggestion from the Office of Legislative Audits (OLA) that these identified issues are part of a larger unknown problem. Although hardware or software problems may occur on occasion, MDTA's tolling system has a robust real-time monitoring system that alerts to anomalies so that issues can be quickly identified and corrected to minimize any potential errors. During the audit period, MDTA processed an average of 158 million transactions per year. In a detailed analysis provided to OLA covering four specific days at two different facilities, MDTA identified 15 occurrences of customers being overcharged out of a total of 230,687 transactions. This reflects an error rate of 0.000098.</p> <p>During the COVID-19 pandemic, the MDTA quickly transitioned to all-electronic tolling (AET) for the safety of its customers and employees and undertook a major transition from the old tolling system to the new one, including the replacement of toll equipment at 131 toll locations. While numerous controls were in place with the contractors during the toll equipment transition, transaction accuracy is most at risk when new equipment is installed as it must go through a tuning and calibration process. MDTA maintains a robust, statistical sampling-based quality assurance and quality control program, including multiple layers of</p>

Maryland Transportation Authority

Agency Response Form

verification, automated alerts, business intelligence analytics, and system safety nets to achieve the highest degree of accuracy from its tolling system. In addition, the new tolling system provides MDTA enhanced ability to perform system monitoring and auditing compared to its previous system.

The MDTA seeks to deliver excellent customer service. If it is determined that a customer was charged a higher toll rate than was appropriate, the MDTA refunds the difference to the customer. If it is determined that a customer was charged a lower toll rate than was appropriate, the MDTA does not seek additional funds from the customer. It is also important to note that the processing of some customer refunds were delayed due to the backlog of transactions associated with the switch to AET as a result of COVID-19 and a scheduled delay in processing due to the transition to the new tolling system.

MDTA Issue Analysis Summary

One tracking tool utilized by MDTA is an Issue Analysis Summary (IAS), which documents known system issues. MDTA provided its IAS tracker to OLA, which included 25 issues (4 resulting in overcharges and 21 in undercharges). The relevance is that the analysis includes the four overcharge issues identified by the MDTA and statistically unidentifiable errors.

Fort McHenry Tunnel (FMT) Equipment Malfunction

From the initial identification of the issue by the MDTA in December 2019, the MDTA analyzed, isolated, and corrected the equipment failure, except for crediting customers' accounts. When questioned by OLA the MDTA recognized the oversight and determined the number of customers impacted, amount overbilled, and began to process credits owed to customers.

Intercountry Connector (ICC) and I-95 Express Toll Lanes (ETL)

MDTA is not aware of any discussions with OLA involving these transactions to date. The ICC transactions were part of the backlog of transactions and as such, credits could not be processed until posted. In total, 703 ICC transactions require a credit totaling \$425.54. In total, 1,720 ETL transactions require a credit totaling \$3,440.21. In both cases, the MDTA identified and fixed the issue and documentation exists supporting our actions.

Maryland Transportation Authority

Agency Response Form

Thomas J. Hatem Memorial (Hatem) Bridge

MDTA agrees with the analysis and as indicated the MDTA identified and resolved the issue and credited all 5,646 impacted transactions totaling \$67,000.

Potential Overcharges Cited by OLA

At the time of the exit conference, OLA provided the MDTA with information regarding customers being billed twice. OLA provided a 3-hour time window for four dates, lane numbers, and indicated the duplicate transactions were all *E-ZPass*[®]. Information was not provided to the MDTA regarding FMT January or August transactions. Since one of the lanes indicated was permanently closed during the timeframe identified by OLA, the MDTA created a report looking for transactions, with the same transponder, within minutes of each other for the entire toll facility. The report spanned 24-hours for each date provided. Due to automated filters and blocks in place, most cases of duplicate charges are prevented at a point in the transaction processing prior to posting to the customer's *E-ZPass* account. In this case, the MDTA traced each transaction to the customer's *E-ZPass* account to verify if duplicate charges occurred. A rigorous analysis was performed, and a detailed spreadsheet was provided to OLA identifying 15 overcharge transactions, including 8 duplicate transactions and 7 misclassifications, out of 230,687 transactions, along with supporting documentation for every transaction reviewed.

Toll Facility	Date	Total Transactions	Incorrect Transactions		Error Rate
			Count	Amount	
FMT	3/12/20	83,946	5	\$ 13.80	0.000060
FMT	9/2/20	101,533	1	\$ 21.00	0.000010
FSK	4/23/20	25,082	6	\$ 126.00	0.000239
FSK	5/30/20	20,126	3	\$ 54.00	0.000149
Total		230,687	15	\$ 214.80	0.000098

Detection of issues at these low error rates requires rigorous analysis far exceeding conventional standards (e.g. ANSI/ASQ Z1.9, GAO/PCIE Financial Audit Manual GAO-08-585G, 2020 AICPA AU-C Section 530, etc.). Today, when the report (duplicate transponder read) is run, no transactions are identified, consistently demonstrating an extremely low error rate.

The analysis also discusses an increase in tolls dismissed. The dismissals are for video toll transactions and not *E-ZPass* transactions, which is the primary focus of the aforementioned issues.

Maryland Transportation Authority

Agency Response Form

Recommendation 1a	Agree	Estimated Completion Date:	12/1/21
Please provide details of corrective action or explain disagreement.	The MDTA has an established process to ensure significant tolling issues are identified, stopped, and fixed; customer accounts that are negatively impacted are credited; and lost revenue is recovered from MDTA's contractors. The MDTA will formalize the process in documented procedures.		
Recommendation 1b	Agree	Estimated Completion Date:	12/1/21
Please provide details of corrective action or explain disagreement.	The MDTA will review and reconcile previously identified electronic toll issues from the tolling transition to ensure the customer credits identified in this finding and not already processed, are processed.		

Maryland Transportation Authority

Agency Response Form

System Access

Finding 2

MDTA did not perform periodic documented reviews of system access capabilities granted to State and contractor employees on the old electronic tolling and customer service system used during our audit period.

We recommend that MDTA perform periodic documented reviews of user access to its electronic tolling and customer service system, including the new systems once implemented, and take appropriate corrective action for any improper or unnecessary user access.

Agency Response			
Analysis			
Please provide additional comments as deemed necessary.	The analysis states the MDTA did not perform periodic documented reviews of contractor and MDTA employee system access rights in its prior tolling and customer service system. MDTA did perform reviews which were documented, although there is agreement that these reviews should be strengthened/improved. Specifically, the MDTA has sound procedures to ensure access rights align with a user's job duties upon granting initial access and that access is disabled for separated employees. Additionally, on a monthly basis, MDTA ensures access rights were disabled for all MDTA separated (no longer employed) employees by comparing a system access report to an employee separation report. MDTA's procedures were deficient in that they did not identify situations in which a user's job duties changed and their access no longer aligned with his/her job duties or situations in which a contractor employee separated, and his/her access was not disabled.		
Recommendation 2	Agree	Estimated Completion Date:	11/1/21
Please provide details of corrective action or explain disagreement.	The MDTA will establish documented procedures that require the periodic review of user access (MDTA and contractor employees) to its electronic tolling and customer service systems. The reviews will be documented and retained for audit verification. The reviews will serve as a second level defense. That is, the MDTA has sound procedures to ensure appropriate or disabled access when granting access, an employee's job duties change, and an employee separates from the MDTA or its contractor. The periodic reviews will detect if these procedures are not followed at which time corrective action will be taken.		

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