

**A Report to the Maryland General Assembly**  
**regarding**

**All-Electronic Tolling Study**  
**House Bill 389, Chapter 397, Acts of 2014)**

**January 2016**

**The Maryland Department of Transportation**  
**Maryland Transportation Authority**

**Maryland Transportation Authority**  
**All-Electronic Tolling Study**

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This report on the Maryland Transportation Authority's (MDTA) All-Electronic Tolling Study was prepared in response to which requires:

*“All-Electronic Tolling – Study: (HB 389, Ch. 397, Acts 2014) uncodified) - MDTA is to provide to Cecil County Executive and Council; Harford County Executive and Council; the Mayor & Town Commission – Town of Perryville; Mayor & City Council – City of Havre de Grace; and FIN and W&M Committees: (i) an analysis of all–electronic tolling in other states and a description of various all–electronic tolling programs; (ii) an analysis of electronic toll collection interoperability; (iii) an analysis of: 1. alternative payment methods that do not exceed the existing cash toll rate at each project; 2. a video toll rate based on an analysis of actual costs and potential savings to collect video tolls; and 3. a toll rate needed to address concerns with video toll collection associated with trucks; (iv) an analysis of issues and factors related to all–electronic tolling that must be addressed before all–electronic tolling becomes effective at each project; (v) an overview of revisions, if any, to the Authority’s initial all–electronic tolling proposal; and (vi) proposed legislation, if required, relating to the implementation of all–electronic tolling”.*

**Purpose**

The purpose of the report is to update the Legislature on the outcome of the House Bill (HB) 389 All-Electronic Tolling (AET) Legislative Follow-up Study.

**Summary**

This study was undertaken in response to HB 389, passed by the Maryland General Assembly in 2014. That bill requires the Maryland Transportation Authority (MDTA) to conduct additional studies of All-Electronic Tolling (AET) on its legacy toll facilities before implementation can begin. HB 389 includes the following requirements:

- An analysis of AET in other states and description of various AET programs;
- An analysis of AET interoperability;
- An analysis of:
  - Alternative payment methods that do not exceed the existing cash rates,
  - Video toll rates based on an analysis of actual costs and potential savings to collect video tolls, and
  - Toll rates needed to address concerns with video toll collection of trucks;
- An analysis of issues and factors related to AET that must be addressed before AET is implemented;
- An overview of revisions, if any, to MDTA’s initial AET proposal; and
- Proposed legislation, if required, related to implementation of AET.

The legislation requires MDTA to respond to the Cecil County Executive and Council; Harford County Executive and Council; the Mayor & Town Commission – Town of Perryville; Mayor & City Council – City of Havre de Grace; and Finance and Ways & Means Committees by January 1, 2016.

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**Analysis**

The MDTA has conducted extensive analyses to respond to the six requirements of HB 389, Ch. 397, Acts 2014. These analyses have yielded the results summarized below.

An analysis of AET in other states and description of various AET programs

Approximately one dozen toll agencies across the United States have converted their facilities to AET or, in the case of the Northern Virginia Express Lanes, opened as AET facilities. These agencies are located in Texas, Colorado, Florida, California, Massachusetts, and Virginia. Highlights from our research into the programs of these agencies include the following.

- With regard to transponder toll rates vs. video toll rates, all but one agency charged a higher rate for video. The differential ranged from 16% to 100%.
- Two agencies set the video rate to be equivalent to the “pre-AET” cash rate (Florida’s Turnpike Enterprise and Tampa Hillsborough Expressway Authority).
- Transponders (or “mini-transponders”) are generally free, provided the account holder pre-loads the account with funds. (It should be noted that most of the agencies use “sticker tags” which are considerably less expensive than *E-ZPass*® transponders).
- A couple of the agencies ran transponder raffles at the outset of their programs to try to increase participation. Those promotions ended sometime after AET implementation.
- One agency (North Texas Tollway Authority) has some unusual ongoing incentives, including “vanity stickers” and tie-ins for non-transportation items, like pizza.
- Virtually every agency with a transponder program, even if it does not have an AET program, uses video tolling. In some instances, video is used solely for enforcement. In six cases, however, the video program is advertised, and has a promotional symbol.
- Every AET system is based on transponders and/or video. While some “mobile applications” are in development, none of them are currently in use by any toll agency in the United States.

An analysis of AET interoperability

The last Federal Highway Authorization bill, “Moving Ahead for Progress in the 21st Century (MAP-21)” requires national toll interoperability by July 6, 2016. The toll agencies and industry have undertaken many measures to achieve this broad national goal, including existing interoperability efforts led by *E-ZPass*, trade association committees working towards standard technologies and rules, the Alliance for Toll Interoperability (ATI) data exchange trials and services, and, individual bi-state or regional efforts. On September 30, 2015, members of the International Bridge, Tunnel and Turnpike Association (IBTTA) testified before the U.S. House of Representatives’ Oversight and Government Reform Committee, Subcommittee on Transportation and Public Assets, and focused on the status of toll interoperability and their commitment to achieving nationwide interoperability, while acknowledging the complex process involved. It was announced at the hearing that legislation is being created to incentivize those who do not meet the nationwide interoperability mandate. It is not immediately certain that national interoperability will be achieved by 2016; however, it can be seen that for all practical purposes a very high degree of national interoperability will be possible in the short-term future.

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An analysis of alternative payment methods that do not exceed the existing cash rates

One of the alternatives possible with a video account would be “pre-register/POST-pay”. Under this option, the license plate of a vehicle would be identified when an account is opened, and a credit or debit card would be attached to that account. Once a toll is incurred, the account holder’s credit or debit card would be charged the toll. The pre-registration of the license plate would eliminate the expense to MDTA of identifying the registered owner.

An analysis of video toll rates based on an analysis of actual costs and potential savings to collect video tolls

The cost to collect a video toll is estimated to be \$3.20 per transaction. This cost includes MDTA staff costs, MDTA non-payroll costs, and toll collection vendor contract costs. The additional expenses associated with video tolling are entirely related to identifying the vehicle, identifying the vehicle owner, notifying the vehicle owner and collecting from the vehicle owner. Many of these additional costs could be significantly reduced through a license plate “pre-register/POST-pay” subsystem, as described in the preceding section. Still more of these additional costs could be reduced through the use of a license plate “pre-register/PRE-pay” subsystem. Thus, the cost for this alternative payment method could be closer to the existing cash rate. Both “pre-register/POST-pay” and “pre-register/PRE-pay” subsystems would eliminate the need to contact the vehicle owner.

An analysis of toll rates needed to address concerns with video toll collection of trucks

Based on a review of FY 2014 toll transaction data for the seven MDTA legacy toll facilities, truck traffic represented seven percent of the total traffic. Additional review of the data has shown that trucks comprised 18 percent of MDTA’s unpaid toll transactions and 55 percent of uncollected revenue. Thus, collecting outstanding tolls from trucks is even more important than collecting outstanding tolls from automobiles. Of the approximately 20,000 uncollected truck transactions which could be linked to an address, approximately 38 percent were from states other than Maryland. The top five states were New Jersey, Pennsylvania, New York, Delaware, and Virginia.

There are several approaches which could be taken to mitigate this problem.

- For tractor/trailer units, hold the registered owner of the trailer responsible for the toll, if the toll cannot be collected from the registered owner of the tractor. This would allow the trailer owner to transfer liability for the toll back to the tractor owner pulling the trailer at the time of the toll.
- Continue to develop, finalize, and use Reciprocal Violation Enforcement (RVE) agreements with other neighboring states. Efforts are now underway with Delaware, Virginia, and Pennsylvania; once those RVEs are in place, New Jersey and New York should be added. However, Delaware is the only one of these states that currently has enabling legislation to enter into reciprocity agreements.

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An analysis of issues and factors related to AET that must be addressed before AET is implemented

In addition to the toll-rate-specific issues discussed in the preceding sections of this document, MDTA faces a number of policy, public outreach, and business rule issues which should be considered prior to implementation of AET. These issues include:

- **Account Conversion:** Customers currently using cash will be provided with options. Additional customer service staff and additional automated payment options should be provided, particularly during the early days of AET.
- **Existing Customer Service Hurdles:** Steps need to be taken to address the issues identified in the market research effort conducted for this project, including improving the user-friendliness of the *E-ZPass* Maryland website.
- **Additional Customer Service Hurdles Likely to Be Encountered with AET:** Lessons learned by agencies which have already implemented AET should be applied to MDTA.
- **Notice of Toll Due (Invoice) Format:** The MDTA Notice of Toll Due for a video toll is widely perceived by the public to be punitive. A change in format should be strongly considered to make it easier to understand, but the tone needs to stay firm.
- **Ease of Obtaining Transponders:** All of the current methods (stop-in center, online, and at a participating retail dealer for *E-ZPass* “On the Go”) should be continued, and consideration should be given to having toll collectors sell transponders in the toll lanes, for a period leading up to the conversion.
- **Leakage and Reciprocity:** For in-state violators, the most effective countermeasures for the increase in uncollected tolls (leakage) would be rigorous enforcement of Maryland’s ability to withhold a vehicle registration renewal (and even cancellation of a current registration) for unpaid tolls. For out-of-state violators, RVE agreements are the most effective. In addition to Maryland, the four other states that are currently known to have enabling legislation to enter into reciprocity agreements are Delaware, Massachusetts, Maine, and New Hampshire. Massachusetts, Maine, and New Hampshire have signed agreements that enable the agencies to share motor vehicle and toll data in order to pursue and collect tolls, fines, and other fees from out-of-state toll violators. These agreements can be enforced by denial of vehicle registration renewal in Massachusetts and New Hampshire, and registration suspension in Maine. Other states are known to be aware of the issue, and some are considering such enabling legislation, but none have passed such legislation yet.
- **Long-term Policy Issues:** These include simplifying and streamlining business rules and the dispute resolution process, considering the life cycle of existing toll plaza infrastructure in the timing of AET implementation, and ongoing efforts to increase public acceptance of AET.

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An overview of revisions, if any, to MDTA's initial AET proposal

As a result of a number of factors, including the results of this study, MDTA has decided to delay any implementation of AET until after the contract for the next generation of its toll system (3G ETC) is executed; this is scheduled to occur in 2019 at the earliest. The results of this study are being incorporated, as appropriate, into the Request for Proposals for 3G ETC. During the intervening time, MDTA will continue to observe other AET implementations to learn further lessons and to improve its existing customer service challenges.

Proposed legislation, if required, related to implementation of AET

In order to implement the adjustments to the initial AET proposal going forward, legislation is required to hold the registered owner of the trailer responsible for tractor-trailer truck tolls if the toll cannot be collected from the registered owner of the tractor.

**Conclusion**

MDTA will delay any implementation of AET until 2019 at the earliest, after the contract for the next generation of its toll system is executed. During the intervening time, MDTA will learn further lessons from other AET implementations and improve its existing customer service challenges.