LOWER BELLAMY RIVER COLLABORATIVE (LBRC)

All-Electronic Tolling (AET) vs. Open-Road Tolling (ORT) in New Hampshire

A Citizen Compiled Report Examining the Financial, Environmental, Safety, and Technological Advancement Impacts for NH Tolls

Summary

AET is a more favorable option than ORT for New Hampshire

- Capital Savings of Over $14M at Bedford Mainline, Dover, and Rochester
- Concern For Lost Revenue After Conversion is Much Lower or Non-Existent
- Improves Safety, Traffic Flow, Lessens Environmental Impact
- Having The Cash Option Costs NH More
- Converting To AET Will Not Invade Your Privacy
- NH DOT Supports AET and Says it is Not a Matter of *IF* but *WHEN*

This is Why Other States are Spending Money to Tear Toll Booths Down and Convert to AET and NOT Building New Ones Like New Hampshire is Proposing

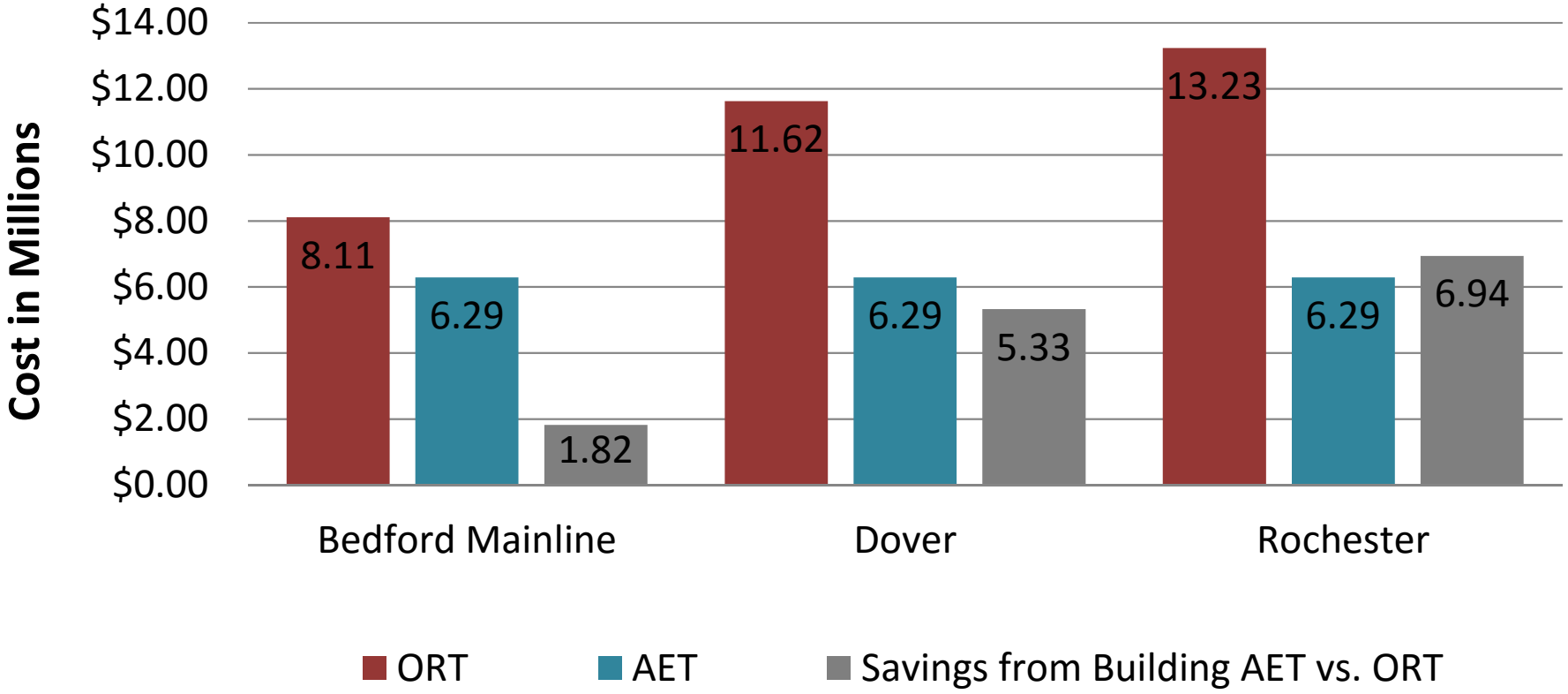
NH AVE WITH AET!

NH Will Save Over $14 Million in Capital Expenses
by building AET versus ORT at Just 3 Locations

NH May Stand to Save Even More Revenue by replacing older Image Technology with Newer AET Technology

Image Technology Used at Bedford, Dover, Rochester, and Hampton Side lose over 25% of Billable Transactions Due to Unreadable Images, Where *Other Agencies Using AET Estimate Losing Only 2-10% in Unreadable Images*

ESTIMATED COST TO BUILD ORT VS. AET



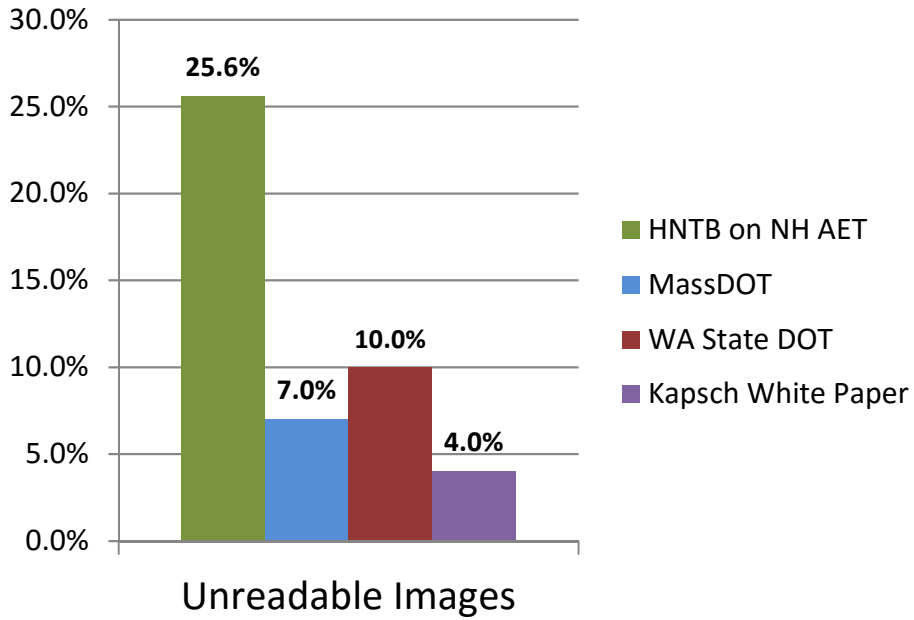
At three locations, *Bedford Mainline*, *Dover*, and *Rochester*, the estimated savings in costs to build **AET** instead of **ORT**

TOTALS OVER $14 MILLION

Data from AET Feasibility Analysis and Comparative Assessment of ORT (Page 36) Prepared by HNTB, 21 January 2015.

Concern For Lost Revenue is Much Lower or Non-Existent

Other Agencies Agree With Mass DOT and are Again Much Lower Than NH Estimates[1]



Unreadable images and potential lost revenue can be offset and built into pay-by-plate fees. Migration to AET and the resulting increase in program subscribers is a major factor in decreasing revenue loss to unreadable images.

1) There have been numerous studies conducted by state agencies, highway experts, and toll technology providers which assume a much lower unreadable image rate than NH. Some are listed above. The Washington State DOT states "From other comparable tolling operations, **a conservative assumption is that 10 percent** of non-account license plate transactions will be unreadable after manual review, and therefore treated as uncollectible." Washington State DOT *SR 520 Bridge Net Toll Revenue Report,* September 2011, P. 11 (http://www.wsdot.wa.gov/sites/default/files/2012/05/04/SR520NetTollRevenueReport.pdf)
2) AET Feasibility for NH tolls **should not** be determined using the 50.7%[2] metric, provided by the HNTB Analysis, considering the major differences in unreadable/uncollectible images.
3) Mass DOT has stated "Since the Tobin Bridge was converted to AET in July 2014, approximately 21% of image based revenue went uncollected, representing 4-6% of total revenue. During the rate setting process, we made certain projections about how much revenue would go uncollected and **built that into our image-based fees. This assured that we were covering our costs associated with image based transactions, including the "cost" of non-payment**." (Email Dated 11-15-2016 From AETinfo@dot.state.ma.us)

[1]Kapsch White Paper: "Revenue assurance in an interoperable world" August 2012, P. 3 (https://www.kapsch.net/us/ktc/downloads/whitepapers/Kapsch-KTC-WP-Revenue_Assurance-EN?lang=en-US)

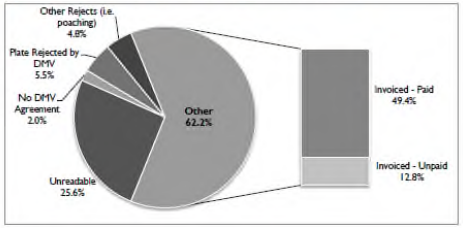
[2]Page 18 of the HNTB Feasibility Analysis shows the math for uncollected revenue of non-customer toll violators: 25.6% Unreadable + 2% No DMV Agreement + 5.5% DMV Plate Rejection + 4.8% Other Rejection + 12.8% Of Billed Violators Who Didn't Pay = 50.7% Uncollectible

Concern For Lost Revenue is Much Lower or Non-Existent

HNTB Feasibility Analysis Admits That Compliance is Higher Under AET

At the four selected toll plazas on the New Hampshire Turnpike in 2013, a total of 291,489 non-payments were recorded from non-E-ZPass customers. Figure 5 provides a detailed breakdown of these non-payments.

Figure 5 – Summary of Non-Payments from non-E-ZPass Customers in 2013



Two important conclusions are evident from Figure 5:

- Roughly one out of every three non-payments from these users of the New Hampshire Turnpike never gets billed to the customers. Either the image was unreadable, or the image was rejected by the toll system for some reason, or the DMV rejected the request, or the image was from a state with which New Hampshire has no data-sharing agreement.
- Of the images that did get invoiced, roughly three-fourths ultimately resulted in payment of the tolls. However, the net effect is that **only half of the tolls owed by non-E-ZPass violators ultimately get paid.**

This has significant implications for AET. If this performance holds true for video tolls—that is, if less than half of the video images ultimately result in payment of tolls to the Bureau of Turnpikes—then the revenue loss may render AET infeasible. However, the population of video customers under AET will be much broader than the population of violators. This payment rate can be viewed as a lower boundary in the range of possible payment rates. In practice, AET agencies generally report somewhat higher compliance rates. This trend seems to match up with the fact that the population of video customers under AET will be composed on both customers who willingly pay cash today and a much smaller group who continue to choose to be handled through enforcement remedies.

This section has provided an overview of the extent to which violators have responded to the billing process. However, this process actually has multiple levels, and each level has a different associated fee and a different response rate. These levels will be discussed in detail in the next section.

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HNTB Figure & Analysis – Page 18 AET Feasibility Analysis and Comparative Assessment of ORT

As a whole the current 50.7% uncollectible rate under Traditional/ORT is concerning. First, it says that the current ORT technology is sub-par. Second, this data should not be carried through as a *prediction of future success for AET.* Other states are finding AET successful. **We would therefore like NH to use more directly relevant data, and compare AET to AET in determining feasibility.**

AET Improves Safety, Traffic Flow, Lessens Environmental Impact

– IMPROVED SAFETY

- Drivers Experience Less Crashes
- Toll Operators are not Exposed to Danger at Toll Booths
- Damage to Highway Property Decreases Significantly
- Lessens Driver Need for Disruptive or Sudden Lane Changes to Accommodate Tolling Preference

– LOWER ENVIRONMENTAL IMPACT

- Alleviates Toll Related Acceleration/Deceleration Which Reduces Both Emissions and Sound Level to Surrounding Neighborhoods
- Gantries are Minimal in Appearance
- Alleviates the Need for Further Office, Parking, Tunnel Space Associated With ORT/Traditional Tolls Which Requires Extensive Paving and the Removal of NH's Trees

– IMPROVED TRAFFIC FLOW

- Alleviates Traffic Congestion During Peak Travel Times and Toll Booth Backups
- Lessens Need for Disruptive or Sudden Lane Changes to Accommodate Tolling Preference

AET Improves Safety

According to a study[1] published on the National Institute of Health website "Traditional mainline toll plaza (TMTP) is considered the most high-risk location on the toll roads. Conversion from TMTP or hybrid mainline toll plaza (HMTP) to an all-electronic toll collection (AETC) system has demonstrated measured improvement in traffic operations…"

The study collected extensive data over 750 miles of Florida toll roads to find that "the conversion from the TMTP to an AETC system resulted in an **average crash reduction of 76, 75, and 68%** for total, fatal-and-injury and property damage only (PDO) crashes, respectively;"

Dover Toll

Bedford Toll

Hampton Toll

[1]Department of Civil, Environmental and Construction Engineering, University of Central Florida, Orlando, FL 32816-2450, United States. (https://www.ncbi.nlm.nih.gov/pubmed/25909391)

AET Lessens Environmental Impact & Improves Traffic Flow

Environmental

- AET Reduces Excessive Noise Pollution Inherent with Stop-and-Go Toll Systems.
- AET helps to reduce congestion and auto emissions.
- AET helps reduce fuel consumption.
- Mass DOT in their own reporting estimated conversion to AET would reduce idling, acceleration and deceleration caused by tollbooths and "save between 500 and 2500 gallons of gasoline per day (200,000 to 875,000 gallons annually), which [would] reduce greenhouse gas emissions by up to 7800 tons per year."[1]

Traffic Flow

- In its 2015 Feasibility Study[2] for the NH DOT, HNTB cites that aside from its revenue analysis that "For some toll agencies, a compelling reason to implement AET is to relieve traffic congestion" and that "congestion relief would be a corollary benefit if AET were selected at these locations."
- Better Traffic Flow Entices More Visitors to Promote NH's Tourist Economy.

[1] "All Electronic Tolling & Gantry Rate Discussion" (P. 6) Public Hearing MassDOT Highway Division September 2016
[2] AET Feasibility Analysis and Comparative Assessment of ORT (Pages 66-67) Prepared by HNTB, 21 January 2015.

AET Lessens Environmental Impact & Improves Traffic Flow

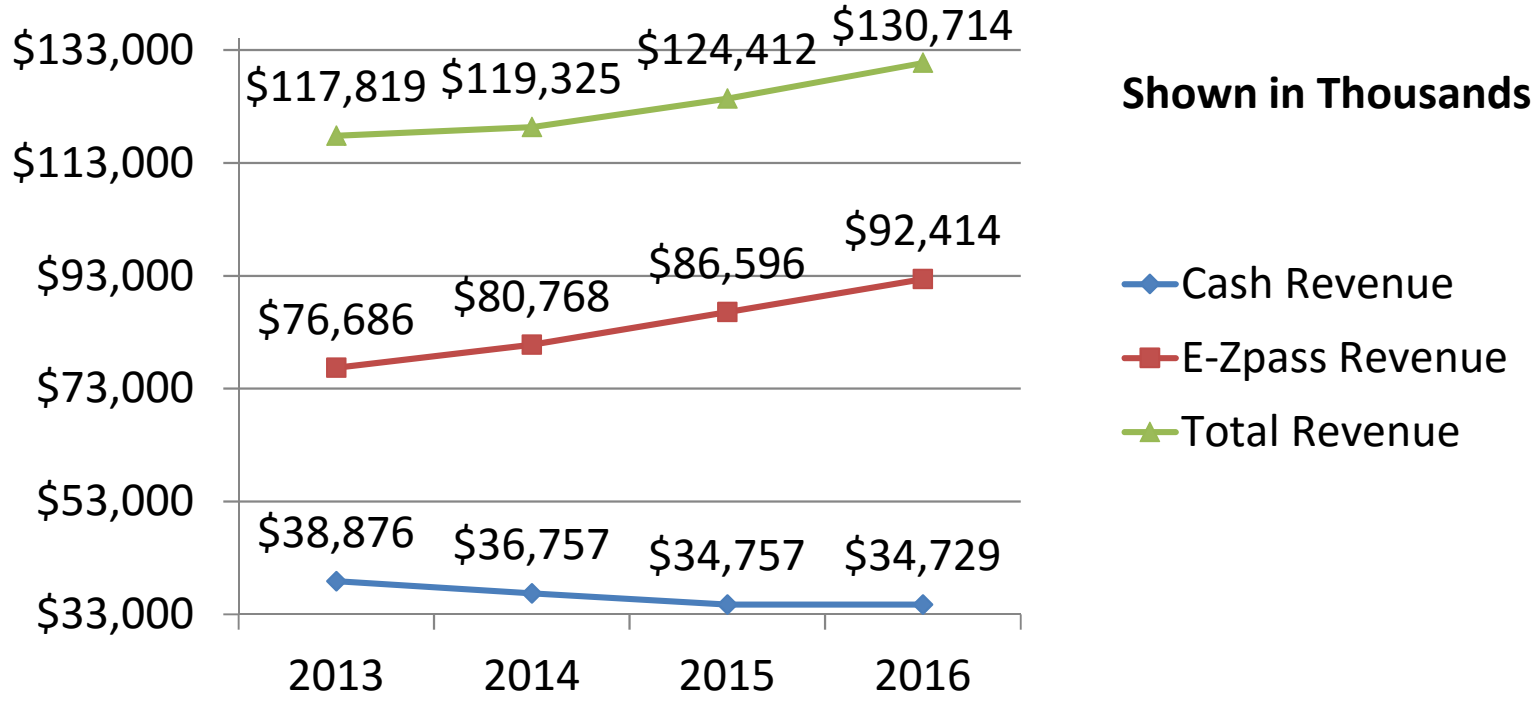
- AET Does NOT Require Physical Toll Booths, Office Buildings, Tunnels, Parking Lots, Staff to Operate Them, Heat, Electricity, etc.
- There Just Simply Is **No More Room For Toll Booths** in some locations!
- New proposed ORT toll in Dover will require more trees cut down north of the current location with commercial buildings and access off Spur Rd. (residential road).
- AET will not require trees to be cut down and will not require a sound wall.

Having The Cash Option Costs NH More

- As E-ZPass Popularity Continues to Increase, Cash Revenue Continues to Decrease. This Makes Offering the Cash Option a Larger Expense Than it is Worth.
- ORT as a Combination of Electronic and Cash Payment Options Requires Physical Toll Booths and is Costly.
- NH Continues to Pay For Physical Toll Booths, Office Buildings, Tunnels, Parking Lots, Staff to Operate Them, Heat, Electricity, etc. Not Including the Proposed Capital to Build New Toll Plazas, Which Will Soon Be Torn Down.
- The Cost to Collect Cash Stays the Same, But the Revenue Which Historically Supported it Will Continue to Decrease, Resulting in a Decreasing Net Revenue Year After Year.
- AET Requires a Less Costly Setup and Maintenance of Only a Gantry and Related Equipment.
- There are 9 toll plazas (6 main line and 3 ramp) in NH. All could benefit in savings from using AET systems. **Other states are tearing tolls down. Why is NH spending money to build new ones?**

Having The Cash Option Costs NH More

Cash to E-Z Pass Revenue Trend



As reported from 2013, 2014, 2015, 2016 Turnpike Financial Annual Reports (https://www.nh.gov/dot/org/operations/turnpikes/documents.htm)

Since FY2013, E-Z Pass revenue has grown by over $15.7M, and cash revenue has decreased by over $4.1M. Total Revenue has continued to increase by $12.9M .

Converting To AET Will Not Invade Your Privacy

We understand there are some underlying concerns for privacy. Many people believe that upon conversion to AET, all highway anonymity will be lost. This is simply not true.

1) E-Z Pass NH Customers Can Apply for an Anonymous Account

Print this application (https://www.ezpassnh.com/en/about/anon_ezapp.pdf) and bringing it to a walk-in facility. This account type will not hold your information and E-Z Pass will not have a way to identify you as an account holder.

2) E-Z Pass & Pay-By-Plate Transactions Will NOT Be Shared With 3rd Parties

NHDOT and its representatives are held to the same privacy standard as outlined in RSA 236:31, however law enforcement personnel may be able to obtain records upon court intervention or exigent circumstances.

3) Cash Lanes and Highways Currently Have Cameras

As of mid-May 2015, all cash lanes were equipped with video equipment to capture toll violators. Images of all vehicles are taken and only deleted after the toll has been paid.

4) All Tolls Can Be Avoided By Exiting And Driving Side Roads

This will avoid all current and future cameras including the fees of tolls.

5) Law Enforcement Will Be Able to Use My Toll Data

Aside from emergency situations like an Amber Alert or court intervention, data collected will be confidential and will solely be used for the enforcement of evasion of tolls and charges. NHDOT and its representatives are held to the same privacy standard as outlined in NH RSA 236:31.

PRIVACY LAWS

Federal Law:

Restricts the disclosure of personal information associated with motor vehicle records.

(Drivers Privacy Protection Act "DPPA" 18 USC s. 2721).

NH RSA: 236:31 Evasion of Tolls and Charges. –

V. Any toll collection monitoring equipment acquired, operated by, or used by the department, or its designee, shall be designed to make a record of the front, or rear, or both, portions of the vehicle, including any registration plates affixed to the vehicle. Such equipment shall not be designed to produce a photograph, microphotograph, videotape, or other recorded image of the face of the operator or any passenger in the motor vehicle, unless the production of such image is unavoidable because the operator or passenger is not in a passenger compartment, as on a motorcycle.

VI. (a) The department, and any designee of the department, shall maintain the confidentiality of all information acquired in connection with the administration and enforcement of toll evasion, including but not limited to credit and account data, photographs or other images, and all personally identifying information obtained relative to owners of vehicles. Such information shall not be a public record subject to disclosure under RSA 91-A and shall be used solely for enforcement of this section.

(b) The department, or any agent that has contracted with the department to gather, collect, maintain, store, or collate any information acquired in connection with the administration and enforcement of toll collection, shall not use, share, reveal, duplicate, sell, provide access to, or by any other means use, or allow other entities to use, such information.

VII. The transponders and the monitoring system used in a toll collection system shall not be used to track or determine the location of a vehicle or be used to collect information, including but not limited to the name, street address, post office box number, license, or billing information, about the individual and vehicle associated with the transponder, except at each point where a toll is collected or incurred.

Conclusions

“It’s Not a Matter of If, but When”

In response to AET conversion, NH DOT officials have already expressed that it’s not IF, but WHEN. There is a growing understanding that All Electronic Tolling is inevitably in the future of our highway systems.

“Why Are We Spending Money Building Toll Booths When Our Neighbors are Spending Money to Tear Them Down?”

$14 Million is a lot of capital to waste if the outcome will be outdated upon completion.

Let’s Use Apples to Apples Data in the Decision!

We have established that the Traditional E-Z Pass/ORT data from 2012-2013 is not comparable to other agencies’ AET factual data. Let’s find and use more current relevant AET data to make the decision instead.

Revenue Loss Will Not Be Greater Under AET

Pay-by-Plate fees can be built in to minimize revenue “leakage” associated with video tolling. Upgrading the equipment should also help in plate recognition rates.

Suggested Action

- Pause the Current ORT Project at Dover + Rochester
- Visit the Dover toll from Spur Rd. and see the impact the current toll has on environment, noise, & odor first hand
- Consider a 2-Year AET Pilot Program
- Have a New Feasibility Study Conducted Using Current Data as Well as Using Mass and Other States' DOT Data
- Convert Dover, Rochester, and Bedford Mainline Tolls to AET Instead of ORT