All Electronic Tolling (AET) and You: DMV Impacts

Topics

• Previous Presentation – P. J. Wilkins
• MassDOT Background and Organization
• MassDOT Tolls and RMV Working Together
• Tolls - Why All Electronic Tolling (AET)?
• Requirements when Tolling by License Plate
• Enforcement and Reciprocity Needs
• Inter-agency Agreements
• Challenges
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- July 2013 Presentation
  Dover, Del.
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- **MassDOT Background**
  - Previously - Separate Agencies
    - MBTA
    - Massachusetts Turnpike Authority (est. 1952)
    - Massachusetts Registry of Motor Vehicles (RMV)
    - MassHighway, other departments
  - 2009 Commonwealth of Massachusetts Transportation Reform
    - Merger = MassDOT
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• MassDOT Background
  – Tolls Group and the RMV worked on several joint initiatives:
    • Toll Violation Processing
      – Mass Plate Look-Ups
      – RMV ‘Marking’ for Enforcement
      – RMV Collecting Fines and Fees on Behalf of Tolls Group
    • Co-Locating Services
      – Same Customer Base
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- MassDOT Background – Today’s Organization

Board of Directors

- MBTA GM / MassDOT Rail and Transit

Secretary of Transportation

- Registrar / RMV
- Administrator – Aeronautics Division
- Administrator – Highway Division
  - Tolls Division
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- MassDOT Background – RMV
  - 30 Branch Offices
  - Call / Contact Center
  - Administrative Back Office
  - RMV Modernization Project
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- **MassDOT Background – Tolls**
  - 2013 Transactions = 208.4 million
  - 2013 Revenue = $330.5 million
  - MassDOT Principle Toll Facilities:
    - Western Turnpike – Closed/Ticket System
    - MHS Extension – Barrier
    - Boston Harbor Crossings – Barrier
      - Ted Williams Tunnel
      - Sumner/Callahan Tunnel
      - Tobin Memorial Bridge
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• MassDOT Background – Tolls

• Current payment of tolls
  • Via “stop & go” cash booths, or
  • Via E-ZPass transponder and roadside readers and antennas
    – E-ZPass is used for approximately 75% of all transactions at MassDOT
MassDOT Background – Tolls

– Traditional Toll Plaza Issues

• Safety
• Congestion
• Inefficiencies
• Violations
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• Traditional Tolling Plaza – Safety Issues

“Wood you believe….?”
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• Traditional Tolling Plaza – Safety Issues

“Meat you at the toll booth….“
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• Traditional Tolling Plaza – Safety Issues

(A little courtesy won’t hurt you)
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- Traditional Tolling Plaza – Safety Issues

But speed might.....
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- Traditional Tolling Plaza – Congestion Issues
MassDOT Background – Tolls: Changes Needed

– Need an Alternative to Toll Booths

• MassDOT Studied:
  – Open Road Tolling (ORT)
  – All Electronic Tolling (AET)

• Determined AET is best value

• Currently: AET project planning & development underway

– Wait…. What is AET?
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• **AET: What it is……**
  
  – No Toll Booths
  
  – No In-Lane Cash Option
  
  – No Stopping – all tolls ‘collected’ at Highway Speed
  
  – All Electronic - via overhead readers and cameras:
    
    • E-ZPass, or
    
    • **Notices via License Plate Images** and DMV Inquiry
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- **AET**: Typical Gantry / “Toll Zone”
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• Sample AET Facilities
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- Sample AET Technology
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- Requirements for AET and License Plate Tolling:
  - ✓ Sound Policies and Business Rules
  - ✓ High Usage of ETC
  - ✓ Efficient Noticing Operation
  - ✓ Accurate, Reliable, and Automated Technology
  - ✓ DMV Collaboration
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Requirements: Technology

- Reliable image capture
- Good, clear human-readable images
- Automation accuracy
  - Automatic License Plate Recognition (ALPR)
  - Issuing Jurisdiction
  - License Plate Characters
  - License Plate Type
  - Algorithms that allow for accurate DMV inquiry
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• Requirements: **DMV Collaboration**
  - License Plate and DMV knowledge
  - Access to Vehicle Owner Name and Address
  - Enforcement Teeth
  - Cross-jurisdictional Cooperation and Reciprocity
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- **Requirements: DMV Collaboration**
  - Cooperation and Information
  - Knowledge of DMV Requirements
    - Plate Types
    - Plate Entry Criteria
      - Suppressed / Appended / Truncated Characters
    - Other data that will provide the best ‘Hit Rate’
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• Requirements: DMV Collaboration
  – Establishing and Maintaining DMV Contacts
  • License Plate Development / New Issuances
    – New York State Thruway Example
    – Maine Turnpike Example
  • System & Technical Interfaces
  • Establishing / Maintaining Inter-agency Agreements
  • Legislative Changes
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- **Requirements:** DMV Collaboration

<table>
<thead>
<tr>
<th>State</th>
<th>Image</th>
<th>Type Code For DMV (If Applicable)</th>
<th>Plate Entry</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>FL</td>
<td>A5Z</td>
<td>BR</td>
<td></td>
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<td>FL</td>
<td>17</td>
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<td>123 456</td>
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<td></td>
<td></td>
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<td>FL</td>
<td>627</td>
<td>IT</td>
<td></td>
<td></td>
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<tr>
<td>FL</td>
<td>041</td>
<td>AF</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Plates are typically entered left to right with stacked/small characters keyed last. Special characters are not to be keyed unless otherwise indicated.

3/13/2014
<table>
<thead>
<tr>
<th>State</th>
<th>Image</th>
<th>Plate Entry</th>
<th>Plate Description</th>
<th>Numbering Sequence/Patern</th>
<th>Key Stacked/Small Characters (No)</th>
<th>Key Special Characters (Yes)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA</td>
<td>PAN/R</td>
<td>979ZRR</td>
<td>Passenger - Normal Series</td>
<td>#####</td>
<td></td>
<td></td>
<td>Circa 1993 Red series started with W Example 111NAA</td>
</tr>
<tr>
<td>MA</td>
<td>PAV/R</td>
<td>SAMPLE</td>
<td>Passenger - Vanity Series</td>
<td>See Notes</td>
<td></td>
<td></td>
<td>Must begin with 2 letters. Maximum of 6 characters. Numbers and letters cannot be intermixed. First number cannot be zero (“0”).</td>
</tr>
<tr>
<td>MA</td>
<td>PAS/R</td>
<td>HP0000</td>
<td>Passenger - Special Series - Handicapped</td>
<td>#### ###</td>
<td></td>
<td></td>
<td>All Masks Leading “HP” must be added. 1 - 4 #’s, # @, @, @ @, @##</td>
</tr>
</tbody>
</table>

Organizational and Special Causes

<table>
<thead>
<tr>
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<th>Numbering Sequence/Patern</th>
<th>Key Stacked/Small Characters (No)</th>
<th>Key Special Characters (Yes)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA</td>
<td>PAS/R</td>
<td>EV0000</td>
<td>Passenger - Special Series - Electric Vehicle</td>
<td>E#### E##</td>
<td></td>
<td></td>
<td>@####, A####, AA-AE####, AA-AE####, AM-AL####, AJ#### - AL####, Please note that AA, AB, AC etc... are affixed to the plate as A over A, A over B etc...</td>
</tr>
<tr>
<td>MA</td>
<td>CON/R</td>
<td>999999</td>
<td>Commercial - Normal Series</td>
<td>#### #####</td>
<td></td>
<td></td>
<td>@####</td>
</tr>
</tbody>
</table>

## 3/13/2014
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• **Requirements:** Access to DMV Records
  - Legal Agreements / MOU’s
  - Direct Interfaces or 3\textsuperscript{rd} Party Service?
    • Depends on volume of plates and cost of look-up
    • May require creation of technical interface or simple excel query submittal
  - Name and Address Available for Tolling?
    • If not for invoicing purposes, then for Violations?
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• **Requirements:** Access to DMV Records
  – Other Rules, Limitations, Considerations
    • Required frequency of name and address acquisition?
    • Re-use of information for collections?
    • Restrictions on storage of data?
    • Contractor vs. State Agency differences
  – Negotiation of Agency-to-Agency Costs
  – Revenue Sharing
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• **Requirements:** Enforcement

  – Progressive Fee and Fine Escalation

  – Legislatively Supported

  – In-state RMV Support for Non-Paying toll **MA Residents**:

    • Vehicle registration and / or operator license
      – Marking [aka: “DMV Holds” (non-renewal)]
      – Collections of fines and fees
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**Requirements:** Enforcement - Across Jurisdictions

– Reciprocity Support for Non-Resident Violators
  
  • Tri-state agreement: Massachusetts, Maine, & New Hampshire
    – DMV Holds
    – Suspensions
    – Referral of violators to originating agency
      » No fee/fine collection duties
      » Minimal operational requirements

• MassDOT working to expand non-resident enforcement agreements
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• **Challenges** – Tollers Must Understand:
  - Multitude of Plate styles and Rules
    - When / When Not to Use Stacked Characters
    - When / When Not to Use Certain Characters
  - Varying Plate Syntax, Masks, and Patterns
  - Duplicate Plate Issues
  - Differences between “O” vs. “0” and “I” vs. “1”
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• **Challenges** - Tollers Must Be Prepared For:
  
  – DMV-Related Issues
    
    • Rear Plates Only vs. Front and Rear Plates
      
      – Pennsylvania
    
    • Temporary Plates
      
      – Traceable / Untraceable, Unreadable

  • No Plates (California)
    
    – Dealer Placards

  • Duplicates (Differing Plate Types)

  • General Readability and Image Capturing Capability
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**Challenges** - Tollers Must Be Prepared For:

- Issues Outside of Tollers Control:
  - Aberrant Patron Behavior
  - Voided Images due to:
    - Dirty / Faded / Damaged / Folded
    - Obscured by: Plate Frame / Bike Rack / Trailer Ball / Snow / Cargo / Stealth Products / Body Parts
- Returned Mail / Bad Address
- Rental Car Industry Issues
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Challenges
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Tolls and DMVs Working Together
- Learning Process
- Understanding Each Other’s Needs
- Nearly the Same Customer Base
- Discovering Opportunities
- Future: One Stop Shopping?

• MassDOT and You:
  - MassDOT Wants to Work With You!
# All Electronic Tolling (AET) and You: DMV Impacts

Thank you

<table>
<thead>
<tr>
<th>Rachel Bain, Deputy Registrar</th>
<th>Stephen M. Collins, Director of Statewide Tolling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registry of Motor Vehicles Division Massachusetts Department of Transportation</td>
<td>Highway Division - Tolls Massachusetts Department of Transportation</td>
</tr>
<tr>
<td>RMV Administrative Headquarters</td>
<td>Driscoll Building, 2nd Floor</td>
</tr>
<tr>
<td>25 Newport Avenue Extension</td>
<td>668 South Avenue</td>
</tr>
<tr>
<td>Quincy, MA 02171</td>
<td>Weston, MA 02493</td>
</tr>
<tr>
<td>Tele: 857-368-8969</td>
<td>Tele: 781-431-5760</td>
</tr>
</tbody>
</table>

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Stephen.Collins@state.ma.us