

All Electronic Tolling August 22, 2016

Program Overview

Why is MassDOT implementing All-Electronic Tolling?



- MassDOT decided in 2012 to replace tolls on the Massachusetts Turnpike, Tobin Bridge and airport tunnels with All-Electronic Tolling (AET) in order to provide highway users with a better and safer driving experience. AET will improve safety, reduce congestion, and reduce air pollution by removing toll booths and allowing customers to move at highway speeds.
- Safety
 - According to the National Transportation Safety Board, “Toll authorities nationwide experience rear-end collision rates that exceed other types of collisions, in part because toll plazas interrupt the flow of high-speed traffic to intermittently collect tolls.”
 - For example, the crash rate for the Weston toll plaza is about 60% higher than the adjacent mainline section.

Benefits of All Electronic Tolling (cont'd)



- Congestion: Removing toll booths will ease travel on the turnpike and eliminate congestion at the initial entry plazas. Studies suggest Massachusetts drivers will experience 800 fewer hours of vehicle delay every day, totaling over 280,000 hours annually.
- Environmental benefits: Reducing idling and acceleration / deceleration caused by tollbooths will save between 500 and 2,500 gallons of gasoline per day (200,000 to 875,000 gallons annually), which will reduce greenhouse gas emissions by up to 7,800 tons per year.
- Reduced Operating Costs: The end of cash tolls negates the need for toll collectors, allowing MassDOT to reduce headcount and either save personnel costs or reallocate some personnel resources to essential functions like roadway maintenance or capital projects.

History of All Electronic Tolling



- Initial discussions occurred in 2010. Following a feasibility study by AECOM in 2012, the decision was made to pursue conversion to an All Electronic Tolling system
- Tobin Bridge was converted to All Electronic Tolling in July 2014
- MassDOT Board awarded a \$130M contract in 2014 to Raytheon for AET construction, including gantries, detection equipment, and the host system, including 10 years of system maintenance
- MassDOT Board awarded a 10 year/ \$201M contract in 2014 to TransCore for the AET “backoffice” and operation of seven Customer Service Centers
- AET system is scheduled to “go live” on October 28

Background: How AET Works

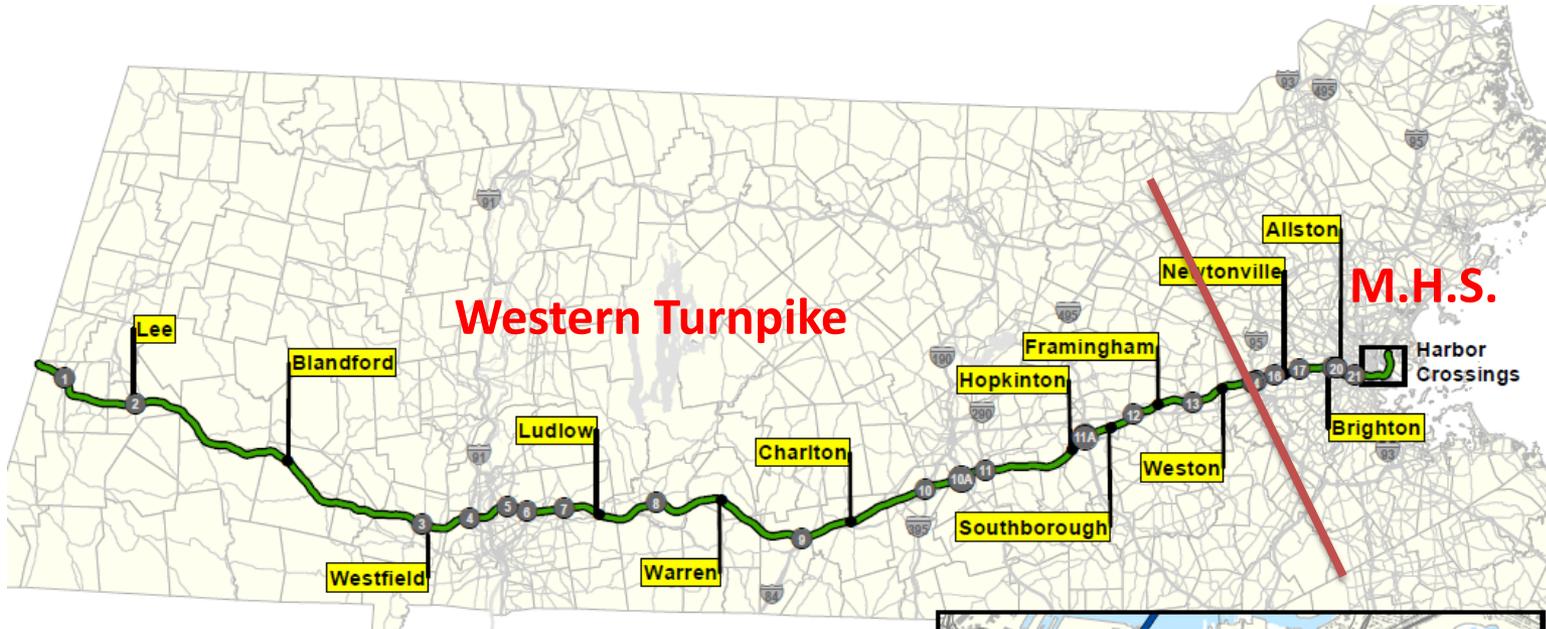
- Transactions will be processed either through E-ZPass or an invoice based on the license plate (“Pay By Plate”)
- If an E-ZPass is found, the system classifies the vehicle and charges the appropriate amount to the customer’s account
 - E-Zpass transponders issued in Massachusetts can be charged a different rate than those issued by other states
- If no E-ZPass is found, a camera captures an image of the license plate. The license plate is either matched with the customer’s existing account (V-toll) or the vehicle registration holder is invoiced and a bill is mailed to that person’s address monthly.
- More information about privacy and data retention will be provided later in the presentation.

Background: The Western Turnpike and the Metropolitan Highway System



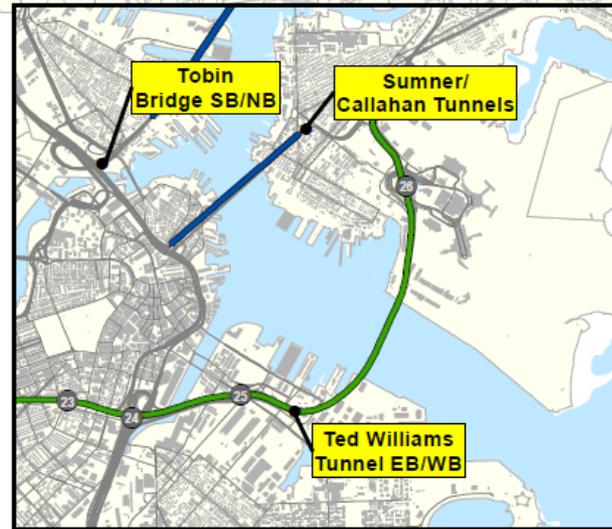
- Legislation enacted in 1997 (Chapter 3 of the Acts of 1997, creating M.G.L. Chapter 81A) split the turnpike into two “facilities:”
 - The Western Turnpike, from the New York State border to Weston, and
 - The Metropolitan Highway System, which includes the turnpike east of Weston, the Central Artery, the Callahan, Sumner, and Ted Williams Tunnels, and later the Tobin Bridge.
- Revenue from each “facility” can only support the operations and debt of the respective facility. This was done to insulate Western Turnpike users from paying for the Big Dig debt.

Location of Gantries



Locus Plan
All Electronic Tolling System (AETS) Project

- AET AETS Location
- Massachusetts Turnpike/I-90
- 8 Existing Interchange/Toll Plaza



Location of Gantries

- Gantry locations were chosen and implemented based on a feasibility study conducted by AECOM in 2012, which considered traffic volumes, roadway geometry and other constraints. Gantry locations were reviewed during the MEPA process.
 - TZ10 (Weston) is moved to the west of I-95/I-90 interchange (former Weston toll plaza)
 - TZ11 (Newton) effectively reinstates the toll taken down in 1996. That toll was \$0.25 in 1996, roughly \$0.39 in today's dollars
 - Currently the movements between IC 16/17 are un-tolled and approximately 1.9M trips¹⁺² annually (5k daily) take advantage of that un-tolled movement.
 - This number represents 2.9% of the annual trips on the MHS portion of the Turnpike (64.5M annual trips; 177k daily) and 1.35% of the annual trips on the entire Turnpike (137.4M annually).
 - Under the new system, there will no longer be un-tolled movements between Weston and Allston/Brighton
 - TZ12 (Brighton) occurs prior to the Allston/Brighton interchange
 - TZ13 (Allston) charges drivers continuing onto Boston
- Due to the spacing of the gantries, there will now be un-tolled movements between Springfield/Ludlow (today there are 5.8M trips³ between these exits); and Worcester IC10/Worcester IC11 (today there are .9M³ trips between these exits)
 - As a result, approximately 6.7M³ annual trips (18k daily) are tolled today that will become un-tolled under the new system (it should be noted that many of these same trips had been un-tolled between 1996 and 2013).
 - This number represents 5% of the trips on the entire Turnpike (137.4M annually)

¹refers to a trip, NOT an individual traveler, 2-Axle/4-tire vehicles, including all payment methods

²Estimated based on recent traffic volume counts, exact number cannot be captured since this movement is not tolled

³2-Axle/4-tire vehicles, including all payment methods, based on entry and exit point data. 8