

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

MASSACHUSETTS BAY  
TRANSPORTATION AUTHORITY

Plaintiff

v.

ZACK ANDERSON et al.

Defendants

Civil Action No. \_\_\_\_\_

**DECLARATION OF JOSEPH KELLEY**

1. I am the Deputy General Manager for Systemwide Modernization for the plaintiff, Massachusetts Bay Transportation Authority ("MBTA").

2. I have held this position since August 8, 2005. My duties include the management and oversight of systemwide improvements and modernization. Part of my duties consisted of supervision and overall responsibility for the implementation and operations of the Automated Fare Collection System.

3. I make this declaration based on my personal knowledge and a review of MBTA business records concerning the matters set out below.

**The MBTA's Transit System**

4. The MBTA is the nation's 5th largest mass transit system. The MBTA serves a population of 4,667,555 (based on the 2000 census) in 175 cities and towns with an area of 3,244 square miles.

5. To provide these transit services, the MBTA maintains 183 bus routes, 2 of which are Bus Rapid Transit lines, 3 rapid transit lines, 5 streetcar (Central Subway/Green Line) routes, 4 trackless trolley lines and 13 commuter rail routes. The MBTA's transit equipment includes of

927 diesel and CNG buses, 32 dual mode buses, 28 ETB's (electric trolley buses), 408 heavy rail vehicles, 200 light rail vehicles, 10 PCC's streetcars, 83 commuter rail locomotives, 410 commuter rail coaches and 298 MBTA-owned specially equipped vans and sedans, and an additional 235 contractor-supplied specially equipped vans and sedans.

6. The average weekday ridership for the entire system is approximately 1.4 million passenger trips. The approximate average weekday revenue of the MBTA is \$700,000.00.

7. The MBTA directly services Rhode Island as well as Massachusetts, via its commuter rail service.

8. The MBTA is the recipient of significant funding from the United States Department of Transportation, through the Urban Mass Transportation Administration ("UMTA"). Since the mid-1960's, the MBTA has received over \$3.5 billion in such funding, for its capital improvement projects and its yearly operating programs.

9. In addition to this funding, the MBTA receives funds from the Department of Homeland Security, to implement various security, anti-terrorism, and other security initiatives. For example, in 2007 the MBTA received \$4 million from the Department of Homeland Security and the Federal Transit Administration, for use in emergency communications initiatives.

#### **The Procurement And Implementation Of The MBTA's Automated Fare Collection System**

10. The MBTA has recently undertaken significant system improvements. A central improvement consisted of the procurement and installation of an automated fare collection system (the "Automated Fare Collection System" or "AFC System"). The Automated Fare Collection System replaces the MBTA's old "token" system, and is comprised of the following general, high-level system components:

- (a) Computerized fare gates in each station, that read fare media and permit (or deny) users access to MBTA transit services ("Fare Gates");

- (b) Computerized fare vending machines in each station (and elsewhere), that accept payment and issue or load value to fare media ("Fare Vending Machines");
- (c) Fare media that communicate with the Fare Gates and the Fare Vending Machines to store and transfer "value" – the equivalent of the old token -- and that allow paying patrons to access the MBTA's transit services ("Fare Media");
- (d) A central computing facility that controls and exchanges data with Fare Gates, with Fare Vending Machines, with servers and other devices connected to the AFC System network, with remote retail sales outlets, and with dial-in and other connections to the AFC System; and
- (e) Complex sets of software applications that are resident on servers at the central computing facility, on the Fare Gates, on the Fare Vending Machines, and on certain Fare Media. These software applications (among other tasks) manage and control the issuance of fare media, payments for transit services, rate schedules, ridership volumes, and a wide range of other tasks and information.

11. The AFC System, accordingly, is highly automated, and is comprised of high speed data processing devices that perform logical, arithmetic, and storage functions.

12. The procurement and installation of the Automated Fare Collection System cost in excess of \$180 million.

### **The CharlieCard and CharlieTicket Systems**

13. Fare Media are broken into two categories: (i) so-called "CharlieCard" passes and (ii) so-called "CharlieTicket passes". These Fare Media each employ slightly different technology.

14. A CharlieTicket pass uses a so-called a "magnetic stripe" or "magstrip" to convey information to the Automated Fare Collection System. CharlieTicket passes are paper-based media, and to employ a CharlieTicket pass, a user brings the Ticket's magstrip into physical contact with a reader in fare gate, by "swiping" the Ticket past the designated reading head. A

user can "store value" on his or her CharlieTicket pass, or can store a monthly pass (or other pass) on the CharlieTicket pass.

15. CharlieCard passes, in contrast, are plastic media, and are so-called "smart cards." Each CharlieCard pass contains an integrated circuit – a computer chip – that processes information. This chip allows a user to store value for single or multiple rides and/or a T-pass. In addition, the smart card features of the CharlieCard pass allow for online account management, and other services that are not compatible with the CharlieTicket pass technology.

16. The user loads a CharlieTicket pass or a CharlieCard pass with value or a T-Pass using cash, credit or debit cards, at in-station fare vending machines, at retail sales terminals, at MBTA ticket offices, or online via the MBTA's website at [www.mbta.com](http://www.mbta.com).

#### **The Importance Of The CharlieCard Pass**

17. The MBTA has implemented both CharlieTicket passes and CharlieCard passes in its Automated Fare Collection System. CharlieCard passes, for example, began to be used in January 2007.

18. The CharlieCard has become the preferred fare media of MBTA riders.

19. Currently, over eighty percent (68%) of riders use the CharlieCard pass, with ninety percent (90%) receiving the best value by using monthly magnetic stripe cards and CharlieCards. Accordingly, CharlieCards account for approximately \$475,000.00 per weekday in revenues.

20. The CharlieCard is employed in the MBTA's corporate pass program, whereby employers provide MBTA fare media to their employees. As of the spring of 2008, this program had grown to include over 1,300 companies with offices in the Boston area.

21. Although CharlieCards are not currently employed on the MBTA's commuter rail system, a pilot program for such use is scheduled to commence in 2009.

### Harm To The MBTA System

22. I have reviewed the documents referred to in the Complaint as the " Initial Announcement" and the "Revised Announcement".

23. Since the August 5, 2008 meeting with the MIT Undergrads and their professor, Ron Rivest , I have spoken to Professor Rivest on several occasions. I continued to explain the MBTA's concerns, and asked that he arrange to have the MIT Undergrads forward a copy of their proposed DEFCON presentation to the MBTA.

24. The MBTA has not received a copy of these materials.

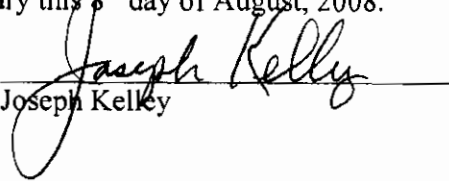
25. I had understood that the MIT Undergrads were willing to engage in a conference call on Thursday, August 7, 2008, while they were en route to the DEFCON Conference. We did not hear from the Undergrads and were unable to contact them.

26. I spoke with Professor Rivest most recently this morning, Friday August 8, 2008. I again informed him that the MBTA had not received the MIT Undergrads' presentation materials.

27. If what the MIT Undergrads claim in these Announcements is true, disclosure of this information will significantly compromise the CharlieCard and CharlieTicket systems. This in turn will harm the overall functioning of the MBTA's transit services.

28. The MBTA demands that the MIT Undergrads refrain from disclosure until the MBTA's system vendors have remedied the security flaw the MIT Undergrads claim to have identified. The MBTA does not demand that the MIT Undergrads forever refrain from disclosing this information.

Signed under the penalties of perjury this 8<sup>th</sup> day of August, 2008.

  
Joseph Kelley

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