AFC 2.0 Memo
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November 2018

Summary

Over the past fifteen years, the MBTA has planned and implemented transformative changes to the fare payment system. In 2006, the first phase of Automated Fare Collection was rolled out (AFC 1.0), which replaced tokens with a contactless smart card -- the CharlieCard. AFC 1.0 introduced modern technology that improved fare payment and collection in many ways, demonstrating the MBTA's commitment to innovation and investment in new systems. However, implementation of AFC 1.0 was incomplete and inequitable, leaving many neighborhoods, communities, and riders out of the benefits of the new system. The effects of this rollout linger today, and contribute to distrust from impacted communities of any new changes to the fare payment system.

The MBTA has the opportunity to address these equity issues and broken promises from the first phase through AFC 2.0, the newest update to the system that will be rolled out in 2020. AFC 2.0 will provide riders with more methods to pay their fares and will allow for off-board and all-door fare collection. The intention is that these changes will result in faster boarding times (projections show up to 10%, according to the MBTA), which will allow each vehicle to make more trips, thereby increasing service. We hope that these changes will lead to an increase in ridership, and will improve riders' experiences using the MBTA system.

In order for AFC 2.0 to be successful, there are several key policy areas that must be addressed:

1. Equitable fares and fare structure
2. Fare inspections and enforcement
3. Fare access and sales locations
4. Data privacy

Each of these areas are summarized below, along with specific recommendations for short-term and long-term action.

What is AFC 2.0?

AFC stands for Automated Fare Collection. AFC 2.0 is the MBTA's forthcoming fare payment system, set to fully replace the current system in 2021. Overall, this is an update to the CharlieCard/ CharlieTicket system that is currently in use.

The intent of this system update is to make paying for transit easier, faster, and more convenient, and to simplify transfers between modes (for example, commuter rail to bus). With AFC 2.0, people will be able to use a fare card, smartphone, or contactless credit card to board

the subway, bus, and commuter rail, and will be able to tap and board at any door of the bus and Green Line. For commuter rail service, people will tap their fare media to get both on and off, with fare boxes located on the platform. Riders will be able to reload their fare payment accounts using cash or credit card at vending machines at all subway stations, and some commuter rail, trolley, and bus stops; select retail locations near stops; or online 24 hours a day.

This system is being implemented through a public-private partnership between the MTBA and Cubic Transportation Systems. Cubic is a technology provider that has implemented the payment systems for other cities' transportation networks including London, Sydney, and Chicago. This multi-year contract includes requirements around the design, implementation, operation, and maintenance of a new Automated Fare Collection system.

Equitable Fares and Fare Structure

"Public transportation itself is a public good, and as such has a legal and a societal imperative to ensure equitable treatment of populations."[1]

People riding the bus make up a significant portion of the MBTA's ridership totals, and many are people of color and low-income. On an average weekday, the number of MBTA bus trips totals 446,700 trips -- making up thirty percent of total MBTA trips across modes, more than triple the amount made by commuter rail passengers.[2] 42% of these MBTA bus riders are low-income and 48% are people of color.[3] To ensure an equitable and accessible public transportation system, we recommend expanding the existing reduced fare programs to cover all people with incomes 200% below the federal poverty level. The current reduced fare programs provided by the MBTA include reduced fares for seniors, students and young people, and people with disabilities. There have been multiple fare increases over the past several years with average fare increases of 9.3% in 2016, 5% in 2014, and 23% in 2012, exacerbating the challenge for low-income people to afford transportation. "National research has demonstrated transportation costs are regressive: households in the lower third of the income range dedicated 15.7% of their income to transportation in 2014, compared to 8.2% for households in the upper third of the national income range. Similar patterns exist in Metro Boston, and are exacerbated by policies to repeatedly raise MBTA fares while the real dollar value of the gas tax continues to decline."[4]

Implementing a reduced fare program for low-income riders does not need to cause an undue administrative burden or incur significant revenue losses for the MBTA, both key aspects of a sustainable system. Other cities and transit authorities have found methods to address these concerns and we recommend that the MBTA learn from these best practices.

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[1] Taylor, B.D., and M. Garrett. Reconsidering Social Equity in Public Transit. Berkeley Planning Journal, Vol. 13, No. 1, 1999

[2] http://mbtabackontrack.com/performance/index.html#/detail/ridership/2004/BUS///

[3] http://ctps.org/apps/mbtasurvey2018/#

[4] http://www.regionalindicators.org/topic_areas/7#accessing-opportunity

In the Seattle area, the Washington Department of Public Health (DPH) partners with the King County Metro to administer a reduced fare program.[5] This model simplifies and streamlines the administrative process, as DPH has extensive experience in accessing records of low-income benefit recipients, an established method for verifying income, and a clear process for enrolling people who might be eligible. This partnership with DPH has the added advantage of consolidating and promoting public health, housing, and other benefits -- for example, people who are signing up for the reduced transit fare program will learn they are also eligible for other benefits such as SNAP and fuel assistance.

The MBTA has already executed a successful model for administering reduced fare products through their Youth Pass program pilot.[6] From 2015 to 2016, this program reduced MBTA fares for young people who were unable to otherwise purchase student passes. The MBTA coordinated with several cities and partnered with non-profits, sharing administration costs. Findings from this pilot showed that reducing the financial barrier to access promoted transit use for those who need it for vital daily activities. The pilot demonstrated a proof of concept for a collaborative model of administering reduced fare products that is auditable and limits the MBTA administrative burden.

Nationally, there are many examples of methods to fund reduced fare programs so that transit authorities don't lose revenue. In 2017, Oregon passed a state bill that directs funds towards implementing reduced fare programs for public transportation.[7] Another method is through increasing fares. This was done in Seattle in 2015, where the transit authority increased fares by 10% for those who did not qualify for the reduced fare program. In addition to these two options, here are several other potential revenue sources for funding reduced fare programs:

- Dedicated tax
- Funding from state or municipal legislature
- Increased costs for parking at MBTA Park and Ride lots
- Uber/ Lyft fees
- Increases in MBTA advertisement rates

Immediate Action Recommendation: Enact a low-income fare program before the full AFC 2.0 rollout in 2021. As outlined above, this will require coordination between MassDOT/ the MBTA, other state agencies and various municipalities served by the MBTA.

Fare Inspections and Enforcement

As AFC 2.0 is implemented, fare enforcement and inspection will change. In the current system, fare payment on the subway is enforced through turnstiles that mostly prohibit entry without payment and passive monitoring from MBTA station agents. On the commuter rail, agents

[5] https://kingcounty.gov/depts/transportation/metro/fares-orca/orca-cards/lift.aspx#income-verification
[6] https://cdn.mbta.com/uploadedfiles/About_the_T/Board_Meetings/Youth%20Pass%20FINAL%20Report%20060616.pdf
[7] https://www.oregon.gov/ODOT/Pages/index.aspx.

check tickets before allowing entrance to the platform (at select stations), and once passengers have already boarded the train. On the bus and at surface-level Green Line stops, the driver ensures payment is made at the front door and allows riders to enter the vehicle. However, AFC 2.0 will allow all-door boarding on the bus and at surface-level Green Line stops, and off-board fare collection on the commuter rail, which will improve boarding times and increase efficiency, but will require a new method of enforcing payment. Without safeguards, a new inspection system could compound racial inequity and target youth and other riders who may not have the ability to pay.

Determining who will inspect fares and how fare evasion will be enforced is an important equity issue. Currently, many positions across the MBTA system are responsible for some level of enforcement, from bus drivers, to Ambassadors and station agents, to the Transit Police. We strongly caution against the armed Transit Police taking over the new system of enforcement for fare payment under AFC 2.0, as extending their authority and expanding their forces in order to accommodate the new inspection needs will change who feels comfortable and welcome to ride our public transportation system. Fare evasion and failure to pay should not be criminalized, and should not provide reason for search, seizure, detainment, or arrest, which would be more likely if Transit Police are mandated as the enforcers of the new system. Due to concerns around racial profiling, police brutality, and other criminal justice issues, we urge the MBTA to employ unarmed inspectors, similar to the current MBTA Ambassadors, who would check proof of payment in a manner similar to a train conductor. They should have the authority to issue fines but not to arrest or detain riders.

In addition to determining an appropriate fare inspection strategy, it is important to enact a system of consequences for fare evasion that is just and fits the level of violation. Currently, the fines associated with evading fare on the T start at $100 and increase to $600 for the third offense, as required by state law. In order to define an appropriate and just penalty structure, it is important to examine the underlying reasons behind why someone might not be paying their fare. If riders are evading fare payment because they cannot afford the cost, a high fine should not be the penalty. Instead, offering low-income fare products, dramatically lowering fines for evasion, and providing options to satisfy a fine through education or community service would be more equitable. Portland, Oregon started a program made up of these methods in July of 2018. The goal in changing their fine system was aimed at reducing unnecessary entry into the judicial system and better aligning the punishment of fare evasion with the violation.[8]

Immediate Action Recommendation:

(1) We recommend the MBTA create specifications around who should enforce payments and set up a procedure for ongoing review of who receives fare inspection and penalties. It's important to set up parameters for data collection, including demographic information (income, race/ethnicity, and gender). This should also include a strategy for how often the data is reviewed and a timeline for procedural changes, based on what the data shows.

[8] http://news.trimet.org/2018/02/trimet-board-of-directors-approves-fare-evasion-penalty-changes/

(2) We recommend that ahead of the AFC 2.0 rollout, state legislators update the penalty process mandated by MGL c.159, s.101 in order to provide alternative options to paying a high fine, including a reduced fare program, community service, or education.

Fare Access and Sales Locations

Currently, 4.5% of bus riders pay cash onboard and 3.7% add value to their card with cash onboard on an average weekday, with variations between bus routes and times.[9] With 446,700 average weekday bus trips[10], that means more than 20,000 people pay with cash on board the bus every day. In addition, it is important to note that 6.6% of the population in the Metro Boston is "unbanked."[11] Based on this data, there are concerns that those who need or want to use cash will be left behind by AFC 2.0, because there will be obstacles to reloading their fare cards, including:

- Limited locations to load cash onto a fare card
- Insufficient wayfinding to direct them to the locations where reloading is possible
- Limited hours of retail locations

Immediate Action Recommendation: We recommend that -- starting immediately -- the MBTA place fare vending machines at select bus stops and contract with more retail locations where people can add value to their Charliecards. The MBTA should prioritize vending machine placement and new retail location contracts in communities that specifically have relatively high use of cash and underpayment of fares (rather than prioritizing bus stops or communities with high ridership in general). Starting now, before the rollout of AFC 2.0, will allow time to pilot aspects of the transition, including wayfinding and contracting with new types of retail locations like libraries and community centers. In addition, it's important for the MBTA to provide access in communities that were left out of vending machine placement by AFC 1.0 years ago, such as the entire City of Chelsea -- riders there should not have to wait until the AFC 2.0 rollout is complete in 2021 to access convenient cash payment options.

Data Privacy

With the threat of cyberterrorism growing worldwide, it is important that the security of riders' private data is ensured. The AFC 2.0 system will capture more personally identifiable information than former systems, as users will have an account that may be attached to their name or financial accounts. Information collected could include travel data, methods of payment, ID photograph, telephone number, email address, and billing address. The MBTA's data privacy policy was last updated in 2006, raising concerns about the need to transparently address the vulnerabilities of account and data security. We have raised a number of questions, including:

- Should the MBTA or Cubic (the contractor) be responsible if there is a data breach?
- Who will be monitoring data security, and how will they be held accountable?

[9] http://mbtabackontrack.com/blog/component/content/article?id=51:cash-and-bus-reliability
[10] http://mbtabackontrack.com/performance/index.html#/detail/ridership/2004/BUS///
[11] https://www.cityofboston.gov/pdfs/economicequityinclusionagenda.pdf

- How quickly will collected information be overwritten or deleted?
- Who is involved in making these decisions?

Beyond the threat of a cyber attack, it is also important to examine how both personal and aggregate ridership data will be used and who should have access. There are advantages and disadvantages to making some level of data accessible to other uses or entities, which ought to be explored. For example, who will have access to data and under what circumstances -- from private companies, to local advocates, to law enforcement officers? Data accessibility for law enforcement has huge privacy and equity implications. Because of this, Transit Police and other law enforcement entities should only have access to data with a probable cause warrant, which must be ordered by a judge (in contrast to a subpoena). This mechanism is critical to reduce the harm of police surveillance and harassment on the communities who are most targeted.

> Immediate Action Recommendation: An updated MBTA privacy policy should clearly define how and under what circumstances Transit Police and other law enforcement officers can access personally identifiable rider data. In addition, audit or other oversight requirements should be put into place to ensure access to rider data is not abused or misused.