



## FARE MACHINE OUTAGES AT NYC TRANSIT SELECT BUS SERVICE STOPS

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### OVERVIEW

In 2008, MTA New York City Transit (NYC Transit, NYCT, or Transit) and the New York City Department of Transportation (DOT) established the first Select Bus Service (SBS) route in the Bronx to expedite travel using innovative techniques such as off-board ticket machines. Customers on these lines pay before boarding and fare evasion is monitored by inspectors. Eight routes using off-board ticketing are now in service throughout New York City, and the agencies plan to expand the program significantly. While the service has many advantages, the Office of the MTA Inspector General (OIG) has received complaints from customers who believe they were unfairly given summonses after boarding a Select Bus at a stop where the MetroCard Fare Collectors (MFCs) were out of service.

Although the fare machines regularly receive preventive maintenance, MFCs are subject to malfunctions that render them unusable until repaired. In the 12-month period ending July 31, 2015, NYC Transit performed over 9,000 service calls for such disabling outages. These outages resulted in over 40,000 hours of MFC unavailability, even though most malfunctions were fixed in well under 12 hours. While Transit officials asserted that the great majority of these outages likely affected single MFCs at stops with multiple MFCs, they also explained that electrical interruptions have periodically caused all the MFCs at a given stop to be out of service for prolonged periods. Notably, the MFC unavailability figure just cited includes only a small fraction of the hours lost because of these electrical outages. To gauge the true impact of power interruptions, we obtained new data showing that in a recent 12-month period, 16 percent of SBS stops suffered an electrical outage lasting at least four days.

Given the extent of the problem, OIG reviewed the agency's policy for enforcing fare payment when MFCs are out of service and found that it unreasonably burdens customers to the extent it requires them to interrupt their trip by disembarking at the next stop to obtain a ticket or risk receiving a summons. We also examined and are recommending changes to NYC Transit's procedures for informing customers, enforcement officials, and other involved Transit personnel about the location of outages and what to do when MFCs are unusable.

### Summary of Findings

We found that NYC Transit has a persistent problem with long-term outages that make all MFCs unusable at certain SBS stops. Most such outages have required work by DOT, Consolidated Edison (Con Ed), or other third parties and are often not resolved promptly. Given that about 97 percent of customers use MFCs to obtain tickets and Transit currently has no workable provision

for alternate payment, these outages are a serious challenge to a system built around the requirement of payment at the bus stop before boarding. Not only do the outages inconvenience customers, they also facilitate fare evasion and hamper enforcement.

Although Transit has faced this problem since the start of SBS in 2008, the agency only recently settled on a formal policy requiring customers boarding at a stop with no working MFCs to disembark at the next stop to obtain their tickets. We believe this policy is burdensome to customers. While Transit's SBS ticket inspectors told us they do not strictly enforce the policy, it is not a sound practice to have an unreasonable policy tempered only by discretionary enforcement. Further, we found weaknesses in Transit's process for informing both customers and its own personnel about these outages. Additionally, NYC Transit did not gather adequate data about long-term outages or provide the managerial oversight necessary to reduce the impact of out-of-service fare machines on the customer experience. NYC Transit should promptly address these issues as it expands the program to new routes.

### **Summary of Recommendations**

NYC Transit should better accommodate customers' needs when MFCs are out of service, both by developing a policy that does not require passengers to disembark to obtain tickets and by evaluating alternative payment methods for riders boarding at stops affected by outages. To assist customers—and help them plan their travel—Transit should more widely disseminate information about outages to the public, including by signage on out-of-service machines, postings on the agency's SBS webpage, as well as by offering notification through email and texts. Similarly, the inspectors responsible for fare enforcement should receive more complete and timely outage information. To improve its oversight and management of long-term outages, Transit should implement methods for tracking and evaluating the impact of outages on MFC availability and customers' experience. Finally, the agency should work more closely with DOT and Con Edison to monitor each power outage to ensure the most rapid repair possible.

### **Summary of Agency Response**

In her written response to our report, the president of NYC Transit firmly agreed with our first and overarching recommendation: That Transit should develop a more customer-oriented policy that does not require Select Bus Service passengers boarding at non-working stops to disembark and purchase a ticket at the next stop. Going forward, Transit will now direct such passengers to “purchase a ticket when they disembark” at their destination. The president also noted that the agency designed this new “more customer-focused” policy to take into account customers' needs and the speed of service, “while minimizing the potential for fare evasion and confusion.” Further, she advised us that Transit will communicate its new policy through the MTA website, the Travel Information Center, and signage placed on machines at affected bus stops. The agency expects to fully implement the new policy by the third quarter of 2016.

In light of this fundamental policy shift allowing passengers to remain on the bus, the president also advised that Transit “agreed conceptually but is not planning to implement” two of our recommendations regarding alternate methods of fare payment at non-working stops and the

need to provide advance notification to customers about specific fare machine outages. Given this customer-benefitting policy shift, the basic reasonableness of Transit's explanation for withholding implementation, and our intention to continuing monitoring the SBS program as appropriate, we do not disagree with Transit's approach.

As to our remaining recommendations, Transit agrees and in some cases has already implemented them. Specifically, to ensure that enforcement inspectors receive timely information about non-working stops, the agency reported that it has implemented an improved communication system. Regarding the managerial oversight of long-term outages, Transit stated that it will work to improve the information maintained on outages: ". . . NYCT acknowledges the need to track these types of outages from initial notification through final resolution, which will need to include the actions by others within and outside the organization to address this recommendation concerning NYCT procedures." Lastly, the agency wrote that it will work with DOT "to develop a formal protocol that furthers NYCT's desire for improved response time to machine outages."

## BACKGROUND

The goal of SBS is to improve the speed and reliability of bus travel through the use of such features as off-board fare payment and the spacing of stops farther apart than those on regular bus routes. Prior to boarding, an SBS customer pays the fare at the bus stop using either an MFC or a Coin Fare Collector (CFC) machine (CFCs take coins instead of MetroCards). Both machines issue a ticket, which the customer must retain as proof of payment, and NYC Transit Security (Eagle Team) inspectors may ask to see the ticket at a subsequent bus stop. These inspectors may question passengers as they disembark as well as those who remain onboard, and may issue a \$100 summons to any passenger without a valid ticket.

As of September 2015, about 400 MFCs were located at 202 stops on the seven routes that required off-board payment. The typical SBS stop has two or more MFCs and one CFC, though 40 stops had only one MFC at the time of our review. To obtain a ticket from an MFC, a customer must insert a MetroCard with sufficient time or value to cover the fare (or encoded to enable a free transfer). SBS has no option for any other kind of fare payment such as an advance purchase of a multiple-trip ticket or monthly ticket.

Two new SBS routes have begun operating since we began our review: the M86 in July 2015 and the Q44 in November 2015. To ensure the accuracy and currency of our findings in this dynamic environment, we conducted two different analyses, using available data for recent 12-month periods. As mentioned above, we analyzed MFC service calls and repairs from August 1, 2014 to July 31, 2015, while for our analysis of prolonged outages we used NYC Transit statistics from October 1, 2014 to September 30, 2015. Therefore, the SBS information and statistics in this report include the M86 route but not the Q44. And because 97 percent of tickets are obtained from MFCs, while CFCs, which are solar-powered, are not affected by electrical outages, this report focuses on the issues raised by MFC outages.<sup>1</sup>

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<sup>1</sup> The coin machines were not a feasible alternative for most customers when all the MFCs were out of service: CFCs accept only nickels, dimes, and quarters, up to a maximum of 25 coins, and “time out” after about a minute of inactivity. Additionally, holders of Unlimited-Ride MetroCards would in effect be paying twice if they resorted to using the CFC.

## **TRANSIT HAS A PERSISTENT PROBLEM WITH LONG-TERM OUTAGES AT SBS STOPS**

We found that power outages have affected all the MFCs at certain SBS stops over long periods of time. At the time of our review in 2015, electrical supply interruptions required intervention from DOT, which was responsible for the fuses and connections inside the light pole, or from Con Ed, which maintains the electrical cable running beneath the sidewalk to the light pole. NYC Transit installs and maintains the underground wiring between the light pole and the MFCs. When a power failure affects an SBS stop, personnel from either NYC Transit or DOT inspect the location and, if the cause falls in that agency's domain, repair the failed equipment or wiring.<sup>2</sup> If the problem appears to lie in the power supply to the light pole, Con Ed is responsible for performing the repairs.

In November 2015, NYC Transit completed the agency's first report on the extent of these prolonged outages (the November Report). The report defines a "long-term outage" as any instance in which all the MFCs at a stop were out of service for at least four consecutive days. The data in this report reveals that in the 12-month period ending September 30, 2015:

- 32 SBS stops (16 percent of all stops with MFCs) experienced at least one such long-term outage.
- On average, counting only these long-term outages, five stops had no working MFCs on any given day.

Further, this outage problem is not limited to specific routes. All seven routes equipped with MFCs had at least one stop with a long-term outage of 10 or more days, with the longest lasting more than a year. Each of the six routes that were in operation for the entire 12-month period had at least one outage lasting 57 days or more.

Recent examples of prolonged outages at SBS stops include:

- The B44 northbound stop on Nostrand Avenue at Avenue U experienced an outage when the power conduit was cut during construction by a third party. Both MFCs were out of service for nearly three months (August 4 to October 26, 2015). Another power outage had previously disabled these MFCs for four days in July 2015.
- The M15 southbound stop on Second Avenue at 34th Street was out of service for nearly six months (March 21 until September 10, 2015). According to NYC Transit, Con Ed was not able to restore power to the street light until other work was completed at the site.

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<sup>2</sup> In early 2016, Transit informed us that the agency and DOT were engaged in discussions regarding which entity will perform repairs inside the light pole. At that time, Transit was doing this work.

We observed this stop on five occasions and noted that customers experienced significant confusion and inconvenience.

- The sole MFC at the eastbound M34A stop at 23rd Street and Second Avenue has not functioned *for over two years*—July 2013 to present. Transit officials told us they had not pursued repair of the MFC power supply because “few people” boarded the bus at this stop and the repair work would require tearing up the sidewalk.

As demonstrated more fully below, this data shows that NYC Transit has a persistent problem with long-term outages. Every such outage inconveniences customers who rely on the stop. For example, some riders we spoke to were concerned about both the current policy’s requirement to leave the bus before their desired destination and the likelihood they would then need to wait for the next bus. Further, regular travelers know that they are at risk of receiving a \$100 summons if they travel without a proof-of-payment ticket and SBS routes often have a greater distance between stops than regular routes, limiting customers’ ability to walk to the next stop to purchase a ticket before boarding. For example, in the case of the B44 outage at Nostrand Avenue and Avenue U, described above, the next stop is at Kings Highway—more than one mile away.

#### *Impact on the Adjudication Process*

When an Eagle Team inspector issues a \$100 summons to an SBS rider for not having a ticket, the customer has the right to dispute the violation within 30 days, either by mail or in person before a hearing officer at the Transit Adjudication Bureau (TAB). We learned that several years ago TAB instituted new procedures to assist riders who asserted that malfunctioning MFCs had prevented them from purchasing a ticket. Specifically, TAB created a form, now called the *SBS Fare Machine Outage Form*, to enable the passenger to provide all the relevant evidence on a convenient document and then mail or bring it to TAB.<sup>3</sup> In another positive procedural change, in 2014 TAB streamlined its process for adjudicating these violations by obtaining direct access to historical data on MFC availability. This enables a TAB hearing officer to establish an outage and promptly consider in the adjudication process a customer’s assertion that no MFCs were working at the stop where he or she boarded the bus.

While these tools are undoubtedly helpful to customers facing a hefty fine owing to malfunctioning machines, it would be fairer and far more efficient to limit the issuance of summonses in such circumstances.

#### *Outages Are a Longstanding Problem*

It is important to note that these outages are not a new problem. Indeed, through our review we learned that an October 2009 MTA report evaluating the first SBS line recognized the problem

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<sup>3</sup> Eagle Team inspectors give the form to riders who complain of broken machines. It is also available on the TAB website. TAB officials told us the bureau does not collect data on the number of forms submitted by customers and thus does not have any statistics on how many violations are challenged based on claims of machine malfunction.

of power interruptions as “an unavoidable reality when operating electrical machinery on a public sidewalk.” The report stated, “[I]t is necessary to establish a formal protocol for rectifying these outages.” We found, however, that NYC Transit had not yet developed a standard protocol for tracking and rectifying the outages.

MTA officials acknowledged they had no formal system for measuring the extent of long-term outages and described only an *ad hoc* process for working with third parties to resolve them more quickly. We also learned that several NYC Transit departments are accountable for different aspects of the SBS program, as we describe more fully below, resulting in a lack of direct managerial oversight of outage-related issues. This lack of procedural formality and coordination has allowed the outages to have a continuing negative impact on SBS passengers. The informal processes have also complicated the work of agency employees—in particular, bus operators and ticket inspectors—who are responsible for interacting with customers.

### **Inconsistent Policies Led to Inconsistent Implementation**

We found that NYC Transit has adopted differing policies toward fare payment when MFCs are out of service. In September 2015, Transit revised its policy *SBS Operating Procedures and Fare Regulations* to state: “If customers are unable to use the machines because of defects, unless otherwise directed, customers should board the bus, and ride to the next bus stop to get a ticket at that location. Bus operators are responsible to continue service according to the schedule, and customers may have to wait for the following bus.”<sup>4</sup>

This revision adopted and formalized one of several varying and in some cases conflicting approaches that Transit had communicated in recent years. The previous policy (March 2015) stated that bus operators should “permit [customers] to board free” in such situations. In contrast, Transit’s SBS route-specific brochures, bus operator training handbooks, and the Travel Information Center—a centralized communication group assisting MTA’s customers system-wide—stated that the customer should disembark at the next stop.

In our view, these conflicting statements serve to illustrate competing priorities: the strict prevention of fare evasion on one hand against the minimization of customer inconvenience on the other. We believe these priorities should be better reconciled to benefit the ridership. Indeed, the Eagle Team, through its prudent exercise of customer-friendly discretion, has taken a thoughtful step in that direction.

#### *Eagle Team Inspectors’ Effective Use of Discretion*

We interviewed the acting chief of the Eagle Team and four Eagle Team inspectors, who confirmed that the September 2015 disembarkation policy is not rigidly enforced and suggested that such enforcement would be unreasonable and disruptive. The Eagle Team is responsible for

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<sup>4</sup> *Permanent Bulletin Order No. 03.60.04*, dated September 14, 2015.

providing customer assistance as well as carrying out enforcement duties. We learned that in this dual role, and having been given significant discretion, inspectors were highly unlikely to require a passenger to disembark to purchase a ticket once the passenger asserted that all MFCs were out of service at his or her origin station, especially if the inspector was aware of the outage. Some inspectors specifically noted that they were particularly hesitant to effectively eject elderly or disabled passengers or parents traveling with small children. Instead, we were pleased to learn that they typically directed only customers who were already disembarking to pay after their ride. The acting chief expressed his support for this leniency. The Eagle Team personnel also noted that when a passenger made such a claim (on the bus or while disembarking) but could not present a MetroCard or coins—as evidence of his or her intent to pay before boarding—inspectors would then be much more likely to issue a summons. We believe this balanced approach represents a fair and reasonable use of inspectors’ discretion.

The inspectors also informed us that long-lasting MFC outages made consistent fare enforcement more difficult. They explained that it was unproductive to enforce fare regulations when, for example, ten riders individually asserted that they had been unable to pay at a certain non-working stop because of an outage. In that situation, the inspectors noted, they were likely to accept the explanation for all ten, because it would be difficult—or impossible—to ascertain whether each person had actually boarded there. For this reason, some inspectors told us the Eagle Team would reduce or even temporarily cease enforcement activity on the segment of a route after a stop where they knew there were no working fare machines. To accomplish their customer service and enforcement goals, Eagle Team inspectors considered it more efficient to use their resources elsewhere. Further, they stated that outages increase the likelihood of fare evasion precisely because riders may easily, and falsely, say they had boarded at a stop with a known outage. Thus, outages have a significant ripple effect. Each of the average five daily outages likely hinders enforcement and facilitates fare evasion at many more stops down the line.

In another example of the disconnection between policy and practice, in September 2015 we observed a recently placed sign on the non-working MFC at the eastbound M34A stop at 23<sup>rd</sup> Street near Second Avenue instructing passengers to “ride the SBS bus to the next stop and get a ticket at that location.” This is an accurate statement of the official policy. However, the next stop had no MFCs at all; in fact, the next *two* M34A stops had no fare machines, and after these stops, the route reaches its end point before heading back west on 34<sup>th</sup> Street. NYC Transit officials explained that multiple routes have no MFCs at stops close to the terminal point because those stops are lightly used. However, this circumstance highlights the agency’s confusing directions to customers when fare machines are out of service. The sign directed riders to take action that was impossible to perform.

When we raised concerns about the policy of requiring customers to disembark to obtain a ticket, two NYC Transit officials asserted that SBS is scheduled to operate with a frequency that ensures customers do not have to wait an extended period of time for the next bus. However, the intervals between buses vary widely among the SBS routes and across different times of day, in some cases reaching 30 minutes in the early morning and late evening. In these situations the requirement to disembark at the next stop and wait for a later bus is particularly unreasonable and may raise safety concerns.



Finally Transit ridership data for May 2015 showed that over 70 percent of SBS riders used Unlimited-Ride MetroCards, free student passes, or connecting transfers so that no payment was due whether or not they were able to obtain a ticket from an MFC. Any strict enforcement of the disembarkation policy would inconvenience the riders while likely yielding only limited additional revenue. Thus, we believe that any cost of a more customer-oriented approach may well be outweighed by the benefit to customers.

Based on our observations and the findings described above, we asked NYC Transit personnel why passengers who board at affected stops could not use their MetroCards at the farebox onboard, just as they would on a regular bus. Officials said that because such a practice would deviate from standard SBS procedure it might cause confusion; additionally, the farebox could not produce a ticket for Eagle Team enforcement. Notably, though, we learned that allowing passengers to use the onboard farebox was the stated practice in the case of long-term outages in the first year of SBS.

We believe it is unreasonable to ask, let alone require, any customer to disembark to purchase a ticket, regardless of both the expected wait time for the next bus and the likelihood that the customer might be able to re-board the same bus quickly. While interrupting and possibly lengthening one's trip in this unexpected manner might represent a relatively minor inconvenience for a healthy young adult during the daytime, in too many situations it would be significantly burdensome to customers, including elderly or disabled passengers, parents traveling with small children, as well as anyone facing a deadline to reach work or an appointment. At the time of our review, on its SBS webpage NYC Transit conceded the inconvenience of potentially having to wait but termed it inevitable: "While we realize this is an inconvenience, it is the only way to ensure that all customers have paid their fare while maintaining the level of speed and reliability that SBS service offers."<sup>5</sup> We disagree and believe a more customer-oriented approach is feasible.

When NYC Transit is unable to effect rapid repairs of electrical outages affecting MFCs, the agency should not unduly inconvenience customers who would have paid before boarding had the fare machines been in working order. In our view, Transit should seek ways to allow passengers stymied by outages to use the farebox and receive proof of payment. Failing that, Transit should consider implementing a policy more closely aligned with current practice by authorizing inspectors to direct such passengers who are already leaving the bus to pay upon disembarking and to direct those continuing their travels to pay at their intended destination. As a bottom line, customers simply should not be penalized for problems beyond their control.

### **Eagle Team Inspectors Are Not Promptly Informed About New Outages**

Given the impact of outages on fare enforcement, we asked the Eagle Team how it is notified

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<sup>5</sup> [http://web.mta.info/mta/planning/sbs/SBS\\_MachineOutageAlerts.htm](http://web.mta.info/mta/planning/sbs/SBS_MachineOutageAlerts.htm)

about such incidents, and learned that the group relies on several sources of information. Eagle Team personnel told us that the only formal alerts they receive about confirmed power failures are emails sent by supervisors in Automated Fare Collection Maintenance (AFCM), the NYC Transit unit responsible for maintaining and repairing the SBS fare machines. However, these emails might not be sent until one or two days after the outage begins, depending on when the power failure is first reported to this repair group. An AFCM official confirmed that his unit sends no other outage reports to the Eagle Team. The inspectors also learn about outages from customers and bus operators and by checking MFCs at the stops where they board buses to inspect riders' tickets. Inspectors noted that confirmation of outages by bus operators facilitates appropriate enforcement.

Bus operations personnel also inform the Eagle Team about outages. NYC Transit's September 2015 SBS policy states: "Bus Operators should notify the Bus Command Center (BCC) immediately if customers are unable to use the machines because of defects." Although the policy does not stipulate any BCC follow-up action when a report is received, a BCC official told us that BCC personnel send reports of disabling outages to Transit's repair unit. BCC does not inform the bus operators and dispatchers on a given route about outage reports affecting that route. However, the BCC official told us the unit sends text messages to the Eagle Team about reported machine defects. Unfortunately, this support may be of little consequence, as the BCC receives only sporadic reports of defects from the field and, according to a BCC official, the reports have dwindled in recent years. BCC's log shows only three reports from bus operators between July 24 and December 3, 2015. For their part, Eagle Team personnel told us they have received few outage alert messages from BCC in recent years.

One consequence of these sporadic and infrequent communications is that the Eagle Team inspectors are not always getting information they could use to evaluate customers' claims of non-working stops. Additionally, because of the ripple effect outages have on the enforcement process, Eagle Team supervisors lack up-to-date information to deploy staff most effectively. To improve this communication process, BCC should reinforce the agency's expectation that bus operators and dispatchers will immediately report MFC outages so BCC can, in turn, provide the Eagle Team with timely information. NYC Transit should also consider expanding AFCM's role in alerting the Eagle Team to new outages.

### **Guidance to Customers Has Been Lacking**

In July and August 2015, we observed that at stops with outages—even those with no working MFCs for extended periods—there were no "Out of Order" signs and no posted instructions advising customers what to do when boarding the bus or when questioned by Eagle Team inspectors.<sup>6</sup> Similarly, NYC Transit's website did not provide any information about the SBS stops with no working MFCs, nor did the agency have any outage-notification system by email

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<sup>6</sup> The only guidance appeared on a metal sign next to each MFC's unique number stating "Problems? Call 212-MetroCard" and "Give this [MFC] number." We found that at least one major wireless provider, Verizon, cannot complete calls to numbers longer than 10 digits or treats them as international calls.

or text. As a result, we noted that customers tried unsuccessfully to use one or more of the machines and often asked each other for help while expressing confusion and frustration about what to do.

Thereafter, in September 2015, NYC Transit told us the agency had created a sign to identify non-working machines—although we subsequently observed, on multiple occasions, that a stop affected by a known power outage since November 1, 2015, had no sign posted at least as of December 4, 2015. Additionally, the agency created a new webpage, entitled “Select Bus Service—MetroCard Fare Collector Machine Outages,” listing SBS stops where all the MFCs had been reported out of service.<sup>7</sup> However, we noted the webpage omitted some of the outages listed in Transit’s November 2015 report. Clearly, every outage affecting all MFCs at a stop should be listed on the website. A complete listing would also be a helpful resource for other Transit departments with SBS-related responsibilities, such as the Travel Information Center.

At the time of our review, the webpage also provided instructions to customers and a link to an online version of the new sign being placed on affected MFCs.<sup>8</sup> While the creation of this webpage represents an improvement in the agency’s communication with SBS customers, we believe NYC Transit could be more helpful by adding such details as the expected return-to-service date. The agency’s own webpage-listing of escalator and elevator outages could serve as a model: It includes the out-of-service date, the reason for the outage, and the expected date of the return to service. This information provides a visible measure of accountability for the repairs. More significantly, though, the instructions on both the new sign and webpage direct affected passengers to interrupt their trips by disembarking and paying at the next stop, a policy that we believe is unreasonable.

Some NYC Transit officials expressed concern that more forthright communication to customers about outages might lead to greater fare evasion of just the sort Eagle Team inspectors now suspect is occurring; that is, some riders might learn from the webpage about a non-working stop and then falsely claim to have boarded there in order to avoid paying. While we understand this concern, the agency owes its fare-paying customers the information they need to use SBS successfully, with as little disruption and inconvenience as possible. Moreover, if Transit implements a policy on MFC outages that is less burdensome to customers, the need to widely publicize specific outages may well become less critical.

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<sup>7</sup> [http://web.mta.info/mta/planning/sbs/SBS\\_MachineOutageAlerts.htm](http://web.mta.info/mta/planning/sbs/SBS_MachineOutageAlerts.htm)

<sup>8</sup> [http://web.mta.info/mta/planning/sbs/SBS\\_OutofService.pdf](http://web.mta.info/mta/planning/sbs/SBS_OutofService.pdf)

## Tracking and Oversight of Long-Term Outages Are Insufficient

As noted earlier, the MFCs are subject to a variety of malfunctions that make them temporarily unusable. Common failures include the depletion of a machine's ticket paper or an inability to print tickets. In other cases, MFCs fail to accept a MetroCard or do not return it to the customer when a transaction is completed. Most of these problems, though certainly troubling to those confronted by them, affect single machines and can be repaired in a matter of hours.

AFCM, the repair unit mentioned above, is first on the scene to confirm initial reports of power outages at SBS stops. NYC Transit's Division of Operations Planning, which reports to a different Transit vice president, has broad overall responsibility for SBS and oversees the resolution of long-term power outages. We worked with both units to determine the frequency and duration of power outages and the adequacy of Transit's monitoring and data collection practices.

### *AFCM's Tracking and Data Collection on Long-Term Outages*

At the time of our review, AFCM did not regularly maintain any statistics showing when *all* the MFCs at a given stop were unusable, and officials asserted that most disabling outages affected just one of multiple MFCs at a stop. However, we found that 345 of the outages documented by Transit in its analysis of a 12-month period occurred at stops with just one MFC, preventing riders from using MetroCards at those stops until the problem was repaired. Transit records show that these outages alone resulted in over 1,800 service hours during which a stop had no working MFC.

In further examining prolonged outages affecting entire stops, we learned that AFCM creates records of each machine outage in a work order. To monitor and track its workload, AFCM maintains a database of these work orders—but, notably, its general practice is to calculate repair statistics only for machines that AFCM can repair on its own. Because long-term power outages fall outside its jurisdiction, AFCM told us it eventually creates a new work order for each such outage and categorizes them as "Special Assignment." An AFCM official told us that the data on power failures in these two categories—regular work orders and Special Assignment—would provide a complete record of long-term power outages.

We reviewed the MFC work orders in both categories to quantify the extent of power outages over the last year and found inaccuracies in the records maintained on outages. For example, the start times and duration recorded for the M15 outage on Second Avenue near 34th Street—which, as noted above, lasted over five months—essentially omitted the first four months of the outage. The combined information provided by AFCM showed these MFCs as out of service for only one hour in May and then again beginning in late August 2015. Additionally, AFCM confirmed that it creates no record at all when an electrical outage results from planned work at the stop such as the installation of a new MFC. Consequently, we found that AFCM's database of work orders does not provide a complete and accurate record of the number and duration of long-term outages.

We also learned that AFCM calculates MFC repair statistics—e.g. the length of time needed for the repair and the availability of MFCs to customers—only for the repairs it does itself. AFCM does not calculate the duration or impact of long-term power outages. While this limitation may make sense for AFCM’s internal tracking purposes, when we began this audit no other Transit unit had been compiling statistics on such outages. Therefore, NYC Transit management lost the opportunity—and ability—to track its performance in bringing fare machines back into service.

*Monitoring of Long-Term Outages by Operations Planning Division*

At the time of our review, Operations Planning managers also did not maintain or have ready access to a report listing all power outages at SBS stops in a given period, including the pertinent dates of each outage. We also found that Operations Planning did not maintain statistics on the impact of power outages on MFC availability.

After we discussed this lack of data with NYC Transit officials, Operations Planning created the November Report showing all outages lasting four days or longer during the 12-month period ending September 30, 2015, including those caused by planned construction. Because the agency had not systematically tracked these outages as they happened, Operations Planning analyzed fare transaction data to identify out-of-service stops and found that 32 different stops had a period lasting at least four days with no MFC ticket purchases. These stops were classified as out of service for that time period and categorized as constituting “long-term outages.” The report also provided some information on the causes of the outages, but for 13 of these 32 stops we learned that no causal information was available. Officials told us they planned to continue tracking the extent of long-term outages and progress being made to correct them.

Monitoring power outages also involves tracking the activities of multiple third parties. NYC Transit officials told us that resolving outages sometimes requires action from property owners and others that NYC Transit, DOT, and Con Ed have no authority to compel. In other cases, construction work or needed repairs of uncertain duration, e.g. to a gas line, delay the resolution of power outages. However, even when there are no such obstacles, a longstanding arrangement between DOT and Con Ed allows Con Ed 90 days to repair the outage.

NYC Transit officials told us they had pressed Con Ed to repair certain power outages in fewer than 90 days. They stated, however, that this pressuring occurred on an *ad hoc* basis and was not a standard practice followed for every long-term power outage. We believe NYC Transit should make concerted and consistent efforts to have Con Ed, DOT, and other involved parties work diligently to ensure that outages are repaired as quickly as possible.

## **CONCLUSION**

To improve customer satisfaction, safety, and convenience, and to align the agency's policy and practice, we believe NYC Transit should revise its policy requiring customers who board at a stop without working MFCs to disembark and pay at the next stop. We also find NYC Transit's policy to be impractical for enforcement purposes. We believe the agency could develop a better way to ensure acceptable levels of both fare compliance and enforcement while also meeting customers' need to travel without unnecessary delay and inconvenience.

NYC Transit has recognized electrical outages as a key challenge since SBS was first implemented in 2008. After six years and seven additional routes, SBS is no longer a pilot program; NYC Transit, collaborating with DOT, has made a very clear and positive decision to expand the system and build on its considerable success. It is now time for the agency to review its protocols to ensure that each outage—whether triggered by a power failure or another cause—is resolved as quickly as possible to reduce the inconveniences faced by riders and to strengthen Transit's ability to prevent and detect fare evasion.

## RECOMMENDATIONS

A. To better accommodate customers' needs when MFCs are unavailable, NYC Transit should:

- 1) Develop a more customer-oriented policy that does not require SBS passengers boarding at non-working stops to disembark and purchase a ticket at the next stop.

*Agency Response:*

**Accepted.** NYC Transit recently adopted a new "customer-focused" policy instructing customers boarding buses at locations with non-working MFCs to purchase a ticket when they disembark. NYC Transit expects to fully implement the policy by the third quarter of 2016.

- 2) Evaluate the benefits of allowing riders boarding at non-working stops to use the bus farebox or other payment methods.

*Agency Response:*

**Accepted and completed.** The agency wrote, "After careful consideration, NYC Transit has decided to implement the policy detailed above [in response to Recommendation #1], which is more customer and service-impact (dwell-time) focused, while minimizing the potential for fare evasion and confusion."

B. To provide better information to customers and Eagle Team inspectors when MFCs are out of service, NYC Transit should:

- 3) Place "Out of Service" signs on machines as soon as practicable at stops affected by long-term outages. The signs should tell passengers whether they must pay after boarding and, if so, how to accomplish this.

*Agency Response:*

**Implemented.** The agency has and will continue to revise signage to reflect its new policy.

- 4) Publicize all prolonged outages affecting entire stops through the agency's mobile application, service alerts, and the Travel Information Center.

*Agency Response:*

NYC Transit wrote, "[We] agree conceptually" with this recommendation, but it has been obviated by the policy change described above. "Under the original policy, a web page was created to give customers advance notice of outages. ... However, the new policy now allows customers to board a bus at an affected bus stop, ride to their destination and get their ticket at that location upon completion of their trip. This policy will be communicated through a sign placed on machines at affected bus stops as well as through FAQs [Frequently Asked Questions] on the MTA website.... If customers call 511, agents will communicate the FAQ response. . ."

- 5) Enhance the listing of outages on the NYC Transit website to include information of use to riders and responsible agency departments, such as the expected repair date.

*Agency Response:*

*As in its response to the preceding recommendation, NYC Transit stated that while officials “[a]gree conceptually,” this recommendation has been obviated by the policy change described above. The new policy “does not require any changes in customer behavior when they board the bus. As a result, listing individual machine outages on the NYCT public website is not necessary given this new customer-focused approach.”*

- 6) Establish a mechanism to ensure that inspectors receive timely information about new and existing outages affecting every MFC at a stop.

*Agency Response:*

***Accepted and reported implemented in October 2015.***

C. To improve managerial oversight of outages, NYC Transit should:

- 7) Ensure that NYC Transit’s procedures for documenting and monitoring MFC outages provide a complete and accurate record of each instance in which all MFCs at a given stop are out of service, including the cause of each outage.

*Agency Response:*

***Accepted.*** *The agency wrote that it will “work with fare machine maintenance staff to obtain more complete information on the nature of outages” and will also “investigate to determine if modifications can be made to the existing Spear Maintenance Management System used by AFC Maintenance [the database containing detailed records of most MFC malfunctions and Transit’s repair efforts] to assist and possibly expedite a resolution to this recommendation.”*

*While NYC Transit generally has no direct control over long-term equipment outages resulting from electrical failures, the agency “acknowledges the need to track these types of outages from initial notification through final resolution, which will need to include the actions by others within and outside the organization to address this recommendation concerning NYCT procedures.”*

- 8) With DOT, establish a formal protocol to request and review Con Edison’s expected schedule for the repair of each new long-term power outage, with the goal of ensuring the most rapid feasible repair. This effort should include working to shorten Con Edison’s 90-day standard whenever possible.

*Agency Response:*

***Accepted.*** *The agency will work with DOT “to develop a formal protocol that furthers NYCT’s desire for improved response time to machine outages.”*