



NYC TRANSIT'S RESPONSE TO DECEMBER 2010 BLIZZARD

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INTRODUCTION

On Sunday, December 26, 2010 and the early hours of Monday, December 27, over two feet of snow fell on the New York metropolitan area accompanied by high winds. The blizzard was not predicted until just 24 hours before and hit New York City with even more force than anticipated. New York City Transit (NYC Transit) service was dramatically curtailed on both buses and subways by 9:00 PM. Many customers and employees traveling aboard subway cars and buses became stranded during the evening of the blizzard and as the night wore on. Their isolation increased by having little to no communication with outside parties. NYC Transit estimates that approximately 650 buses were stuck in the snow, while some 500 people were stranded aboard subway cars overnight. The recovery process was lengthy, with passengers still being rescued on Monday morning. Full service was not restored for several days.

Following the storm and subsequent clean up, the Chairman of the Metropolitan Transportation Authority (MTA) charged the various MTA agencies (including NYC Transit) with conducting internal reviews of their responses to the December blizzard to identify weaknesses and make recommendations for improvement. Best practices from other transit properties were to be analyzed by MTA along with the need for long-term technological improvements in communication and storm response capability.

In June 2011, MTA officials presented to the MTA Board the proposed final agency report on MTA Storm Performance Review. The report included 25 recommendations for improving agency performance in the areas of operations, customer communications, staffing and equipment. While developed specifically to improve performance in blizzard conditions, many of these recommendations are also intended to be applicable to other major service disruptions. These recommendations, if properly implemented, should improve how MTA and NYC Transit mobilize resources to be ready in the event of major storms, execute plans for snow and ice clearing, and restore service quickly after a disruptive event.

Meanwhile, in the days immediately following the storm, staff from the Office of the MTA Inspector General (OIG), as part of OIG's own concurrent review, met with NYC Transit managers and with MTA headquarters personnel regarding NYC Transit's self-assessment. Given the extensive nature of the work already being done by MTA and NYC Transit, our review of Transit's performance during the blizzard was designed to augment, not duplicate, the

review underway -- to determine, in the last analysis, whether and when plans were put into action and whether such plans were effective. Specifically, we focused on the capability of MTA's bus management team to respond to emergency conditions; NYC Transit's handling of the stranded subway trains and buses during the blizzard; and the reasons for the reported communication breakdowns both internally between operators and supervisors, as well as externally with passengers, the media, and the public at large.

OIG staff interviewed high level managers of buses, subways, and corporate communications, as well as staff-level personnel directly involved -- hands-on -- in responding to the blizzard, including those working the command centers or operating the vehicles. We also interviewed customers and employees stranded on buses and trains. Further, we carefully reviewed the agency's response as evidenced by, among other things, documentation created during the event as to the whereabouts of stranded buses; weather forecasting information available to MTA before the blizzard; and records of what was -- and what was not -- timely communicated to the public about the status of service on buses and subways.

In May 2011, prior to the MTA presentation to the Board of the MTA Storm Performance Review, we shared in writing our most critical observations and ten recommendations with the then-Chairman/CEO of the MTA, the President of NYC Transit, and other top managers. In a recent update, NYC Transit stated that it accepted all of our recommendations and is in various stages of implementing them. The attached report reflects our findings and recommendations, as well as a summary of the agency's response. We will continue to monitor the agency's performance as appropriate to ensure that our recommendations are effectively implemented.

DEPARTMENT OF BUSES**Recommendation 1: Include provisions in the revisions to the Storm Plan for notifying NYPD and/or FDNY of any passengers on stranded buses in need of assistance. Monitor to ensure that assistance is provided.**

During the storm and in its immediate aftermath, hundreds of bus operators and an unknown number of passengers were stranded for several days. The case studies of two bus operators we interviewed reflect the physical and emotional toll this took on the operators and their vulnerable passengers.

Case Study: Snowbound B8 Bus

On Sunday evening, at 11:23 PM, an operator of a B8 bus carrying about a dozen passengers, including children, was unable to continue after his bus got stuck behind another at East 3rd Street and 18th Avenue. The operator notified a Bus Command Center (BCC) dispatcher, who told him that he would have to wait 30 minutes for help to arrive. Almost three hours later at 2:13 AM, on Monday morning, he called again and was instructed by the dispatcher to tell the passengers that it would be a “while” before help would come. At that point some passengers left the bus, while others stayed, including the children who were asleep on the back seats.

More than eight hours later at 10:37 AM, a dispatcher from the depot visited the bus and informed the operator and his passengers that it would be a “while” before help came. About 3:30 PM Monday afternoon, his bus lost heat, and shortly thereafter he and most of the passengers transferred to other buses nearby, where they spent the night. Assistance finally arrived on Tuesday morning; 43 hours after the bus left the depot.

Case Study: Snowbound B65 Bus

An operator of a B65 bus got stuck behind two cars at about 7:00 PM Sunday and was unable to continue. He told a BCC dispatcher that he had about 10 passengers on board. The dispatcher responded by telling him to “stay there” and he would try to send help. According to the driver, two or three passengers chose to leave the bus, while seven or eight remained. At 1:00 AM, on Monday, December 27, the bus lost heat for several hours. Initially, he tried to correct the problem, but was unable to do so. The operator then tried to contact the BCC using the bus radio system, but was unable to do so because the radio system had failed. Instead, he used his personal cell phone to inform the BCC dispatcher that one of the passengers on board was a pregnant woman, and that his bus had lost heat. He finally connected with the BCC by cell phone at 2:48 AM. Some four hours later, a Superintendent arrived to assist. According to the operator, the Superintendent helped the pregnant woman and some other passengers into a NYC Transit vehicle and took them to their destinations.

As these case studies indicate, at the time of the Blizzard there was no plan for providing assistance to passengers taking shelter in snowbound buses, which should include soliciting the

resources of the city. While it is reportedly unusual for Transit's Department of Buses (Buses) to have passengers needing rescue since most leave on their own accord in such circumstances, Buses is not thereby relieved from having a plan for those who require help, nor necessarily absolved of liability for any harm they may incur.

Agency Response: The Department of Buses agreed with this recommendation. Buses noted that storm protocols require the designation of a Customer Advocate whose primary responsibility is to ensure the welfare of customers and Bus Operators aboard stuck buses. The Customer Advocate is to maintain current information on onboard conditions for all stuck buses to ensure that needs are met for customers and Bus Operators. This includes prioritizing responses and coordinating relief efforts, as well as, requests for medical and policy assistance when needed. The Customer Advocate is to follow up to ensure all customers and Bus Operators aboard those buses are assisted in reaching their destinations

Recommendation 2: Eliminate the storm-desk dispatcher function from Buses' Storm Plan, formally transfer its responsibilities to the Road Operations satellite desks, and ensure that staff is appropriately trained and computer proficient in the automated systems proposed by the agency to track snowbound buses during a storm.

Under the Storm Plan, BCC storm-desk dispatchers are assigned a lead role in storm management, directing and dispatching all equipment involved in fighting storms and maintaining logs of their activities. Nevertheless, we found that it is Road Operations that actually leads efforts to rescue snowbound buses as a de facto consequence of its obligation to establish satellite storm-desks in each of NYC Transit's seven bus divisions, each headed by a storm coordinator to manage operations. During the Blizzard BCC dispatchers simply informed the various Road Operations coordinators of the buses that were stuck in their respective areas; it was the latter that actually directed rescue operations. Thus, we found that BCC storm-desk dispatchers were simply duplicative, and added little value to storm response efforts.

Furthermore, poor communications between the BCC and Road Operations personnel actually hindered efforts to rescue snowbound buses, resulting in much wasted effort, and further compromising the BCC's tracking system. The General Superintendent of Road Operations told us that on several occasions buses were freed, but that neither the driver nor the personnel who freed the vehicles informed either the BCC or the Road Operations satellite desk that the bus had been rescued. In many instances, Road Operations storm coordinators would dispatch personnel to a site only to discover the bus was already gone.

On December 27, the day after the Blizzard, Transit reported that 1,000 buses had become snowbound, but later revised that figure to approximately 650. When asked to explain the discrepancy, the General Superintendent in charge of the day shift at the BCC on December 26 to 27, told us that the BCC's numbers were severely inflated because of double-counting and communication failures that compromised the BCC's tracking system.

Buses reports it is now reengineering how it records incidents that occur while its vehicles are operating on city roads. Efforts are reportedly underway to make better use of technology and streamline the information flow. Bus officials state that procedures to account for snowbound buses at the BCC are being automated in order to allow for more efficient input, coordination, and communication of data. According to these officials, this reengineering “holds the potential to provide this vital information across the network in real time.” However, the Executive Vice President for Regional Operations told us that implementation of these changes, which relies on computer technology, has been slowed because some of the personnel that will implement the new system are not sufficiently computer proficient.

Agency Response: The Department of Buses agreed with this recommendation. At the time of their response, DOB was finalizing its plans for work flow during a storm condition but indicated that tracking and remediation of snow bound buses will be the responsibility of Road Operations Satellite Desks instead of storm desk dispatchers. Storm desk dispatchers will not be eliminated but will continue to provide support to console dispatchers, coordinate with Sanitation, and make service announcements.

Recommendation 3a: Reassess the bus radio upgrade project budget and schedule, and consider alternatives to the current project, in order to accelerate the acquisition of an effective communication system between bus operators and the BCC.

Recommendation 3b: If a long-term solution is not in place prior to the winter of 2011-2012, Buses should provide for backup communication in the event of a radio system failure. As part of this strategy, Buses should authorize operators to use their personal cell phone if the radio system fails during an emergency.

Compounding an already difficult situation, between 2:00 AM and 5:55 AM on Monday December 27, the bus radio system failed, almost completely shutting down communications between the BCC, bus operators and Road Operations personnel. According to the manager in charge of Buses radio system, neither Buses nor the company that maintains the system “knows why this communication glitch happened.” He went on to state that when the system failed, there were over 300 calls in the queue, and when the system became operational again he directed that all 300 calls be purged from the system in order to ensure that the radio system would continue to function.

According to Buses, “After the storm passed, a software change was performed to address the conditions that led to this catastrophic failure.” However, since neither the Department nor the company that services the radio knows why the system failed, it is impossible to say with any certainty that a complete breakdown would not happen again. Indeed, the manager acknowledged that no one knows whether the software changes will address the problem.

The existing radio system was installed in 1991 and was originally intended to have a useful life of 15 years. Buses stated that a “new Bus Radio System is scheduled for 2018 in the Capital Program,” 12 years beyond the useful life of the existing system, and that “in the interim, Buses shall continue to secure parts to maintain the system in a state of good repair.” However, such maintenance will be very difficult at best because the current radio system is no longer supported by the manufacturer and maintenance personnel are already cannibalizing radios for parts. Also, it is not clear from our interviews why beneficial use will not be achieved until 2018. Thus, according to the current schedule Buses will have to rely on the existing – already outdated -- radio system for the next seven years.

Further, the project manager for the new bus radio system currently estimates that the acquisition and installation of a new radio system could cost \$350 million or more.

In light of the pressing need for an effective and reliable communication system between bus operators and the BCC, Buses should reassess its current bus radio project. Alternatives to the current project that could be implemented more quickly, and possibly at a lower cost, while still meeting Buses communication needs, should be considered.

If a long-term solution cannot be implemented this year, then before the start of 2011-2012 winter season Buses should develop a contingency strategy so that bus operators will still be able to communicate with the BCC should the radio system fail. Any back-up communications strategy should include allowing operators to use their personal phone. Surprisingly, OIG interviews of bus operators stranded during the December 2010 blizzard found that some drivers did not use their personal cell phone to communicate their status to the Bus Command Center when the radio system failed. These drivers explained that they did not use their personal phone because they believed that such use was prohibited by NYC transit policy under any conditions.

Agency Response: The Department of Buses agreed with these recommendations. Long range, Buses will proceed with the purchase of a new bus radio system. Since a full radio replacement is not scheduled to be in operation until 2018, Buses indicated that interim upgrades are underway for the existing system including replacement of selected components to extend the life of current equipment. To ensure that back-up communication is in place for the 2011-2012 winter, Buses will draft a bulletin directing its operators, in the event of an emergency and radio system failure, to secure the bus and use any available phone, including their personal cell phone, to communicate the problem.

Recommendation 4: Buses should amend its Storm Plan to authorize Assistant General Managers to hold back or otherwise adjust service if the command center becomes overwhelmed or lines of communication fail.

During our review, we interviewed the Assistant General Managers (AGM) responsible for three South Brooklyn depots that, by all accounts, were the most seriously affected by the storm: Jackie Gleason, Flatbush and Ulmer Park. The AGMs at all three depots told us that they were aware that a large number of buses that left their depot were becoming

snowbound because of the storm. Yet all three said that they continued to dispatch vehicles from the depot because they lacked authority to make any adjustments to service – even to keep additional buses from certainly getting stuck. Indeed, according to the Buses Storm Plan, only the Senior Vice President of Buses -- the department's top executive -- is authorized to “issue specific instructions on the reduction or curtailment of scheduled service due to reduced ridership and/or the potential for immobilized vehicles due to hazardous conditions.”

While as a result of lessons learned the top management of Buses now envisions that the depots will play a greater role in future storm response and rescue efforts, AGMs still lack authority to make emergency adjustments – no matter how compelling the circumstances. In our view, if an AGM is aware that buses on specific routes are becoming snowbound, but he/she is unable to connect with the command center because of communication problems, the AGM should have the authority to hold back service on affected routes to prevent additional buses from becoming snowbound. Toward that end, we urged Buses to establish a procedure that provides authority for AGM's to adjust service and encourages them to exercise it when necessary.

Agency Response: The Department of Buses agreed with this recommendation. According to Buses, under the organizational structure that was in place prior to the December 2010 blizzard, AGMs were isolated from decision-making. After the December blizzard, Buses reorganized how its command structure will function during storms in order to improve communication between the AGMs, the Road Operations Satellite Desks and the Bus Command Center. Going forward, if an AGM sees a need to curtail or hold back buses, they can communicate that suggestion at any time to the Road Operations Satellite Desks. Buses has held training sessions to ensure that each unit understands their respective responsibilities under the new structure.

Recommendation 5: Buses should define a Limited Service Option that provides continued service on critical routes.

Buses was simply overwhelmed by the magnitude of the problems caused by the Blizzard. While Buses is trying to augment its response capabilities as a result of lessons learned from that event, it is not at all clear that the agency can successfully provide full service operation during a major storm.

For example, during future storms senior management expects each depot to deploy six to 10 individuals, consisting of managers or maintenance personnel, to assist its Road Operations Division with storm response and recovery. However, depot personnel already played a role in rescue and recovery during the Blizzard, so any net gain from such deployment is uncertain.

Even more significant, there appears to be a limit on how many incidents Buses can physically respond to simultaneously. According to an Assistant Chief Transportation Officer, Road Operations response capability gets overwhelmed when bus incidents reach “double-digit numbers.” Notably, it does not appear that this quantitative limitation will be significantly affected even with assistance from the depots and a better-coordinated work force.

Thus, we recommend that Buses develop a Limited Service Option as an alternative to trying to provide full service during a major storm. Such an alternative should be a pre-planned service strategy, coordinated with the Department of Subways, and service divisions of the City of New York (*e.g.* Department of Sanitation, Office of Emergency Management) to provide continued service on critical routes rather than face the prospect of total suspension. Such a strategy would have a predetermined staffing plan and could be publicized ahead of the storm so customers can arrange their travel schedules. The service level should be set to accommodate reasonable customer needs, perhaps the most important of which is reliability.

Agency Response: The Department of Buses has identified its priority routes but is still analyzing the concept of a Limited Service Option. The OIG and Buses are still in discussion regarding the benefits and practicality of a Limited Service Option as discussed in this report.

CUSTOMER COMMUNICATIONS

Senior managers explained to OIG that posting service information on the MTA website is the first priority of communications personnel, and that these postings should occur within minutes after receiving notice of a service disruption. The communications employees should post the information on the website and then follow up immediately by sending the same information by text notice to customers requesting that service (see below). However, during two separate periods of severe weather such postings were delayed and inconsistent.

Transit made changes to improve its customer communications prior to a subsequent storm that began on January 26, 2011 (January Storm). Communications staff was added to handle the collection and dissemination of service information. We found these changes are insufficient to address all the problems that occurred during the Blizzard and January Storm.

Recommendation 6: Assign specific responsibility for monitoring and analyzing the accuracy, timeliness, and consistency of service information posted during a major weather event, and conduct spot checks and post-event evaluations to detect and fix problems as quickly as possible.

Buses readily acknowledges that it failed to provide useful information to communications staff regarding bus service for two days following the Blizzard. However, Buses' failure is only one part of several communication breakdowns during that event and the January Storm.

- OIG discovered that when detailed service information finally began circulating internally from Buses to communications staff in the Rail Control Center (RCC) just after 2:00 PM on December 27, it took between four and 24 hours to post that information on the MTA website for 80 percent of sampled routes.
- In one-third (five out of 15) of the subway lines that had been fully or partially suspended in December and which we analyzed, there was a delay ranging from approximately one hour and 45 minutes to six hours between the time that Transit's internal records indicated a subway line was suspended and the time that a notice to that effect was posted on the MTA website. For example, while the entire B line was suspended as of 5:00 AM, Transit's webpage did not reflect this suspension until approximately 7:00 AM, too late for many rush-hour customers that morning.
- For approximately half of the fully or partially suspended subway lines (seven out of 15), there were significant inconsistencies between the information contained in Transit's internal records and the information provided to the public. For example, at 6:00 AM on December 27, internal records indicated that the J line was completely suspended from Manhattan to Queens. At approximately the same time, a web notice was posted erroneously stating that the J line was only *partially* suspended, and that service was available in Manhattan and parts of Brooklyn. This inconsistency created an enormous potential for confusion amongst affected riders.

- Our analysis of subway records from the January Storm indicates that significant communications problems persisted despite additional communications staff. While the delays in providing subway service information via the website were shorter, the consistency of the information remained problematic. For approximately one-third (four of the 13) of the subway lines analyzed, information contained in internal Transit records was inconsistent with that posted on the MTA website. Information regarding the J line was again incorrect. This time, internal records indicated a partial suspension from Brooklyn to Queens, while the website erroneously noted that the line was completely suspended.
- Significant delays also occurred when providing customers with information on bus routes after the January Storm. For example, bus routes were suspended overnight after the January Storm, and Transit was returning routes to service the following morning. OIG found significant delays between when a bus route began operating and when that information was available to customers on the MTA website. Additionally, Road Operations staff was providing detailed service information to the communications staff in the RCC. However, there was a delay between when communications staff was informed and when that information was posted of approximately 20 minutes to as much as ten hours for 32 of 36 bus routes (89%) we analyzed.

Transit management was previously unaware of the issues we found regarding delays and discrepancies in December and the subsequent problems in January. Transit has not been monitoring and analyzing how well information flows among its own staff, nor assessing whether and to what extent it is conveying clear, accurate, and timely information to the riders. When briefed on our findings, communications officials agreed to look into this issue.

Agency Response: Corporate Communications agrees with this recommendation. The response indicated that staffing will be increased at the Rail Control Center as well as the communications office at 2 Broadway. Responsibilities have been delineated and hourly Quality Control checks will be required to be sure that operations personnel and communications personnel are clearly communicating.

Recommendation 7: Create and maintain the records necessary to document (a) the nature extent, and timing of service disruptions according to operations personnel and (b) the timeliness and accuracy of conveying such information from operations to communications personnel and ultimately to customers.

Going forward, the effectiveness of Transit's customer communication needs to be monitored internally. However, collecting the information necessary to analyze timeliness and consistency took the OIG many months, in part because agency personnel were unaware of what records exist to document the transactions that take place. In other cases, no clear records are even maintained. During the December blizzard a list of all partial and complete suspensions was

made available on an hourly basis to Corporate Communications staff located within RCC. This system was not replicated during the following storm. Transit must correct this deficiency.

Agency Response: The response indicates that Corporate Communications and the Rail Control Center agree with this recommendation and will maintain the paperwork referenced above.

Recommendation 8: Reissue text updates to subscribers at the beginning of selected time intervals if conditions that occurred in previous time intervals persist.

Transit offers its customers the opportunity to “subscribe” to a service that sends messages directly to the customer’s phone or email account in the event of a service disruption. However, as a result of departmental protocol, subscribers never received 86 percent of suspension notices on the morning following the Blizzard.

The service provides a customer with options to limit transmissions to information of interest specific to that customer (*e.g.* subway line(s), weekday or weekend, and prescribed time periods). Out of assumed consideration for the customer, Transit will only send a service disruption text message once, when the problem begins, and only to those customers who have requested notices for that prescribed time period. However, during the Blizzard most disruptions began overnight, outside of the time period most customers selected for their morning commute, but persisted into the morning rush hour.

We discussed this problem with the Senior Director of Corporate and Internal Communications who agreed that additional messages must be sent if service problems span more than one time period.

Agency Response: Corporate Communications agreed with this recommendation and immediately took action by implementing a repeat alert notification procedure on May 26, 2011.

DEPARTMENT OF SUBWAYS

Following the Blizzard, officials of Transit's Department of Subways (Subways) acknowledged their failure to call their highest alert level (Plan IV) in the Storm Plan until hours after the storm had started (and even longer after it had been predicted by various weather forecasting services). Subways explained, however, that many steps were taken on Saturday, December 25, 2010 consistent with actions required for a Plan IV alert. Transit's Maintenance of Way division (MOW) began calling in its workers, and staff already present began moving trains underground. Although the Plan Level can change over a weekend, it is only formally called on Monday through Friday.

Recommendation 9: Call the Plan Level every day at 11 AM, including weekends and holidays and communicate that Level on a daily basis.

Subways has a long standing practice of calling Storm Plans only on days where a weekday operating schedule is in effect. Its rationale is based on the workforce required to move the subway car fleet from outdoor yards to protected underground locations. According to Transit officials, when a plan calling for underground storage is called on a weekday, there are sufficient operating personnel available on the PM tour to move the fleet after the rush hour. The fleet remains underground until the next weekday AM tour when personnel are called in early to return the equipment to service.

The decision as to the appropriate Plan Level is reported over the "6 wire,"¹ appended to the bottom of the weather forecast and faxed to managers in Subways and Buses. Communicating the Plan Level triggers the appropriate activity throughout Transit and ensures that all personnel are notified of the impending conditions.

It has been Subways' policy that the Plan Level called on Fridays remains in place until the following Monday unless a senior manager intervenes to change the Level. The same holds true during a holiday. No weekend meetings are held to review the Plan Level as would happen on a weekday, nor is the Plan Level disseminated again throughout the agency. One Transit manager noted that while changing the plan on a Saturday, Sunday or holiday can be accomplished if the forecast changes, it would require bringing in employees from home, and results in a less orderly suspension in maintenance and reconstruction activity.

Indeed, while this explanation was offered to explain why Plan Levels are not changed on weekends or holidays, it reveals that not enough employees are available on such days to implement a higher Plan Level, and actually confirms the need for contingency action plans that enable flexibility and expediency over these weekend days and holidays.

¹ RCC supervisors are in contact with major Subways units, such as MOW, and certain external organizations, such as the Transit Police, through the use of the "6 wire," which is an open radio connection that is monitored simultaneously by these operating departments and agencies.

If Plan IV had been called on Saturday, December 25, the RCC would have sent out the announcement via the 6 wire and fax, and the crew centers would have begun that same day to arrange for staff to fill the necessary positions to implement Plan IV. Instead, crew offices struggled to contact workers on Sunday, the day the storm began. OIG found that while certain Plan IV steps were taken prior to the formal declaration, not calling the Plan caused some trains to be stored above-ground, thereby further causing them to be snowed in.

Agency Response: The Department of Subways agreed with this recommendation. Implementation of a daily Plan Level announcement will begin as a part of the 2011/2012 Winter Operations Plan beginning on November 15, 2011.

Recommendation 10: Subways should amend its new Plan V to provide for the contingency that the Rail Control Center becomes overwhelmed or communication lines fail between the control center and field operations.

The most fundamental problem Subways experienced during the Blizzard was that its Plan IV alert level, even if called timely, is inadequate for such an event. Plan IV is to be called when five or more inches of snow are expected, a much more manageable level than that experienced during the storm in question.

In extreme conditions, Plan IV does not compel the curtailing of service when necessary, does not include adequate preparation for train rescues, and does not provide for effective communication and coordination of operations. If a suspension of service is warranted, Plan IV authorizes the senior manager in the field to issue a suspension order. However, as a number of senior managers informed OIG, they did not suspend service during the Blizzard “until the weather suspended service for them.” These managers believed that their duty was to continue running trains for as long as possible. The pitfalls of this approach are illustrated by events where two A trains, carrying a total of more than 550 passengers, were snowbound for many hours. The operators of these trains struggled against the weather as they crawled along their routes in the Rockaways for hours before becoming stuck for hours more.

Case Study: Two Snowbound A Trains

As weather conditions worsened on Sunday evening, December 26, 2010, trains and equipment on the above-ground portions of the A Line in Queens began to experience malfunctions. Switches froze, train doors would not close, emergency stop-arms at the track level became stuck in the upright position, and electrified third rails started to ice-over. Despite being aware of these conditions, Subways continued to send its trains out.

Train #1:

This A train left the Far Rockaway terminus of the A Line at 8:21 PM and very slowly made its way northbound as it experienced mechanical problems. During

its run, the train took on more than 500 passengers. At around 12:55 AM, as it approached the closed Aqueduct Racetrack Station, the train began to lose power because of poor contact with the iced-over third rail. Supervisors responded to the scene and, with the help of track and signal workers, tried to free the train by removing the surrounding snow and ice.

At approximately 2 AM, the supervisors realized that their attempts to free the train were not working and requested a rescue train be sent to pull the train free. The senior managers in charge of the line agreed. However, because there were no two-diesel trains available,² Transit attempted to bring an empty passenger train from the nearby Pitkin Yard to serve as a rescue train. Unfortunately, Subways was unsuccessful in getting two different trains out of the yard given the iced-over third rails on the tracks between the yard and the main line. After a couple of hours spent trying to get these trains out of the yard, supervisors and managers decided to utilize a passenger train running on the underground portion of the A Line to rescue the snowbound train.

At around 7 AM, this rescue train finally arrived after slowly making its way southbound through the snow and ice on the northbound track. Workers connected the two trains together, and the rescue train pulled the disabled train to the next station – the Rockaway Boulevard Station, arriving just before 8:00 AM, where yet another train came to take the passengers further along the A Line. By this point, more than 500 passengers had been on the train for nearly twelve hours.

Train #2:

At around 7:30 PM on Sunday evening, a southbound A train exited the tunnel after the Grant Avenue Station in Queens, whereupon the train operator saw a “curtain of white” in front of him. When he arrived at the Rockaway Boulevard Station, he asked for confirmation that he should continue on to the Rockaways. He then received signals that he should do so.

When the train arrived at the Howard Beach Station, the operator saw that the signals were not functioning properly and received permission from the RCC to go out of the train, climb down the now icy steps onto the tracks, manually clear the snow from the emergency stop-arms with a wooden paddle, and then push the arms down. He had to repeat this procedure at each of the approximately twenty stop-arms, all the way to the Far Rockaway Station at the end of the line, at each point carefully keeping away from where he estimated the third rail lay beneath the snow. At least one of the stop-arms along the way was on the bridge to the

² During the storm, almost all of Transit’s diesel locomotives were being used as single units, which lacked the power to move (rescue) a passenger train. Such movement required a two-diesel train.

Rockaway Peninsula, where the train operator had to be careful not to fall off the bridge.

After arriving at the Far Rockaway Station, the operator was astounded to hear the train dispatcher there tell him to make the return trip. After waiting 30 minutes for a switch at the station to be cleared of snow and ice, the operator left Far Rockaway at 9:35 PM with about 50 passengers on board his train.

At 9:55 PM, at the Beach 67th Street Station, a box of debris had blown on to the tracks and had to be cleared by hand. At this point, the heavy snow was accompanied by strong winds. Ice was forming on the windows and the brakes were starting to freeze.

The train proceeded to the Broad Channel Station, at 10:15 PM, arriving at around 11:30 PM, where it stopped for more than an hour because the doors had frozen. It then traveled two more stations, to the Aqueduct-North Conduit Avenue Station, where it became stuck behind Train #1.

After Train #1 was freed and moved forward, the operator of Train #2 started moving again. However, because the train's brakes were not functioning properly and many of its doors were frozen, the operator proceeded to the Euclid Avenue Station, which is underground, and let his passengers off there. He finally arrived at the Euclid Avenue Station around 10 AM, at least eight hours after getting stuck behind Train #1, and nearly 15 hours after confronting the "curtain of white."

Transit has recently issued an addendum to its Storm Plan, which introduces a Plan V alert level for forecasts of ten or more inches of snow and high winds. This new Plan Level requires the establishment of a "situation room" in the RCC to aid communication and decision-making, a Customer Advocate to be onsite to help channel resources to affected passengers, enhanced train rescue preparedness (including the staging of more two-diesel trains), and a procedure that provides for the RCC – and not the senior field managers – to curtail service as required. The Plan Level also requires field managers and supervisors to update the RCC about conditions every 30 minutes. In addition, Transit executive management has now made clear to Subways managers in the RCC that they have discretion to suspend service and should exercise it when necessary.

We are encouraged by these developments which contributed to the improved management of the January Storm. However, we caution that as service suspension decisions are now centralized within the RCC, Transit should ensure that local managers are following through on updating the RCC with current conditions in order to provide a comprehensive picture of operating conditions. Local managers must also be given emergency authority to adjust service on their own in the event the RCC becomes overwhelmed with incidents and communication is problematic.

We base our concern, in part, on the statements of RCC officials and senior Transit managers regarding the A Line. When the A trains became stuck during the Blizzard, RCC officials were busy directing and assisting snowbound trains elsewhere in the system, including a Q train in Brooklyn where 500 to 600 people needed to be safely evacuated along the tracks to a nearby station. While the new situation room will likely improve the RCC's capabilities, there needs to be a contingency plan for the actions that field managers can take should the RCC become overwhelmed or central communication fails.

Agency Response: The Department of Subways agreed with this recommendation. Generally local field management consults with the RCC and ICC regarding service within their purview. Local storm center management is however, authorized to take immediate action in response to the likes of emergencies or changing weather conditions. Local storm fighting centers are also responsible for ensuring that all pertinent parties are notified of their actions by whatever communications means possible.