City of New York

OFFICE OF THE COMPTROLLER

Scott M. Stringer
COMPTROLLER

FINANCIAL AUDIT

Marjorie Landa
Deputy Comptroller for Audit

Audit Report on the New York City Transit Authority's Track Cleaning and Painting of the Subway Stations

FM14-071A
May 14, 2015
http://comptroller.nyc.gov

THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
1 CENTRE STREET
NEW YORK, NY 10007

SCOTT M. STRINGER
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May 14, 2015

To the Residents of the City of New York:

My office has audited the New York City Transit Authority (NYCT), the largest component agency of the Metropolitan Transportation Authority (MTA), to determine whether NYCT is meeting its internal goals for performing track cleaning and painting in subway stations. We perform audits such as this to help improve the operations and maintenance of New York City's infrastructure.

In 2013, NYCT spent $240 million of its operating budget for maintenance and cleaning of subway stations, using 2,485 hourly salaried employees to perform the maintenance and cleanings. In addition, another 278 operations supervisors ensure that subway stations are properly maintained in a clean, safe and sanitary condition. The percentage of the MTA's operating funds spent on station maintenance and cleaning has decreased from 6.3% in 2008 to 5.4% in 2013.

In 2012, NYCT started "Fastrack," a subway maintenance, cleaning and repair program under which segments of subway lines are shut down to the riding public to provide NYCT with the opportunity to accomplish a magnitude of work that would be difficult to do during regular business hours when a high volume of customers and trains pass through the stations. Full station painting (painting of platforms, mezzanines, and stairwells) is scheduled to be done when a station is closed as part of the Fastrack program.

The audit found that NYCT's station painting and track cleaning efforts were insufficient to meet agency goals and as a result, the physical appearance of stations, with regard to their track cleanliness and their painting, remains poor. NYCT's track cleaning efforts are hampered by the current staffing levels of the manual cleaners and frequent breakdowns of the vacuum trains used to clean the tracks. The audit also found that NYCT Fastrack work does not prioritize peeling paint conditions in subway stations, as some stations that received a good rating on its Station Condition Survey were scheduled for full-scale paint work (scraping, priming, and painting), while other stations with a poor rating were not scheduled for such work.

The audit recommends that NYCT consider allocating a greater percentage of its operating revenue toward expenditures related to improving the maintenance and cleanliness of stations; expend capital funds to replace its current vacuum fleet; develop a systematic approach for ensuring track beds are cleaned frequently and no track beds remain uncleaned for extended periods; consider increasing staffing levels for track cleaners and full-scale painters; and place stations with a poor platform paint rating on a high priority for correction during Fastrack.

The results of the audit have been discussed with NYCT officials, and their comments have been considered in preparing this report. Their complete written response is attached to this report. If you have any questions concerning this report, please e-mail my Audit Bureau at audit@comptroller.nyc.gov.

Sincerely,

Scott M. Stringer

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Audit Report on the New York City Transit Authority's Track Cleaning and Painting of Subway Stations

FM14-071A

EXECUTIVE SUMMARY

This audit examined whether the New York City Transit Authority (NYCT) is meeting its internal goals for performing track cleaning and painting in subway stations. NYCT operates the largest public transportation system in North America. The New York City subway system (subways and rapid transit) is composed of 659 passenger track miles, on which it operates 6,311 subway cars on 21 subway lines and 3 shuttle lines that pick up and discharge passengers at 467 active stations within four of the five City boroughs. In 2013, total annual subway ridership was approximately 1.708 billion people, an increase of 3.2% from 2012 to 2013.

NYCT had a total operating revenue in 2013 of approximately $4.45 billion. Of this, subway fare revenue generated $3 billion. In addition, the subway system also generated a portion of NYCT's total $145 million in advertising revenue and a portion of NYCT's $63 million in expired MetroCard revenue. NYCT's overall operating revenue increased by 34% between 2008 and 2013, including a 28.2% increase in subway fare revenue.

In 2013, NYCT spent $240 million of its operating budget for maintenance and cleaning of subway stations, using 2,485 hourly salaried employees to perform the maintenance and cleanings. In addition, another 278 operations supervisors ensure that subway stations are properly maintained in a clean, safe and sanitary condition. The percentage of the MTA's operating funds spent on station maintenance and cleaning has decreased from 6.3% in 2008 to 5.4% in 2013.

In 2012, NYCT started "Fastrack," a subway maintenance, cleaning and repair program under which segments of subway lines are shut down to the riding public to provide NYCT employees with the opportunity to accomplish a magnitude of work that would be difficult to do during regular business hours when a high volume of customers and trains pass through the stations. The top to bottom painting of a station (painting of the platforms, mezzanines, and stairwells) is scheduled to be done when a station is closed due to the Fastrack program. This type of painting may be also done as part of a capital improvement to a station.

Audit Findings and Recommendations

Our audit found that NYCT's station painting and track cleaning efforts were insufficient to meet agency goals and as a result, the physical appearance of stations, with regard to their track cleanliness and their painting, remains poor. Neither track cleaning nor station painting are adequate to meet NYCT's cleaning goals. We recommend that NYCT consider upgrading its track cleaning equipment and reprioritize Fastrack station painting to address the deficiencies we found. We also recommend that the agency consider adding staff and resources to enhance its cleaning programs.

MTA and NYCT Response

In its response to the draft report, MTA and NYCT officials did not dispute the report's findings and recommendations and described steps they have taken to implement the report's recommendations. The full text of MTA and NYCT's response is included as an addendum to this report.

AUDIT REPORT

Background

NYCT is a public benefit corporation established in 1953 pursuant to Title 9, Article 5, of the New York State Public Authorities Law, to operate public subway, bus and paratransit services within the City of New York. NYCT is the largest component agency of the Metropolitan Transportation Authority (MTA), which oversees the City's regional transportation network.[1]

NYCT operates the largest public transportation system in North America.[2] The New York City subway system (subways and rapid transit) is composed of 659 passenger track miles, on which it operates 6,311 subway cars on 21 subway lines and 3 shuttle lines that pick up and discharge passengers at 467 active stations within four of the five City boroughs. In 2013, total annual subway ridership was approximately 1.708 billion people, an increase of 3.2% from 2012 to 2013.

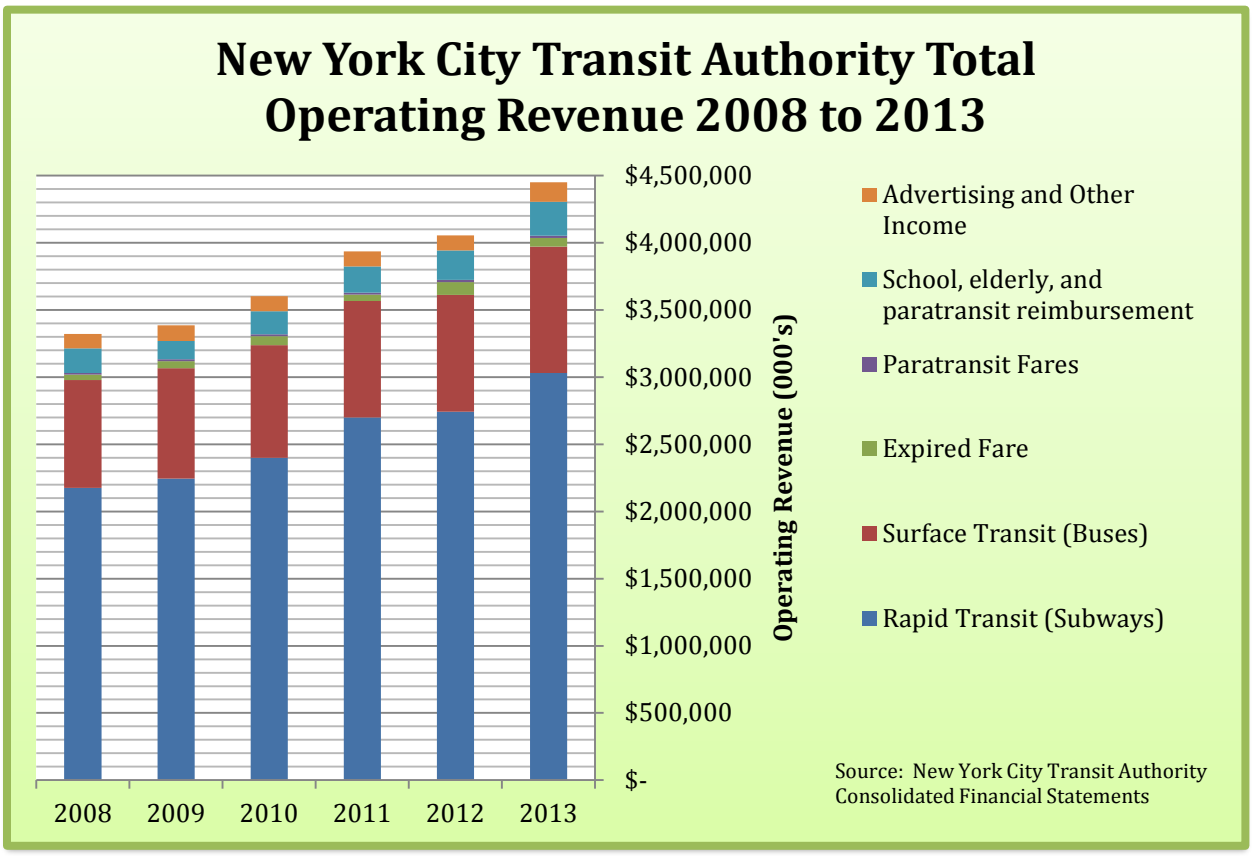
NYCT had a total operating revenue in 2013 of approximately $4.45 billion. Of this, subway fare revenue generated $3 billion. In addition, the subway system also generated a portion of NYCT's total $145 million in advertising revenue and a portion of NYCT's $63 million in expired MetroCard revenue. As shown in Table I, NYCT's overall operating revenue increased by 34% between 2008 and 2013, including a 28.2% increase in subway fare revenue.

[1] The MTA was created in 1965 by the New York State Legislature with a mission to continue, develop, and improve public transportation within the City of New York, as well as Nassau, Suffolk, Westchester, Rockland, Orange, Dutchess, and Putnam counties. The MTA's operational network also includes the Long Island Railroad and Metro North Railroad.

[2] NYCT operations include the New York City Subway, a subway system connecting Manhattan, Brooklyn, Bronx, and Queens via underground and elevated subway stations; Staten Island Railway, a rapid transit system in Staten Island; and New York City Bus, a bus network serving all five boroughs of New York City.

Table I

New York City Transit Authority's
Revenue Source Breakdown from
2008 – 2013

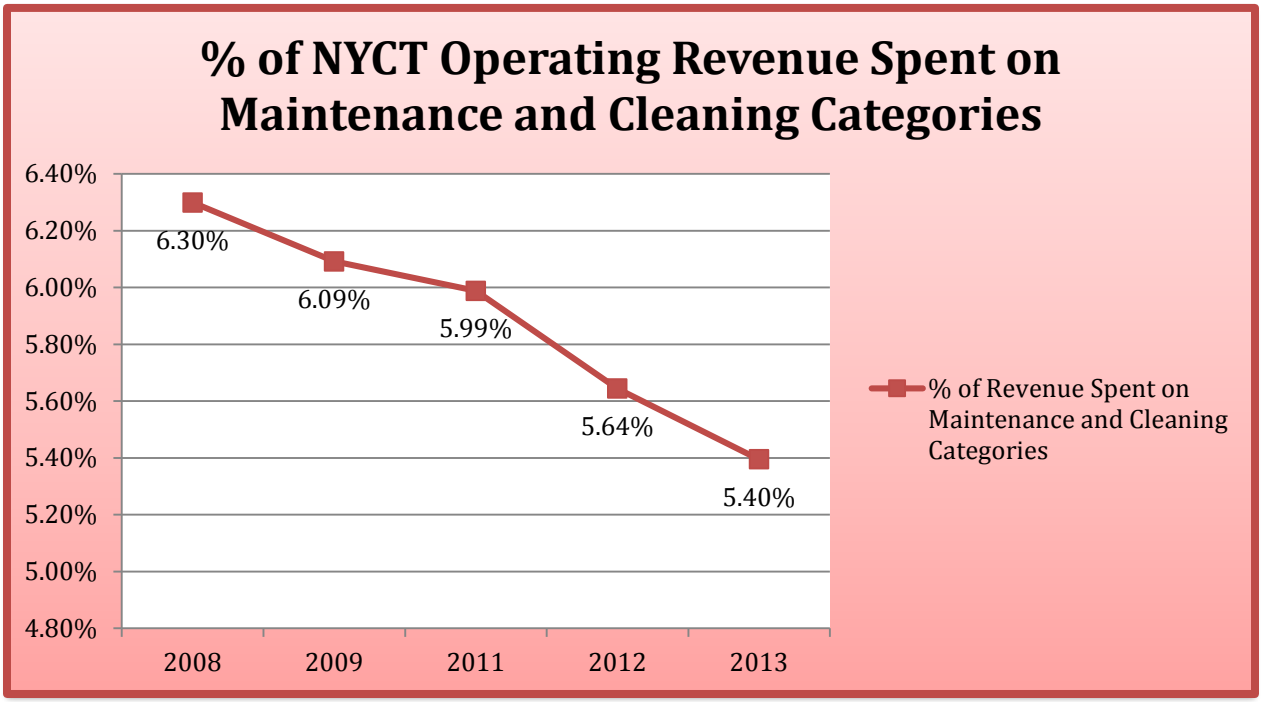


In addition to the $4.45 billion in operating revenue generated in 2013, NYCT also received operating funds of $790.6 million from the City of New York; $247 million from Triborough Bridge and Tunnel Authority; $2.76 billion from New York State; and $92.5 million from the federal government.

In 2013, NYCT spent $240 million from its operating budget for maintenance and cleaning of subway stations, using 2,485 hourly salaried employees to perform these functions. In addition, another 278 operations supervisors ensure that subway stations are properly maintained in a clean, safe and sanitary condition. As shown in Table II, the percentage of the MTA's operating funds spent on station maintenance and cleaning has decreased since 2008.

Table II

Percentage of Operating Revenue Spent to Maintain Cleanliness & Appearance of Subway Stations from 2008-2013[3]



[3] This table does not include data from 2010 because the data was not available according to NYCT due to a department reorganization.

Station maintenance and cleaning responsibilities are shared by a number of different operational units. The responsibilities of the station maintenance and cleaning units and 2013 expenditures by each unit are summarized in Table III.

Table III
Station Maintenance and Cleaning
Category Descriptions

Category	2013 Expenditures	Duties
Station Maintenance	$69,000,000	Tile repair, plaster, stairway work, handrails, wiping (surface cleaning) of elevators and escalators, glass cleaning, leaks in stations, and painting.
Lighting Maintenance	$21,000,000	Maintenance and repair of light fixtures on subway platforms, mezzanine levels, and in tunnels.
Regular Cleaning	$89,900,000	Basic platform cleaning. Sweeping, moving trash bags from trash cans to refuse storage room.
Mobile Wash	$26,500,000	Power washing of walls, floors, and ceilings on station platforms and mezzanine levels.
Track Tile	$3,400,000	The cleaning of tiles along the walls adjacent to subway tracks opposite passenger platforms.
Refuse Collection	$11,400,000	Removal/moving of garbage bags from storage room to refuse removal trains.
Track Cleaning	$18,500,000	Cleaning of track beds via manual cleaning or vacuum train.

The NYCT has set as its goal that manual cleaning crews visit each station and clean track beds once every three weeks (at least 17 times during the year), and that the tracks in the subway's 276 underground stations be cleaned every six months by one of the agency's two VAK-TRAK vacuum trains. NYCT does not have any written standards that define the tasks required of the manual track cleaners. However, NYCT officials informed us that when the manual cleaning crews clean the tracks, they are supposed to pick up all loose debris from the track bed (the area from the edge of the platform to the wall/column) and place it in bags, paper catchers should be emptied and the contents placed in bags, and the bags containing litter should be taken to an area for storage until they are picked up by a work train (a train used to collect the garbage from individual stations). According to NYCT officials, the cleaning crews consist of one supervisor and 10 track cleaners. Although it is NYCT's intention to have the manual cleaning crews clean all the track beds in a station during a visit, our review found that the manual cleaning crews did not always do so.

The VAK-TRAK vacuum trains are five-car work trains that are equipped with a high-powered vacuum cleaning system designed to remove trash from the subway tracks. NYCT has two vacuum trains that were purchased in 1997 and 2000, respectively, and built to NYCT specifications. They are supposed to run seven days a week, but due to mechanical failure and fatigue, there is a high rate of cancellation for both trains. These motorized vacuum trains clean track beds overnight to minimize disruption of train traffic. They can run on either a High or Low power setting, but according to NYCT officials, the trains usually run on the Low setting to prevent track damage. The trains also can only clean one third of a track at a time—either the left, right or center of the track bed. NYCT officials explained that after a vacuum train is sent through a station once and cleans one third of the track bed, it will not be sent back two more times to

vacuum the remaining two thirds of the tracks in the station because that would interfere with subway service.

NYCT also has a scraping and painting unit which is made up of 33 painters and 4 carpenters who are responsible for painting subway stations top to bottom, including platforms, mezzanines, and stairways. In order to plan, prioritize and effectively budget investment in the stations program, NYCT conducts a station condition survey once every five years to assess existing conditions at individual stations. A numerical rating system is used to evaluate the different components of the station appearance, including painting. The last survey was completed in 2012. According to a report issued in 2012 by New York Public Interest Research Group Straphangers Campaign, a survey of 28% of all subway platforms revealed that 79% of underground platforms had a substantial amount of peeling paint.

In 2012, NYCT started "Fastrack," a subway maintenance, cleaning and repair program under which segments of subway lines are shut down to the riding public to provide NYCT employees with the opportunity to accomplish a magnitude of work that would be difficult to do during regular business hours when a high volume of customers and trains pass through the stations. According to NYCT officials, Fastrack program station closures are planned a year in advance. Work done during Fastrack closures include various tasks designed to maintain and improve station appearance, including painting. Stations with the poorest ratings for paint component are those that are in the most need of painting and are supposed to be given high priority for painting during Fastrack. If the station is scheduled for a capital improvement in the near future the painting component will not be addressed during Fastrack.

Objectives

The objective of this audit was to determine whether the NYCT is meeting its internal goals for performing track cleaning and painting in subway stations.

Scope and Methodology Statement

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. This audit was conducted in accordance with the audit responsibilities of the City Comptroller as set forth in Chapter 5, §93, of the New York City Charter.

The scope of this audit covers the period from July 1, 2013 through June 30, 2014. Please refer to the Detailed Scope and Methodology at the end of this report for the specific procedures and tests that were conducted.

Discussion of Audit Results

The matters covered in this report were discussed with NYCT officials during and at the conclusion of this audit. A preliminary draft report was sent to NYCT officials and discussed at an exit conference held on April 16, 2015. During the audit we were informed by NYCT officials that NYCT has set as a goal that stations be painted once every seven years. At the exit conference, NYCT officials informed us for the first time that the seven-year goal was abandoned in the 1990s

due to the MTA's financial crisis. Further, we were informed that NYCT currently does not have a defined schedule of how often stations should be painted. Instead, NYCT officials informed us that its current plan is to address the poor painting conditions identified by the Station Condition Survey. On April 23, 2015, we submitted a draft report to NYCT officials with a request for comments. We received a written response from MTA and NYCT on May 8, 2015.

In its response, MTA and NYCT officials did not dispute the report's findings and recommendations and described steps they have taken to implement the report's recommendations. The response states, "As you are aware, NYC Transit is a large and complex subway system, including 468 stations, approximately 660 miles pf mainline track, and ridership that is approaching 6 million riders per weekday. The Department of Subways employs over 27,000 employees. We remove nearly 40 tons of refuse from our system on a daily basis. There is over 20 million square feet of painted surface in the underground stations alone. . . . [W]e have recently increased resources dedicated to cleaning and maintaining our system, with positive results."

The full text of the response is included as an addendum to this report.

FINDINGS

Our audit found that NYCT's station painting and track cleaning efforts were insufficient to meet agency goals and as a result, the physical appearance of stations, with regard to their track cleanliness and their painting, remains poor. Neither track cleaning nor station painting are adequate to meet NYCT's cleaning goals. We recommend that NYCT consider upgrading its track cleaning equipment and reprioritize Fastrack station painting to address the deficiencies we found. We also recommend that the agency consider adding staff and resources to enhance its cleaning programs.

Track Cleaning Efforts Are Inadequate Creating an Increased Risk of Vermin and Track Fires

NYCT's track cleaning efforts are hampered by the understaffing of the manual cleaners and frequent breakdowns of the VAK-TRAK vacuum trains. As a result, NYCT is unable to meet its track cleaning goals, which increases the potential for track fires and vermin infestation in the subway system.

NYCT Does Not Meet Its Track Cleaning Goals

NYCT has failed to meet its goals for track cleaning, which require underground subway stations to be cleaned manually once every three weeks.[4] Such cleanings include the removal and bagging of litter found on the track beds and within the paper catchers in each station. The bags are taken to an area for storage until picked up by a work train. NYCT's goal of a cleaning every three weeks translates to having track cleaners clean each station 17 times within a one-year period. Our review of NYCT Station Cleaning (Daily) records reflects that 269 (97%) of the 276 underground stations received 16 visits or less from track cleaning crews during the one-year period from July 1, 2013, to June 30, 2014. Moreover, 229 stations (88%) received 8 or fewer cleanings in a year, which is less than half the number set by NYCT as a goal. A more detailed chart of track cleaning frequencies reported by NYCT between July 1, 2013 and June 30, 2014 is set out in Table IV below.

[4] The frequency of station cleaning can differ due to usage or unexpected events such as weather related or a water main break. Some stations can have an increased preferred cleaning frequency (cleaned more often than every 3 weeks) because they are considered "High Priority" (high traffic) stations. Priorities can shift due to urgent reports from customers and elected officials. There may also be citizen complaints and homeless debris complaints that affect cleaning schedules.

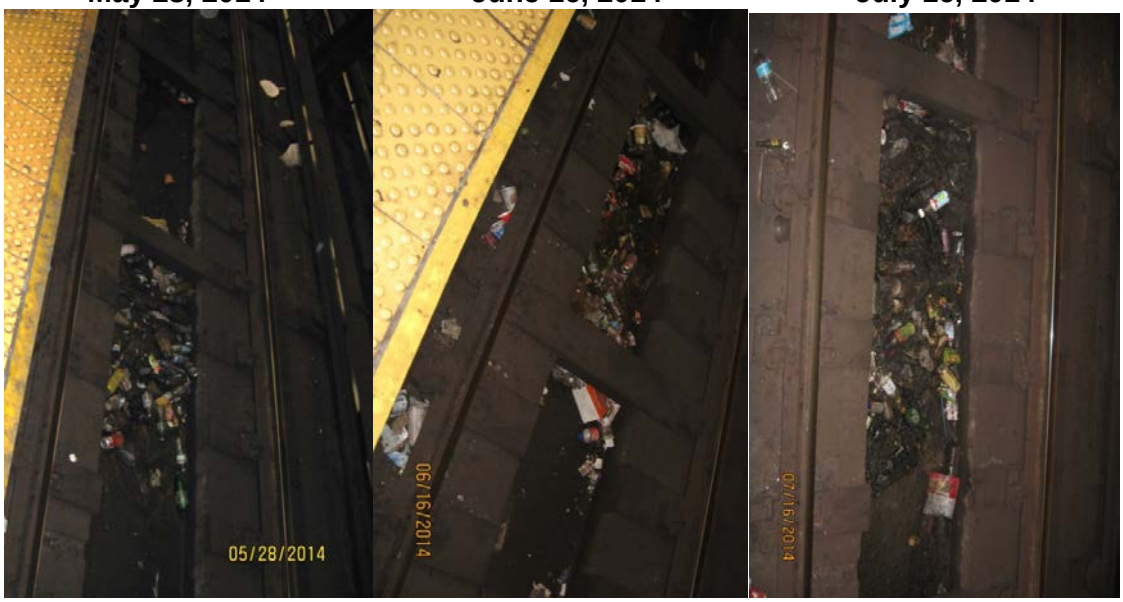
Table IV
Frequency of Visits Performed by Track Cleaners

Number of Visits	Number of Stations	Percentage of Total Stations (276)
0-3	83	30%
4-8	146	53%
9-12	26	9%
13-16	14	5%
17 and Over	7	3%
Total	**276**	**100%**

However, not all station track beds are necessarily cleaned during all cleaning crew visits. We analyzed NYCT records of cleanings between September 2013 and August 2014 for the Atlantic Avenue - Barclay station, which has three subway lines running into it: the Eastern Parkway Line - 2, 3, 4 and 5 trains; the 4th Avenue Line – R, N and D trains; and the Brighton Line – B and Q trains. According to these records, manual cleaners were assigned to clean the Eastern Parkway line 14 times. However, although the Eastern Parkway line consists of four separate track beds, all four were only all cleaned at the same time during 6 of those visits. On the other visits, only some of the tracks were cleaned. As a result of the partial cleanings, two of the tracks were not manually cleaned at all for the four months prior to August 2014; as a result, 122 bags of trash were collected during the August 8, 2014 cleaning. The track areas should be cleaned frequently enough to maintain a clean appearance for the riding public and to reduce the risk of rodent infestation and potential track fires.

Photos 1, 2, and 3: Debris on Tracks at Atlantic Ave – Barclay station on the Eastern Parkway Line (Track E3)

May 28, 2014 **June 16, 2014** **July 16, 2014**



NYCT has decreased the number of employees assigned to the Track Cleaning Unit from 323 to 168 (a 48% decrease) between 2008 and 2013. Similarly, during the same period, the number of operation supervisors also decreased from 59 to 26 (a 56% decrease).

In addition to failing to meet its goals for manual cleaning, NYCT has failed to meet its goal of having an automated cleaning of every underground station with a VAK-TRAK vacuum train every six months. This was partly due to one vacuum train being taken out of service because of equipment malfunction for 311 of the 365 days in our audit scope period. Even taking into consideration that only one vacuum train was operating 88% of the time during the year, we found that NYCT's Station Cleaning (Daily) reports indicate that there were 33 (12%) underground subway stations that were not cleaned at all by a vacuum train during the one-year period, July 1, 2013 to June 30, 2014. It should be further noted that 23 of these 33 stations were also visited less than six times each by the manual track cleaners during the same time period. The remaining 243 of the 276 underground stations were cleaned at least once during the 12-month period by a vacuum train.

If NYCT's goals for station track beds cleaning by vacuum trains and manual track cleaners were combined, track bed cleanings would be performed 19 times per year for every underground station. However, our review of NYCT records revealed that 235 (85%) of the 276 underground subway stations were visited less than the desired 19 times for track bed cleaning between July 1, 2013 and June 30, 2014. Rather, we found that on average, each station was visited 11.5 times during the year and more than half of these stations, 137, were visited ten times or less during the same time period.[5]

NYCT officials have acknowledged that trash on the tracks is a serious issue. Recognizing the potential danger, NYCT officials should increase efforts to meet its track cleaning frequency goals, as well as assess the efficiency with which the tracks are being cleaned.

Vacuum Train Cleanings Are Inadequate

In addition to failing to meet NYCT operational goals of having one of the agency's two VAK-TRAK vacuum trains clean the tracks in underground stations twice a year, we observed that that even when the vacuum trains operate, they do not perform adequately. Based on our observations at 33 subway stations, most of the trash that we saw on the tracks prior to the vacuum train visiting the stations remained on the tracks after the vacuum train left. Inadequate removal of trash from the tracks can result in delays or a potentially hazardous condition leading to track fires.[6]

Prior to scheduled vacuum train track cleanings, we photographed tracks and noted where there was trash in each photograph. In total, we took pictures of track debris at 361 different locations in the 33 stations before and after scheduled vacuum train cleaning. (See Appendix I for a listing of the stations we visited before and after VTs cleaning.) We found that after track cleaning in 254 (70%) of the 361 locations, the same debris remained on the track bed after the vacuum train visited the station. For example, as illustrated in Photo 4 taken of the Spring Street Station track on March 5, 2014 prior to the vacuum train's operation, trash is evident on the station roadbed. Photo 5 below was taken March 12, 2014, six days after the vacuum train came through the station. As is evident from the second photo, virtually all of the same trash remained in the roadbed after the vacuum train was employed to clean it up.

[5] For a detailed chart of the frequency of vacuum train and track cleaner visits to the 276 underground stations, see Appendix III.
[6] The MTA has posted advertisements to the riding public warning that trash is a problem. One advertisement states, "Trash contributed to 563 track fires in 2013, resulting in over 7,200 delays."

Photo 4: Spring St Track #MM1 Before 3/5/14

Photo 5: Spring St Track #MM1 After 3/12/14

Similarly, we observed a vacuum train in operation on one track at the 14th Street/8th Ave station on the A train line and found that most of the trash also remained on the track bed after the operation of the vacuum train. (See Appendix II, page 3 for pictures of debris found before and after this station was cleaned by the vacuum train.)

According to a NYCT official, the vacuum train usually runs on a "Low" setting in order to prevent track damage. Accordingly, they explained that it may not pick up cans and bottles, only paper or dirt. We observed many instances of cans, paper bags, paper cups, wet papers and plastic bottles remaining on the track beds after the vacuum train passed over the tracks.

Our review found that during the 365-day period, July 1, 2013 to June 30, 2014, NYCT records indicate that vacuum train #1 was cancelled on 170 of the 365 work days (47%). Of the 170 days that vacuum train #1 was cancelled, 146 (86%) of the cancellations were due to equipment failure and the remaining 24 were due to weather.[7]

During this same period, vacuum train #2 was out of service for 42 days prior to October 1, 2013, due to various equipment failures. Vacuum train #2 was then removed from service for 253 days (from October 1, 2013 to June 10, 2014) for a late-life overhaul and upgrade and returned to service on June 11, 2014. However, the train suffered equipment failure on the same day it was returned to service and on an additional 15 subsequent days in June. As a result, vacuum train #2 was out of service due to equipment problems for a total of 311 (85%) of 365 days.[8]

[7] In 35 of 146 times, vacuum train #1 was cancelled due to required 6-month inspections and 10 instances due to other than equipment failure. These 10 included 1 cancellation due to track fire, 3 due to holidays, 2 due to train operator out sick or not available, and 4 due to no available transit operator crew.

[8] The 311 days includes 6 instances of cancellations due to other than equipment failure (2 instances where train operator was sick, 1 instance due to no transit operator crew, 1 instance where vacuum train was not on the manifest, and 2 instances where unable to vacuum work location due to transferring from 'B' Division to 'A' Division).

NYCT Fastrack Work Does Not Prioritize Peeling Paint Conditions in Subway Stations

NYCT has a scraping and painting unit which is made up of 33 painters and 4 carpenters who are responsible for painting subway stations top to bottom on a full-scale level (platforms, mezzanines, and stairways). NYCT schedules full scale paint work (scraping, priming, and painting) during Fastrack closures.[9] Stations that receive a poor rating for the painting component in the Station Condition Survey are supposed to be given a high priority for painting during Fastrack.

During the audit we were informed by NYCT officials that NYCT has set as a goal that stations be painted once every seven years. However, at the exit conference, we were informed for the first time that the seven-year goal was abandoned in the 1990s due to the MTA's financial crisis. Further, we were informed that NYCT currently does not have a defined schedule of how often stations should be painted. Rather NYCT's plan is to address the poor painting conditions identified by its most recent Station Condition Survey, which was completed in 2012. We reviewed the survey's painting ratings for platforms within each of the 39 stations we visited. A rating of 1.0 is the best and indicates that 10% or less of that section requires painting. A rating of 3.0 is the worst and indicates that the inspector found significant paint deficiencies in that section during the survey and that more than 40% of the section requires painting.

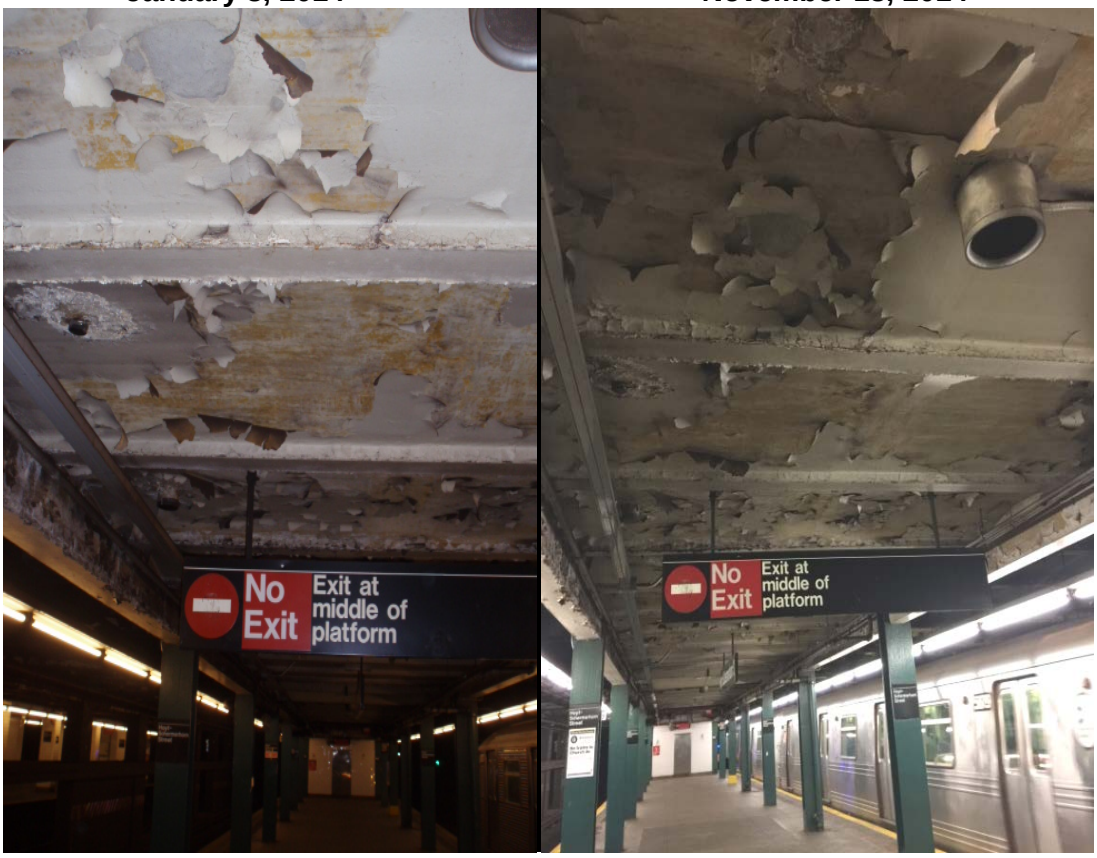
We found that NYCT scheduled full-scale paint work (scraping, priming, and painting) during Fastrack closures at some stations that received a good rating on the survey for their platform component, but did not schedule full-scale painting at other stations that received a poor platform rating on the survey. For example, the Hoyt/Schermerhorn station had an average rating of 2.25 for the paint on the platform; however, no full-scale paint work is scheduled for this station during this year's Fastrack. By contrast, the 2nd Avenue station, which has an average rating of 1.0 for the paint on the platform, is on the list of stations to be painted during this year's Fastrack.[10]

We found peeling paint conditions that were not scheduled to be addressed during the 2014 Fastrack closures or scheduled to be addressed during 2014 and 2015 for painting as part of a capital improvement project. For example, the Hoyt/Schermerhorn station, along the A, C, G lines, is not scheduled for full scale painting through Fastrack or as part of a capital project even though auditors observed excessive peeling paint over the passenger platform as well as on the ceiling over the track area.[11] We conducted observations at 38 other stations that were scheduled to be closed to the riding public on various dates throughout the year due to Fastrack work.[12] We found that 31 of the 39 stations had peeling paint. However, only 7 of the 31 stations were scheduled for full-scale painting during Fastrack. (See Appendix IV for a list of the stations we observed with peeling paint.)

[9] Since the inception of the Fastrack program in 2012, full-scale painting that is not part of a capital improvement is scheduled to be done through the Fastrack program.
[10] We were told that the decision to paint any station is based on the survey as well as input from the field operators and complaints from customers and elected officials.
[11] Notably, these peeling paint conditions were observed on November 18, 2014 (see photo 7 on page 14) notwithstanding the fact that the station was closed for Fastrack on four occasions during 2014 (January 8th–10th, May 5th-–9th, May 12th– 16th, and September 8th–12th).
[12] We conducted observations at 40 stations. However, one station (168th Street on the #1 line) was undergoing capital improvement and was excluded from our analysis.

Photos 6 and 7: Peeling Paint Over Platform at Hoyt/Schermerhorn Station

January 8, 2014 **November 18, 2014**



In addition, during the first quarter of this year NYCT painted other stations not scheduled for full-scale painting that received an average rating of 1.0. For example, the 157th Street station (1 line), Cathedral Parkway 110th Street station (1 line), Bergen Street station (2, 3, 4 lines), Grand Army Plaza (2, 3, 4 lines) all had an average rating of 1.0 and were not on the list of stations to be painted during Fastrack closures, but significant paint work was done. It should be noted that the painting that was performed was warranted because there were areas in those stations that had peeling paint and in fact are included in Appendix IV which is a list of stations that we observed with poor paint conditions. However, other stations that were rated as having poorer paint conditions were not painted. NYCT officials should consider prioritizing such paint work at stations that have the poorest ratings.

Accordingly, we found that at current staffing levels, NYCT will be unable to meet either its former goal of painting every station once every seven years or its current goal of addressing the poor painting conditions cited in the Station Condition Survey.

RECOMMENDATIONS

NYCT should:

1. Consider allocating a greater percentage of its operating revenue toward expenditures related to improving the maintenance and cleanliness of the station environment.

   MTA NYCT Response: "We agree with the intent of this recommendation and continue to regularly review opportunities to increase investment in the maintenance and cleanliness of stations. The MTA NYCT budget, like New York City's budget, is programmatically based - funds are added or subtracted based upon programmatic changes and current priorities. Budgeted resources for Station cleanliness have increased 25 percent - from $111 million in 2008 to $139 million in 2014. Similarly, budgeted resources for Station maintenance have increased 29 percent - from $77 million in 2008 to $99 million in 2014. The Audit references a 48 percent reduction in Track cleaning; however, the 2008 baseline used in the calculation included a temporary headcount increase for a pilot program which was not continued. Resources in this area have consistently increased, although not necessarily on a one-for-one basis with operating revenue. In fact, the data from our quarterly Passenger Environment Surveys shows that moderate and heavy litter in our 468 stations and trackbeds has significantly improved over the period reviewed."

2. Consider the value of expending capital funds to replace its current vacuum fleet in order to increase the reliability, efficiency and cleaning performance in the subway stations, or in the alternative, to enhancing its track cleaning through another method.

   ***MTA NYCT Response*:** "We agree with this recommendation. A contract for three new vacuum trains (at a total cost of $23 million) was approved on March 30, 2015, with a Notice to Proceed given to the contractor, NEU International Railways. The expected roll-out dates are one in 2017, and the remaining two in 2018. These new trains should address all the current vacuum train deficiencies noted in the report. Specific improvements include: newer agitation technology that will provide better cleaning efficiency; vacuuming ducts will be built of corrosion-resistant steel; the entire track bed will be cleaned in one pass (as opposed to multiple passes); and newer technology and fewer moving parts should dramatically reduce breakdowns."

3. Develop a systematic approach to ensuring that track beds are cleaned frequently and no track beds remain uncleaned for extended periods.

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4. Consider increasing staffing levels for track cleaners so that cleaning the tracks once every three weeks can be accomplished.

   ***MTA NYCT Response*:** "We agree with the intent of this recommendation and will continue to review our staffing levels and work to optimize and improve track cleanliness. Additionally, the roll-out of the new Vacuum Trains should have a significant impact on track cleanliness."

5. Consider increasing staffing levels for full-scale painters so that the stations that received a poor paint rating in the Station Condition Survey can be painted during Fastrack closures.

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6. Develop a methodology that would increase the frequency of full-scale platform painting performed during Fastrack closures.

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7. Place those stations with a poor platform paint rating on a high priority for correction during Fastrack.

   ***MTA NYCT Response*:** "We agree with this recommendation in concept and we will continue to use Fastrack when feasible to maximize painting opportunities. Please see our responses to Audit Recommendations 5 and 6 for further detail."

DETAILED SCOPE AND METHODOLOGY

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. This audit was conducted in accordance with the audit responsibilities of the City Comptroller as set forth in Chapter 5, §93, of the New York City Charter.

The scope of this audit covers the period from July 1, 2013 to June 2014. Although NYCT's fiscal year is synonymous with the calendar year, we decided to review information and conduct analyses pertaining to the most current data available. Thus we addressed current conditions and reviewed the most current 12-month period data.

We met with NYCT officials to obtain an understanding of the controls, processes and cost involved in maintaining the appearance and cleanliness of the subway stations. We reviewed Title 9, Article 5 of the New York State Public Authorities Law and available operating policies and procedures pertaining to maintaining the appearance and cleanliness of New York City subway stations. Where operating procedures were not available to supplement our understanding, we ascertained procedures through interviews with NYCT personnel.

We obtained NYCT Consolidated Financial Statement reports from the internet to determine the amount of yearly operating and non-operating revenues NYCT received during each of the calendar years 2008 through 2013. NYCT's independent auditor (Deloitte & Touche LLP) expressed an opinion that the financial statements presented fairly the financial position of NYCT for each of calendar years 2009 through 2013. According to the Deloitte report, the financial statements reflecting NYCT's financial position for calendar year 2008 was audited by other auditors who expressed an unqualified opinion on such statements.

We obtained NYCT Station Unit Costs and Track Unit Costs from NYCT officials in order to determine the amount of expenses incurred in each of the calendar years 2008 through 2013 (excluding 2010) related to specific categories (station maintenance, lighting maintenance, regular cleaning, mobile wash, track tile, refuse collection and track cleaning) within the station environment that was the focus of our audit. According to NYCT officials, they were not able to develop unit costs for 2010 because work flow was impacted as a result of a reorganization which took place within the Department of Subways.

We obtained the NYCT Office of Management and Budget System Reference File Report to determine which departments and divisions were involved in maintaining the appearance and cleanliness of subway stations. We also met with NYCT officials to gain an understanding of the general roles and responsibilities within each unit of these divisions.

We obtained NYCT VAK-TRAK (vacuum train) Operations Schedules to determine dates and subway station locations that the vacuum train was scheduled to visit in order to clean the track area (track bed). We were told that these schedules are prepared for the next two-week period. Using the most current schedules as they became available, we judgmentally selected eight dates from the months of February (2/26/14, 2/28/14) and March (3/4/14, 3/5/14, 3/6/14, 3/7/14, 3/20/14, 3/31/14) to conduct observations of the track area for cleanliness and debris prior to the vacuum train visiting the station to clean the track area. We visited a total of 79 subway stations before

and after scheduled vacuum train operations. We subsequently found that vacuum train operations were canceled for three out of the eight days we previously judgmentally selected. The dates for which vacuum train operations were canceled were 2/26/14, 2/28/14 and 3/12/14, which affected 29 subway stations. Our review of NYCT Station Daily Cleaning Reports in conjunction with Vacuum Train Operations Schedules, revealed an additional 17 subway stations where scheduled vacuum train activity did not take place. Thus, after a comparative analysis of all of the documentation coupled with our observations, there were 33 (79-29-17=33) subway stations that remained where we observed the track area just prior to and after the vacuum train visited these stations. We took pictures to document our observations of debris and its location on the track beds prior to and after scheduled vacuum train operations to see whether the debris that we observed on the track area still remained after the station had been vacuumed by the vacuum train.

We obtained the NYCT Stations' Daily Cleaning Reports covering the period July 1, 2013 to June 30, 2014 to determine the frequency with which the vacuum train visited each of the 276 underground subway stations. We analyzed NYCT's Cancellation Schedule for Planned VAK-TRAK work to determine how often scheduled vacuum train operations were canceled due to equipment failure or weather.

We also determined the frequency with which NYCT Track Cleaners visited each of the 276 underground subway stations. The Station Daily Reports show dates and station locations where cleaning activity was performed by the Vacuum Train and Track Cleaners. These reports also show the number of cleaners who cleaned the track area each night in addition to the number of tracks per station location that were cleaned.

We obtained the 2012 Straphangers Campaign State of the Station Platform Survey to determine if there were any major problems found within the platform areas of the subway stations.

We obtained the MTA Fastrack schedule for 2014 to determine which segments of subway lines would be shut down to the riding public for Fastrack work and on what dates the shut downs would take place. Fastrack work takes place on weeknights and begins at 10pm and concludes at 5am the next morning. Fastrack work encompasses various areas where work could be done such as tracks, third rail operations, signals, electronic maintenance and infrastructure. For the purpose of addressing our audit objective, we focused on the areas within the stations (e.g., platform and track area) that are seen by the riding public. Thus, this audit did not focus on subway cars or functioning equipment such as elevators, escalators and turnstiles, but rather the maintenance of appearance and cleanliness of the station environment within the subways. Within the station environment, Fastrack work includes doing high-intensity cleaning and painting. We conducted observations of the station environment at 40 train stations that were scheduled to be shut down due to Fastrack work on dates during the months of January and February. We took pictures of conditions that we observed in the station environment before (1/8/14, 1/13/14, 1/17/14, 1/27/14, 1/31/14, 2/4/14, 2/20/14) and after (1/16/14, 1/21/14, 2/5/14, 2/24/14, 3/14/14) Fastrack work. The schedules showed a starting station and an ending station for planned Fastrack work, as well as the subway line on which they would be working. We chose to do observations at all stations that fell on the identified subway line between the starting and ending locations noted on the schedule. We conducted observations at 40 stations prior to the start of Fastrack work. We did follow-up observations at only 30 of the 40 stations, due to a cancellation of Fastrack work at nine stations (E, F, M, R lines initially observed on 1/17/14) and an ongoing Capital Project at one station (168th Street Station, 1 line, observed on 1/13/14). On November 18, 2014, we conducted additional observations to determine if the poor painting conditions had been corrected at East Broadway on the F line and Hoyt/Schermerhorn on the G line.

We obtained NYCT's 2014 Fastrack Stations Painting List to determine which stations were scheduled to receive paint jobs during Fastrack closures. We also obtained the 2012 Station Painting Survey, conducted by an independent consultant, to determine the average rating that the inspector gave for the platforms component within the NYCT subway stations, based on visual inspection of the prevailing condition of the paint on the particular station element. We then reviewed NYCT's record of work done during Fastrack, "Work Completed by Station Maintenance – 1st Quarter 2014 Fastrack", to determine which stations received some aspect of a paint job (scraping, priming or painting) during Fastrack closures.

List of 33 Stations Visited Prior to and After Vacuum Train Operations

	STATION NAME	LINE
1	71st Ave	Queens/Archer
2	75th Ave	Queens/Archer
3	Union Turnpike	Queens/Archer
4	125th St	8th Ave
5	59th St	8th Ave
6	Fulton St	8th Ave
7	125th St	Lexington
8	116th St	Lexington
9	110th St	Lexington
10	103rd St	Lexington
11	96th St	Lexington
12	86th St	Lexington
13	68th St	Lexington
14	42nd St	Lexington
15	Brooklyn Bridge/City Hall	Lexington
16	Canal St	Lexington
17	Spring St	Lexington
18	Bleecker St	Lexington
19	Astor Place	Lexington
20	14th St/Union Square	Lexington
21	Broad St	Nassau Loop
22	Fulton St	Nassau Loop
23	Chambers St	Nassau Loop
24	Canal St	Nassau Loop
25	Bowery St	Nassau Loop
26	Essex St	Nassau Loop
27	Hunts Point Ave	Pelham
28	Longwood Ave	Pelham
29	East 149th St	Pelham
30	East 143rd St/St. Mary's St	Pelham
31	Cypress Ave	Pelham
32	Brook Ave	Pelham
33	3rd Ave – 138th St	Pelham

Before and After Photos of Track Conditions at the 125th Street Station on Track #A1 After Vak-Trak Vacuum Train Work Had Been Completed

BEFORE

AFTER

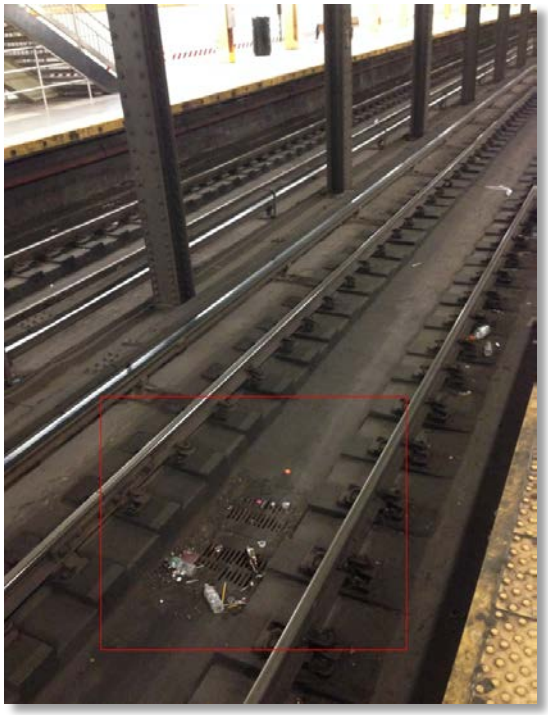
The **BEFORE** photo was taken on 2/26/14. The track was cleaned by the vacuum train on 2/27/14. The **AFTER** photo was taken on 3/11/14.

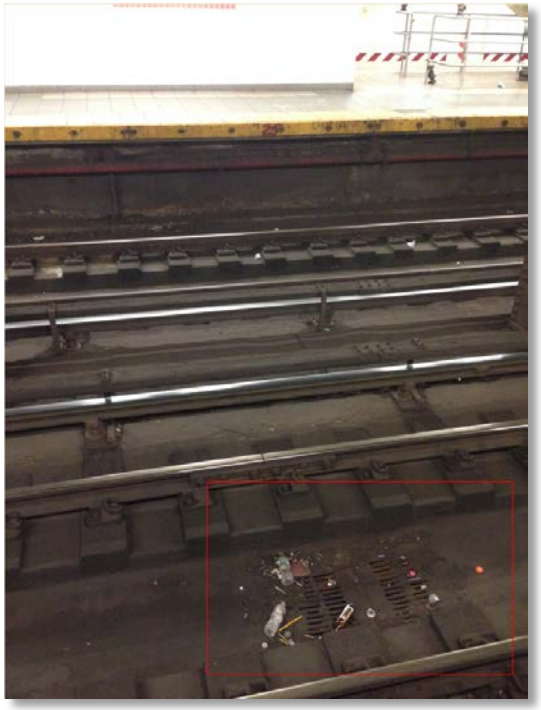
Before and After Photos of Track Conditions at the Bleecker Street Station on Track #MM4 After Vak-Trak Vacuum Work Had Been Completed

BEFORE **AFTER**

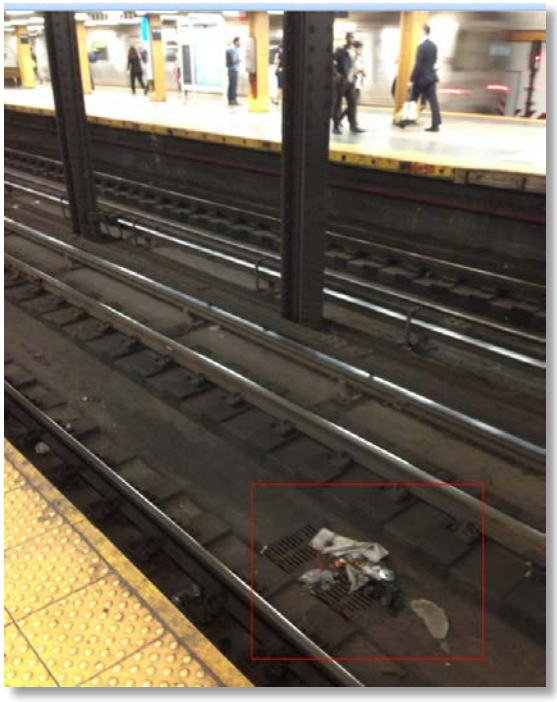
The **BEFORE** photo was taken on 3/5/14. The track was cleaned by the vacuum train on 3/6/14. The **AFTER** photo was taken on 3/12/14.

Inefficiencies of Vak-Trak Vacuum Train Seen During Overnight Walkthrough of Train Operations on June 5, 2014 at the 14TH Street/8th Ave Station (A, C Lines)





BEFORE **AFTER**



Frequency of Vak-Trak Vacuum Train and Track Cleaner Visits at the 276 Underground Subway Stations from July 1, 2013 through June 30, 2014

Chart 1*

Number of Track Cleaner Visits	Number of Underground Stations
0	1
1	16
2	20
3	46
4	39
5	28
6	28
7	27
8	24
9	9
10	10
11	3
12	4
13	9
14	2
15	0
16	3
17	2
18	3
19	0
20	1
21	1
	276

Chart 2**

Number of Visits by Vacuum Train	Number of Underground Stations
0	33
1	17
2	25
3	32
4	15
5	22
6	33
7	22
8	17
9	9
10	14
11	11
12	13
13	4
14	1
15	2
16	1
17	2
18	1
19	1
20	0
21	0
22	0
23	0
24	0
25	1
	276

Chart 3***

Number of Combined Visits	Number of Underground Stations
0	0
1	4
2	6
3	14
4	13
5	9
6	18
7	16
8	18
9	18
10	21
11	25
12	11
13	15
14	10
15	13
16	15
17	5
18	4
19	9
20	6
21	3
22	3

Number of Combined Visits	Number of Underground Stations
23	5
24	3
25	3
26	2
27	2
28	0
29	2
30	1
31	0
32	1
33	0
34	0
35	0
36	0
37	0
38	0
39	0
40	0
41	0
42	0
43	0
44	1
	256

*Chart 1 represents the frequency track cleaners visited the same station over a one-year period.
**Chart 2 represents the frequency vacuum train visited the same station over a one-year period.
***Chart 3 represents the frequency the track cleaners and vacuum train visited the same station over a one-year period. (Vacuum Train + Track Cleaners)

Example: In Chart 1, 46 stations were visited by Track Cleaners 3 times over a 1 year period.

List of Stations Found with Poor Painting Conditions

	Station Name (Line)
1	Hoyt/Schermerhorn Street (G Line)
2	Fulton Street (G Line)
3	Clinton/Washington Avenues (G Line)
4	Classon Avenue (G Line)
5	Bedford/Nostrand Avenue (G Line)
6	157th Street (1 Line)
7	145th Street (1 Line)
8	116th Street/Columbia University (1 Line)
9	Cathedral Parkway (1 Line)
10	103rd Street (1 Line)
11	96th Street (1 Line)
12	5th Ave/53rd Street (E,F,M,R Lines)
13	Lexington Ave/53rd Street (E,F,M,R Lines)
14	Court Square/23rd Street (E,F,M,R Lines)
15	Queens Plaza (E,F,M,R Lines)
16	Bergen Street (2,3,4 Lines)
17	Grand Army Plaza (2,3,4 Lines)
18	Eastern Parkway (2,3,4 Lines)
19	Hoyt/Schermerhorn Street (A,C Lines)
20	Lafayette Avenue (A,C Lines)
21	Clinton-Washington Avenues (A,C Lines)
22	Franklin Avenue (A,C Lines)
23	Nostrand Avenue (A,C Lines)
24	Kingston-Throop Avenues (A,C Lines)
25	Utica Avenue (A,C Lines)
26	Ralph Avenue (A,C Lines)
27	Rockaway Avenue (A,C Lines)
28	Broadway-Lafayette Street (F Line)
29	2nd Avenue (F Line)
30	Delancey Steet - Essex Street (F Line)
31	East Broadway (F Line)

Poor Paint Conditions at the Hoyt/Schermerhorn Station on the A, C, G Lines

A)

B)

A) Excessive peeling paint on ceiling over track. (Photo Taken on 1/8/14)
B) Excessive peeling paint over passenger platform. (Photo Taken on 1/8/14)

Poor Paint Conditions at the East Broadway Station on the F Line

A)

A) Excessive peeling paint on ceiling over track. (Photo taken on 3/14/14)

Poor Paint Conditions at the 53rd Street/Lexington Ave Station on E, F, M, R Lines

A)

B)

A) Excessive peeling paint on ceiling and walls near track. (Photo taken on 1/17/14)
B) Excessive peeling paint on ceiling over platform. (Photo taken on 1/17/14)

2 Broadway
New York, NY 10004
212 878-7000 Tel

Metropolitan Transportation Authority
State of New York

May 8, 2015

Ms. Marjorie Landa
Deputy Comptroller for Audit
The Office of the City Comptroller
1 Centre Street
New York, NY 10038

Re: Draft Audit Report #FM14-071A (New York City Transit Authority's Track Cleaning and Painting of the Subway Stations)

Dear Ms. Landa:

This is in reply to your letter requesting a response to the above-referenced draft audit report.

I have attached for your information the comments of Carmen Bianco, President, NYC Transit, which address this report.

Sincerely,

Donna Evans

Donna Evans
MTA Chief of Staff

Attachment

c: Thomas F. Prendergast, Chairman and Chief Executive Officer

Memorandum

New York City Transit

Date May 8, 2015

To Thomas F. Prendergast, Chairman and Chief Executive Officer

From Carmen Bianco, President, NYC Transit

Re **Audit Report on the New York City Transit Authority's Track Cleaning and Painting of the Subway Stations FM14-071A**

The following response recommendation includes a summary of the scope and complexity of our system along with specific responses to each of the Audit recommendations:

Thank you for the opportunity to review the draft audit findings. As you are aware, NYC Transit is a large and complex subway system, including 468 stations, approximately 660 miles of mainline track, and ridership that is approaching 6 million riders per weekday. The Department of Subways employs over 27,000 employees. We remove nearly 40 tons of refuse from our system on a daily basis. There is over 20 million square feet of painted surface in the underground stations alone. As we note below, we have recently increased resources dedicated to cleaning and maintaining our system, with positive results.

***Audit Recommendation 1**: Consider allocating a greater percentage of its operating revenue toward expenditures related to improving the maintenance and cleanliness of the station environment.*

Response: We agree with the intent of this recommendation and continue to regularly review opportunities to increase investment in the maintenance and cleanliness of stations. The MTA NYCT budget, like New York City's budget, is programmatically based – funds are added or subtracted based upon programmatic changes and current priorities. Budgeted resources for Station cleanliness have increased 25 percent – from $111 million in 2008 to $139 million in 2014. Similarly, budgeted resources for Station maintenance have increased 29 percent – from $77 million in 2008 to $99 million in 2014. The Audit references a 48 percent reduction in Track cleaning; however, the 2008 baseline used in the calculation included a temporary headcount increase for a pilot program which was not continued. Resources in this area have consistently increased, although not necessarily on a one-for-one basis with operating revenue. In fact, the data from our quarterly Passenger Environment Surveys shows that moderate and heavy litter in our 468 stations and trackbeds has significantly improved over the period reviewed.

***Audit Recommendation 2**: Consider the value of expending capital funds to replace its current vacuum fleet in order to increase the reliability, efficiency and cleaning performance in the subway stations, or in the alternative, to enhancing its track cleaning through another method.*
Response: We agree with this recommendation. A contract for three new vacuum trains (at a total cost of $23 million) was approved on March 30, 2015, with a Notice to Proceed given to the contractor, NEU International Railways. The expected roll-out dates are one in 2017, and the remaining two in 2018. These new trains should address all the current vacuum train deficiencies noted in the report. Specific improvements include: newer agitation technology that will provide better cleaning efficiency; vacuuming ducts will be built of corrosion-resistant steel; the entire track bed will be cleaned in one pass (as opposed to multiple passes); and newer technology and fewer moving parts should dramatically reduce breakdowns.

***Audit Recommendation 3**: Develop a systematic approach to ensuring that track beds are cleaned frequently and no track beds remain uncleaned for extended periods.*
Response: We agree with this recommendation and have recently developed a more systematic cleaning frequency for the track beds cleaned each year using the following criteria: determining historical cleaning data by station; calculating average number of bags of debris per station; and computing the severity of the debris per station. Based on this data, six cleaning frequency categories were established, and each station was assigned a category. This approach will be piloted starting this year, and the results will be evaluated after six months.

***Audit Recommendation 4**: Consider increasing staff levels for track cleaners so that cleaning tracks once every three weeks can be accomplished.*
Response: We agree with the intent of this recommendation and will continue to review our staffing levels and work to optimize and improve track cleanliness. Additionally, the roll-out of the new Vacuum Trains should have a significant impact on track cleanliness.

***Audit Recommendation 5**: Consider increasing staff levels for full-scale painters so that the stations that received a poor paint rating in the Station Condition Survey can be painted during Fastrack closures.*
Response: We agree with the intent of this recommendation and will continue to use Fastrack when feasible to maximize painting opportunities. It is important to note that not every Fastrack can be used for painting due to right-of-way work scheduled at the station (track, signal & power defects) that at times takes precedence or interferes with the painting effort. In addition, outdoor stations cannot be painted under Fastrack as such work can only be done in these areas during daylight hours. Furthermore, stations that serve as terminals for the Fastrack line segments, such as the Hoyt-Schermerhorn Station referenced in the Audit, cannot be painted during Fastrack because those stations remain in customer service and serve as transfer points to other train lines.

***Audit Recommendation 6**: Develop a methodology that would increase the frequency of full-scale platform painting performed during Fastrack closures.*
Response: We agree with this recommendation in concept and we will continue to work to cross check Fastrack and GO schedules with the Station Condition Survey to prioritize work and determine the most efficient way of scraping and painting stations. As stated above, there are other factors besides staffing which limit opportunities to paint stations closed during Fastrack. Weekend GO's, which have a longer duration, are generally more productive for station painting projects.

***Audit Recommendation 7**: Place those stations with a poor platform paint rating on a high priority for correction during Fastrack.*
Response: We agree with this recommendation in concept and we will continue to use Fastrack when feasible to maximize painting opportunities. Please see our responses to Audit Recommendations 5 and 6 for further detail.