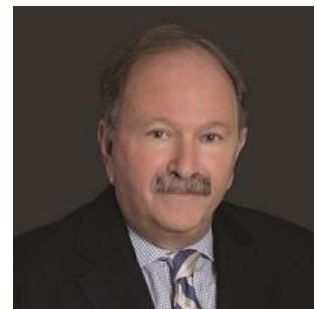


**Office of the  
NYCHA FEDERAL MONITOR  
Bart M. Schwartz  
Pursuant to Agreement dated January 31, 2019  
260 Madison Avenue, Third Floor  
New York, New York 10016  
347.809.5555  
[www.nychamonitor.com](http://www.nychamonitor.com)**

May 18, 2023

This report highlights NYCHA's elevator service, and some important progress as well as continuing challenges for its Elevator Services & Repair Department (ESRD). Since the start of the monitorship, ESRD leaders have been explicit about working closely with the Monitor team and HUD to improve their elevator performance. While there is still a lot to be done, the benefits of this collaborative effort are clearly seen as recent performance metrics show among other improvements, that elevator outages are declining. A major turning point is that ESRD is now starting to reverse a debilitating cycle NYCHA elevator service has been caught in for many years that saw increasing failures with its aging elevator stock often requiring that ESRD maintenance teams be pulled from their scheduled work to respond to service outages. This in turn created additional outages as its elevators became even more susceptible to breakdowns as maintenance work on them declined. An additional aggravating factor is that NYCHA's Capital Division has replaced very few elevators in the last few years (and only two full replacements since the monitorship started in 2019) despite the advanced age and poor condition of many of their elevators.<sup>1</sup> The pace of replacements is now significantly increasing starting this year with over 100 projects slated for completion. This trend should continue for the next few years. We also highlight some effective management strategies ESRD leadership established to improve department accountability and the drive to find solutions for addressing unwanted conditions that hamper elevator services. We have advocated that other departments at NYCHA replicate this successful management model to improve accountability and their overall performance in meeting HUD Agreement obligations.



*Bart M. Schwartz, Federal  
Monitor*

I also want to comment on the recently approved New York State budget and the funding it allocates for NYCHA. As NYCHA has recently been reporting, its rent arrears deficit is currently at almost \$500 million. This money is critical to NYCHA because rent payments from its residents is the main funding source for its staff. Under the State's ERAP Program (Emergency Rental Assistance Program) procedures, NYCHA and the State's other Public Housing Authorities were essentially ineligible for any of that funding. NYCHA leaders with the support and participation of many resident leaders (including the Citywide Council of Presidents or CCOP), the unions and

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<sup>1</sup> Over 60% of NYCHA's 3000+ elevators are still in use well beyond the manufacturer's recommended life span of 20 years. As with any piece of sophisticated equipment, the older and more used it becomes, the greater amount of maintenance is required to keep it in proper working order.

community groups, vigorously lobbied the Governor's office and other State elected officials for more funding. While not receiving the full amount of its rent arrears gap, NYCHA will receive a total of \$298 million under the new State budget. This funding to NYCHA is allocated as follows: 1) \$135 million in new capital funding, 2) \$128 million in ERAP funding to cover NYCHA's backlog of resident ERAP applications (which is NYCHA's portion of the total \$356 million in ESRP funding allocated), and 3) a potential \$35 million for rent arrears (unrelated to ERAP applications) once NYCHA submits a plan to the NYS Office of Temporary Disability Assistance.

## EXECUTIVE SUMMARY

Early in the monitorship, ESRD met with the Monitor elevator team and HUD to plan and implement strategies to increase and improve their preventive maintenance (PM) on their elevators. The decision was made to create distinct PM and repair teams, among other new procedures and additional data analytics to be performed, that would enable PM work to be more strategic and completed without interruptions. These measures were first tested in pilot programs at two developments, each of which had poorly performing elevators with numerous outages. ESRD teams performed the PM and repair work, and the Monitor team provided the analytics and assessed the progress and effectiveness of the measures used. After the first few months of the pilots, the frequency of elevator breakdowns began to steadily drop, ultimately to a level of less than half of what they had been prior to the pilots.<sup>2</sup>

This Monitor letter focuses on this and additional strategies ESRD and the Monitor team have engaged in over the last couple years to begin to break the cycle of persistently inadequate PM that results in greater equipment failures and outages. Included are the steps ESRD and the Monitor team are currently taking to extend the lessons learned from the pilots to additional developments. The intention is that the new structure developed from these pilots and other initiatives becomes the new 'normal' or model for elevator staff and other resource deployments at the developments generally. We further describe how ESRD leadership has also focused on establishing a stronger culture of accountability and responsibility within their department, which is also contributing to measurable performance improvements. Notably, among the various elevator performance metric trends described in this report, is the fact that from 2022 to 2023, NYCHA decreased the number of elevator outages by 12%.

Lastly, we outline some of the common property management behaviors outside of ESRD's control that also impact elevator service at developments. Examples include caretaker staff pushing excess water into elevator shafts while mopping development hallway floors causing elevator shutdowns and potentially damaging equipment and property, and properly cleaning dirt and debris from hallways and elevator cars to avoid obstructions that impact the operation of elevator doors. NYCHA's declining building infrastructures also creates conditions that impact elevator services, especially bursting aged piping and decaying roofs that cause leaks and flooding. Lastly, conduct such as vandalism and other intentional misconduct can damage

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<sup>2</sup> The pilot at Mott Haven Houses began in February 2021 and lasted for 6 months. The pilot at Patterson Houses began in March 2022 and is currently on-going. Each of these developments had the most outages of any elevators at the start. Within 6 months in each pilot, outage counts had been decreased by an average 50-60%. Since the conclusion of the pilots, outage counts have maintained their lower levels.

equipment and interrupt elevator services. There should be better communication and collaboration between ESRD and property management to limit these events and more effectively respond to them when they do occur.

## **ELEVATOR PERFORMANCE, IMPROVEMENTS, AND TREND ANALYSIS**

The HUD Agreement requires NYCHA to meet specific performance metrics regarding the number and durations of elevator outages. The Monitor regularly tracks NYCHA's elevator performance to understand and evaluate trends, and then works with ESRD to develop strategies to improve operational procedures. These strategies most often focus on diagnosing elevator equipment failures, making effective repairs, and performing effective PM on equipment. The current elevator PM Program described below is a good example of this collaboration.

Just prior to the pandemic, ESRD was starting to decrease the number of outages. Once the COVID lockdown began, NYCHA instituted various measures aimed at limiting the spread of the virus, some of which greatly affected elevator service. From April 2020 until mid-September 2020, NYCHA stopped performing *all* elevator PM work that would take an elevator out of service and result in a no-service condition for that building. Since approximately half of their buildings have only a single elevator, this affected a significant portion of NYCHA elevators. The service data for these elevators from mid-2020 well into 2021, revealed a significant spike in outages and duration times. This alarming trend, along with the fact that NYCHA was not yet meeting certain of the elevator performance obligations under the HUD Agreement, was the catalyst for a meeting with ESRD, the Monitor team and HUD to devise a new strategy to significantly improve ESRD's PM work, which was seen as the essential component for better elevator service. Once the initial plan was made, a pilot was initiated at the Mott Haven Houses in early 2021. The results of this pilot and its subsequent expansion are described elsewhere in this report.

In another positive development, ESRD's Senior Director instituted a management strategy in the fall of 2020, consisting of two regularly held meetings for all mid to upper level ESRD managers, run by himself and his deputies. These meetings have been highly effective and have continued to the present. The first is a weekly in-person meeting which provides a forum for ESRD staff to set goals, address elevator performance issues using data analytics, discuss those issues and proceed to implement solutions. The meeting is run in a CompStat-style format - meaning that topics are identified and communicated to the pertinent ESRD teams who then prepare and conduct their presentations. ESRD leaders use relevant data analytics (much of which is supplied by the Monitor team which also attends this meeting) and other information to identify issues needing attention. Presenting teams are expected to know the performance data and other important topic information such as root causes for outages or challenges to maintaining service and be able to thoroughly answer questions posed to them. ESRD leaders are also expected to know and understand the relevant data analytics for each meeting and pose thoughtful questions to surface challenges and potential solutions. While a high burden is placed on presenting teams to know their material and assume accountability for the actions and decisions made in the field, the leaders also make it clear that leadership is responsible for providing support to the ESRD teams so that they have what they need to succeed.

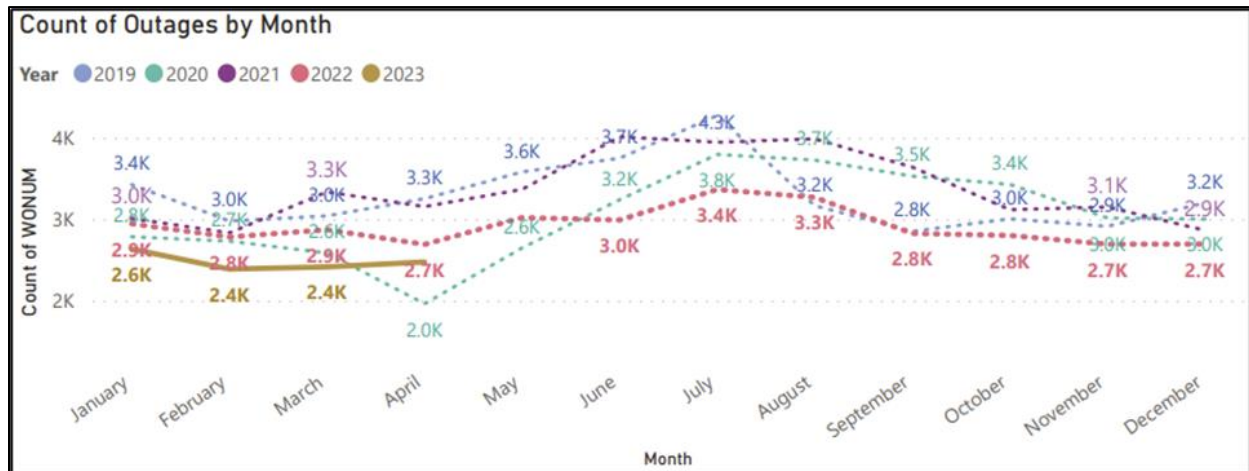
The second of these meetings is virtual and takes place on a bi-weekly basis. The sole focus is on outages, and each of the four ESRD sector leads is expected to report and answer questions posed by ESRD leadership regarding their worst performing elevators over the last two prior weeks.<sup>3</sup> This meeting is data driven, and as part of the presentations, ESRD managers who interact directly with repair teams responding to these elevator outages are also available to answer questions. The Monitor team (and often HUD) are regular attendees at these meetings. While the tone of these meetings is intentionally set to maintain a certain rigor and high level of accountability, they are largely dialogues between teams and ESRD leaders focused on identifying and solving challenges, with the ultimate aim of improving elevator service and communication with residents. The meetings also provide an opportunity for shared learning by and between senior management and field staff, communicating performance expectations, demonstrating and acknowledging good performance and overall promoting a culture of accountability and pride in the work being done.

### ***Latest Elevator Performance Trends***

#### **Downward trend for number of outages**

This section of the report focuses on elevator outage statistics and the most recent trend analysis regarding ongoing performance, number of outages, outage durations, and repair team response times, identifies the worst performing elevators and discusses related key metrics. As described below, starting in 2022, NYCHA has experienced a steady decrease in elevator outages and their duration times. This observation is based on the data analysis of outages across the entire portfolio of NYCHA elevators. Based on the current data, we anticipate this downward trend to continue in 2023. This observation is based on the data analysis of outages across the entire portfolio of NYCHA elevators.

**Figure 1 – Elevator Outage Summary by Month**



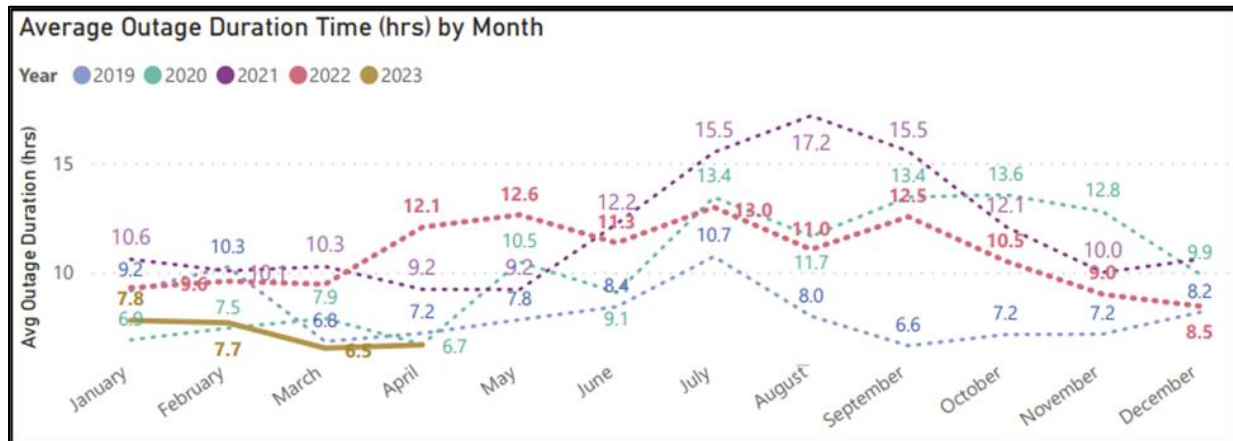
<sup>3</sup> ESRD is structurally divided into four geographic sectors – Manhattan, the Bronx, Brooklyn and Queens/Staten Island. Each sector is led by two ESRD Administrators, who report up the ESRD Director and his four Deputies.

**Comparison to Previous Year:**

- From January 1, 2023, to April 30, 2023, there were a total of 9,904 outages across the entire portfolio of NYCHA elevators. This was about 12.2% lower than the 11,282 outages in the same timeframe in 2022.
- For the same timeframe, the count of developments affected by elevator outages remained the same, at 226 developments this year.
- In the current year of 2023, Johnson (258), Wagner (235) and Mitchel (233) are currently the worst performing developments by total count of outages.

**Figure 2 – Elevator Outage Duration Summary by Month**

**Downward trend for duration of outages**

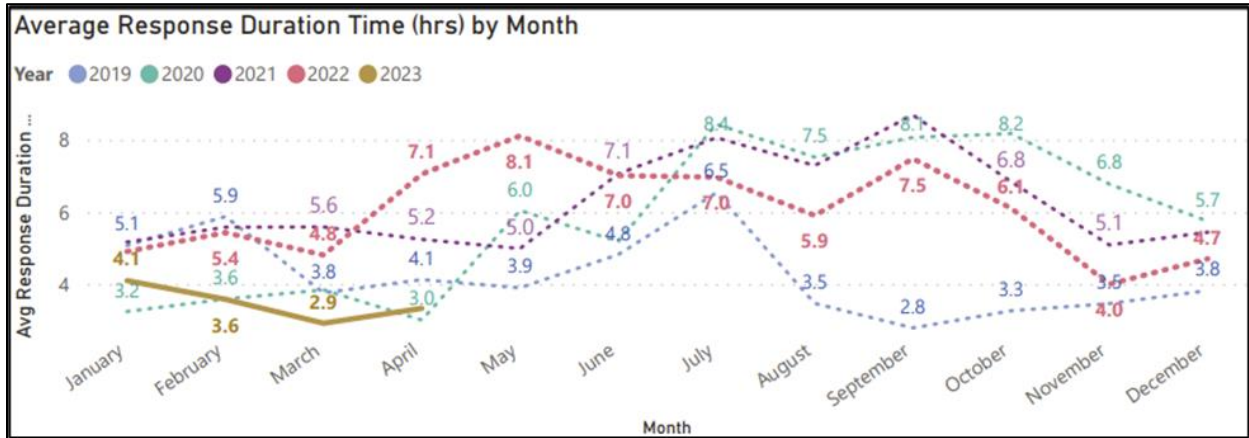


**Comparison to Previous Year:**

- From January 1, 2023, to April 30, 2023, the average outage duration and average response time were both lower than January 1, 2022 to April 30<sup>th</sup> 2022. (Duration time lower by 28% and response time lower by 37%).
- From January 1, 2023, to April 30, 2023, the average outage duration was 7.19 hours, an improvement from 10.07 hours for the same period last year.

**Figure 3 – Elevator Response Duration Summary by Month**

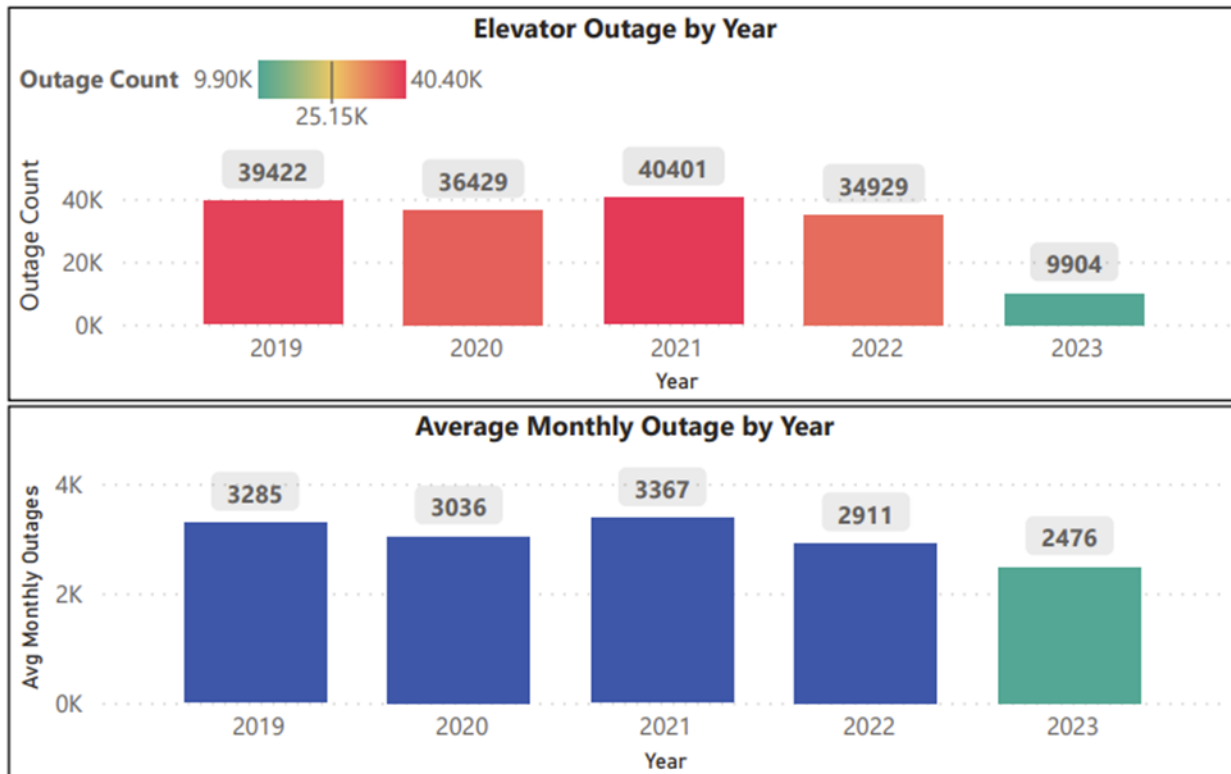
**Downward trend for response time to outages**



**Comparison to the Previous Year:**

- From January 1, 2023, to April 30, 2023, the average response time (length of time from when the outage is first reported to when a repair team arrives to assess the outage) is 3.49 hours, an improvement from 5.52 hours for the same timeframe last year.

**Figure 4 – Elevator Performance Trend Analysis**



From January 1, 2022, to December 31, 2022, there were 34,929 outages at an average monthly rate of 2,911 across the entire portfolio of NYCHA elevators, approximately 14% lower than the previous year. Based on the current data, we anticipate this downward trend to continue in 2023.

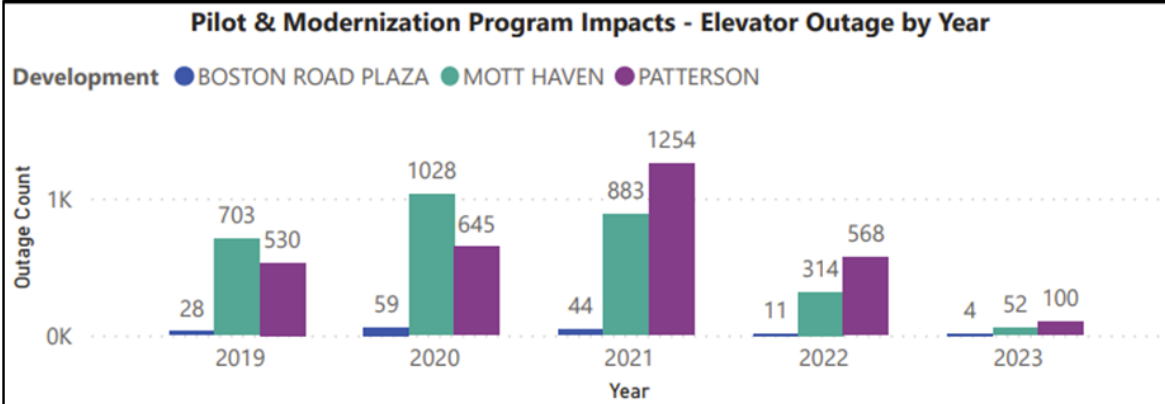
### ESRD’s PREVENTIVE MAINTENANCE PROGRAM INITIATIVE

Though ESRD has established, industry-standard maintenance procedures, including schedules, for all its elevators, PM teams are regularly pulled from doing this work to respond to outages. The PM pilots were initiated in early 2021 to help break this cycle. To address this problem, the pilot plans centred around redeploying staff so that additional designated PM teams could be established, who would (except in the direst circumstances) only focus on completing PM work. Additional staff were also redeployed to ensure that repair teams at the pilot sites were properly resourced to respond to the usual level of outages. Also, both teams would be assigned only to the one development during the span of the pilot, which was nine months.

The pilot sites selected -- Mott Haven and Patterson Houses -- had some of the worst histories for both the number and durations of outages. In addition to dedicated PM and repair teams, the pilot plans also focused on improving the exchange of information between teams so that they both had a better understanding of each elevator’s PM and outage histories. Because teams were assigned to a specific pilot development, they were better able to learn the specific characteristics and vulnerabilities of each elevator resulting in PM work that could be targeted to that elevator’s needs and be completed more easily and quickly. Having locally assigned ESRD teams also enabled both resident leaders and existing development staff to form better relationships with ESRD.

The results of each pilot were dramatic. The increased staffing and division of labor between PM and outage teams enabled ESRD to perform more thorough and uninterrupted PM. Over time, based on the data collected, it became clear that additional time spent performing PM directly correlates with the reduction of service outages. The final reports issued by the Monitor indicated a continuous performance improvement at both locations. Based on an end of 2022 assessment, a nearly 60% decrease in the number of outages was observed at both Mott Haven and Patterson Houses compared to pre-pilot years. (See attached links to each report):

Mott Haven: [PDF Mott Haven Pilot Report.pdf](#) Patterson: [PDF Patterson Pilot Report.pdf](#)



The chart above shows the dramatic improvement in annual outage totals for three developments from the start of the monitorship in 2019. As discussed, the pilots at Mott Haven and Patterson took place in 2021

into 2022, and the chart shows the large drop in outages in 2022 into 2023. The chart also has outage data for Boston Road Houses where the elevators were replaced in 2021 leading to a significant drop in outages in 2022.

		<b>MOTT HAVEN</b>				
		Timeframe of the metrics is based on the start and finish date of the Mott Haven Pilot program				
Performance Metric	2019 <small>(Feb 19, 2019 – Aug 31, 2019)</small>	2020 <small>(Feb 19, 2020 – Aug 31, 2020)</small>	2021 <small>(Feb 19, 2021 – Aug 31, 2021)</small>	2022 <small>(Feb 19, 2022 – Aug 31, 2022)</small>		
Count of Unplanned Outages	<b>235</b>	<b>604</b>	<b>503</b>	<b>202</b>	<b>67%</b> Reduction in outages from pre-pilot levels	
Average Outage (CM) Duration (Hours)	<b>9.74</b>	<b>11.07</b>	<b>8.21</b>	<b>11.99</b>		
Total PM Labor Hours	<b>630.06</b>	<b>289.54</b>	<b>2,941.22</b>	<b>1,180.95</b>		
Total CM Labor Hours	<b>1,027.67</b>	<b>2,641.86</b>	<b>2,163.39</b>	<b>700.10</b>		

		<b>PATTERSON</b>				
		Timeframe of the metrics is based on the start date of the Patterson Pilot program and the latest data point we had available at the time. The program is ongoing				
Performance Metric	2019 <small>(Mar 1, 2019 – Nov 30, 2019)</small>	2020 <small>(Mar 1, 2020 – Nov 30, 2020)</small>	2021 <small>(Mar 1, 2021 – Nov 30, 2021)</small>	2022 <small>(Mar 1, 2022 – Nov 30, 2022)</small>		
Count of Unplanned Outages	<b>365</b>	<b>459</b>	<b>863</b>	<b>427</b>	<b>51%</b> Reduction in outages from pre-pilot levels	
Average Outage (CM) Duration (Hours)	<b>6.18</b>	<b>9.92</b>	<b>9.42</b>	<b>6.94</b>		
Total PM Labor Hours	<b>1,693.11</b>	<b>1,623.48</b>	<b>2,054.58</b>	<b>3,143.36</b>		
Total CM Labor Hours	<b>1,503.95</b>	<b>1,947.77</b>	<b>3,349.63</b>	<b>1,617.68</b>		

The charts above show the dramatic reduction of both the number and duration of outages that occurred once the first round of PM for all Mott Haven and Patterson Houses elevators were completed.

### **Current PM Programs**

At the beginning of 2023, ESRD started the process of scaling up the lessons learned from the completed pilots to four new sites under a next plan phase called “PM Programs.” On February 14, 2023, PM Programs were started at Bushwick, Lincoln, Tilden and Lafayette Houses. The additional plan measures (outlined below) for the four new sites will also be added to the work plans that continue at Mott Haven and Patterson, where the count of outages continues to remain at the lower levels noted during the initial pilots. No end date will be assigned to the current PM Programs since this approach is considered the new standard operating procedure. The long-term goal is to apply the same program across NYCHA's elevator portfolio as staffing resources and resource efficiency increase. A revised/amended SOP will include lessons learned over time, including effective long-term strategies for aging assets.

Some of the key areas of focus are as follows:

Ensuring that PM is being properly performed – Effective PM involves doing actual work, not simply visual inspections, to improve the health and condition of the assets. During the PM Programs, there will be particular emphasis on performing thorough, high-quality PM on each elevator at the four developments. Each elevator shaft will be “deep cleaned” during PM, including cleaning, lubricating, adjusting and replacing components as needed. ESRD’s standard procedures will be updated to reflect all modifications made to improve the PM process to ensure consistency and completeness. The PM performed during the pilot is very comprehensive and is expected to take longer than the previous PM performed monthly. ESRD leadership and the Monitor will monitor the PM activity, outages, and labor effectiveness during the pilot.

Decreasing outage occurrences – Based on the data from the pilots, effective PM is expected to significantly reduce the number of elevator outages as asset health and condition improves. The



Monitor, working with ESRD, will track the number of outages for all elevators at the four developments to validate that the PM activities are effective, and that elevator performance is improving.

Assessing the impact of dedicated resources – As part of the PM Programs, and consistent with the approach at Mott Haven and Patterson, certain crews will be dedicated to performing PM and other crews will respond to outages. This allows crews to focus on the PM work that ensures high quality PM. The Monitor will perform advanced analytics by monitoring the PM to Corrective Maintenance (CM) labor hour ratio to measure the benefits of this approach. Additionally, ESRD and the Monitor will receive more feedback from PM and repair field teams at the four PM Program sites to hear firsthand the challenges they are facing, and any new measures being used to address them.

Improving outage response times and durations – A renewed focus of the PM Programs is to understand the drivers impacting outage response times and therefore overall durations. By capturing more detailed insights from the field crews, ESRD and the Monitor team will try to understand the factors impacting response times and track the improvements that result from dedicating PM and outage response crews. Also, ESRD and the Monitor have included NYCHA's elevator dispatch staff in field team meetings to address ways to improve the information dispatchers provide to the teams when outages occur. More precise information will help to decrease team response times and help teams to better understand the likely causes of outages before they arrive at the sites.

Understanding outage root causes and improving work order data – The PM pilots at Mott Haven and Patterson indicated that there is room for improvement in elevator data that is captured through the handheld, particularly outage repair codes and work log entries that explain PM activity and root causes of outages.<sup>4</sup> During kick-off, field crews assigned to the four PM Program sites attended a meeting to discuss Program parameters and procedures with ESRD leadership and the Monitor Team. Specific improvements to PM work order data and outage data, including repair codes and work log entries, were identified. The Monitor is working closely with ESRD leadership to track the incoming data from the PM Program sites on a bi-weekly basis to assess quality improvements and make further recommendations. The quality of incoming data is already improving, and further refinements will be identified as the PM Programs progress. The Monitor will be providing monthly reports on the PM Programs to ESRD.

To achieve the above objectives, the Monitor is also closely coordinating with ESRD leadership and NYCHA's Environmental Health and Safety Unit (EHS). Monitor field teams will conduct regular site visits to the PM Program sites, observe on-going activities, speak with elevator mechanics and helpers, and document findings through regular progress reporting. The Monitor will also track the worst-performing elevators at each PM Program site and report on performance improvements.

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<sup>4</sup> Handheld devices have been used by many departments at NYCHA since early 2020 and enable staff in the field to directly enter information into NYCHA's main data base Maximo and also access existing information in Maximo to better inform the work they are doing.

# Key Performance Metrics

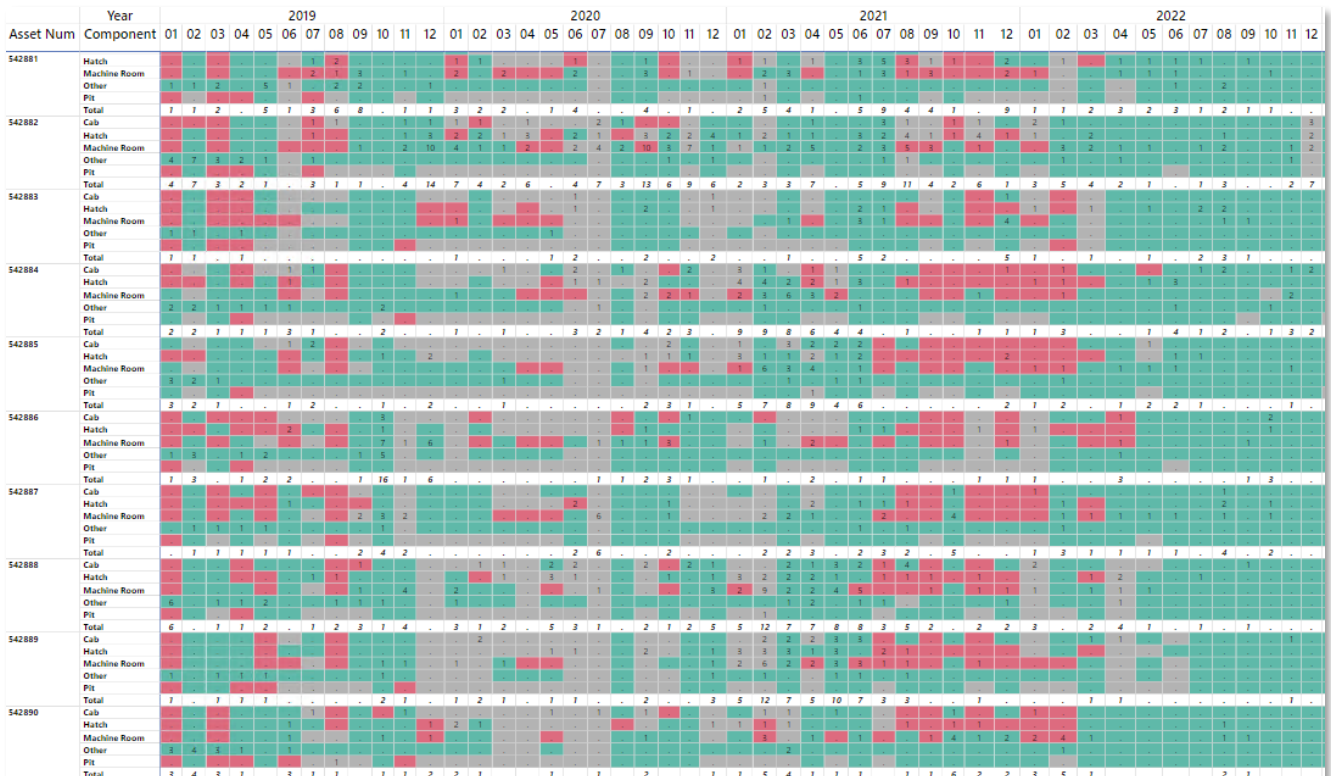
The high-level metrics set forth in the chart below will be tracked for each elevator at the PM Programs' sites. These metrics will help to assess the overall performance of elevators and the effectiveness of PM activities.

Performance Metrics

PM Labor Hours	Count of Unplanned Outages
CM Labor Hours	Top 5 Worst Performing Elevators
Labor Hours/Elevator/ Month	% of Outage Root Causes explained by Repair Codes and Work Log Entries

# Analyzing the Quality of PM

The graphic below visually depicts PM activities for multiple elevators. The Y-Axis on the top shows the months and years, while the X-Axis shows elevator IDs and components such as Cab, Hatch, Machine Room and Pit, where the PM is to be performed each month. A green colored box for a given elevator ID and a given month indicates actual PM work performed for that month, while a red box indicates a visual inspection only. A gray box indicates no work was performed at all for that elevator. This color-coded system is a quick and easy way to assess at a high level the quality of PM performed and has been a useful management tool.



Red:	Inspection
Green:	Actual Work
Grey:	No Work

## DEVELOPMENT CONDITIONS THAT AFFECT ELEVATOR SERVICES

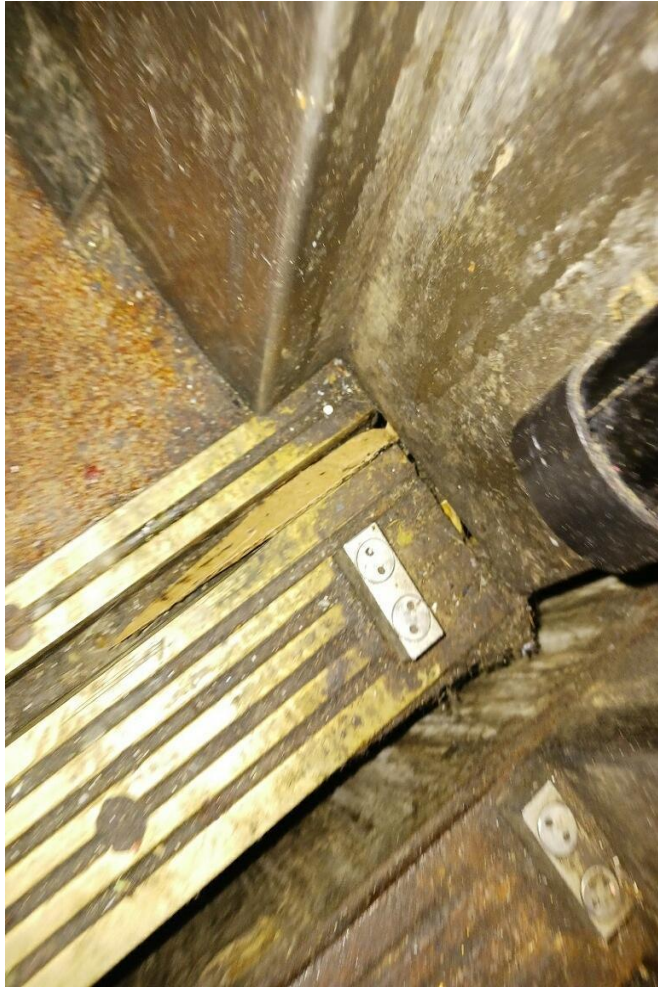
In addition to reversing the cycle described above of mounting outages continuing to drain PM resources that then leads to even more outages, NYCHA must address the various problem conditions in development buildings outside of ESRD's control that also create elevator equipment failures and ultimately outages. Some of these conditions are preventable, and development staff should be better trained and managed to limit their occurrences. Others are the result of breakdowns in aging infrastructures that affect elevator operations. Given the advanced age and generally poor state of NYCHA buildings, these breakdowns happen on a regular basis and must be addressed and corrected as soon as possible. Also, there are conditions created by a very small number of residents and by trespassers in NYCHA buildings who intentionally damage property, including elevators, that create service outages. There needs to be a stronger effort by NYCHA, with the support of other city agencies where needed, to take appropriate action against these individuals to deter such behavior. The photographs included below are taken from email exchanges made in the last eight months between ESRD and property management staff related to the conditions depicted in the photographs that adversely affect elevator service.

### I. Preventable Conditions That Disrupt Elevator Services

**Debris that obstructs elevator door operations.** One of development caretakers' main daily duties is to clean elevators to keep them free of all trash and other debris that can often obstruct elevator doors, fill elevator pits and take cars out of service. Monitor field examiners have observed some situations where elevators have remained littered with debris/trash for several hours before being cleaned. Residents should also be better educated about the likely consequences of leaving trash in and around elevators. Outage data also indicates there are a significant number of elevators shutdowns caused by door obstructions from trash. Based on NYCHA's work order data, elevator outages caused by trash and other debris that obstructed elevator doors accounted for approximately 8% of NYCHA's overall outage count over the last six months. The data also indicates that the average duration for each of these outages lasted over 5 hours, and that in total, ESRD staff expended approximately 3,800 labor hours responding and correcting these conditions during the last six months. As stated, the time it took to address these obstructions took ESRD staff away from other work such as performing PM or fixing other elevator outages that are critical for elevator service delivery at NYCHA. Starting in late 2021, ESRD managers began to attend various resident meetings, particularly at those developments experiencing outages where resident behavior played a part, to inform them of measures they could take to avoid outages.<sup>5</sup>

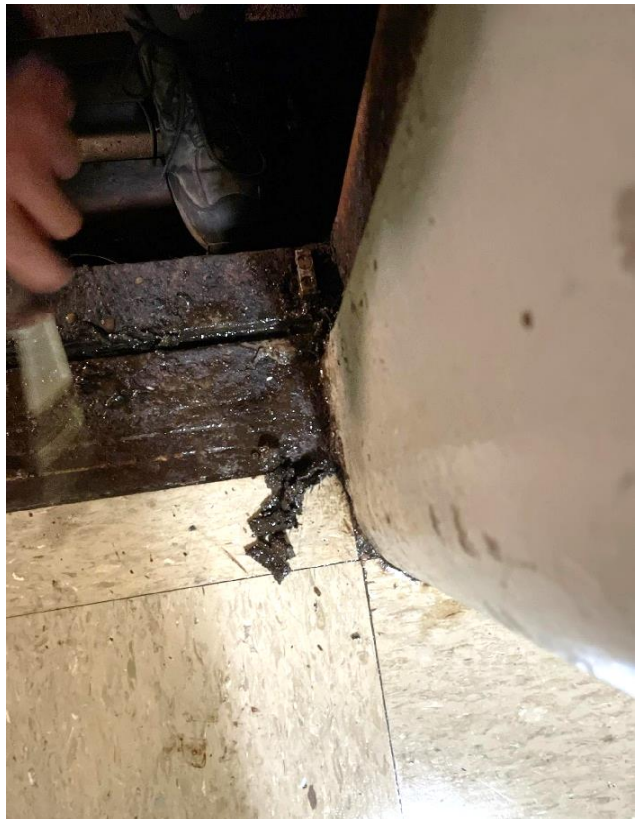
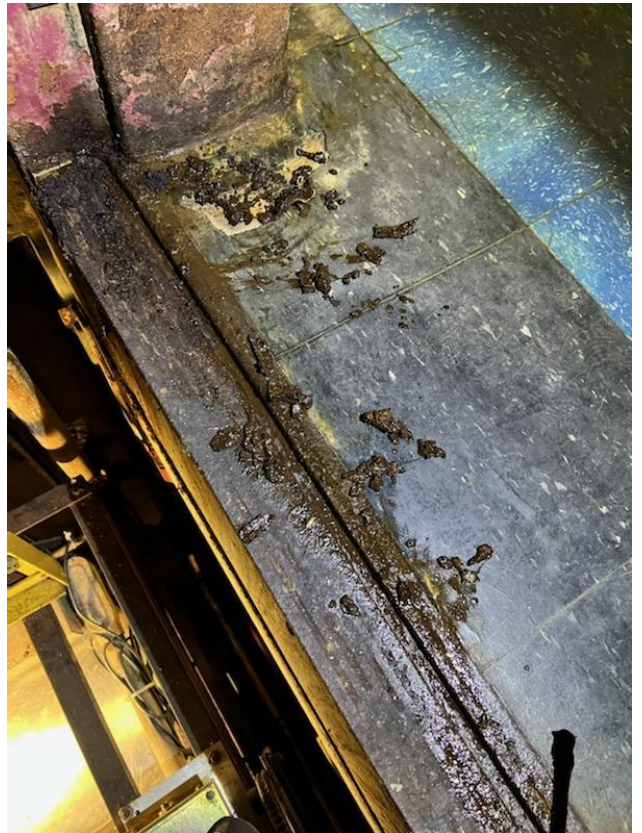
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<sup>5</sup> Two other common preventable practices that often disrupt elevator service are caretakers using excessive amounts of cleaning fluids when cleaning elevator button panels that can cause electrical shorts, and residents and staff (also delivery people) who hold elevator car doors open on a floor for several minutes which will cause a service outage.



*These photographs depict common examples of debris, dirt and various residue build-up from a lack of proper cleaning around elevator door tracks that can ultimately obstruct elevator door operations and takes the elevators out of service.*

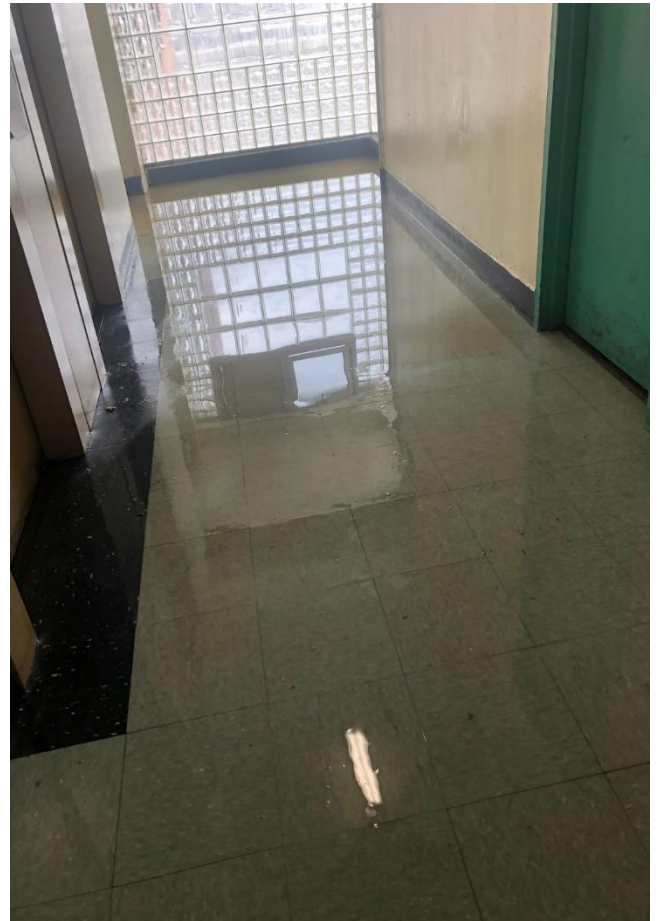
**Flooding conditions that shut down elevators.** Another, often preventable cause of outages is flooding in development buildings. For example, there is a common tendency as part of addressing flooding in hallways to push the excess water (which often contains detergents, chemicals or other solvents that damage elevator equipment) into elevator shafts for disposal. The result is that elevators soon go out of service, the water must be removed from the affected equipment and shaft walls, and from the pit below. It may take ESRD staff several hours to complete these tasks, during which time the elevator is out of service. For example, a few months ago a vendor waxing hallway floors at a Bronx development pushed the waxy residue into the elevator shaft, which then coated and dried onto much of the elevator equipment below (photos are below). When the elevator shut down, ESRD had to spend many hours cleaning up the mess, which included having to scrape dried wax from elevator door tracks and other components. NYCHA data indicates that service disruptions from flooding conditions cause elevator outages with the longest average duration times - almost 15 hours – for those outages that occurred in the last six months. Additionally, ESRD staff expended over 1,200 labor hours of time responding and addressing these outages. All of these circumstances can be prevented with more training, better staff management, and educating residents on the proper way to dispose of flood water.





*The photographs above were taken by ESRD staff who responded and then addressed the situation. A vendor waxing a development hallway disposed of the waxy residue by pushing it onto the elevator door track, into the shaft and ultimately into the elevator pit below. This occurred last summer at a Bronx development. This quickly shut down the elevator. Once the residue was inside the elevator tracks, it quickly hardened causing elevator doors to malfunction. It took many hours for ESRD staff to clean up the mess, which included having to scrap the dried wax off equipment in the shaft and cleaning out the water/wax mixture that collected below in the pit. ESRD advised property management to properly supervise vendors, caretakers, and residents and inform them that elevator tracks and elevator pits are not to be used for the disposal of any debris and/or liquid substances.*





*The three photographs above depict hallway flooding that resulted from overflows of sinks or broken pipes from inside apartments. The first photograph in this series is the top of an elevator car that was soaked by water. Once water enters the shaft and onto elevator equipment, the elevators are generally out of service for several hours while the water is removed, and equipment dried.*

**Vandalism.** Vandalism of elevator equipment is another cause of breakdowns that over the last six months took affected elevators out of service for an average 5 hours. ESRD staff over this same period spent approximately 180 hours addressing the damage and fixing the elevators. Elevator doors have been severely damaged, often from repeated kicking; at one development on the Lower Eastside, the elevator door became completely detached from the car and was out of service for more than a week. Other types of vandalism include damaging elevator buttons, car lighting and cameras, and severely defacing car walls and floors. Fires are sometimes lit inside elevator cars and there is even an example of an elevator car where someone poured glue on the car buttons which then dried and disabled the elevator. The last two photographs in this series are from an elevator mechanical room (EMR) where an unauthorized person intentionally shut down elevator services by removing electrical fuses from the elevator control panel.



*These photographs above depict a recently vandalized elevator door that was damaged to such an extent that the door became partially detached from the elevator car. When discovered, the elevator was closed off and out of service for several days until the door could be properly reattached.*

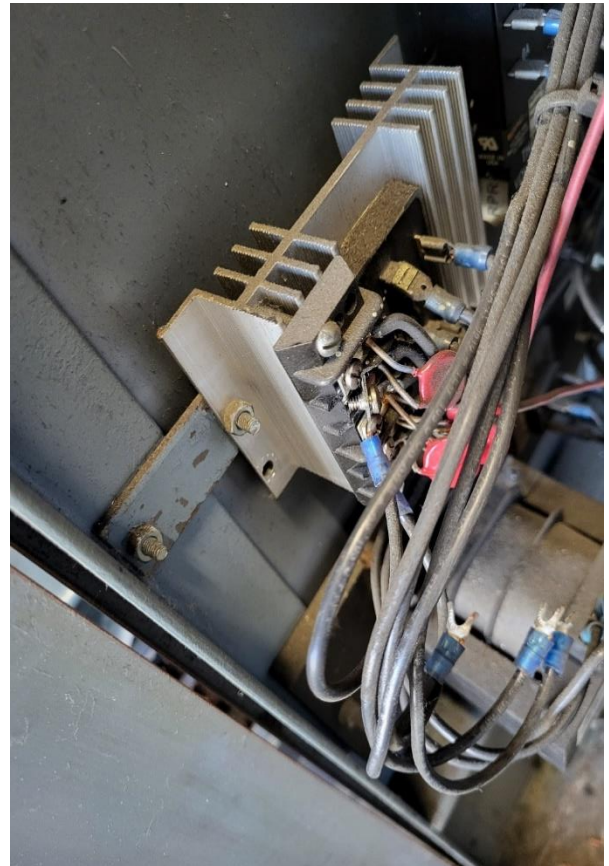
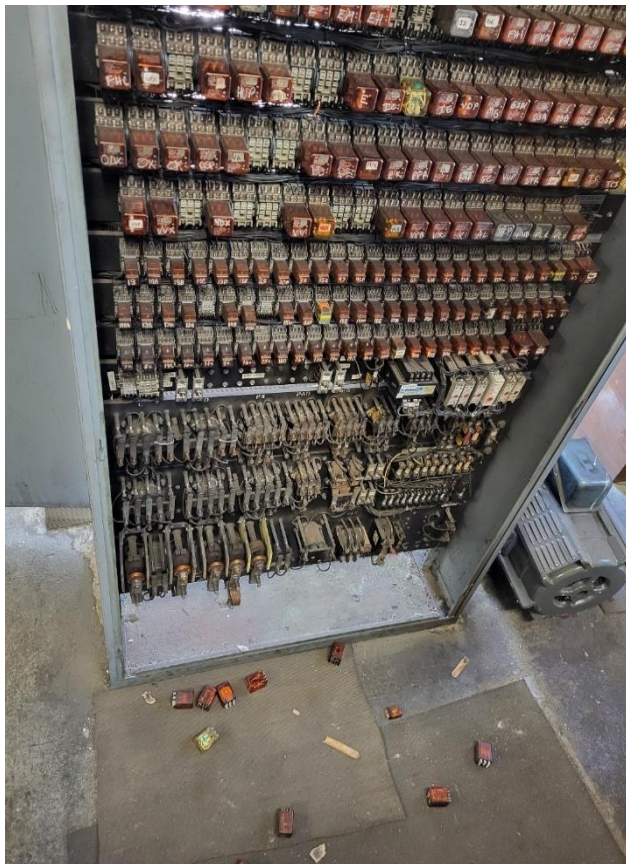




The photograph above shows the results of a fire that was intentionally set inside the elevator car that destroyed the light fixture and scarred the roof of the car. The elevator had to be taken out of service to restore the car.



The photograph above shows an elevator button panel that someone had poured glue over. The elevator had to be shut down while ESRD staff removed the glue.



*The two photographs above were taken in an EMR after ESRD responded to an elevator outage in the building. As shown, someone had intentionally removed fuses in the elevator control panel and also disconnected wires. These items had to be restored to their proper conditions to put the elevator back in service.*

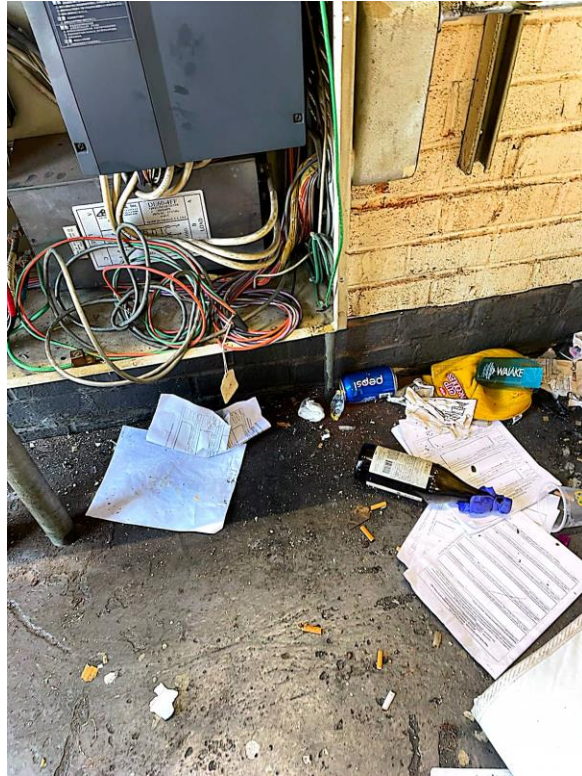
**Illegal use of the ‘Firemen’s key.** Another problem that intentionally disrupts elevator service is the illegal use of what is commonly known as a firemen’s key. These keys are specifically created for the FDNY by elevator manufacturers to enable them to take control of elevator operations during an emergency, such as a fire. Every elevator car has a keyhole in the button panel for this purpose. When used, the operator can direct the elevator car to any floor they choose. The key can also be used to take the car out of service altogether. Over the years, these keys have become more available, and Monitor field examiners were even able to purchase them on-line. Unauthorized people will often use them in NYCHA buildings to enable them to go directly to their desired floor, bypassing other floors where residents are waiting for elevator service. The bigger problem occurs when key users then exit the elevator without using the key to return the elevator to the regular service position, which then holds the elevator on that floor. To return the elevator to regular use, ESRD staff must be called to the elevator to use their key. This can take hours, especially during nighttime shifts, and is a real inconvenience to residents.

**Trespassing in the EMRs.** Unauthorized people occupying EMRs has been an increasing problem for NYCHA. EMRs are structures located on the roofs of development buildings that contain the motors and other equipment used to operate elevators. This equipment is very sensitive to dust and water and is easily damaged. When unauthorized people are discovered in the EMR, elevator service is generally disrupted until the NYPD removes them. Because trespassers often occupy EMRs at night, ESRD staff entering them to perform daytime PM generally discover the aftermath of these intrusions, which have included mattresses, clothing, furniture (even TVs), hypodermic needles, other narcotics paraphernalia, feces, urine and trash. Also, the locks to the EMR doors are often damaged or destroyed. There have even been situations when an unauthorized occupant intentionally damaged equipment in the EMR (see above). These conditions are a significant disruption for ESRD and elevator service in general. Addressing this problem will require a concerted effort by NYCHA, the NYPD, local district attorneys’ offices and other city agencies.

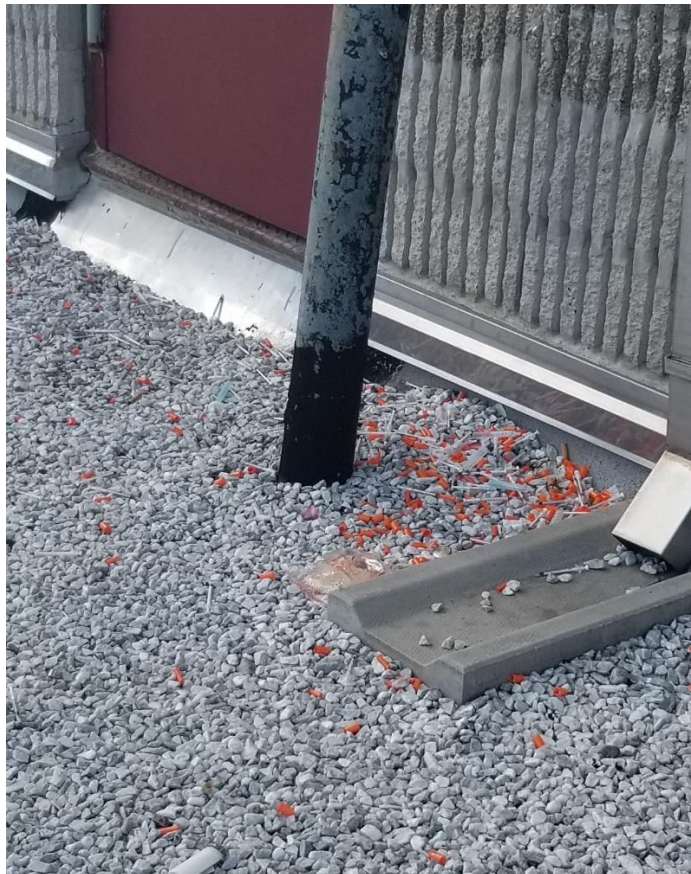


*The photograph above shows a EMR exterior door that was damaged in the process of someone forcibly opening the door to gain entry.*





*The series of photographs above depict conditions in a EMR room at a Bronx development where unauthorized people had apparently been living. In addition to clothing, trash and other debris, there was urine and feces. Once this was discovered, the EMR had to be cleaned by property management before ESRD staff could enter and perform their work.*



*Photograph above showing numerous hypodermic needles on a development rooftop outside an EMR.*



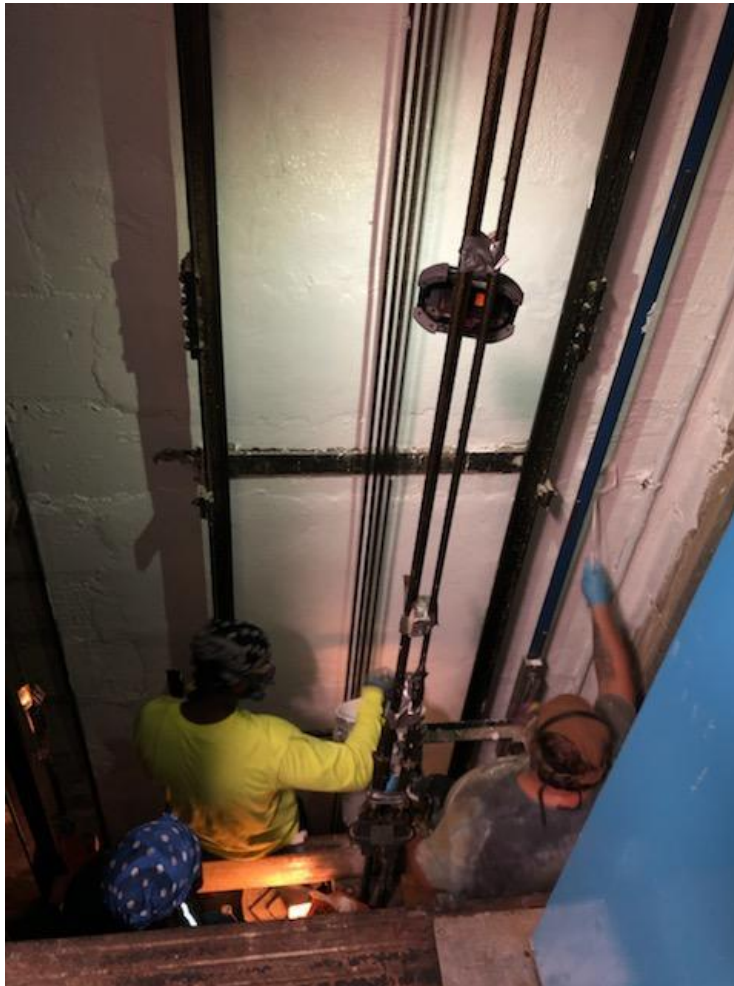
*Furniture and other objects in an EMR indicating that the person had been sleeping inside.*

The situations described in the examples above are all generally avoidable. Development staff should be better trained and managed so they stop creating those conditions that adversely affect elevators. With respect to intentional actions, NYCHA must do more to identify and then address those bad actors who intentionally damage NYCHA property. Cameras in and around NYCHA buildings should be properly maintained and the contents reviewed. Once identified, perpetrators must be appropriately dealt with to discourage future similar bad conduct. The Monitor team often sees that property management staff do not take any actions in response to intentionally committed destructive or disruptive acts at developments. Often, development staff don't even use their CCTV cameras or any other existing means to identify those responsible. From the perspective of ESRD and NYCHA elevator service generally, the substantial time it takes them to

respond and correct these conditions takes ESRD field teams away from performing proper PM on other elevators. It all contributes to the downward cycle of elevator performance.

## II. Building Infrastructure Problems

NYCHA's ailing and degrading building infrastructure also creates conditions that affect elevator services. Flooding from bursting pipes (both supply and waste), leaky roofs and major overflowing from apartment toilets, tubs and sinks, is a common cause of outages. Property management's role in elevator service (working with NYCHA skilled trades staff) is twofold; it needs to keep on top of and timely maintain, repair and replace their building piping systems before they fail and cause flooding (admittedly an enormous job given that so many need to be fully replaced and NYCHA does not have all the necessary funding) and when breakdowns do happen, property management must make sure they are immediately addressed and elevator service can be quickly restored. NYCHA data shows that some of the longest elevator outages (in some cases weeks and even months) result from infrastructure issues. For example, in the summer of 2019, many of the elevators at a Bronx development were out of service by order of the City's Department of Buildings for over four months while building structural problems affecting the elevator shafts were corrected.

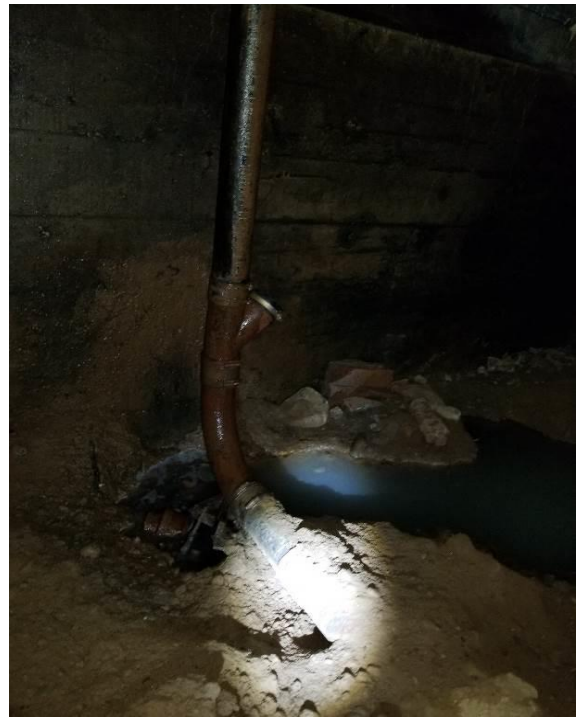


*The photograph above depicts ESRD staff first cleaning off the dusty residue and then applying a sealer to prevent future dust on the cement walls in an elevator shaft that was exposed to continuous water leaks from dilapidated roof above. Elevator mechanical components are extremely sensitive to water damage*

*and dust, which every few weeks would cause outages requiring ESRD staff to clean off the water and dust buildup on the equipment in the shaft. In this case, a water leak from the roof compromised the shaft wall resulting in a chemical reaction where the Concrete Masonry Units deteriorated and caused excessive cement and eventual outages. This was a major repair that required the elevators to be shut down and a coordinated effort with Property Management bricklayers and roofers to complete this job.*



*In this case, an active flooding condition from the 4th floor flooded the elevator pit causing an outage and requiring immediate action from Property Management. ESRD'S response team did all they could to dry the elevator and move it above the flooded floor. Property Management was promptly contacted and was instructed to stop the flooding at its source to restore service.*



*Building piping distribution systems that are old and degrading often leak within crawl spaces, apartments including shaft walls. In this case, a hole in an aging stack pipe burst and flooded the crawl space which eventually found its way down the elevator shaft. This leak resulted in several outages.*

**Property Management maintenance of fire extinguishers.** In addition to endangering residents and staff, fires in NYCHA buildings can seriously harm equipment and the building infrastructure itself. Fire extinguishers are a crucial life safety component for property management. As per the NYC Department of Buildings, a fire extinguisher must be installed in proximity to the machinery space within the EMR. Additionally, they must be securely wall-hung between two feet and four-and-one-half feet above the floor. They need to be serviced yearly and a visual inspection for physical damage must be performed during a monthly inspection.

Property Management is also in charge of performing service/maintenance including repairing, recharging, and replacing extinguishers and conducting a detailed examination of the portable extinguisher. They must follow all governing rules and regulations to ensure the extinguisher will operate correctly and safely.

As of May 15th, 2023, Property Management has approximately 159 open fire extinguisher deficiencies with an average 27 days open. These deficiencies should be addressed as they can pose unnecessary risks to NYCHA residents.



### Count of Open Fire Extinguisher Deficiencies:

	Count of Deficiencies	Average Age (Days)
<b>Current Open Deficiencies</b>	159	26.63
<b>All Deficiencies (Open and Closed from Aug 20<sup>th</sup> 2021-May 15<sup>th</sup> 2023)</b>	975	176.99
<b>All Deficiencies (Closed Only from Aug 20<sup>th</sup> 2021-May 15<sup>th</sup> 2023)</b>	816	188.85

### III. Communication and Collaboration Between ESRD and Development Staffs

ESRD must continue to improve its efforts to work more effectively with NYCHA property management to limit and address the issues discussed throughout this report. This includes providing more complete and accurate information in work orders when ESRD responds to building conditions that disrupt elevator services. As described above, improving work order information is a component of ESRD's current PM projects. ESRD is also including photographs as often as possible in work orders to better depict and communicate field conditions and the subsequent actions taken to resolve them. The mantra by ESRD managers to field staff is that written descriptions alone are not sufficient to memorialize situations such as a flood, obstructed elevator door, the aftermath of homeless persons occupying an EMR or any other condition that is negatively impacting elevator service. Good photographs (and videos where possible) are essential communication/reporting tools.

NYCHA's Operations Division, particularly property management, has the bulk of the work to do to both prevent many of the problem conditions described above and expediently address them when they do occur. As stated, this includes better training and management of development staff and taking appropriate steps to limit the infrastructure breakdowns in their buildings, including identifying what is likely to soon fail and then timely performing any needed maintenance and/or repair work. Given NYCHA's budget constraints and the pervasively poor condition of many NYCHA buildings this is a challenge, but property management must strive to do better. Lastly, now that ESRD is in the process of restructuring in accordance with NYCHA's Neighborhood Model, it will have additional mid-level managers. These managers will enable ESRD to develop better lines of communication and regular points of contact with their local neighborhood property managers and development superintendents. This should foster a more collaborative working relationship which is essential to better address the types of disruptions described in this report.

### CONCLUSION

Providing reliable elevator service at developments requires effective collaboration between various sections within NYCHA. NYCHA's Capital Division, which we have focused on in prior Monitor reports, must properly identify and then timely replace the worst of its elevator stock, some of which are essentially beyond the point of being repairable when they have breakdowns. It's important that they work with ESRD to both ensure that the right elevators are slated for replacements, and that contractors are properly working with ESRD both during the construction phases and after when new elevators are 'turned over' to ESRD. As pointed out in this Monitor

report, property management must ensure that elevators are kept free of obstructions, and that staff don't inadvertently engage in actions that damage or disable equipment. Also, infrastructure deficiencies that interfere with elevator operations should be more quickly addressed. ESRD is ultimately tasked with coordinating all these concerns as elevator service is their responsibility. ESRD leadership has made important strides in the last couple years, particularly in the areas of staff management and deployment, and enhancing the quality and then use of their data to drive strategies and improve procedures. To be sure, until a much larger portion of NYCHA's aging elevators can be replaced, ESRD will be challenged to keep existing ones in proper working order.