



Addressing Track Trespassing:

Actions for Rider Safety & System Reliability

A Report of the Track Trespassing Task Force - Chartered by Janno Lieber, Chair & CEO

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EXECUTIVE SUMMARY

Tackling the issue of track trespassing is critical to the MTA's core mission of providing safe and reliable service to its customers. In December 2021, MTA Chair & CEO Janno Lieber directed the formation of the Track Trespassing Task Force to address the issue for the subway and commuter railroads, with MTA Construction & Development President Jamie Torres-Springer leading the implementation. Chair Lieber took this step in response to an increase in the number of reported trespassing incidents in 2021. With the tragic killing of Michelle Alyssa Go in January 2022, the work of the Task Force became even more urgent and pressing.

Defining the Problem

Track trespassing, also known as track intrusion, refers to any unauthorized entry onto the tracks, whether intentional or accidental.

Track trespassing incidents increased 20% from 2019 to 2021, even as ridership fell dramatically. There were 1,267 reported incidents in the subway in 2021, with 200 resulting in collisions with trains and 68 in fatalities. This trend continued into 2022.

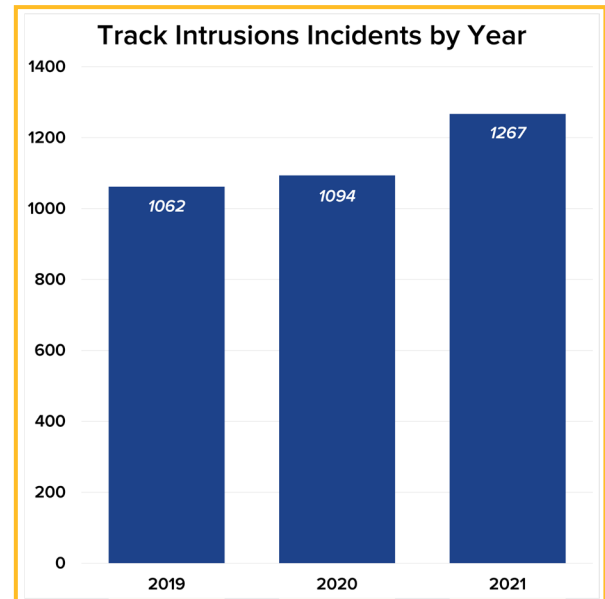
Track trespassing happens for a variety of reasons. Starting this year, the Task Force began collecting more detailed data about why people were getting on the tracks, revealing that this issue has a range of contributing factors.

Most incidents start with someone choosing to go onto the tracks. Whether to pick up a dropped object, to cross to a different platform, to access an encampment in the tunnels, or without any apparent reason, most incidents start with someone voluntarily going down onto the tracks. Mental illness or emotional disturbance is also a common factor, as is drug use or intoxication. Suicide is an acute challenge. While suicides and suicide attempts make up just 4% of total incidents, they account for 25% of collisions and 35% of fatalities. Tragically, accidental falls and rare instances of assault also occur.

Track trespassing causes substantial delays throughout the system. In 2021, the average incident caused a delay of 29 minutes. The MTA prioritizes the safety of first responders and customers in its incident response.

Incidents are concentrated in the busiest stations, especially in Manhattan. Although the effects of the delays these incidents cause are felt systemwide, this insight helps shape targeted solutions.

Track trespassing also impacts the commuter railroads. Although their context is different, both Metro-North Railroad and Long Island Rail Road also face the challenge of preventing unauthorized and unsafe access to their rights-of-way.



Task Force Process

The MTA's Track Trespassing Task Force included representatives from all relevant agencies, who worked to identify ways to reduce the number and impact of track trespassing incidents. To achieve this goal, the Task Force:

- Analyzed track intrusion data and established new data collection methods,
- Reviewed the MTA's current track intrusion prevention strategies and its incident response protocols,
- Reviewed the results of past studies and pilot projects,
- Initiated testing of new technology solutions, and
- Consulted with numerous experts in the field.

Transit Tech Lab

The Task Force is collaborating with the Transit Innovation Partnership—a project of the Partnership for New York—in order to advance innovative technology solutions to address the problem of track intrusion. Through the Transit Tech Lab challenge, the MTA developed a new pilot project for placing front-facing, super high-definition cameras and infrared sensors on trains. This year's Transit Tech Lab Recovery Challenge includes a call for yet more innovative approaches from the start-up community to address track trespassing and other safety issues; its winners will begin their Proof-of-Concept testing in May 2022.

The Task Force also reviewed the MTA's current efforts to prevent track trespassing, including in-station messaging, in-station Help Points, platform edge warning strips, and Laser Intrusion Detection Systems.

Recommendations & Actions

The Task Force developed numerous recommendations for new initiatives to both reduce track intrusion incidents and aid the MTA's response to these incidents.

As the problem of Track Trespassing is multifaceted, so are these recommendations. Some of these initiatives will require investments over time, while others will commence implementation immediately. They include actions in:

- **Customer Communications**, aimed at discouraging voluntary incidents through MTA messaging campaigns about the dangers of getting close or onto the tracks and preventing self-harm through messaging about counseling and crisis intervention,
- **Operations**, aimed at coordinating the work of homeless outreach workers, mental health professionals, and police officers as they tackle interrelated issues in the system, and
- **Capital Improvements**, aimed at using technologies and station improvements to prevent incidents and improve incident response, including through the piloting of Platform Screen Doors, Closed-Circuit TV Deployment & Video Analytics, new front-facing cameras on trains, and Track Intrusion Detection Systems on platforms, among others.

At a Glance



- Expanded Messaging Campaign
- Suicide Prevention Partnership
- CCTV Deployment & Video Analytics Pilot
- Mental Health Worker Deployment
- Front-Facing Camera Pilot

- Platform Screen Doors Pilot
- Laser Intrusion Detection System Expansion
- Track Intrusion Detection System Deployment
- Blue Lighting
- Railroad Right-of-Way Security

- Implementation based on Platform Screen Doors, CCTV Video Analytics, Front-Facing Camera, and other Pilots

Customer Communications

Expanded Messaging:	The MTA is expanding its efforts to educate passengers about the dangers of getting on the tracks. This involves more aggressive in-station messaging, external messaging, signage, and partnerships with outside entities.
Suicide Prevention Partnership:	The MTA is partnering with the New York University Department of Psychiatry to develop and deploy more effective suicide prevention messaging campaigns and other ways of preventing self-harm in the MTA system.

Operations

City and State Partnership on Homelessness and Mental Health Support:	The MTA is partnering with State and City leaders and agencies like the NYS Office of Mental Health and NYC Department of Social Services to provide more direct services to those experiencing homelessness and mental health issues, as these issues have been contributing factors to track intrusions. The Subway Safety Plan and the Safe Options Support (SOS) Initiative dedicate new resources to help people get out of the subway system and receive the help they need. This presence is already being felt.
Coordination with NYPD:	The MTA is partnering with the NYPD to ensure that more officers are present to keep the system safe for passengers. More than 1,000 specially trained officers have already been added to MTA stations, platforms, and trains. In addition to previously identified high-priority stations, the Task Force has identified 15 more stations with high levels of track intrusion and is working with the NYPD to make sure those stations are covered.

<p>Blue Lighting:</p>	<p>Studies have shown that blue lighting can have a calming effect and reduce the number of suicides in transit systems. The Long Island Rail Road has already installed blue lighting at 20 stations, and the Task Force recommends the installation of blue lighting at select stations in the subway system and the Metro-North Railroad as well.</p>
<p>Capital Improvements</p>	
<p>CCTV Deployment & Video Analytics:</p>	<p>The MTA is further expanding its extensive network of closed-circuit television (CCTV) security cameras, currently installed in all 472 subway stations across the system, with \$250 million dedicated to camera installation and \$120 million for fiberoptic network upgrades in the current Capital Program. Video analytics technology can help enhance this investment by using artificial intelligence to monitor live footage and send out alerts when it detects dangerous behaviors that could lead to track intrusions. The MTA is currently conducting a proof of-concept test of video analytics technology using its CCTV footage and determining the best locations for future camera deployments.</p>
<p>Front-Facing Cameras:</p>	<p>Front-facing train cameras can improve the MTA’s ability to monitor what is happening in the tunnels. These high-definition cameras with infrared sensors can see much further in a dark tunnel than a person can, and footage from these cameras can be tied into a video analytics system for automated monitoring. They can help prevent collisions by warning train operators when someone is on the tracks. The MTA is currently conducting a proof-of-concept test on one of its trains.</p>
<p>Track Intrusion Detection Systems (TIDS):</p>	<p>TIDS send automatic alerts whenever a person or object above a certain size enters the track, and this advanced warning can help train operators avoid collisions. The Task Force put out a call for the latest technological advancements and the MTA is planning for TIDS implementation based on its results.</p>
<p>Laser Intrusion Detection Systems (LIDS):</p>	<p>LIDS send an alert whenever an unauthorized person enters a tunnel or other restricted area. Each LIDS device is connected to CCTV cameras, access control card readers, and intercoms. LIDS have proven useful for keeping sensitive locations in the MTA system safe. Their use will be expanded to additional high-priority stations.</p>

Platform Screen Doors:	Platform screen doors provide an additional barrier at the edge of the platform and have proven highly effective at preventing track intrusion in newer subway systems around the world. While the structure of MTA platforms and trains makes it impossible to install platform screen doors at most MTA stations under current conditions, the MTA will pilot platform screen doors at 3 stations where it is possible to install them: the 7 at Times Square, the L at 3 Avenue, and the E at Sutphin Boulevard–Archer Avenue–JFK.
Railroad Right-of-Way Security:	Although the vast majority of trespassing resulting in collisions occurs in the subway system, the Task Force recommends initiatives for the Long Island Rail Road and the Metro-North Railroad as well, including ensuring that LIRR and MNR platforms and tracks are fully secured by adding and repairing gates at the ends of platforms and installing new fencing in areas where people are most likely to cross the tracks.



INTRODUCTION

Track trespassing, also known as track intrusion, refers to any unauthorized entry onto the tracks, whether intentional or accidental. It is a persistent problem faced by transit systems and railroads worldwide. Track trespassing causes extensive service delays, and individuals on the tracks are a risk to themselves, to other passengers, and to MTA infrastructure.

At the direction of MTA Chair & CEO Janno Lieber, the MTA formed the Track Trespassing Task Force in December 2021, with MTA Construction & Development President Jamie Torres-Springer tasked with leading its implementation. This action was taken in response to an increase in the number of track trespassing incidents in the subway in the latter months of 2021. There were more reported incidents in December 2021 than in any other single month over the previous three years.

When Michelle Alyssa Go was shoved in front of an oncoming train and tragically died at the Times Square station on January 15, 2022, the work of the Task Force accelerated and took on an additional dimension. Such acts of violence—a passenger being shoved onto the tracks—are one cause of track intrusion incidents, and the profound trauma that these assaults cause had to be factored into the MTA's track intrusion prevention strategy.

As the Task Force found while reviewing the data, it is rare for someone to be pushed onto the tracks. It is more common for someone to end up on the tracks because they dropped their phone and tried to retrieve it, or because they are accessing a homeless encampment, or because they are suffering from severe mental illness, or because they are intoxicated, or because they are attempting suicide. In other words, there are numerous, radically different reasons that people trespass on the MTA tracks. It was therefore the responsibility of the Task Force to consider numerous, individually tailored solutions to the issue of track intrusion.

Some of these solutions were relatively straightforward, such as increasing in-station signage and messaging about the dangers of track intrusion, while others were highly sophisticated, such as piloting the latest in track intrusion detection systems technology. The Task Force has endeavored to approach all potential solutions fairly and with appropriate consideration given to both their benefits and their costs. Throughout this process, it was also the responsibility of the Task Force to balance issues of public safety and perception with issues of service reliability and efficiency.

The Task Force includes members from all of the MTA's transit operating agencies, including Construction & Development, the Offices of Safety & Security and Strategy & Customer Engagement, the Long Island Rail Road Safety Division, the Metro-North Railroad Security Division, and the NYC Transit Offices of Safety & Security and Stations. The Task Force prioritized collaboration, both within the MTA and between the MTA and outside partners, experts, organizations, and agencies.

In order to develop its recommendations for track intrusion prevention, the Task Force went through a thorough process that included the following steps:

- Analyzed existing track intrusion data
- Established new data collection methodology to generate more nuanced information about the cause and impact of intrusions
- Reviewed the MTA's existing track intrusion prevention efforts, with an eye towards enhancing those efforts
- Reviewed the MTA's track intrusion incident response protocol
- Initiated a survey of homelessness in the MTA system
- Reviewed existing studies and pilot projects, including the platform screen doors feasibility study that the MTA commissioned between 2017 and 2019 as well as the Track Intrusion Detection Systems (TIDS) pilots that the MTA conducted between 2014 and 2019
- Actively sought out opportunities to test and implement new technology solutions
- Conducted outreach to experts and authorities in order to ensure that the MTA was up to date on current best practices and international precedents regarding track intrusion prevention

The Task Force's outreach effort included transit agency benchmarking organizations such as the Community of Metros and the International Suburb Rail Benchmarking Group, as well as suicide prevention organizations and associated experts such as the American Foundation for Suicide Prevention, SAVE.org, and the New York University and Columbia University Departments of Psychiatry.

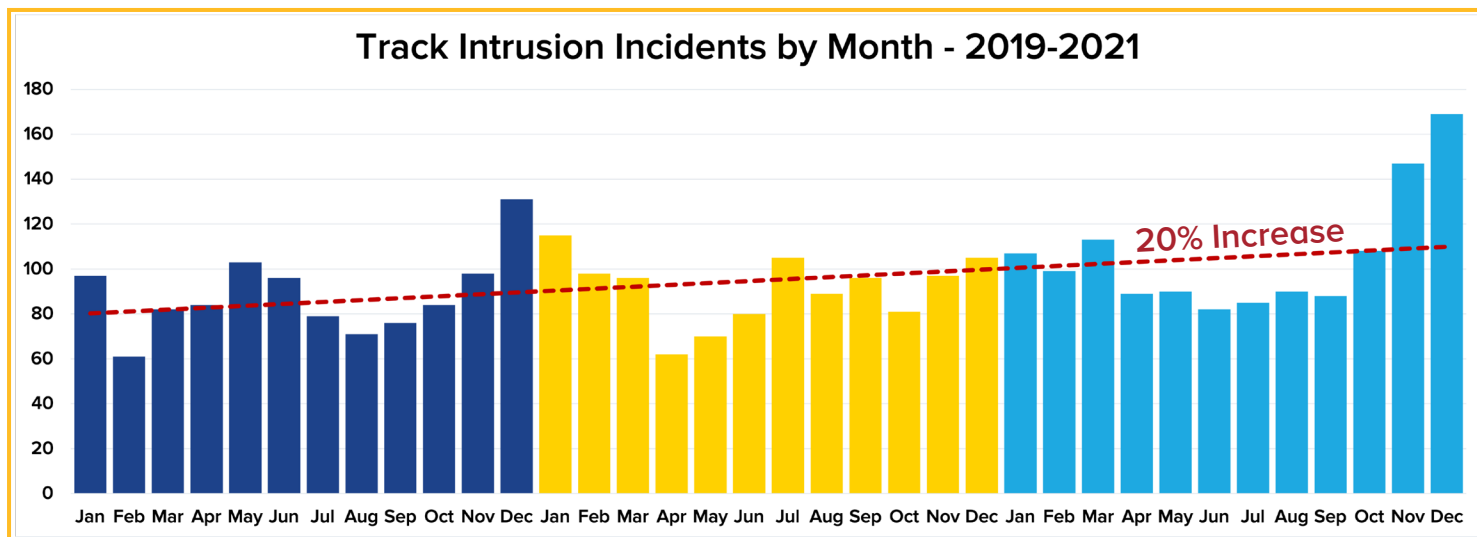
The Task Force collaborated with the Transit Innovation Partnership—a project of the Partnership for New York City—in order to advance innovative technology solutions to address the issue of track intrusion. The Task Force also conducted outreach to the New York State Office of Mental Health and the New York City Department of Health and Mental Hygiene to ensure full alignment and transparency in response to issues of mental health and homelessness. This alignment will be essential as the City, the State, and the MTA work together to make sure that the MTA is a safe and reliable option for passengers.

Ultimately, the Task Force developed recommendations for several new initiatives to both reduce track intrusion incidents and aid the MTA's response to track intrusion incidents. This written report details those recommendations and provides the data and information that the Task Force relied on while developing them.

FINDINGS

Subway

The number of total track intrusion incidents increased by 20% from 2019 to 2021, rising from 1062 in 2019 to 1267 in 2021. Notably, this increase occurred even while the overall MTA ridership numbers fell dramatically as a result of to the COVID-19 pandemic during this period.



Over the course of this three-year period, the two months with the largest number of total track intrusions were November 2021 and December 2021, underscoring the recent uptick. December 2021 also had more fatalities resulting from track intrusions than any other month during this three-year period. Although the largest number of track intrusions do typically occur in the winter, November 2021 and December 2021 were outliers even by winter standards, with a reported 147 and 169 track intrusions, respectively. This trend continued in 2022, with 160 intrusions in January, 140 in February, and 137 in March.

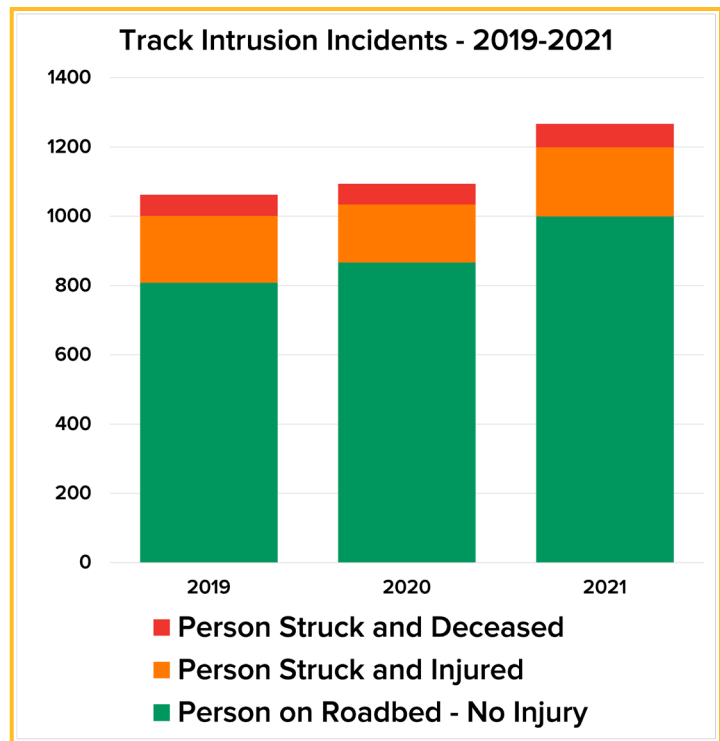
Although the number of collisions resulting from track intrusions did not increase substantially between 2019 and 2021, it did not decrease either. Instead, the number of collisions remained more or less consistent, even while the overall number of MTA riders fell substantially during the pandemic.

One possible cause of the recent increase in track intrusions is the reduced number of riders during the pandemic. It is conceivable that track intrusions would increase as a result of there being fewer passengers present to observe and deter such intrusions. However, the number of total track intrusions was already at 1062 in 2019, even before the pandemic caused a reduction in MTA ridership. In fact, there were more collisions, fatalities, and injuries resulting from track intrusions in 2019 than there were in 2020. The pandemic may have exacerbated aspects of this problem, but the data suggests that the problem preceded the pandemic.

In response to the recent increase in track intrusions, the MTA has committed to gathering more precise and comprehensive data. At the beginning of January 2022, the MTA began collecting information on every single instance of reported track intrusion, including ones that do not result in a collision.

Previously, systematic data on track intrusion incidents was limited. While each incident was individually addressed, as a matter of long-term tracking the MTA only collected detailed data on track intrusion incidents that resulted in collisions, and only collected detailed data on collisions that resulted in injuries or fatalities. The MTA did not previously systematically track data on injuries that were related to track intrusion but not caused by collisions, such as when an individual falls onto the tracks and does not collide with a train but is nonetheless injured. While the MTA's previous level of data collection fulfilled the MTA's federal regulatory reporting obligations, the MTA is now going above and beyond those obligations in order to develop a more

comprehensive understanding of the track intrusion problem. Beginning with January 2022, the MTA has been collecting information on every collision, regardless of whether it causes an injury, and also on every injury, regardless of whether or not it was caused by a collision.



As a result of the MTA's change in data collection methodology, the number of reported collisions and injuries will likely increase in 2022 compared to prior years. This will be a natural outcome of the MTA's more comprehensive process and will not necessarily indicate a true increase in collision and injury incidence. That said, the MTA will be able to sort its new, expanded data to generate accurate comparisons to the 2019-2021 data, which will be helpful in monitoring long-term track intrusions trends.

The MTA now investigates every reported track intrusion and assigns it a cause according to the following categories. By systematically collecting and categorizing this expanded set of data, the MTA is becoming better equipped to address and reduce each type of track intrusion.

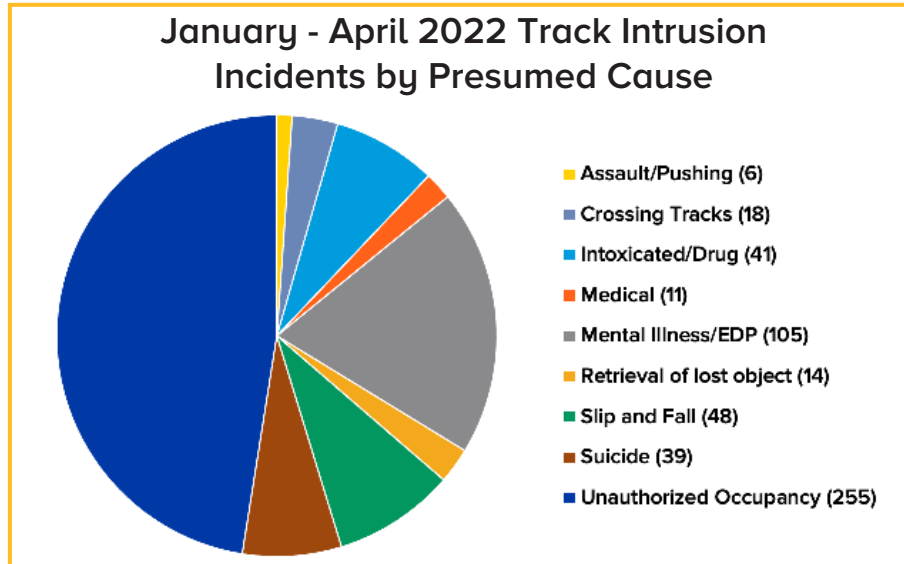
Categories of Track Intrusion

- **Assault/Pushing:** Fight or intentional push that leads to person on track area
- **Suicide:** Person jumps or apparently places themselves in front of a moving train purposefully to cause harm to themselves
- **Mental Illness/Emotionally Disturbed Person (EDP):** Person demonstrating erratic behavior and/or deemed emotionally disturbed by NYPD, including walking in track area aimlessly without a destination or desire to remove themselves from the track area
- **Intoxicated/Drugs:** Person ends up on tracks due to use of drugs or alcohol
- **Medical:** Person falls onto track area due to medical condition or emergency
- **Slip and Fall:** Person falls onto track area while in motion
- **Retrieval of Lost Object:** Person goes or falls onto track trying to retrieve a lost item
- **Crossing Tracks:** Person crossing to opposite platform across track area
- **Unauthorized Occupancy:** Person on track area for no apparent reason (walking, accessing restricted area, etc.)
- **Other:** Person on tracks for unlisted reason or one that cannot be accurately listed according to the above

In incidents where multiple causes are relevant, the most specific cause is assigned. For example, a person under the “Suicide” category may also be considered a case of “Mental Illness/Emotionally Disturbed Person” or “Unauthorized Occupancy,” but the most specific cause is assigned as “Suicide.”



Thus far, the MTA has the enhanced track intrusion data for January through April 2022. During this four-month period, the MTA observed 537 total incidents of track intrusion. There were 160 track intrusions in January, 140 in February, and 137 in March. These are three of the highest monthly intrusion totals recorded since 2019. In April, there were 100 intrusions, representing a decline and a return to a more typical level of incidents.



The 537 total track intrusions in January through April 2022 resulted in 105 collisions, which caused 56 injuries and 37 fatalities. There were an additional 60 injuries and 3 fatalities that were related to track intrusions but that did not involve collisions, which includes individuals falling or jumping onto the tracks and being injured as a result of the fall, as well as individuals going onto the tracks and making contact with the third rail.

Of the 105 collisions, 27 were suicides or suicide attempts. Tragically, this represents a 50% increase compared to the same months in 2021. Of the remainder, 19 were the result of intoxicated individuals, 11 were the result of inadvertent slips and falls, 3 were the result of individuals retrieving objects from the tracks, 3 were the result of assault or pushing, 2 were the result of track crossing, 1 was the result of a mentally ill or emotionally disturbed individual, and 39 were the result of unauthorized occupancy.

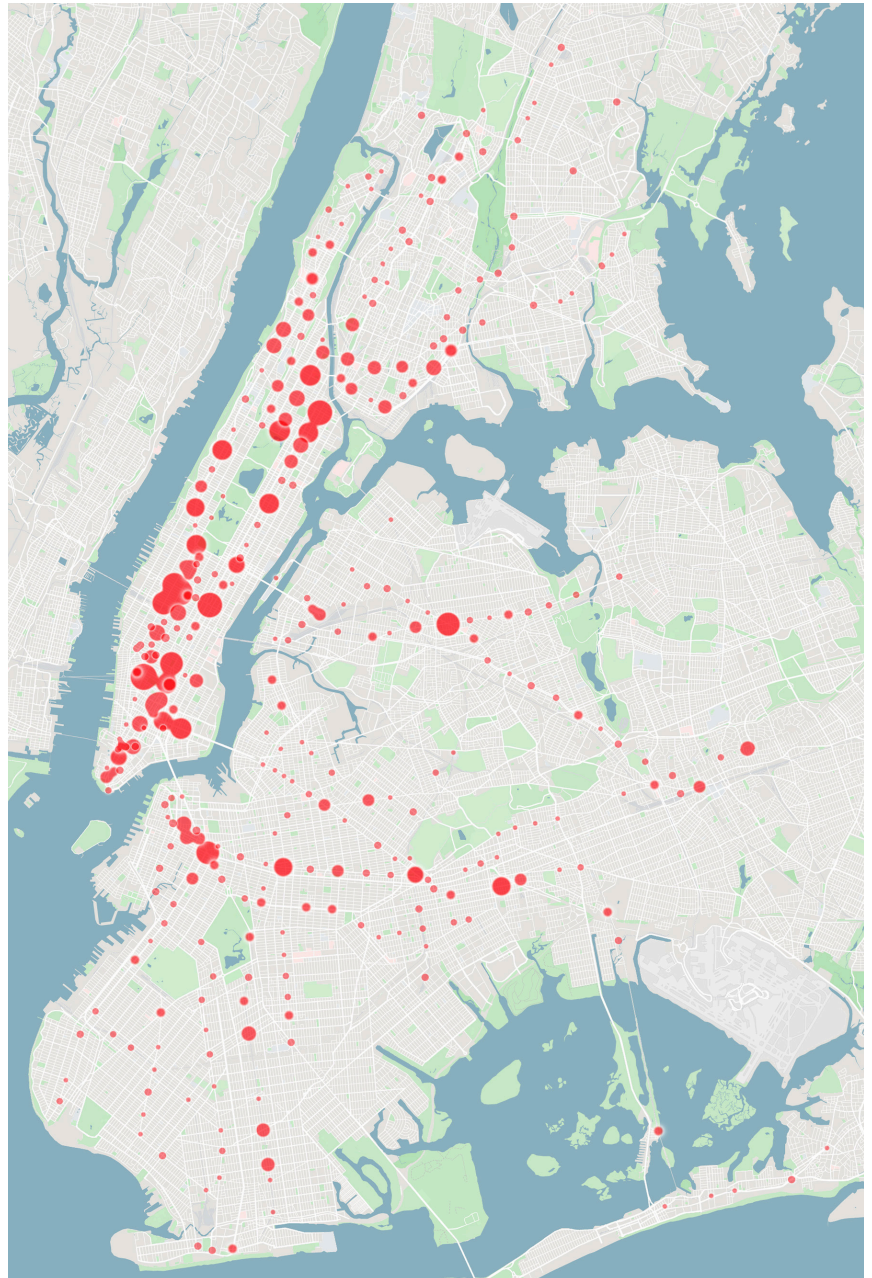
Of the 40 total fatalities, 11 were the result of suicide, 2 were the result of individuals attempting to retrieve objects from the tracks, 2 were the result of a slip and fall, 2 were the result of intoxicated individuals, 1 was the result of a mentally ill or emotionally disturbed individual, 1 was the result of assault or pushing, and 21 were the result of unauthorized occupancy.

The frequency of track intrusions is correlated with the busiest MTA stations.

Most track intrusions occur in Manhattan. In fact, between 2019 and 2021, 8 out of the 10 stations with the highest number of reported track intrusions were in Manhattan. 72 track intrusions occurred at 125 Street (IRT Lexington Avenue Line) during this three year period, which was the largest number of intrusions at any station, followed by Times Square - 42 Street, which experienced 62 intrusions, 34 Street - Penn Station, which had 58 intrusions, and Grand Central as well as 14 Street - Union Square, both of which had 54 intrusions.

Since the MTA began tracking this information in January 2022, a majority of track intrusions have involved an individual choosing to go onto the track—as opposed to accidental incidents. This includes risky and dangerous behaviors such as crossing the tracks or going onto the tracks to retrieve lost objects. However, the data indicates that the most common cause of voluntary track intrusion is unauthorized occupancy. One factor that contributes substantially to unauthorized occupancy is the presence of the homeless population within the MTA system, and specifically the presence of homeless encampments.

Total Incidents By Station - 2021



Top 10

- | | |
|--------------------------------------|--------------------------------|
| 1. W 4 St | 6. 14 St-Union Sq. |
| 2. Times Sq-42 St | 7. 34 St-Penn Station |
| 3. 125 St (4 5 6) | 8. Jackson Hts-Roosevelt Av |
| 4. Grand Central | 9. Atlantic Av-Barclays Center |
| 5. 42 St-Port Authority Bus Terminal | 10. 135 St (2 3) |

Homelessness & Track Intrusions

In January of 2022, NYC Transit conducted a comprehensive study of homeless encampments throughout the MTA system. They found 29 encampments in tunnels and 89 in stations, with over 350 people counted during the survey. Encampments in tunnels are a direct cause of track intrusion incidents, given that the only way for individuals to reach these encampments is by entering the tracks. This presence accounts for a significant portion of Unauthorized Occupancy track intrusions over the previous three years.

Commuter Railroads

While the Task Force has primarily focused on the MTA subway system, issues of track intrusions are present on the Long Island Rail Road (LIRR) and the Metro-North Railroad (MNR) as well.

In 2019, the LIRR reported 191 track intrusions, which resulted in 20 collisions and 16 fatalities. In 2020, the LIRR reported 150 track intrusions, which resulted in 27 collisions and 17 fatalities. In 2021, the LIRR reported 95 track intrusions, which resulted in 29 collisions and 24 fatalities. In addition to individuals stepping or falling onto the tracks, the LIRR has faced issues of unauthorized vehicles driving onto the tracks or intentionally parking on the tracks. There were 39 such instances in 2019, 31 in 2020, and 22 in 2021.

In 2019, the MNR reported 778 track intrusions, which resulted in 12 collisions and 9 fatalities. In 2020, the MNR reported 745 track intrusions, which resulted in 11 collisions and 6 fatalities. In 2021, the MNR reported 869 track intrusions, which resulted in 11 collisions and 8 fatalities.

It is important to note that the LIRR and the MNR use different data collection and reporting processes, which accounts for much of the incongruity between the number of track intrusions reported between the two systems. Regardless of these differences, the MTA considers it unacceptable that dozens of fatalities are occurring on the tracks of these commuter rails each year, and the Task Force's recommendations and initiatives are intended to address the track intrusion issue on the commuter rails as well as in the subway system.

Impacts

Safety

The primary impact track intrusions have is on the safety of customers.

There were 3,423 total track intrusions reported during the three-year period of 2019 to 2021. There were 561 collisions resulting from these intrusions, causing 372 injuries and 189 fatalities.

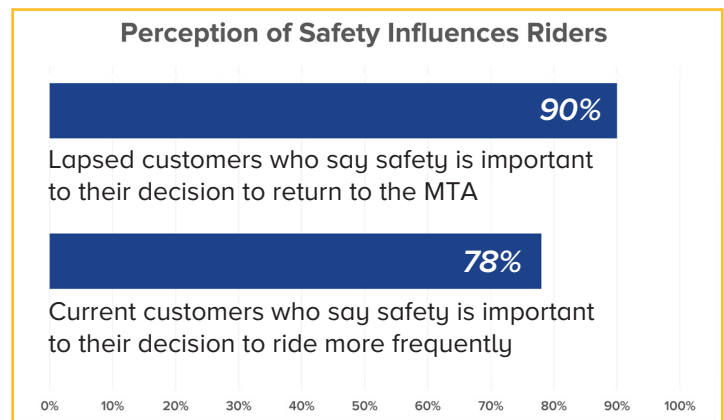
Instances of individuals falling onto the tracks as a result of being shoved or assaulted are relatively rare—there were 6 of these incidents in January through April 2022, resulting in 1 fatality and 3 injuries—but they are profoundly tragic. 6 is 6 too many.

Suicide & Suicide Attempts

Due to its nature, suicides and suicide attempts make up a disproportionate percentage of collisions and fatalities. While suicides and suicide attempts accounted for only a small percentage of overall track intrusions from 2019 to 2021—4%—they accounted for 25% of collisions and 35% of fatalities. In 2021 specifically, 47 of the 200 collisions were suicides or suicide attempts, and 23 of the 68 fatalities were suicides.

Track intrusions impact customers' perception of safety. In addition to the devastation that these assaults cause to the victims and their loved ones, there are also more indirect effects. Violent assaults within the MTA have a major impact on the public's perception of MTA safety. After the murder of Michelle Alyssa Go on January 15, 2022 at the Times Square station, the conversation around safety concerns at the MTA grew more urgent. It was traumatic for New Yorkers to hear about this tragic and senseless act of violence that occurred in plain sight in the subway system that they depend on.

In the fall of 2021, the MTA conducted a large-scale survey of its current customers as well as its lapsed customers—meaning customers who had not ridden the MTA since March 1, 2020. 90% of lapsed customers rated the subway feeling safe from crime and harassment as an important or very important factor influencing their decision of whether to return to the MTA, and 78% of current customers rated this as an important or very important factor influencing their decision of whether to ride the MTA more frequently in the future. Additionally, 68% of lapsed customers reported switching to a different mode of transportation because they did not feel safe from crime and harassment on the subway.



MTA ridership has dropped dramatically since the onset of the COVID-19 pandemic, and the perception that riding the subway is risky—not only for medical reasons, but due to the possibility of encountering violence—is an obstacle that the MTA must overcome in order to regain pre-pandemic ridership levels. Riders should not have to worry about becoming victims of violence—or about having to witness acts of violence—when they step into the MTA system.

In light of these safety concerns, it is worth underscoring the fact that, in general, riding the subway is significantly safer than driving. In a [study](#) of a 10-year period, researchers found that riding the subway was approximately 30 times safer than driving or being a passenger in a car, given that riding the subway resulted in only .24 deaths per billion passenger-miles as compared to the 7.28 deaths per billion passenger-miles for drivers and car passengers¹. More recently, the United States Department of Transportation's [Bureau of Transportation Statistics](#) found that the total number of US train passenger fatalities in 2019 was 863, as opposed to 36,096 driving fatalities over that same period².

¹ *Journal of Public Transportation*, "A New Transit Safety Narrative," 2014

² Bureau of Transportation Statistics, *Transportation Fatalities by Mode, 1960-2020*

Delays

While safety concerns are paramount, track intrusion is also a key driver of service disruptions and delays.

The average track intrusion causes nearly a half-hour delay from when an incident is reported to when service can be fully restored.

	2019	2020	2021
Total Incidents	1062	1094	1267
Average Delay	30 minutes	29 minutes	29 minutes

Despite the consistency of these averages from year-to-year, the duration of service delays caused by track intrusions varies greatly from incident to incident. From 2019 to 2021, the range of delays extended from 0 minutes to 8 hours. (This measures the time There were 231 instances of track intrusions that resulted in no delay of service (0 minutes), while 579 track intrusions resulted in delays of an hour or greater. The most extensive delays were caused by track intrusions that resulted in collisions; these incidents caused an average delay of 73 minutes.

The average length of delay also varies considerably based on the type of incident. Beginning in 2022, the MTA began measuring the duration of service delays based on the type of track intrusions. In January and February 2022, delays ranged from an average of 10 minutes after a fall caused by a medical issue to more than an hour after suicides or assaults. While preventing incidents from occurring in the first place is paramount, it is also valuable to safely speed up incident response to reduce the impact of intrusions that do occur.



How do track intrusions cause delays?

One reason that track intrusions can cause such extensive service delays is that the MTA prioritizes safety in its incident response process. When an unauthorized individual is observed intruding on the tracks, the MTA initiates a multi-step protocol in order to resolve the situation in a way that protects both MTA passengers and incident responders. It is not as simple as stopping the trains, sending the NYPD onto the tracks to remove the trespasser, and then returning to normal service.

Before NYPD or FDNY personnel can step onto the roadbed, the power on the tracks must be shut off, or else the responding officers would risk electrocution. To shut the power off, the on-site MTA personnel communicates with personnel at the Power Control Center, who determine which segments of the track to remove power from based upon the location of the intrusion. Before the Power Control Center shuts off the power, the MTA must communicate with every train on the segment of track where power will be shut off. It is imperative that these trains navigate into a nearby station and open their doors before the power is shut off, so that passengers have the option of exiting the train. The MTA does everything possible to ensure that passengers are not stuck in a train with the power shut off for extended periods of time. Only once these conditions have been met can the Power Control Center shut off the power for the relevant segment of track, at which point NYPD or FDNY responders are able to step onto the tracks and remove or assist the individual.

Once the individual is off the tracks, a similar multi-step protocol is followed in order to ensure the safe return of power to the tracks. The Power Control Center must confirm that all MTA, NYPD, or FDNY personnel are no longer in the roadbed and will not be returning to it. Once this is confirmed, the power can be turned back on. However, although the track intruder has been removed and power has been returned to the tracks at this point, the incident has not necessarily been fully resolved because the process of responding to the incident often causes congestion elsewhere in the subway system. In this way, track intrusions impact not only the passengers in the immediate vicinity of the incident, but also the passengers in trains and on platforms all along the impacted lines. Only after that congestion has been cleared and normal service has been restored is the track intrusion incident considered to be over.





Delays Impact Customers

The amount of time that passengers lose while waiting for service delays to resolve is sizable, and track intrusions play a large part in causing these delays. If the data describing service delays seems abstract, consider the real-life impact of one such delay. At 6:10am on December 26, 2021—the morning after Christmas—the J line experienced a 240-minute delay when an emotionally disturbed individual stepped onto the tracks at the Norwood Avenue station and continually eluded NYPD officers. While other J trains were able to navigate to stations and open their doors to give their passengers the option of exiting, one train was unable to safely pull into a station because the emotionally disturbed individual was standing on the tracks in front of that station. As a result, approximately 70 passengers sat inside of this particular J train for over two hours while waiting for the incident to be resolved. Many of these passengers were essential workers who were simply trying to get to work on the morning after Christmas. Through no fault of their own, they were severely delayed and did not even have the option of exiting the system to find alternative routes to their destinations.

We cannot know the full extent of the consequences of this delay for everyone on that J train, or what ripple effects this delay caused for the co-workers, employers, customers, or patients who were depending on their timely arrive. But we do know that preventing such service delays must be a top priority.

TASK FORCE PROCESS

In response to the recent increase in track intrusions and related safety incidents, the MTA established the Track Intrusion Task Force in December 2021.

The Task Force was given a mandate to review past and ongoing track intrusion prevention initiatives and provide recommendations for improvement. To form the Task Force, working groups were created with representatives from all of the MTA's operating agencies, including Construction & Development, the Offices of Safety & Security and Strategy & Customer Engagement, the Long Island Rail Road Safety Division, the Metro-North Railroad Security Division, and the NYC Transit Offices of Safety & Security and Stations. In order to develop its recommendations for track intrusion prevention, the Task Force went through a thorough process that included work in the following areas.



Internal Development

After reviewing the data on track intrusions ranging from 2019 to 2021, the Task Force made the decision to begin gathering more precise data about the nature of track intrusions. As described above, at the beginning of January 2022, the MTA began systemically collecting information on every instance of track intrusion. The MTA is now tracking not only every single track intrusion, but every single injury that occurs as a result of track intrusion, even if no collision occurs. In this way, the MTA is now going above and beyond its federal regulatory reporting obligations.

The Task Force decided to expand data collection in this way on the premise that tracking every track intrusion would allow the MTA to develop a more comprehensive understanding of the scope of the track intrusion problem. As a result, the MTA will be better equipped to allocate resources, develop interventions in a targeted manner, and ultimately reduce intrusions, collisions, fatalities, injuries, and service delays.

The Task Force also thoroughly reviewed the MTA's existing track intrusion prevention efforts—including in-station messaging and technology applications—as well as the MTA's track intrusion incident response protocol, with an eye toward aiding and enhancing these existing methods. To develop a more comprehensive understanding of the impact of homelessness on track intrusion, the Task Force initiated a survey of homelessness in the MTA subway system.

Outreach and Partnership

The Task Force conducted outreach to experts in the field in order to ensure that the MTA was up to date on the current best practices regarding track intrusion prevention.

The Task Force drew upon resources from several suicide prevention organizations and associated experts, such as the American Foundation for Suicide Prevention, SAVE.org, and the New York University and Columbia University Departments of Psychiatry. Although suicides and suicide attempts accounted for only a small percentage—4%—of overall track intrusions from 2019 to 2021, they accounted for 25% of collisions and 35% of fatalities. With this in mind, the Task Force made it a priority to seek out and recommend the latest in suicide prevention best practices.

The Task Force also reached out to local and state agencies—including the New York State Office of Mental Health and the New York City Department of Social Services—in order to ensure full alignment and transparency between these agencies and the MTA. This alignment is especially crucial given the recently announced Subway Safety Plan, which calls for close collaboration between the MTA and state and local agencies to address the safety concerns surrounding the homeless population in the MTA while compassionately supporting individuals experiencing homelessness.

Technological Development

The Task Force collaborated with the Transit Innovation Partnership—a project of the Partnership for New York—in order to advance innovative technology solutions to address the problem of track intrusion. Through the Transit Tech Lab challenge, the MTA developed a new pilot project for placing front-facing, super high-definition cameras and infrared sensors on trains. Additionally, the Task Force tapped into a proof-of-concept for artificial intelligence-based video analytics systems that can be trained to monitor the MTA’s CCTV security cameras and issue automated alerts upon registering the behaviors that lead to track intrusions.

The Task Force put out a Request for Information to solicit the latest developments in Track Intrusion Detection Systems (TIDS). This involved reviewing the results of the 2 TIDS pilots that the MTA conducted between 2014 to 2019, identifying the technological shortcomings revealed during those pilots, and identifying and articulating the specific improvements that the more current TIDS technology would need to demonstrate in order to merit implementation by the

MTA. This request resulted in 28 responses from manufacturers and vendors, which the Task Force is currently reviewing. These responses include cutting-edge proposed solutions, including machine learning tools that could be trained to distinguish between different types of track intrusion incidents and thermal detection tools that could help distinguish between people and inanimate objects.

The Task Force also reviewed the results of the 4,000-page platform screen doors feasibility study that the MTA commissioned between 2017 and 2019.



International Precedents

To inform its recommendations, the Task Force reviewed numerous international precedents, with a focus on the track intrusion prevention efforts of other major transit systems. This included reviewing the use of platform screen doors in the Seoul Metropolitan Subway (South Korea), the Shanghai Metro (China), the London Underground (United Kingdom), and the Regie Autonome des Transports Parisiens (France). The Task Force also reviewed Vancouver's SkyTrain (Canada), which utilizes a track intrusion detection system to detect objects or individuals on the track and other unauthorized areas. Additionally, the Task Force reviewed published research on the utility of blue lighting as a suicide prevention tool, including a study that measured the impact of the installation of blue lighting in railway platforms in Japan over a ten-year period. In each of these cases, the Task Force considered both the impact of the intervention on track intrusion incidence and the particular context of the transit system in which that impact occurred, with the goal of identifying track intrusion prevention tools that are both effective and feasible in the context of the MTA.

The Task Force also drew upon resources from transit agency benchmarking organizations, such as the Community of Metros (COMET), which is a multinational collection of 42 metro systems focused on identifying and sharing best practices to promote efficient and safe transit operations, as well as the International Suburban Rail Benchmarking Group (ISBeRG), a group with a similar mission but focused on suburban rail operators.

Results

Ultimately, the Task Force developed numerous recommended initiatives for track intrusion prevention and incident response. In addition to evaluating the benefits and expected outcomes that these initiatives could offer the MTA, the Task Force evaluated the initiatives according to the estimated cost of implementation, schedule of implementation, and manpower requirements. While the recommendations were made based on their track intrusion prevention and incident response benefits, the Task Force also considered the benefits that these initiatives could offer to the overall safety, security, reliability, and efficiency of the MTA.

The initial findings and recommendations of the Task Force were presented at the MTA Board Meeting on February 24, 2022. This written report provides detailed descriptions of those recommendations and includes the relevant data and information that the Task Force relied on to arrive at them.



CURRENT EFFORTS

Before detailing the new initiatives that the Task Force is recommending, it is worth noting that the MTA has several existing initiatives in place for preventing track intrusions. Although the Task Force is recommending numerous additions to and expansions of these initiatives, the existing efforts remain an important element of the MTA's overall track intrusion prevention strategy. Specifically, the MTA uses in-station messaging, in-station Help Points, platform edge warning strips, laser intrusion detection systems, and CCTV to deter track intrusion. These initiatives are described below.

Messaging Campaigns & Safety Announcements

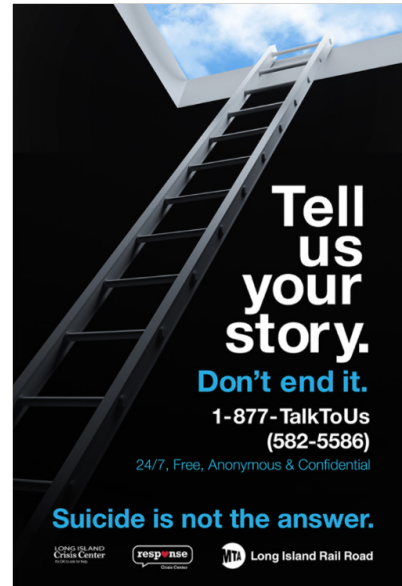
The MTA uses a variety of dynamic in-station messaging campaigns to discourage track intrusion, encourage emotionally distressed and suicidal individuals to seek help, encourage the reporting of suspicious activities, and generally promote safety in the MTA system. These campaigns feature textual, visual, video, audio, digital, and print elements. They include:

- Season-specific rotating digital messaging, including “Don’t let a fall ruin your winter,” which reminds passengers to watch their step and not to rush, and is accompanied by visual imagery of a winter scene.
- “See someone on the tracks? DON’T BE SILENT,” a graphic specifically intended to deter track intrusion incidents. The contact information for MTA authorities is provided.
- “Rules for the Ride,” in which the MTA rules and safety recommendations slowly roll down a digital screen. The movement on the screen is intended to draw and hold the attention of passenger in a way that a standard list of rules would not. Additional “Rules of the Road” graphics are provided in both English and Spanish.
- “Let’s look out for each other,” a campaign built into the digital screens at MTA stations that encourages passengers to use Help Points to report suspicious activity and do their part to keep the MTA system safe.
- “Look out for yourself and others,” a graphic that encourages passengers to inform the MTA authorities if a fellow passenger is behaving dangerously. This graphic includes an image of the platform edge warning strip, visually evoking the issue of risky behavior near the edge of the platform.
- “Trouble Coping?,” a graphic that provides a phone number for NYC WELL, a free, confidential mental health support service that allows anyone who calls or texts to speak with a counselor and receive access to mental health and substance use services, in more than 200 languages, 24/7/365.
- The public address system in MTA stations regularly announces passenger safety rules of conduct and safety reminders, including reminders aimed at deterring track intrusion.
- MetroCards have been customized to communicate key safety messages.

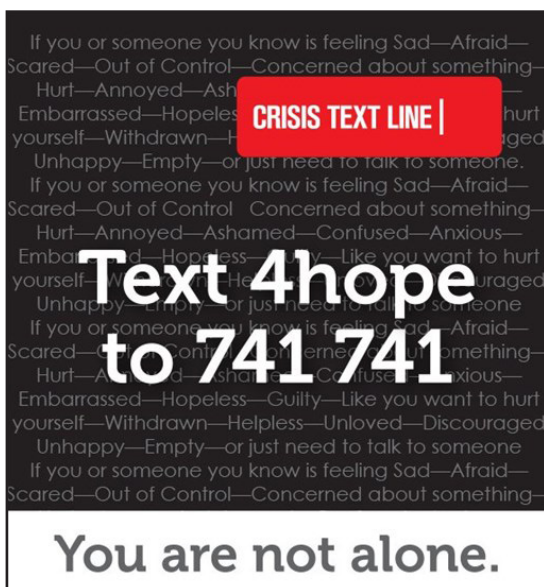
The MTA has a partnership with the Suicide Prevention Lifeline, and several messaging campaigns to encourage emotionally distressed or suicidal individuals to contact the Suicide Prevention Lifeline. In addition to speaking directly to suicidal individuals, these campaigns appeal to other passengers to be on the lookout for emotionally distressed individuals and be ready to help. These campaigns include:



“Offer Help, Save a Life,” which encourages passengers to look out for each other and provides a series of actionable steps for assisting someone in need: 1) Ask, 2) Keep them safe, 3) Be there, 4) Help them connect, 5) Follow up.



A variety of graphics accompanying anti-suicide messaging, such as: “Tell us your story. Don’t end it”; “You are not alone. We are here for you”; “If you need to talk, we’re here to listen”; “With help, comes hope.”



“Text 4hope to 741 741,” a crisis text line that makes help available via text, in the event that distressed individuals are averse to making a phone call.



“Be the One to Help Save a Life,” or “betheto,” a campaign encouraging passengers to embrace the opportunity to be the one to help if they encounter an emotionally distressed individual.

The LIRR and the MNR have separate messaging campaigns that are more specific to safety issues posed by the commuter rails:

- The MNR instructs nearby hikers to stay off the tracks with a graphic informing them that “A train can come at any time from any direction... And can travel up to 80 MPH.”
- The LIRR created a video campaign to warn motorists of the potentially tragic consequences of colliding with a passing train. The campaign included two short videos: “Don’t shortcut your life” and “Wait for the gate.”

In-Station Help Points

Help Points, which were first piloted in 2011 and are now present in all subway stations, are essentially more sophisticated versions of standard customer assistant intercoms. These easy-to-identify and easy-to-use devices put passengers in direct contact with MTA personnel with the touch of a button. Each Help Point device has two buttons, a green button marked “INFORMATION” and a red button marked “EMERGENCY.” Pressing the information button connects passengers to a Transit Station Agent, who can provide travel information to lost or confused passengers. Pressing the emergency button connects passengers to a member of the Rail Control Center, who can provide information or dispatch emergency responders to address a variety of urgent situations, including track intrusion incidents. Help Points are equipped with Caller ID, which allows MTA personnel to instantly identify the location of an incident and thereby facilitate a quicker emergency response.



Platform Edge Warning Strips

The MTA has also installed tactile platform edge warning strips. These strips warn or remind passengers that they are approaching the edge of the platform. The tactile quality of these strips is created by raised circles known as “truncated domes.” The change of texture when moving from the normal platform surface to the tactile platform edge warning strip is noticeable for any passenger entering the strip, whether by foot or in a wheelchair. This change of texture can be a crucial alert to passengers who are vision-impaired that they are approaching the edge of the platform. In the MTA, tactile platform edge warning strips are painted bright yellow, a visual marker intended to caution all passengers about standing near the edge of the platform. Tactile platform edge warning strips serve to deter many types of track intrusions, including those stemming from medical conditions as well as those stemming from slips and falls, whether as the result of intoxication, platform crowding, or simply distraction. These strips are now present in nearly all MTA stations.



Laser Intrusion Detection Systems

Laser Intrusion Detection Systems (LIDS) are in use throughout the MTA subway system. LIDS issue an alert when an unauthorized individual enters a tunnel through the end of a station, an emergency exit, or another access point. In this way, LIDS are especially useful for ensuring security at sensitive locations. When an unauthorized intrusion is detected, LIDS sends an alarm to the Security Command Center’s (SCC) monitoring system. The SCC then reviews the video footage, identifies the location associated with the alarm, and alerts the NYPD and the Rail Control Center as needed.

Currently, a total of 113 LIDS units are installed in 11 subway stations, from which intrusion alarms are received and processed at the SCC. Another 68 LIDS devices at 8 stations have been installed and will soon be fully integrated into the SCC’s monitoring system. A security project that is currently in procurement will add at least an additional 56 LIDS devices at 28 stations.

The LIDS devices already in operation have proven to be effective in providing greater detection and response to track intrusions. LIDS devices have also provided useful information regarding the illegal use of tunnels and other MTA spaces for refuge or habitation. The LIDS devices that have already been in operation for many years have required very minimal maintenance.

Closed-Circuit TV (CCTV) Security Cameras

The MTA's CCTV system has been expanded dramatically in recent years to provide far greater security coverage of the subway system. Since 2018, more than 4,000 additional security cameras have been added, bringing the total number of security cameras in the subway system to nearly 10,000, spread throughout all 472 stations. This expansion has included both traditional fixed security cameras with either locally-recorded or centrally-monitored video feeds as well as cheaper, more flexible deployable cameras that have been used to swiftly augment coverage within the system.

The build-out of the security camera system is ramping up as the 2020-2024 Capital Program continues to be implemented. This Capital Program included \$250 million for the installation of CCTV cameras to have fixed Passenger Identification Cameras at all subway stations. It also includes \$120 million to upgrade the fiberoptic network such that all stations will have the network capability to stream video back for central monitoring at New York City Transit's command center and the NYPD. In addition, another 2,000 deployable cameras are in process, adding coverage especially on platforms themselves.



RECOMMENDATIONS & ACTIONS

The Task Force is recommending numerous new initiatives to help prevent track intrusions and better respond to track intrusion incidents. Track intrusions have a wide range of causes. In light of this, the initiatives that the Task Force is recommending approach the issue from a wide range of perspectives. Broadly speaking, these initiatives fall into three main categories: Customer Communications, Operations, and Capital Improvements.

Customer Communications	Expanded Messaging
	Suicide Prevention Partnership
Operations	Homelessness and Mental Health Support
	Coordination with NYPD
	Blue Lighting
Capital Improvements	CCTV Video Analytics
	Front-Facing Cameras
	Intrusion Detection Systems
	Platform Screen Doors
	Railroad Right-of-Way Security

Several of these Capital Improvement initiatives are being developed in collaboration with the Transit Innovation Partnership, a public-private initiative launched by the MTA and the Partnership for New York City. All of these initiatives are being recommended with a focus on track intrusion prevention and incident response, but many of them also offer a range of additional benefits to the overall safety and reliability of the MTA. The recommended initiatives are described in detail below.



Expanded Messaging



SNAPSHOT: The MTA is expanding its efforts to educate passengers about the dangers of getting on the tracks. This involves more aggressive in-station messaging, external messaging, signage, and partnerships with outside entities.

The MTA is re-doubling its efforts to educate riders about the dangers of intruding on the tracks. Although this messaging has been communicated across MTA channels for many years, the Task Force recommends an initiative to thoroughly assess the MTA's current communication methods and subsequently expand the safety messaging targeted at reducing track intrusions, with a focus on in-station messaging, external messaging, signage, and partnerships with outside entities. The Customer Communications team has already begun working on this initiative.

In-station Messaging

In-station messaging is the most direct way the MTA can communicate with its riders. While safety communications already occur, refreshing and expanding this messaging can increase its impact.

- Conduct assessment of platform safety station messaging in the form of public address audio announcements, digital screen messaging, and printed signage. Based on findings, continue to cycle, refresh, and develop additional messaging to expand campaign reach, including the new print and digital platform safety messaging that is currently in development.
- Prioritize leveraging the newly installed digital screens throughout the MTA system to promote safety messaging.
- Continue to review the most recent data regarding the causes of track intrusions and customize messaging based on most urgent needs, including safety behaviors, mental illness, criminal activity, trespassing, and suicide prevention.
- Unify the visual appearance of safety content across MTA agencies in order to maximize recognizability and efficacy.
- Review new opportunities to promote the use of Help Point intercoms.
- Evaluate point of sale messaging options and continue to brand fare media with safety messaging. In the way that customized MetroCards have been used to communicate safety messages, vending machine screen savers, ticket windows, and station booth signage can also be used to communicate these messages.

External Communications

External communications, through the MTA’s social media and website or other external sources, are another means of amplifying critical safety messages.

- Continue to leverage MTA social media channels to communicate safety messaging while maintaining alignment with campaign content positioned in print formats. Evaluate opportunities to develop original platform safety video content for public consumption via Twitter, Facebook, and YouTube.
- Reproduce “Rules for the Ride” content to further guide customers on safe and appropriate MTA behaviors.
- Coordinate efforts with NYPD and provide officers with handouts and other materials for distribution. The content of these materials can promote platform safety and remind passengers to stand away from platform edges and avoid railroad grade crossings.
- Continue to update messaging on mta.info, such as at the safety and security [webpage](#), and evaluate messaging options via MTA Apps, including MYmta.

Partnership with Outside Entities

Outside partners, including suicide prevention organizations as well as other government entities that interact with riders and constituents near MTA rights-of-way, can be key in getting safety messaging out.

- Continue to partner with organizations such as NYC Well, Suicide Prevention Long Island, National Suicide Prevention Lifeline, and Crisis Text Line on the inclusion of appropriate and helpful contact information in customer communications.
- Leverage existing community outreach programs such as the LIRR and MNR TRACKS (Together Railroads and Communities Keeping Safe) programs.
- Evaluate outreach opportunities to other agencies, such as the Department of Environmental Conservation, to coordinate the distribution of information to hikers, fishermen, and other outdoor recreationalists who trespass inadvertently onto the tracks of the LIRR and the MNR. Also evaluate public transit enthusiast organizations and websites for similar potential outreach.

Signage

Signage on MTA property helps set boundaries and make sure customers know which areas are restricted and dangerous. Proper formal trespassing signage, especially at the ends of platforms, is needed to inform passengers of restricted and dangerous areas. This signage provides knowledge to the passengers, liability mitigation to the MTA, and the ability to enforce trespassing laws.

- Assess platforms to determine what trespassing signage is currently in place, what limitations in size and placement exist, and where additional signage may be needed.
- Explore larger signage with enhanced visual effects to draw the attention of passengers. Ensure a unified visual approach to end-of-platform signage across agencies and locations in order to maximize recognizability and impact.

Suicide Prevention Partnership



SNAPSHOT: The MTA is partnering with the New York University Department of Psychiatry to develop more effective suicide prevention messaging campaigns and other ways of preventing self-harm in the MTA.

The MTA needs more and better strategies for reducing the number of tragic suicides and suicide attempts that occur in the system. Between 2019 and 2021, there were 66 fatalities resulting from suicide on the tracks of the MTA, and one quarter of all collisions last year were suicides or attempted suicides. Suicide is a complex societal issue that requires specialized expertise. As such, the MTA is partnering with the NYU Department of Psychiatry, which will provide a comprehensive review of the MTA’s messaging—including a new visual messaging campaign based on themes of suicide prevention—and provide recommendations on additional opportunities to prevent self-harm within the MTA system. The MTA is making it a priority to employ the latest in suicide prevention best practices.

Suicide is the 12th leading cause of death in the United States, and no single action that the MTA takes can fully address this problem. However, the MTA intends to deter suicide as much as possible through its messaging, by connecting struggling individuals to mental health resources, and by piloting interventions that have proven to be effective in preventing suicide.

The MTA will continue to partner with organizations such as NYC Well, Suicide Prevention Long Island, National Suicide Prevention Lifeline, and Crisis Text Line on including suicide prevention resources within its system and customer communications.

In July of 2022, a new national initiative will create one unified crisis helpline number nationwide, which is a resource that the MTA will seek to integrate into its messaging. The number is simply 988, and this number will be promoted in hopes that it will be integrated into the general consciousness—the way 911 is easy to remember and known by everybody—so that remembering a phone number will never again be an obstacle to seeking help. 988 calls will be answered by trained crisis counselors who have the ability to link callers to specialized mental health resources. If a call requires further intervention, 988 counselors have the ability to send in a team of behavioral health professionals—as opposed to law enforcement officers—in an effort to avoid escalations of acute mental health crises.



City & State Partnership on Homelessness and Mental Health Support



SNAPSHOT: The MTA is partnering with State and City leaders and agencies like the NYS Office of Mental Health and NYC Department of Social Services to provide more direct services to those experiencing homelessness and mental health issues, as these issues have been contributing factors to track intrusions. The Subway Safety Plan and the Safe Options Support (SOS) Initiative dedicate new resources to help people get out of the subway system and receive the help they need. This presence is already being felt.

Subway Safety Plan

On February 18, 2022, NYC Mayor Eric Adams and Governor Kathy Hochul announced the [Subway Safety Plan](#)³, which details plans to address the safety concerns surrounding the homeless population in the MTA while also compassionately supporting individuals experiencing homelessness. This plan recognizes that there are numerous causes that lead people to homelessness and numerous obstacles to overcome in helping these people get back on their feet. As such, the Subway Safety Plan approaches the problem from several perspectives and by applying a wide range of resources.

The City will deploy up to 30 interagency collaborative teams that bring together the Department of Homeless Services, the Department of Health and Mental Hygiene, the NYPD, as well as community-based providers in high-need locations across the city, including Penn Station, Grand Central Terminal, West 4th Street, the West 42nd Street Corridor, the Fulton Street Corridor, and Jamaica Center. These teams will work to canvas platforms, stairwells, mezzanines, and entrances. They will work toward providing 1) outreach, 2) initial housing and mental health care, and 3) permanent housing and community. In order to connect mentally ill individuals to the advanced services that they need, additional staff will be trained and approved to direct 9.58 hospital evaluations. Only qualified physicians and mental health professionals who serve as members of approved mobile crisis outreach teams can initiate these evaluations, which entail the transfer of a mentally ill individual, deemed by an outreach team member to be a threat to themselves or others, to a hospital, where the individual is given a mental health evaluation.

Additionally, specialized “End-of-the-Line” teams will be deployed to stations at the ends of subway lines, which are among the most effective places to conduct homelessness outreach, as they provide an opportunity to interact with people who are riding back and forth repeatedly on the subway.

³NYC Mayor’s Office, “Subway Safety Plan,” 2022. <https://www1.nyc.gov/assets/home/downloads/pdf/press-releases/2022/the-subway-safety-plan.pdf>

The Subway Safety Plan includes initiatives outside the confines of the transit system as well, including calling for the creation of new Drop-in-Centers, which will be strategically placed near high-priority MTA stations. These centers will provide an immediate opportunity for individuals to come indoors and begin the transition from living in the MTA system to living in a safer and more stable environment. The plan also calls for the deployment of 3 additional Street Health Outreach & Wellness vans, which offer a safe space for homeless individuals to receive medical and behavioral services. Finally, the plan calls for the creation of an additional 140 Safe Haven Beds and nearly 350 Stabilization Beds in 2022.

Statewide Initiatives

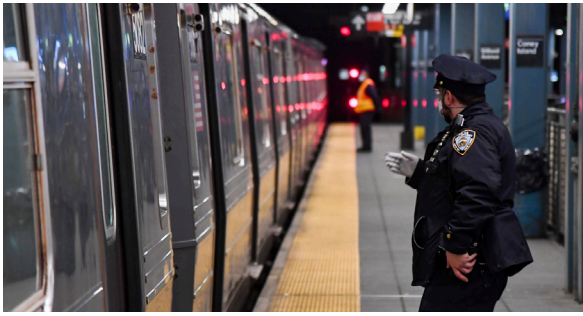
New York Governor Kathy Hochul has taken steps on a statewide level that address the issue of homelessness in the MTA. In January 2022, Governor Hochul announced a major “Safe Options Support” (SOS) initiative that will deploy teams to high-priority locations throughout the state to engage with homeless individuals and provide specialized mental health services. 12 of these teams, totaling 150 staff, will be deployed to NYC. Governor Hochul also made a \$100M investment in Behavioral Health Crisis Stabilization Centers, three of which will be located in NYC. These centers will be a critical and accessible resource for individuals seeking support and services relating to mental health and substance abuse.

In addition, Governor Hochul has proposed policy changes to expand housing access and protect tenants from eviction. These changes include a new rental housing tax abatement intended to create more stability and affordability for low-income households, legislation to prevent discrimination on the basis of credit score and interactions with the criminal justice system, and the creation of a permanent disaster recovery and resiliency unit for home rebuilding.

This extensive and multi-pronged coordination between the City, the State, and the MTA promises to help homeless individuals get out of the subway and connected to the help that they need.



Coordination with NYPD



SNAPSHOT: More than 1,000 specially trained officers have already been added to MTA stations, platforms, and trains. In addition to previously identified high-priority stations, the Task Force has identified 15 more stations with high levels of track intrusion and is working with the NYPD to make sure those stations are covered.

The MTA is partnering with the NYPD to ensure that more officers are present to keep the system safe for passengers. As part of the Subway Safety Plan, Mayor Adams, the NYPD Commissioner, and the NYPD Chief of Transit have made a commitment to increase the uniformed presence in the MTA, particularly in high-priority stations.

The additional police presence has had an immediate impact. More than 1,000 additional officers have already been deployed across the MTA system.

Every officer deployed in the MTA has a clear mandate to enforce the MTA rules of conduct and will be specially trained in these rules before stepping foot in an MTA station. Officers will focus on enforcing several key prohibitions, including:

- Lying down, sleeping, or outstretching in a way that takes up more than one seat per passenger or interferes with fellow passengers
- Creating an unsanitary environment by spitting, littering, and more
- Exhibiting aggressive behavior towards other passengers
- Using the subway system for any purpose other than transportation
- Smoking or open drug use

Additionally, the Subway Safety Plan requires, not merely requests, that individuals exit the train and the station at the end of the line.

NYPD officers will enforce these rules in a fair and transparent way, prioritizing corrective action over removal. Officers will give individuals an opportunity to remedy their behavior before any further action is taken.

Blue Lighting

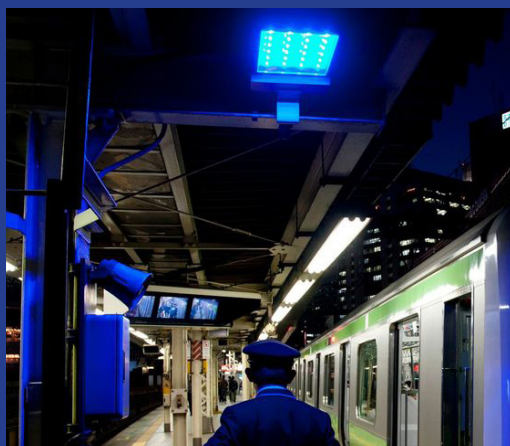


SNAPSHOT: Studies have shown that blue lighting can have a calming effect and reduce the number of suicides in transit systems. The Long Island Rail Road has already installed blue lighting at 20 stations, and the Task Force recommends installing blue lighting at selected stations in the subway system and the Metro-North Railroad as well.

Another suicide prevention strategy is the installation of blue lighting on platforms. Studies have suggested that blue lighting provides a “nudge effect” that is calming and can reduce the incidence of individuals committing suicide by jumping or otherwise trespassing on tracks⁴. Nudge techniques are a category of subtle methods for influencing behavior that can have surprisingly large impacts.

Although further research is needed to verify and characterize the effectiveness of blue lighting as a suicide prevention tool, the MTA has deemed this tool to be promising enough to implement on a limited basis. In 2019, the President of the Long Island Rail Road, Phil Eng, created an initiative to introduce blue lights into selected LIRR stations. Consequently, the LIRR has already outfitted 20—or 16%—of its stations with blue lighting, and it is in the process of completing an additional 7 stations. Through the Task Force’s initiative, the MTA will also pilot this intervention at subway and Metro-North stations. Following this installation, the MTA will study the impact that blue lighting has on the suicide incidence in its stations. In this way the MTA will both implement a promising suicide prevention measure and contribute to the global research into this intervention method.

Platform Blue Lights



In response to an increase in the number of individuals committing suicide by jumping in front of oncoming trains, in 2008 multiple major railway operators in Japan began installing blue lighting on platforms and at railway crossings in an attempt to deter these suicides. Although there was no precedent for blue lighting preventing suicide in transit systems at the time, blue lighting had been shown to decrease crime in urban environments. The first notable example of this occurred in 2000 in Glasgow, Scotland, when the city installed blue lighting on one busy street for cosmetic reasons and a surprising decrease in crime followed.

Blue lights were strategically placed at the ends of platforms, which are typically the most isolated areas of platforms and thus the areas where suicides most often occur. One study claimed that the installation of these blue lights resulted in an 84% decrease in the number of suicides over a ten-year period.

⁴ *Journal of Affective Disorders*, “Does the installation of blue lights on train platforms prevent suicide? A before-and-after observational study from Japan,” 2013

CCTV Deployment & Video Analytics



SNAPSHOT: The MTA is further expanding its extensive network of closed-circuit TV (CCTV) security cameras, with \$370 million dedicated in the current Capital Program. Video analytics can enhance this investment by using artificial intelligence to monitor live footage and send out alerts when they detect dangerous behaviors. The MTA is currently conducting a proof-of-concept test of video analytics.

The MTA uses closed-circuit television (CCTV) to manage and respond to incidents. The MTA has CCTV security cameras installed in all 472 stations across the subway system, with nearly 10,000 cameras in total. The primary objective of employing these cameras is to monitor security conditions and assist law enforcement and other investigative entities with post-incident investigation. These cameras have been an essential tool for investigating incidents

after they have occurred. The Task Force recommends taking additional steps to use more of these cameras for preventative measures as well.

The MTA's CCTV system has been expanded dramatically in recent years to provide far greater security coverage of the subway system. Since 2018, more than 4,000 additional security cameras have been added, bringing the total number of security cameras in the subway system to nearly 10,000, spread throughout all 472 stations. This includes traditional fixed security cameras with either locally-recorded or centrally-monitored video feeds as well as cheaper, more flexible deployable cameras.

The build-out of the security camera system is ramping up as the 2020-2024 Capital Program continues to be implemented. This Capital Program included \$250 million for the installation of CCTV cameras to have fixed Passenger Identification Cameras at all subway stations. It also includes \$120 million to upgrade the fiberoptic network so that all stations will have the network capability to stream video back for central monitoring at New York City Transit's command center and the NYPD. Another 2,000 deployable cameras are in process, adding coverage especially on platforms themselves.



This additional coverage, especially of networked cameras, provides opportunities to use new technologies to make them even more effective. It is not feasible to have MTA employees monitor the live footage of all these cameras carefully enough to reliably observe anomalies and intervene. Incidents occur suddenly and can be over quickly enough to elude a human observer. While the MTA does currently utilize CCTV cameras with some level of automated alert based on sensors installed in stations, the technology of video analytics has advanced substantially in recent years and offers a far more comprehensive and reliable system.

Video analytics, particularly artificial intelligence-based video analytics, offers many benefits to the MTA. First, it can allow the MTA to more effectively monitor footage in real-time in order to identify and intervene with dangerous behavior or problematic conditions that lead to track intrusions. The system can more reliably flag anomalies and alert an MTA employee—specifically a member of the Security Command Center—who can then swiftly intervene and prevent an incident from occurring. In instances when it is impossible to prevent an incident from occurring, a video analytics system still offers the benefit of allowing MTA employees to more accurately and efficiently assess and resolve the incident.

Another benefit is that a video analytics system can allow the MTA to develop a deeper understanding of the conditions and behaviors that lead to track intrusions. For example, a video analytics system can help the MTA identify the most common entry points for trespassers and study the impact of crowded platforms on track intrusions. A video analytics system is not a form of facial recognition and would not be personally identifying.

The MTA is currently completing a proof-of-concept with two firms to measure the effectiveness of commercially available video analytics systems as applied to existing CCTV cameras. This will last 90 days and will involve pulling data from 20 cameras from around the MTA system and allowing the firms to train their AI based on that data. The MTA is particularly focused on evaluating performance accuracy in a set of pre-defined security conditions, such as intrusion into unauthorized areas, vandalism, graffiti, excessive loitering, and crowd estimation. Depending on the results of this proof-of-concept, the MTA will decide to move forward with a video analytics pilot that is specific to track intrusion prevention. Such a pilot would take approximately 6 to 8 months to complete. The results will also help inform future camera deployment to ensure that cameras are placed in the most effective locations within stations.

Front-Facing Cameras



SNAPSHOT: Front-facing train cameras can improve the MTA’s ability to monitor what is happening in the tunnels. These high-definition cameras with infrared sensors can see much further in a dark tunnel than a person can, and footage from these cameras can be tied into a video analytics system for automated monitoring. They can help prevent collisions by warning train operators when someone is on the tracks. The MTA is currently conducting a proof-of-concept test on one of its trains.

The Task Force is recommending the use of forward-facing cameras on subway trains, which offer several benefits. These cameras can see significantly further than a person can in a dark subway tunnel, and this ability can be applied to provide advance warning to train operators about the presence of objects or individuals on the track, thereby allowing trains to slow down or stop before a collision occurs.

High-Tech Proof-of-Concept



Front-facing cameras on trains can detect individuals and objects on the tracks even in low-light conditions.

In collaboration with the Transit Innovation Partnership, the MTA is conducting a proof-of-concept on equipping trains with front-facing, super high-definition cameras and infrared sensors. The goal is to test the viability of new visualization technology in the MTA environment and identify the most suitable and effective options available from a pool of potential vendors. The proof-of-concept is in the initial data collection phase, with one camera on an L train currently collecting data, which will subsequently be analyzed for utility. If the results of this data collection are promising, the MTA will commence an expanded pilot later in 2022 and will begin identifying opportunities to move forward with implementation.

Front-facing cameras can assist with incident response by providing improved visual monitoring of the tunnels. Front-facing train cameras can be connected to LTE modems to support live, remotely accessible streaming and equipped with cloud-based video sharing technologies so that critical event data can be shared with multiple responding parties in near real-time. This would enable quicker response time to track intrusion incidents as well as more efficient, targeted, and successful interventions. Footage from these cameras would also be available for review by post-incident investigative entities.

As an additional benefit, since the trains would be passing through the tunnels frequently, their front-facing cameras would be providing a frequently updated inventory of tunnel conditions. While the MTA currently conducts periodic documentation of the tunnels, front-facing cameras would significantly increase the frequency of this documentation, allowing the MTA to more efficiently observe and address anomalies, malfunctions, or other changes within the tunnels that may otherwise go unnoticed for longer periods of time. In this sense, front-facing train cameras are an example of a technology that would offer a track intrusion prevention benefit as well as broader benefits to the health of the subway system.

Intrusion Detection Systems

Track Intrusion Detection Systems



SNAPSHOT: TIDS send automatic alerts whenever a person or object above a certain size enters the track, and this advanced warning can help train operators avoid collisions. The Task Force put out a call for the latest technological advancements and the MTA is planning for TIDS implementation based on its results.

Track Intrusion Detection Systems (TIDS) are another form of technology that the Task Force is recommending the MTA pursue. TIDS have the ability to sense and issue alerts when a person or object above a certain size enters the track unexpectedly. This offers the benefit of providing early warning to train operators so that they can more effectively avoid collisions.

Between 2014 and 2019, the MTA conducted TIDS pilot projects at 2 subway stations to evaluate 8 vendors' systems that used a combination of laser scanners, thermal cameras, video analytics, radio frequency, machine learning and LiDAR. 6 of the 8 systems piloted proved successful in consistently detecting objects with a dimension of 12 inches or greater.

However, this pilot program revealed challenges that prevented TIDS from being immediately implemented. For example, the systems available at that time had not yet evolved to definitively distinguish between people, animals, and inanimate objects entering the tracks from the platforms. Implementing TIDS technology with this shortcoming would create the possibility of causing unnecessary delays in service. A newspaper or other inconsequential object blowing onto the tracks could trigger alerts to train operators to stop their trains. Another common situation that the TIDS must be prepared to accurately handle is the occurrence of real but fleeting track intrusions, such as when an individual on a subway platform peers over the edge of the tracks to check if a train is approaching. It is important that TIDS technology be both accurate and discerning, and that the safety benefits of such a system do not come at the cost of efficient service.

TIDS technology has advanced significantly in the years since the initial MTA pilot. In light of this, and in consideration of the substantial potential safety benefits of TIDS, in January 2022 the Task Force put out a Request for Information to address the question of TIDS accuracy and reliability. The Task Force received 28 responses from vendors, which are currently being reviewed for feasibility. These responses include cutting-edge proposed solutions, such as the use of thermal detection to distinguish between people and inanimate objects, as well as sophisticated artificial intelligence and machine learning tools that could be trained to distinguish between incidents that warrant the stopping of a train and incidents that do not. A design and construction schedule for a future pilot will be determined if a TIDS solution is selected.

Laser Intrusion Detection Systems



SNAPSHOT: LIDS send an alert whenever an unauthorized person enters a tunnel or other restricted area. Each LIDS device is connected to CCTV cameras, access control card readers, and intercoms. LIDS have proven useful for keeping sensitive locations in the MTA system safe, and the Task Force recommends expanding the use of LIDS to additional high-priority stations.

Laser Intrusion Detection Systems (LIDS) are already in use throughout the MTA subway system. LIDS issue an alert when an unauthorized individual enters a tunnel through the end of a station, an emergency exit, or another access point. In this way, LIDS are especially useful for ensuring security at sensitive locations. Each LIDS device is integrated with CCTV cameras, access control card readers, and intercoms. When an unauthorized intrusion is detected, LIDS sends an alarm to the Security Command Center (SCC) monitoring system. The SCC then reviews the video footage, identifies the location associated with the alarm, and alerts the NYPD and the Rail Control Center as needed.

Currently, a total of 113 LIDS units are installed in 11 subway stations, from which intrusion alarms are received and processed at the SCC. Another 68 LIDS devices at 8 stations have been installed and will soon be fully integrated into the SCC's monitoring system. A security project that is currently in procurement will add at least an additional 56 LIDS devices at 28 stations.

The LIDS devices already in operation have proven to be effective in providing greater detection and response to track intrusions, thereby reducing the incidence of collisions as well as the incidence of trespassers accessing tunnels and carrying out criminal acts that harm passengers and cause damage to trains and other critical infrastructure. LIDS devices have also provided useful information regarding the illicit use of non-public areas in tunnels and adjoining subterranean spaces for refuge or habitation. Furthermore, LIDS devices that have been in operation for many years have required very minimal maintenance.

The Task Force recommends expanding the implementation of LIDS at the ends of MTA station platforms and emergency entries and exits from tunnels. Specifically, the Task Force is recommending that approximately 90 additional LIDS devices be installed at additional subway stations it has identified as high priority in order to limit track intrusions and enhance system-wide security.

Platform Screen Doors



SNAPSHOT: Platform screen doors provide an additional barrier at the edge of the platform and have proven highly effective at preventing track intrusion in newer subway systems around the world. While the structure of MTA platforms and trains makes it impossible to install platform screen doors at most MTA stations under current conditions, the Task Force recommends piloting platform screen doors at 3 stations where it is possible to install them: the 7 at Times Square, the L at 3rd Avenue, and the E at Sutphin Boulevard–Archer Avenue–JFK.

The Task Force thoroughly studied the potential of platform screen doors (PSD) as a means of preventing track intrusions in the MTA subway system. This included reviewing the results of the 4,000-page report on PSD feasibility that the MTA commissioned between 2017 and 2019.

Although there are currently no examples of operational PSD in large public metro systems in the United States, PSD have been highly effective at preventing track intrusions in newer systems around the world. One notable example is the Seoul Metropolitan Subway, which saw a dramatic decrease in the number of track intrusions after a systemwide installation of PSD. However, the New York City subway system is significantly older than the subway system in Seoul—the Seoul system opened in 1974, while the New York City subway opened in 1904—and the specific structure of the MTA system poses constraints that would make a systemwide roll-out of PSD impossible under current conditions.

The MTA’s system-wide PSD feasibility study surveyed the conditions at all 472 subway stations and evaluated the feasibility of installing PSD. The study found constraints that would prevent the installation of PSD in nearly three quarters of stations.

One constraint is the MTA’s narrow platforms, which cannot accommodate PSD while still meeting the accessibility standards set out in the Americans with Disabilities Act (ADA). In addition to these ADA concerns, installing PSD on already narrow platforms has the potential to create situations with a dangerous flow of passengers.

Another constraint that the MTA’s PSD feasibility report identified is that many elevated platforms in the MTA system cannot safely support the added weight of PSD when combined with the weight of a large number of passengers. It is possible that future PSD systems will be developed that are lightweight enough to work on the MTA’s elevated platforms, but the PSD systems that are currently available are too heavy to safely implement on these elevated platforms.



A third constraint is the misaligned door configuration of many MTA trains. Most PSD systems require that all train doors be located in the same place, in order to enable the synchronization between the PSD and the train doors upon which the system depends. While it is the goal of the MTA to have all its trains be standardized in terms of door alignment, and the MTA aims to achieve this fleet standardization by 2033, only a small percentage of train doors currently meet this criterion.

Out of the subway’s 472 stations, 128 stations could feasibly support PSD. Of those 128 feasible stations, only 41 carry trains whose doors could accommodate PSD. This means that less than 10% of the subway system is currently able to accommodate PSD.

Another major constraint is cost. In the MTA’s PSD feasibility report, the cost of installing PSD in all 128 feasible stations was estimated to be over \$7 billion in 2018 dollars, with approximate annual maintenance costs of over \$119 million.

Requiring significant platform reconstruction work and sophisticated equipment, PSD are orders of magnitude more expensive than all the other Recommendations and Actions included in this report. This cost, combined with the fact that PSD are feasible at a limited number of MTA locations, makes it essential that the MTA pursue more cost-effective, universally applicable, and adaptable solutions. Compared to PSD, interventions such as TIDS and CCTV video analytics technology can have an outsized impact on the track intrusion issue relative to their cost.

Reasons for Infeasibility

Causative Factors	Number of Infeasible Stations*	Percentage of Infeasible Stations
ADA Clearance	154	43%
Pre-cast Platform	100	28%
Fleet Misalignment**	31	9%
Columns too close to edge	30	8%
Non-compliant Egress Path	24	7%
No Space for PSD Equipment Room	21	6%
Gap Fillers	1	<1%

*Some of the stations serving multiple Subway Lines may be feasible for one or more Lines (sets of platforms) but not all, therefore aggregating station counts for feasible and infeasible will exceed 472

**Due to dimensional differences between 8-car (M & G trains) and 10-car trains, there will always be door alignment issues at certain stations, even once fleet standardization is complete.

Nonetheless, the merits of PSD cannot be ignored, and there are promising international precedents. Some older transit systems, such as those in London and Paris, have included PSD in comprehensive reconstructions of their station platforms to create a safer environment for passengers. In Paris, 3 of the 16 subway lines now feature PSD, and PSD have been installed in 8 of the 30 stations on the Jubilee Line of the London Underground system.

London Underground



Opened in 1863 and operated by Transport for London, the London Underground is the oldest subway system in the world. Like the MTA, the London Underground features many trains with misaligned doors, which prevents the synchronization of those trains with PSD. However, in the late 1990s, Transport for London had PSD installed in 8 stations where it was feasible to do so, all of which are on the Jubilee Line. Of the 272 total stations in the London Underground, these 8 are the only ones to feature PSD. There are currently no plans to install PSD systemwide in the London Underground.

More recently, Transport for London has installed PSD on the Elizabeth Line of its Crossrail, which is a new railway construction project that is underway in central London. The modern structure of the Crossrail system makes the integration of PSD possible.

Despite the constraints, the MTA appreciates the substantial safety benefits that PSD could offer. Therefore, the Task Force is recommending a pilot to install platform screen doors at 3 stations: the 7 at Times Square, the L at 3rd Avenue, and the E at Sutphin Boulevard–Archer Avenue–JFK. These high-ridership stations were selected because they represent a mix of platform configurations and geographies. The next step towards initiating this pilot is to conduct site-specific planning at all 3 stations, to include a consideration of the effect of the PSD on ventilation, another key safety concern; all three locations must be deemed feasible by this analysis. After the successful completion of that planning, the next step is to incorporate the PSD pilot into a capital project, the procurement for which will begin later in 2022.

The MTA will review the results of the PSD pilot to determine whether this intervention merits implementation in as many of the 41 currently feasible stations as possible, and eventually in as many of the 128 feasible stations as possible. The MTA will also monitor PSD industry advancements and other innovative engineering solutions that may make it possible to increase the number of feasible stations to include more of the subway's 472 total stations.

Barriers and Fences

The MTA has also considered the possibility of installing barriers and fences on station platforms, which are significantly smaller interventions that do not provide the full protection of PSD. While these smaller interventions might be helpful in preventing certain track intrusions, MTA safety experts are concerned that they may risk causing injuries, for instance in the event that a passenger gets caught in a train door and is dragged down the platform. In consideration of both the potential benefits and drawbacks of this intervention, the MTA is initiating a full hazard assessment in order to make a fully informed decision on its merits.

Railroad Right-of-Way Security



SNAPSHOT: The Task Force recommends ensuring that LIRR and MNR platforms and tracks are fully secured by adding and repairing gates at the ends of platforms and installing new fencing in areas where unauthorized individuals are most likely to cross the tracks. LIRR and MNR trains already have front-facing cameras installed, and the Task Force recommends enhancing these cameras so their footage can be accessed remotely, which can help the MTA and authorities better respond to incidents on the tracks.

The LIRR and the MNR have open commuter rail networks with a combined 1,275 miles of mainline tracks, and as such are susceptible to trespassing. Security fencing is used by the LIRR and the MNR to deter trespassing, homeless encampments, unlawful encroachment, and vandalism on the tracks. The Task Force recommends ensuring that LIRR and MNR platforms and tracks are fully secured by adding and repairing gates at the ends of platforms and installing new fencing in areas where unauthorized individuals are deemed most likely to cross the tracks.

Station platform ends are a key entry point for trespassers to gain access to the tracks. Many platforms throughout the system have end-of-platform gates that lead to the tracks and are easy access points for trespassers. Securing these gates more thoroughly may serve as a both physical and mental barrier to those considering accessing the tracks. The Task Force recommends assessing platform gate infrastructure to determine if adding new gates, latches, and switch locks may be appropriate to further secure these areas.

The LIRR and the MNR will both benefit from the broader MTA messaging campaign improvements and the new technologies that arise from the MTA's exploration of track intrusion detection systems.

Both the LIRR and the MNR have already created separate Right of Way Task Forces—comprised of safety and security managers as well as MTA police officers—to develop strategies to secure areas of high priority. In fact, the LIRR Right of Way Task Force received the 2019 Gold Award in Safety from the American Public Transportation Association in recognition of its incident prevention efforts. These Task Forces are monitoring the right of way conditions of the LIRR and the MNR using a variety of strategies.

The Right of Way Task Forces conduct a minimum of two site inspections of LIRR and MNR infrastructure per year, in addition to investigations of issues along the right of way as reported by internal and external sources. If a breach in security is identified, immediate safeguarding is performed by the Right of Way Task Force during site inspection using chains, tie wraps, and locks to secure breaches. The Right of Way Task Force can also generate trouble tickets for repair work to be addressed by the LIRR and the MNR Engineering Departments and Maintenance of Way Divisions.

The Right of Way Task Forces conduct daily review of the Transportation Services Department Daily Log. By monitoring this log, these Task Forces can follow up on reports of collisions, fatalities, injuries, debris strikes, trespassers, and other operating incidents. These incidents are entered into a Global Imaging Mapping System at the LIRR and are logged in a dedicated Right of Way Task Force database at the MNR.

The Right of Way Task Forces determine optimal locations for the installation of high security fencing through a risk-based approach that aids in the mitigation of hazards along the tracks. The Task Forces develop an annual priority scale, based on the prior year's incidents, for corporate review. 19 additional LIRR locations have recently been identified as requiring security fencing, and this work will fulfill the remainder of an existing capital contract. The remaining work under this contract is expected to be completed by 2024.

The MNR identified 30 locations in need of fencing repair or installation, 38 locations requiring new or additional fence signage, and 15 locations that require repair or new installation of fence gates. These locations were prioritized based on security concern, and repair tickets were submitted for recommended action.



IMPLEMENTATION PLAN & CONCLUSION

The wide variety of initiatives recommended by the Task Force come with a wide variety of implementation steps and timelines.

At the MTA, immediate actions are being taken. The Strategy and Customer Engagement team is already working on expanded messaging, including collaborating with NYU's Department of Psychiatry on suicide prevention specific materials. These updated and refreshed materials will be rolled out later this year. Critical steps are also underway to advance some of the technological solutions. The CCTV Video Analytics is currently undergoing a proof-of-concept test, and pending its results, a full-fledged pilot could take place later this year. The same is true for Front-Facing Train Cameras.

The MTA's partners in State and City government are stepping up as well. Implementation of the Mayor's Subway Safety Plan has already begun, with homeless outreach teams ramping up and an increased police presence already being felt within the system. The Governor's Safe Options Support program will roll out more fully later this year.

The MTA is committed to funding these projects. The MTA will implement the Capital Improvements laid out above, with project development starting this year. The Platform Screen Doors pilot could be awarded as soon as this year. Laser Intrusion Detection Systems are a proven technology that will be deployed to additional locations. The Track Intrusion Detection System RFI brought in promising technological solutions and the MTA is making them ready for deployment. Blue lighting will be piloted soon as well. LIRR and MNR will continue to install additional fencing and platform gates over the course of the coming years.

In the longer term, these pilots and initiatives can be expanded based on their results. As the benefits and possible drawbacks of Platform Screen Doors, CCTV Video Analytics, Front-Facing Cameras, and Track Intrusion Detection Systems are evaluated, further expansion can be considered and implemented.

No one initiative will be a panacea—track intrusion is a complex issue with too many causes to be addressed by one response. In combination, however, these communications, operations, and capital initiatives will make a difference. With better, more detailed data guiding it, the MTA will use a wide variety of new technologies and operational innovations to significantly reduce the number of track intrusions in the New York City Subway, Metro-North Railroad, and Long Island Rail Road systems—and to improve the response to those incidents that do occur. The result will be a safer and more reliable experience for customers.

Task Force Recommendation Implementation Steps

Initiative	Immediate Next Steps		Additional Steps	
	Action	Timeline	Action	Timeline
Expanded Messaging	Develop refreshed safety messaging materials	<i>Underway</i>	Continue to refine messaging campaign over time	<i>Ongoing</i>
	Roll these materials out systemwide	<i>Starting Q2 2022</i>		
Suicide Prevention Partnership	Develop refreshed suicide prevention messaging materials	<i>Underway</i>	Continue to refine messaging campaign over time	<i>Ongoing</i>
	Receive and incorporate feedback from NYU Department of Psychiatry	<i>Underway</i>		
	Roll these materials out systemwide	<i>Starting Q2 2022</i>		
Homelessness & Mental Health Support	Support implementation of the Subway Safety Plan	<i>Underway</i>	Continue to coordinate with City & State agencies and mental health and homeless outreach providers.	<i>Ongoing</i>
	Support implementation of the Safe Option Support initiative	<i>Underway</i>		
Coordination with NYPD	Support implementation of the Subway Safety Plan	<i>Ongoing in 2022</i>	Continue to coordinate with NYPD	<i>Ongoing</i>

Initiative	Immediate Next Steps		Additional Steps	
	Action	Timeline	Action	Timeline
Blue Lighting	Pilot installation at subway and Metro-North stations.	<i>By Q4 2022</i>	Monitor the efficacy and report on long-term trends.	<i>Starting 5 years after installation</i>
	Continue installing at LIRR stations in conjunction with station renovation work	<i>Ongoing</i>		
CCTV Video Analytics	Complete proof-of-concept test	<i>Underway, to be completed Q2 2022</i>	Implementation of technology based on pilot results	<i>Determined by funding availability</i>
	Conduct a full pilot of Track Intrusion-specific video analytics	<i>Starting Q3 2022</i>		
Front-Facing Cameras	Complete proof-of-concept test	<i>Underway, to be completed Q2 2022</i>	Implementation of technology based on pilot results	<i>Determined by funding availability</i>
	Conduct a full pilot on multiple trains and evaluate its efficacy for track intrusion detection alerts and other benefits	<i>Starting Q3 2022</i>		
Track Intrusion Detection Systems	Complete review of technology proposals received through Request for Information	<i>Q2 2022</i>	Deploy TIDS at priority stations	<i>Following the selection of technology</i>
	Select top technologies and initiate a procurement	<i>Q3 2022</i>		

Initiative	Immediate Next Steps		Additional Steps	
	Action	Timeline	Action	Timeline
Laser Intrusion Detection Systems	Plan and design LIDS installations for priority stations	<i>Starting Q3 2022</i>	Install LIDS through a capital project	<i>Following the completion of design</i>
Platform Screen Doors	Complete detailed construction feasibility review at selected stations	<i>Q3 2022</i>	Evaluate the outcomes of the platform screen doors pilot	<i>Following installation of the pilot</i>
	Initiate procurement for design-build contract	<i>By Q4 2022</i>		
	Design and install platform screen doors at three stations on a pilot basis	<i>Starting in 2023, with the construction length determined by the design-build process</i>		
Railroad Right-of-Way Security	Identify priority platforms and sections of right-of-way	<i>Starting Q2 2022</i>	Continue to evaluate priority locations for additional fencing	<i>Ongoing</i>
	Install additional fencing and platform gates	<i>Starting Q3 2022</i>		

