

2021

CONSTRUCTION SAFETY REPORT

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MESSAGE FROM THE COMMISSIONER



The Department of Buildings (“the Department”) plays a vital role in New York City’s urban environment, enforcing the Construction Codes and Zoning Resolution at nearly 1.1 million buildings and over 40,000 permitted building construction

sites. As the Department’s Commissioner, I am honored to lead an agency of over 1,600 dedicated civil servants who have a core mission of protecting the safety of all New Yorkers. A key aspect of this mission is the effective enforcement of safety regulations related to active construction operations on building work sites.

Last year, the Department issued its first-ever comprehensive construction safety report for both calendar years 2019 and 2020. That report analyzed where construction safety failures were occurring in our City and what we at the Department can do to help prevent them from happening in the future. It is my pleasure to announce that we are following up on that effort with a report for the calendar year 2021. By implementing a reoccurring analytical review of construction safety in our City, we can hone our enforcement strategies with an eye toward driving down construction-related injuries and fatalities and continue the necessary work of promoting a culture of safety throughout the industry.

Construction activity poses inherent potential risks to both workers and the public when the proper safeguards are not implemented. Tragically, the building construction projects we saw in 2021 did not come without injury and loss. The Department mourns alongside the nine families of those we have lost this past year. We promise our fellow New Yorkers that we will continue to use every tool at our disposal to hold bad actors in our industry accountable and help foster a safe construction environment for all of our fellow New Yorkers.

Safety has always been the guiding principle at the heart of everything that we do at the Department. It is inextricably intertwined in our Codes, directing the decisions Department staff are called upon to make every day. In 2021, we faced new challenges as the City continued to fight through the coronavirus pandemic, and New Yorkers adapted to new ways that we interact with our built environment. Throughout the year, we saw construction activity return to pre-pandemic levels, mirroring a parallel economic recovery throughout the country. My Department has looked to adjust our practices and policies to respond to these new challenges, using the regulatory levers at our disposal to promote the safety of the City’s construction community and all of our fellow New Yorkers.

In response to a troubling spate of construction-related worker falls early in 2021, we launched an assertive zero-tolerance enforcement strategy, increasing the Department's footprint out in the field, and shutting down any work site where severe safety lapses were discovered. As the Coronavirus pandemic continued to wane over the summer of 2021, we transitioned resources away from enforcing COVID-19 safety guidelines on construction sites and refocused back on our core missions of Code enforcement and construction site safety. In the fall of 2021, we successfully pushed forward a comprehensive update of the City's Construction Codes and a critical package of construction safety legislation. To provide education to the City's construction industry, including the day laborer community, the Department has been hosting online worker safety sessions in multiple languages that are commonly spoken on our City's work sites.

It is our hope that the following report will illustrate how our safety strategies are working to improve safety in the construction industry, providing a clear analysis of where our City stands. Just as important, we hope this report will serve as an updated roadmap on possible additional steps that can be taken to drive down injuries in the construction industry.

As a parting note, I would like to take a moment to thank my dedicated staff for all the work they have done this past year to ensure that we keep our City safe and prosperous.

Regards,



Constadino 'Gus' Sirakis, P.E.
Acting Commissioner

CONSTRUCTION DATA

In every neighborhood across the five boroughs, construction activity continues to be a significant part of day-to-day life for our fellow New Yorkers. After a decrease in construction activity in 2020 due in part to the COVID-19 pandemic, we have seen that the ongoing economic recovery in New York City has been mirrored by an increase in construction activity.

The Department has seen increases in new development projects across the five boroughs compared to 2020, including more total permits issued, more initial permits issued, more proposed dwelling units, and more new construction floor area.



CONSTRUCTION ACTIVITY OVERVIEW

Year	Total Permits Issued (Initial + Renewal)	Initial Permits Issued	Initial New Building Permits Filed	Certificates of Occupancy Issued	Proposed Dwelling Units	New Construction Floor Area
2020	147,760	80,642	1,318	5,078	24,817	32,939,642
2021	168,423	93,200	1,683	5,444	25,581	42,925,470

Total Permits Issued (Initial + Renewal) by Borough

Year	Manhattan	Bronx	Brooklyn	Queens	Staten Island
2020	57,970	13,526	40,072	28,995	7,197
2021	63,320	16,141	45,849	34,196	8,917

New Buildings Filed by Borough

Year	Manhattan	Bronx	Brooklyn	Queens	Staten Island
2020	53	147	334	442	342
2021	57	181	351	573	521

Certificates of Occupancy Issued by Borough

Year	Manhattan	Bronx	Brooklyn	Queens	Staten Island
2020	628	452	1,708	1,630	660
2021	546	483	2,053	1,613	749



CONSTRUCTION INCIDENTS



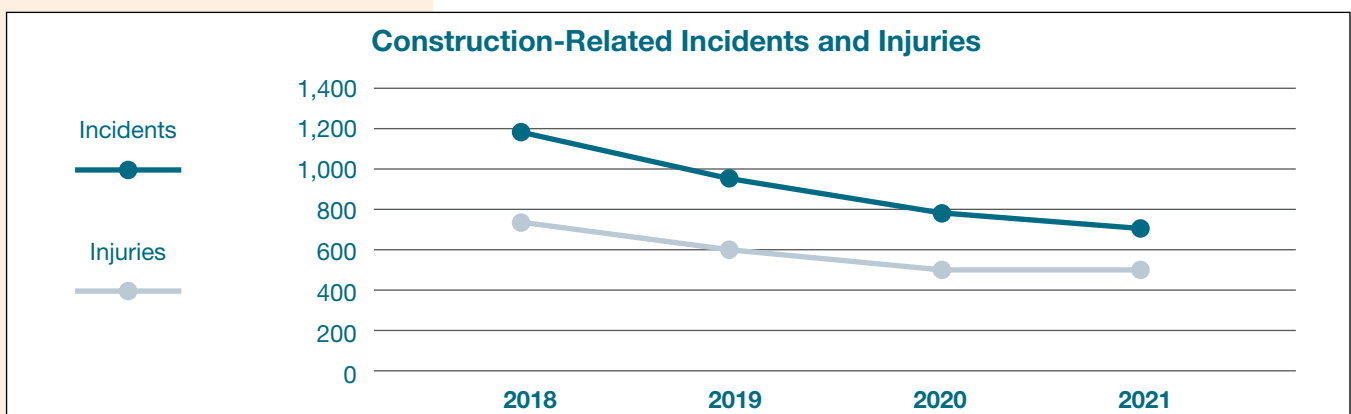
As construction activity increases, so does the potential for construction-related incidents, making work site safety a key concern for the Department. Whenever an incident occurs on a building construction site, the contractors are required to immediately notify the Department

so that we can investigate. While the intrinsic dangers associated with building construction work remain, the Department continues to strive to help reduce incidents, injuries, and fatalities on work sites in our City.

Despite the increase in construction-related activity in 2021, construction-related injuries and fatalities remained consistent with what we saw in 2020, a year when non-essential construction activity was suspended statewide for several months during the first year of the COVID-19 pandemic. The number of construction-related incidents DOB was called to respond to decreased by over 10%, while the number of combined construction-related injuries and fatalities increased by less than 1%. The data shows that while the number of incidents has gone down, when they did occur, workers were more likely to require medical attention as a result.

Construction-Related Incidents, Injuries, and Fatalities

Year	Incidents	Injuries	Fatalities
2018	1,193	759	13
2019	960	594	14
2020	796	502	8
2021	712	505	9



Construction-Related Incidents by Borough

Year	Manhattan	Bronx	Brooklyn	Queens	Staten Island
2020	435	63	187	100	11
2021	395	66	166	73	12

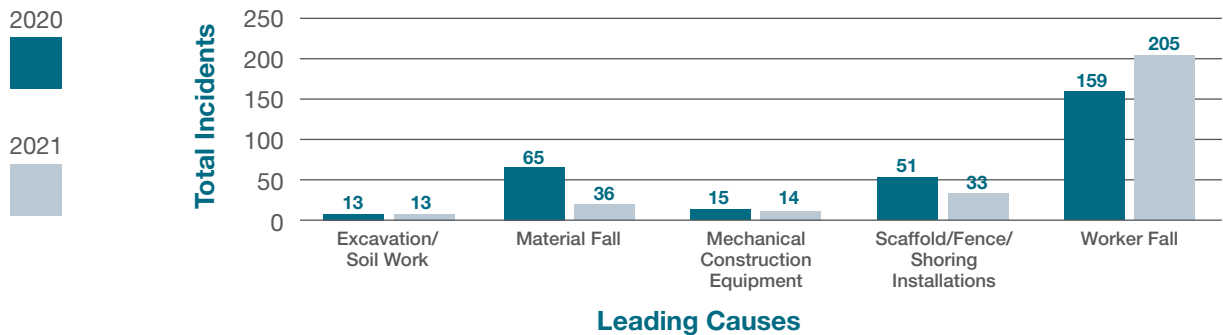
Construction-Related Injuries by Borough

Year	Manhattan	Bronx	Brooklyn	Queens	Staten Island
2020	289	43	107	61	2
2021	300	48	105	45	7

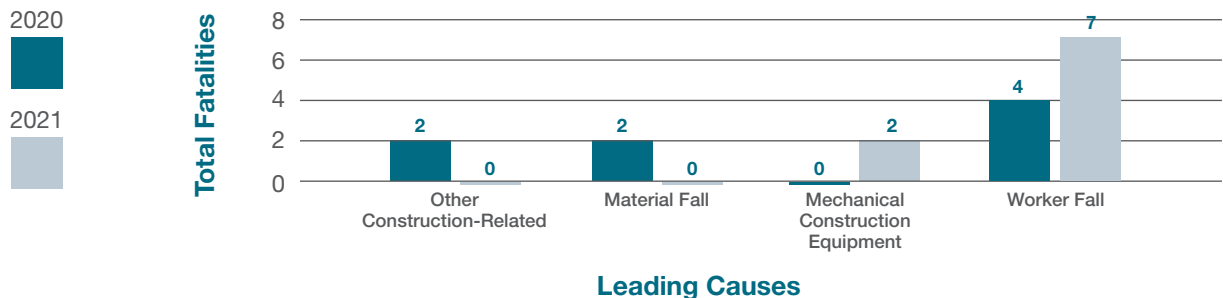
Construction-Related Fatalities by Borough

Year	Manhattan	Bronx	Brooklyn	Queens	Staten Island
2020	2	0	5	1	0
2021	3	1	3	1	1

Leading Causes of Construction Incidents by Category for 2020 and 2021



Leading Causes of Fatalities on Construction Sites for 2020 and 2021



FATAL CONSTRUCTION INCIDENTS

In 2021, nine construction workers lost their lives in a building construction-related incident in New York City. Seven of the nine fatal incidents were the result of worker falls, which remains the leading cause of both injuries and fatalities on the building construction work site. Reviewing these fatal incidents shows that fall prevention and implementing proper work site safeguards should be a significant concern for General Contractors working in New York City. Worker falls can happen on sites of any size, and even a relatively short fall can lead to serious injury or death. The following is a summary of the nine tragic incidents that cost workers their lives in 2021.



Midtown Trash Chute Fall

- **Permit Holder at the Time of Incident:** Gilbane Building Company
- **Project Type:** Alteration
- **Incident Category:** Worker Fall

On February 15, 2021, a worker was cleaning an area where a permanent building trash chute was being installed on the 17th floor of an active construction site at 730 5th Avenue, Manhattan. Our investigation indicated that the worker was standing on a wooden board covering the chute opening, when the covering apparently snapped, gave way, and caused the worker to fall to the floor below. The worker later died at the hospital from their injuries.



Pleasant Plains Roof Fall

- **Permit Holder at the Time of Incident:** AVC General Contracting LLC
- **Project Type:** New Building
- **Incident Category:** Worker Fall

On February 17, 2021, workers were performing roofing work on a new single family home construction project at 144 Dunham Street, Staten Island. One of the workers apparently fell from the roof to the ground below and later died of their injuries. It was determined that the ongoing work at the site was being performed under an expired work permit.



Chelsea Electric Shock

- **Permit Holder at the Time of Incident:** Related Construction LLC
- **Project Type:** New Building
- **Incident Category:** Mechanical Construction Equipment (Electrical)

On April 19, 2021, three workers were on the top floor of a 26-story new building construction site at 555 West 22nd Street, Manhattan. The workers were near an unpermitted electrical transformer when one of the workers came into contact with a live electrical wire and suffered an electric shock. The worker was transported to the hospital unconscious and later died of his injuries.



Flatlands Walkway Fall

- **Permit Holder at the Time of Incident:** Windham Restoration Corp
- **Project Type:** Façade Repairs
- **Incident Category:** Worker Fall

On April 23, 2021, a worker was attempting to use a walkway consisting of wooden planks that connected a sidewalk shed to a suspended scaffold, where permitted façade repairs were ongoing outside of the 6-story residential building at 1200 East 53rd Street, Brooklyn. While using the walkway, the worker apparently fell approximately 10 feet to the ground below. The worker was transported to the hospital and died of his injuries eight days later.



Mott Haven Elevator Drop

- **Permit Holder at the Time of Incident:** GDI Construction LLC
- **Project Type:** Alteration
- **Incident Category:** Mechanical Construction Equipment (Elevator)

On May 19, 2021, workers were removing debris from the top floor of an existing five-story building undergoing a major alteration project at 20 Bruckner Boulevard, Bronx. Two of the workers entered an elevator device, along with a large amount of concrete debris and a pallet jack, when the elevator dropped and crashed into the pit below. One of the workers was transported to the hospital with critical injuries, the other worker was crushed, and died of their injuries. The elevator device had not been approved to be used during the demolition operations.



Long Island City Mechanical Shaft Fall

- **Permit Holder at the Time of Incident:** Pavarini McGovern LLC
- **Project Type:** Alteration
- **Incident Category:** Worker Fall

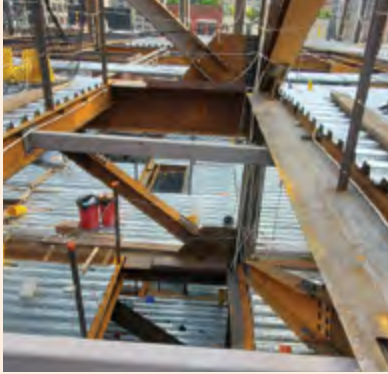
On May 22, 2021, two workers were obtaining an extension ladder at the sixth floor of a mechanical shaft of an existing six-story building undergoing a major alteration project at 45-18 Court Square, Queens. One of the workers apparently fell off the landing, down the mechanical shaft and landed on the second floor where he died of his injuries.



Flatbush Roof Fall

- **Permit Holder at the Time of Incident:** Ameristar Construction LLC
- **Project Type:** Demolition
- **Incident Category:** Worker Fall

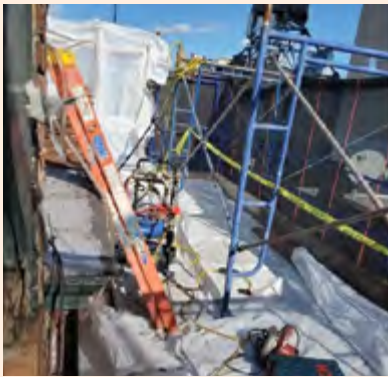
On May 27, 2021, workers were in the process of fully demolishing a 2-story bank building at 1045 Flatbush Avenue, Brooklyn, when one of the workers apparently fell off the roof and landed on the ground, approximately 60 feet below. The worker died of his injuries from the fall.



Hudson Square Work Site Fall

- **Permit Holder at the Time of Incident:** LendLease (US) Construction
- **Project Type:** New Building
- **Incident Category:** Worker Fall

On September 14, 2021, workers were constructing a 19-story steel frame new building at 310 Hudson Street, Manhattan. One of the workers on the fifth floor of the work site was tightening steel bolts on a metal mesh screen over an elevator shaft opening, when he apparently fell through the metal mesh screen and landed approximately 86 feet below at the cellar level. The worker died of his injuries.



Gowanus Roof Fall

- **Permit Holder at the Time of Incident:** SLOVIT INC
- **Project Type:** Asbestos Abatement
- **Incident Category:** Worker Fall

On November 1, 2021, workers were performing asbestos abatement work on the roof of a three-story building at 289 3rd Avenue, Brooklyn. One of the workers left the work area to use the restroom, and apparently fell through a 15-inch gap between the building and the supported scaffold, falling approximately 25 feet from the roof on to a first story set back in the rear of the building. The worker died of his injuries.



NEAR MISSES AND MAJOR NON-FATAL INCIDENTS 2021

The Department investigated other construction-related incidents in 2021 that could have easily ended in tragedy, but thankfully did not, despite having all the makings of a potentially fatal incident. Reviewing these incidents shows that even non-fatal incidents on construction sites can have serious consequences, resulting in severe injury, work stoppages and costly repairs. Below is a review of several notable potentially fatal near misses of 2021.



Greenpoint Tower Crane Partial Collapse

- **Permit Holder at the Time of Incident:** Consigli & Associates LLC
- **Project Type:** New Building
- **Incident Category:** Mechanical Construction Equipment (Tower Crane)

On February 12, 2021, workers were performing maintenance work on a tower crane located at a 31-story new building construction site at 1 Bell Slip, Brooklyn. While they were performing this maintenance, the workers disconnected the crane's boom hoist motor to replace it, at which point the 164-foot lattice boom fell uncontrolled, heavily damaging the crane. While the boom partially collapsed, no part of the crane fell to the ground. There were no injuries associated with this incident.



Greenpoint Window Panel Drop

- **Permit Holder at the Time of Incident:** New Line Structures & Development
- **Project Type:** New Building
- **Incident Category:** Material Fall

On May 19, 2021, workers were on the 23rd floor of a 40-story new building construction site at 1 Eagle Street, Brooklyn, in the process of installing a 12,000-pound masonry precast window panel with the use of a crane. While placing the 12-foot by 16-foot panel, it fell and landed on the 7th floor, causing structural damage when it crashed on top of a concrete bridge roof. There were no injuries associated with this incident.



Flatiron District Scaffold Fall

- **Permit Holder at the Time of Incident:** Skyline Restoration Inc.
- **Project Type:** Façade Repairs
- **Incident Category:** Scaffold (Worker Fall)

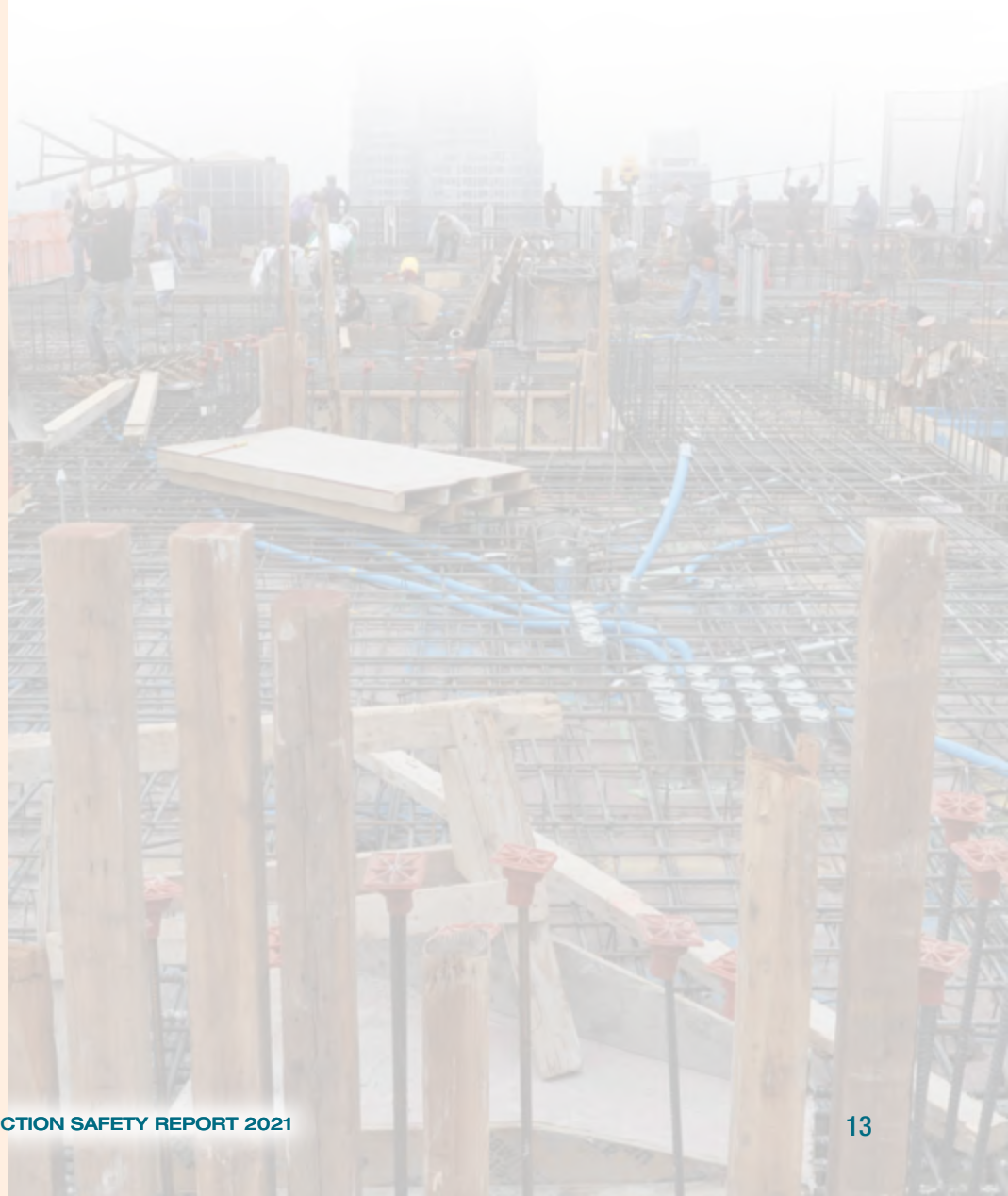
On May 24, 2021, construction workers were using a supported scaffold to perform façade repairs at an existing 20-story residential building located at 15 East 26th Street, Manhattan. One of the workers was sitting on a side (bicycle) bracket of the scaffold when they fell approximately 30 feet through the gap between the building and the work platform, from the eighth-floor level to the fifth-floor level. The worker sustained a head injury and was transported to the hospital with non-life-threatening injuries.



Partial Work Site Roof Collapse

- **Permit Holder at the Time of Incident:** Lati Construction Corp
- **Project Type:** Alteration
- **Incident Category:** Material Fall

On July 30, 2021, construction workers were performing demolition work at a major alteration project to convert an existing 2-story residential building located at 439 Lincoln Road, Brooklyn, into a 5-story apartment building. While the workers were removing wood joists on the second floor of the work site, as part of ongoing demolition operations, the roof and wall partially collapsed on two of the workers trapping them under debris. The workers were rescued from the debris by first responders and were transported to the hospital with serious injuries.



CONSTRUCTION ENFORCEMENT

Our overview of the construction incident data shows that the number of work site incidents that the Department was called to respond to decreased in 2021, continuing a multi-year trend toward greater safety for workers and members of the public. Safety on the construction site is ultimately the responsibility of private contractors in our City, and their consistent oversight of ongoing work and adherence to Code regulations is the most important factor in reducing construction site hazards. In order to hold contractors accountable for this responsibility, and to promote the safety of all New Yorkers, the Department has enhanced our inspection protocols of active construction sites in recent years.

To increase our footprint on work sites across the City, the Department bolstered its ranks with new inspectors, and optimized agency efficiency through a reorganization of enforcement units. From 2016 to 2021, the infusion of additional resources has allowed the Department to add over 150 positions for new Department staff performing inspectorial functions, used to enforce mission-critical directives, including construction site safety and tenant protection inspections. Department inspectors are increasingly becoming a common sight on active constructions sites, which is an additional layer of oversight, and has helped to discover serious safety lapses prior to incidents occurring. The Department also continues to take strong disciplinary actions against licensees and other construction professionals in recent years, holding them accountable when we find egregious behavior that is putting workers and the public at risk. These actions include suspensions, loss of filing privileges, and license revocations.

Construction Enforcement Overview

Year	Construction Safety Violations Issued	Stop Work Orders Issued
2020	68,443	11,307
2021	78,270	10,388

OATH Violations Issued by Class

Year	Class 1	Class 2	Class 3
2020	32,612	34,139	1,692
2021	33,827	42,767	1,676

Class 1 = Immediately Hazardous; Class 2 = Major; Class 3 = Minor

Total Violations by Borough

Year	Manhattan	Bronx	Brooklyn	Queens	Staten Island
2020	17,338	10,646	23,916	14,367	2,176
2021	19,222	12,617	26,255	17,508	2,668

Total Stop Work Orders by Borough

Year	Manhattan	Bronx	Brooklyn	Queens	Staten Island
2020	2,606	1,106	4,787	2,470	338
2021	2,562	980	4,061	2,460	325

Disciplinary Actions Taken Against Licensees and Other Construction Professionals

Year	Disciplinary Actions
2020	57
2021	53

2021 'Zero Tolerance' Enforcement Campaign Data

The Department's enhanced enforcement strategies were exemplified by the months-long "Zero Tolerance" construction safety campaign, launched on June 1, 2021, in response to a spate of fatal and near-fatal construction worker falls that happened in the Spring. During the three-month campaign, Department inspectors swept building work sites across the five boroughs, issuing Stop Work Orders whenever they found unsafe conditions that posed serious hazards to workers and the public. The construction work site inspections conducted during these sweeps were in addition to the hundreds of thousands of regular development and enforcement inspections performed by the Department throughout the City year-round.

Of note, the launch of the campaign coincided with a drop in construction site injuries, indicating that the strategy may have influenced contractors to pay closer attention to applicable safety regulations on their work sites. In the first five months of the year, prior to the launch of the "Zero Tolerance" program, there was an average of 44.6 construction-related injuries each month. In the last seven months of the year, after the strategy was implemented, the number of construction-related injuries decreased to 37.3 injuries a month.

Results of Construction Safety Sweep by Borough

	Manhattan	Bronx	Brooklyn	Queens	Staten Island	Total
Sites Visited	1,645	722	2,757	1,929	390	7,443
Violations Issued	978	365	1,252	934	137	3,666
Stop Work Orders	545	144	425	339	46	1,499

Results of Construction Safety Sweep by Work Site Type

	New Building	Demolition	Alteration	Total
Sites Visited	2,814	436	4,193	7,443
Violations Issued	1,422	57	2,187	3,666
Stop Work Orders	498	16	985	1,499

Results of 'Zero Tolerance' Campaign

Injuries Per Month Before 'Zero Tolerance'	Injuries Per Month After 'Zero Tolerance'	Percent Decrease in Injuries Per Month
44.6	37.3	-16%



SITE SAFETY AT LARGER CONSTRUCTION SITES



Over the years, our data has consistently shown that the larger and more complex a work site is, the higher the potential for worker injury and other construction-related incidents. In recognition of this, the Department has dedicated significant resources to enforce safety regulations on these kinds of work sites. Known in NYC as Site Safety Training (SST) work sites, these larger and more complex projects require Department-approved site safety plans and supervision

by a Construction Superintendent or a designated Competent Person. The largest and most complex of these sites, which are termed Major Buildings, requires the supervision of dedicated Site Safety Coordinators (SSC) or Site Safety Managers (SSM).

In 2021, the Department took further steps to enhance safety supervision on these SST sites, through the passage of several new local laws including:

- Expanded the number of work sites that are required to have a dedicated SSC or SSM, to include any project that has a significant scope of work, seven stories or more in height.
- Requires Major Building construction sites to also hire a separate Construction Superintendent to serve full-time alongside the SSC or SSM, increasing the number of required safety professionals on these sites.
- Reducing, over the next several years, the number of sites a Construction Superintendents can simultaneously supervise, so they can focus on the site safety at a single location.

All workers and supervisors on SST sites must also have SST cards indicating the successful completion of mandatory safety training courses, a requirement fully implemented in 2021.

Training Requirement for Workers on SST Work Sites	Training Requirement for Supervisors on SST Work Sites	Total number of SST Cards Issued (Workers and Supervisors)
40 hours	62 hours	140,000+

The Department closely tracks the thousands of SST work sites located across the City and has an enforcement unit dedicated to conducting unannounced safety inspections of each of these work sites multiple times every year to check for compliance with SST regulations. The public can see where these sites are using the [Department's Real-Time Site Safety Work Site map](#), which is updated daily.



SST Inspections Conducted in 2020	SST Inspections Conducted in 2021	Percentage +/-
10,809	13,483	25%

2021 SAFETY INITIATIVES

Construction Code Revision

Sweeping updates to our City's Construction Codes continuing our tradition of having the strongest building and construction regulations in the country.

[See more information.](#)

Construction Safety Outreach

Virtual construction safety seminars held in multiple languages and posted on social media. Conducted direct outreach on construction sites with leaflet campaign, done to assist in the creation of a culture of safety in construction industry.

[Watch Construction Safety seminars.](#)

Zero Tolerance Sweeps

Coordinated construction safety enforcement campaign in 2021, sweeping work sites citywide to crackdown on lax fall protection practices and other unsafe conditions.

[See more information.](#)

Construction Safety Bills

Critical safety legislation passed into law requiring contractors to provide more site safety supervision on more large construction sites citywide.

[Local Law 146 of 2021:](#) Amends the New York City Administrative Code, in relation to final inspections for temporary construction equipment permits and prohibiting stand-off brackets.

[Local Law 147 of 2021:](#) Alters the definition of Major Building, which expands the number of work sites that require dedicated safety supervision.

[Local Law 148 of 2021:](#) Amends the New York City Building Code, in relation to regulations for cold-formed steel construction.

[Local Law 149 of 2021:](#) Amends the New York City Building Code, in relation to regulations for Construction Superintendents.

[Read our April 2021 Press Release which first announced the construction safety bills.](#)

'Hack the Building Code' Innovation Challenge

Second annual open competition soliciting ideas and new technologies from the public to promote public safety and improve NYC's built environment. Five winning proposals were announced, three of which were related to the construction site safety.

SiteSafety - Changes to the NYC Building Code to require horizontal safety netting in shaft way openings on active construction sites to prevent work site fatalities.

SafeRise - A standardized, reusable, and lockable steel barrier that could prevent worker and material falls in elevator and other shaft ways.

Kwant.ai - An interactive network of smart badges, sensors, and mobile phone alerts to track construction workers' locations on complex work sites.

[See more information.](#)



LOOKING TO THE FUTURE: STRENGTHENING CONSTRUCTION SAFETY



While construction incidents resulting in injuries and fatalities have remained generally consistent in 2021 compared to 2020, the Department continues to evaluate its policies and practices to improve construction safety procedures and worker safety education. We understand that even one lost life or life-altering injury is too many in our City. The Department is continuing the vital work with our partners in the industry to enhance safety on construction sites and drive down these injuries and fatalities.

Working to increase construction safety in 2022 and beyond:

- Continuing to work with our partners in industry and the New York City Council to advance needed General Contractor licensing reform in New York City, which would add accountability on construction sites.
- Strengthening our existing Local Law 196 Site Safety Training (SST) procedures at the Department, for our City's larger and more complex work sites, including expanding our new centralized database for SST cards, and continuing our unannounced safety inspections on these SST sites.
- Conducting outreach to the industry and New York City Council to discuss additional measures on ways we can improve existing SST regulations.

- Expanding multilingual outreach to construction professionals and day laborers working in our City, including canvassing work sites, conducting online worker safety sessions, and issuing worker alerts with critical safety information.
- Launching our new Major Building Development Program, first proposed in 2021. This voluntary program for skyscraper projects would increase efficiency and safety on these major projects, by increasing the Department's footprint throughout the development process.
- Deploying resources to expand our continuing training program for Department inspectors, so that they are knowledgeable about the updated rules and regulations for various aspects of construction in our City.







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