



NYC
Buildings

**2019 –
2020**

CONSTRUCTION SAFETY REPORT

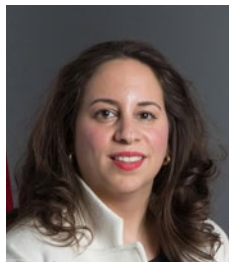
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MESSAGE FROM THE COMMISSIONER



Throughout the history of New York City, development of our iconic built environment has been a key driver in our City's economic growth. The construction industry here in New York City has served as an economic engine responsible for the creation of hundreds of thousands of quality middle-class jobs for New Yorkers in every neighborhood, providing new opportunities in our city for social mobility within immigrant and underserved communities. The buildings that arise from this development activity represent new homes for our neighbors, new office space for growing companies, new public community spaces, and new opportunities for our small business and creative communities. Our growing built environment has allowed New York City to stand apart as a truly global city, with a skyline known the world over.

However, as we know all too well, the very building projects and construction activity that has powered our city's amazing growth into a global capital, can pose their own potential hazards. Large teams of workers, using heavy machinery in a dense urban environment, dealing with unique work site conditions, all combine to create potential conditions where injuries and fatalities can occur. When regulations are ignored, and the proper safety precautions have not been implemented, the consequences can be devastating.

It is the primary charge of the NYC Department of Buildings to ensure that these safety regulations for buildings and construction sites are closely adhered to, in order to protect our fellow New Yorkers. Construction and development must be allowed to continue for our city to meet the needs of future generations of New Yorkers, as we look to create a more sustainable and resilient building stock. But we must never forget that no building is worth a life, and we must do everything in our power to ensure that safety is the number one priority.

I have the privilege of leading a workforce of over 1,600 dedicated inspectors, architects, engineers, plan examiners, and other staff that work diligently to help ensure the safety of those who build, live, and work in our city. Together, we regulate 1.1 million buildings and approximately 35,000 active construction work sites throughout the city for compliance with applicable safety regulations and zoning restrictions. We have a great team at the Department of Buildings, but our city is simply too large for us to fulfill our mission alone. Construction professionals know all too well the potential risks of their work. Injuries on a work site do not just affect the victims, they have lasting, profound impacts on their families, friends,

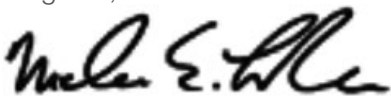
and coworkers as well. Keeping construction workers and members of the public safe must be a joint effort between the Department and the industries we regulate. For this reason, we are grateful to have the support and partnership of elected officials that help pass proactive construction safety legislation, the site safety and industry professionals that effectively manage job sites, and the efforts of community advocates working to make each day safer to build in New York City. United in purpose, we are creating a culture of safety that will undoubtedly save lives and reap results for years to come.

In the past, injuries and deaths were considered inevitabilities in the industry—a fact of life on the job site. Thankfully, those days are in the past, and New York City’s construction workers today are safer now than they have ever been. By embracing a twofold approach—working with the industry to create a culture of safety, accompanied by stringent, proactive enforcement of safety regulations—we have proven that we can break with past cycles. The 2019 calendar year was one of the safest years on record for New York’s construction industry, even while construction activity continued at high levels across the city. 2019 saw the first drop in worker injuries, of over 20%, in nearly a decade.

Of course, 2020 brought new challenges to New York City and the entire nation as we all navigated the unprecedented and uncertain world created by the devastating coronavirus pandemic. To meet this challenge, the Department has taken on new responsibilities while rapidly transforming the way we do business with our customers. First, by helping the industry continue essential and emergency work during a statewide pause on nonessential construction activity, and later by guiding the industry through the resumption of construction activity with new health and safety guidelines. With admirable compliance from the construction industry, we have again shown that by working together, “site safety” can be a guiding principle in everything we do.

What follows is our analysis of construction safety data and new operating procedures in New York City in 2019 and 2020. These findings will help guide us as we seek to build upon our previous success, maneuver safely through the ongoing pandemic, and ensure that safe construction activity continues to drive the economy of our city. The hardworking men and women of the Department of Buildings will not rest until it is a given that every worker who sets foot on a construction site knows they will return to their families, unharmed, at the end of the day. We owe our fellow New Yorkers that dedication.

Regards,



Commissioner Melanie E. La Rocca

We regulate
1.1 million buildings
and approximately
35,000 active
construction work
sites throughout
the city.

EXECUTIVE SUMMARY

With over 1.1 million buildings in the city and approximately 35,000 active worksites at any one time, construction activity has been a significant factor in the day-to-day life of New Yorkers in every neighborhood throughout the five boroughs. The Department of Buildings is here to help ensure that this work is performed safely and in compliance with all applicable regulations. While the ongoing public health emergency has not spared the construction sector, with a months-long pause for nonessential construction work sites throughout the city in Spring 2020 and a decline in active work sites compared to recent years, construction activity in New York City remains at high levels. In terms of real numbers, the development industry was responsible for:

- ◆ Over **333 million square feet of new construction floor** area erected since 2014; in 2019, new building floor area reached 42,024,068 square feet, compared to 46,230,500 square feet in 2018 (based on permit issuance). Despite the pandemic and a shutdown of nonessential construction spanning three months, new building floor area reached 33 million square feet in 2020.
- ◆ **196,206 permits issued in 2019**—an increase of more than 21% since 2014, but down from 202,508 in 2018. Notwithstanding the pause in nonessential construction, the number of permits issued was at 131,383 by the end of 2020.
- ◆ Over **29,000 new licenses and registrations** issued by DOB to construction professionals since 2014; there was an 18% decrease from 2018 (5,834 issuances) to 2019 (4,800 issuances), and in 2020 (2,163).
- ◆ Even from March 27, 2020, the day the Governor issued an order halting non-essential construction to June 8, 2020, when non-essential construction was allowed to resume, **planning for future new building projects continued unabated**, with new building permits issued across the five boroughs (see table at left):

NB PERMIT ISSUANCE DURING NONESSENTIAL CONSTRUCTION PAUSE	
Borough	NB Permits Issued
Brooklyn	471
Queens	253
Bronx	178
Manhattan	169
Staten Island	165
Grand Total	1,236

Table 1: Total unique New Building (NB) permits issued from March 30, 2020 (the first business day following the Governor's order) to June 7, 2020 (the last day of the pause on non-essential construction). These permits were issued for construction projects deemed essential.

With the sheer amount of construction activity and maintenance projects occurring in every neighborhood around the city, the Department's charge of protecting the public is a daunting challenge. In order to meet that challenge in recent years, the Department has implemented new stringent enforcement strategies and construction worker safety training requirements. While the construction surge that began in the aftermath of the 2008 recession had continued into 2019, the number of construction-related incidents involving injuries were driven to new lows, thanks in part to these new Department initiatives. By 2020, the heights of the

building boom had largely abated on account of the ongoing coronavirus pandemic. Irrespective of the amount of building construction activity, whenever work was permitted to take place, the Department of Buildings was there holding owners and contractors accountable and verifying they were properly safeguarding their work sites. Looking at the data:

- ◆ Construction incidents involving injuries had been on the rise since the current building boom began in 2011. In 2019, **incidents with injuries and fatalities declined by 24%**, marking the first drop in nearly a decade. In 2020, construction incidents involving injuries and fatalities had declined again to 485, compared to 565 in 2019—a 14% drop.
- ◆ In the 2019 calendar year, DOB's new Construction Safety Compliance Unit completed over 20,000 unannounced proactive inspections at more than 10,000 of our city's larger construction work sites. In the 2020 calendar year, our Construction Safety Compliance unit completed **over 15,500 unannounced proactive inspections at more than 9,500 sites**.
- ◆ Tragically, in 2019 there were 12 members of the construction industry who lost their lives on the job site in a building construction-related incident, a number that has been consistent in each of the past five years. By all accounts, 2020 was an anomalous year due to the pandemic, but it was also a year where we saw a **decline in fatalities**, down from 12 the previous year to eight for this calendar year. Even one death caused by unsafe work practices on a construction site is unacceptable, and the Department is committed to further driving down this number.

The data provided above and throughout this report will examine construction activities under the jurisdiction of the Department of Buildings. The construction injuries and fatalities that the Department counts must be related to construction work permitted or required to be permitted under DOB's jurisdiction (even if the work is illegally performed), by a person in the construction trades and/or registered and licensed by the Department. While both DOB and the federal Occupational Safety and Health Administration (OSHA) track information about construction fatalities in the five boroughs, the statistics from the two agencies are not identical. For instance, OSHA tracks off-site incidents like fatalities from transit and roadway projects, as well as health emergencies affecting construction workers, which are not under DOB's jurisdiction. In addition to tracking injured workers, DOB tracks injuries to members of the public, which OSHA does not. Our enforcement activities are directly in response to construction activity that falls under DOB jurisdiction. The goal for our enforcement strategy is to spur the industry to create safer conditions on the job site so legal construction work can proceed smoothly and without incident.

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Recognizing the value in making worker safety a priority for his administration, Mayor Bill de Blasio made an unprecedented investment to increase the Department's enforcement capabilities needed to achieve the work site safety goals laid out as part of his vision for DOB, Building One City. An important part of this investment was focused on modernizing the agency and improving our overall customer service operations. The modernization efforts at the Department of Buildings have clear benefits for the industry, by providing greater consistency in our services, which in turn allows for more uniform oversight of ongoing projects across the city.

In years past, development in New York City had traditionally been a waiting game for the industry: waiting for appointments, for approvals, and for inspections. We have worked to change that by shifting our model to one that prioritizes the customer service experience. For example:

- ◆ **Development inspections of construction projects are now currently performed on average in under 1.3 days** for the 2020 calendar year, down from an average of 5.0 days in 2015, the first year for which this data is available.
- ◆ **Major-project first plan reviews** by the Department in 2020 for New Building (NB) and Major Alteration (A1) jobs **were completed in 6.4 days and 5.8 days respectively**, down from 18.3 days for NB and 18.5 for A1 jobs in 2015.
- ◆ **63,495 job filings were received online in 2020**, compared to 53,392 in 2019. In 2020, these online filings represent 47% of all job filings submitted to DOB. In 2019 only 36% of all job filings submitted to DOB was done so using our online filing portal.

In 2020, the coronavirus pandemic pushed the Department to speed up the timeline for these modernization efforts, which has resulted in even greater improvements to the customer service experience at the Department. During the pandemic, we moved nearly all of our public transactions to online or mail-in only, leading to an **over 90% reduction in customer foot traffic** in our public facing offices. We continued the roll out our online service portal DOB NOW, the backbone of our modernization plan, with the eventual goal of moving 100% of applications, reviews, payments and scheduling completely online. During the pandemic we launched new features in DOB NOW for online filings related to cranes, general construction, mechanical work, and structural work types. These steps have done away with the vast majority of unnecessary in-person trips to Department of Buildings' offices, allowing the public to interact with the Department from the convenience of their home or office.

In addition to increasing our online footprint, we have redoubled our commitment to utilizing technology to provide greater transparency

for the public, while taking additional steps to remove roadblocks to development in our city. Following the Governor's temporary ban on nonessential construction, "New York State on PAUSE," in Spring 2020, we launched an online map identifying the location of essential work sites around the city and updated it daily. In accordance with Mayoral Emergency Executive Orders, we facilitated the extension of all Department-issued permits, licenses, and registrations that were expiring from the start of the declaration of the state of emergency into the reopening. We also worked with Department-approved course providers to expand the online training options and allowed online license renewals for construction professionals.

While the public is spending less time in our administrative offices, DOB inspection staff is spending significantly more time on construction work sites across the city. During the halting of nonessential construction in the Spring of 2020, the agency's frontline teams regularly conducted inspections, over 70,000 (including re-inspections), of work sites citywide to verify that only approved essential construction activity was taking place. Nonessential work sites that were halted due to the Gubernatorial and Mayoral Executive Orders were monitored to make sure they were properly secured and maintained at all times throughout the duration of the Pause. Any calls from concerned New Yorkers regarding potentially illegal construction in their neighborhood were responded to within 24 hours, and often on the same day. During the Pause, DOB inspectors responded to almost 6,000 complaints made by members of the public to the city's 311 system. Following the end of the construction pause, DOB inspectors continued conducting regular on-site field visits to all construction sites across the city to verify compliance with COVID-19 health and safety regulations, including the requirement of mandatory face coverings, hand sanitary stations, and social distancing.

The ongoing pandemic also created shifts within the Department, with many of our staff moving to teleworking. Over 72% of DOB's staff have been working from home either full or part time since the beginning of the pandemic in New York City. DOB employees whose duties required them to work in the office, or out in the field, were equipped with personal protective equipment (PPE). In addition, the Department implemented new cleaning and social distancing protocols for all our offices and shared workspaces.

While we are anxious to put the coronavirus pandemic behind us, and for activities in our city to return to normal, we also recognize that many of the changes made at the Department in response to this crisis have made our city safer and reduced unnecessary red tape for development. As we move forward, we will continue to expand on our modernization efforts and carefully examine which of these changes at the Department should be made permanent.

Mayor Bill de
Blasio made an
unprecedented
investment to increase
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to achieve the work
site safety goals.

CONSTRUCTION SAFETY AND ENFORCEMENT SUMMARY

2019: A YEAR OF SUCCESS IN ENFORCING CONSTRUCTION SITE SAFETY

The Department of Buildings has multiple units responsible for enforcing safety regulations on construction work sites.

In 2019, the Department of Buildings issued a total of 147,561 work permits for construction projects in every neighborhood across the city.

While the 2019 permit numbers are a decline from the record activity seen in 2017, they still represent one of the busiest years for construction in recent New York City history. For context, in 2010 the Department issued a total of 116,980 permits, and in the year 2000, the Department issued a total of only 85,316 permits. With high levels of construction activity ongoing across the city, adherence to construction safety regulations is critical to protect New Yorkers.

At the Department of Buildings, we are committed to pulling every administrative and regulatory lever at our disposal to enhance safety for those affected by the entire life cycle of a construction project, before the first shovels hit the ground to final sign off inspections. To effectively carry out the work of enforcing construction safety regulations, you need experts that can monitor, regulate, and enforce construction and building safety at all levels. To that end, the Department of Buildings has multiple units responsible for enforcing safety regulations on construction work sites. These units are made up of experienced construction professionals including licensed professional architects and engineers, meticulous plan examiners, and well-trained, experienced inspectors. The different teams at the Department of Buildings carry out the task of work site inspections, advancing safety awareness, follow up field visits, emergency response operations, construction plan review, investigating construction-related incidents, and ensuring compliance with our city's regulations intended to keep New Yorkers safe.

In 2019, we added to our ranks of safety professionals by creating a new Construction Safety Compliance (CSC) inspection unit dedicated to conducting proactive surprise inspections at our city's larger and more complex construction sites and enforcing our new Site Safety Training (SST) requirements for construction workers. These larger construction projects, classified as SST work sites, represent a notable percentage of construction activity in New York City, with a single site having potentially hundreds of workers on location at any one time. As a result of aggressive enforcement of existing regulations throughout the city, and new proactive inspection protocols for these SST work sites, 2019 witnessed a decline in work site incidents that resulted in a worker injury.

We saw further decreases in work site incidents involving injuries in 2020. The goal moving forward is to build on this success and continue to drive down work site injuries, ensuring that the declines we saw in 2019 and 2020 continue well into the next 10 years and beyond. **Figure 1** at right, provides a glimpse of the last 12 years of construction-related incidents and permit issuances, including the years leading up to the 2019 decline.

Figure 2 at right provides another broad overview of how aggressive efforts to promote work site safety have led to decreases in construction-related incidents and injuries starting in 2019 through 2020.

With more proactive on-site inspections, and an increased focus on rooting out bad actors in the construction industry, these decreases in work site injuries coincided with a significant increase in the number of violations and related enforcement actions that were issued by the Department of Buildings in 2019 compared to the preceding year. These violations are issued by Department inspectors under different classes depending on the severity of the infraction. As visible in **Table 2** at right, the issuance of Office of Administrative Trials and Hearings (OATH) summonses, previously referred to as Environmental Control Board (ECB) violations, and their accompanying financial penalties, **increased by almost 8%** in

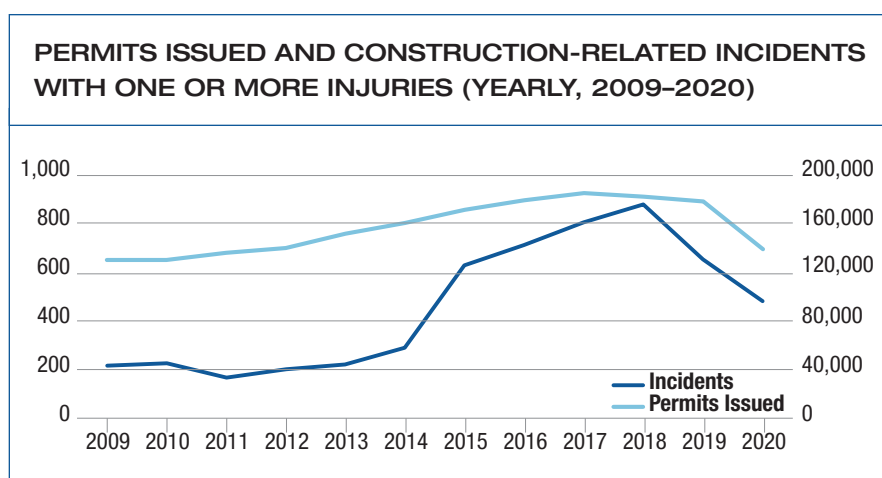


Figure 1: Construction-related incidents with injuries compared against permit issuances by year from 2009–2020.

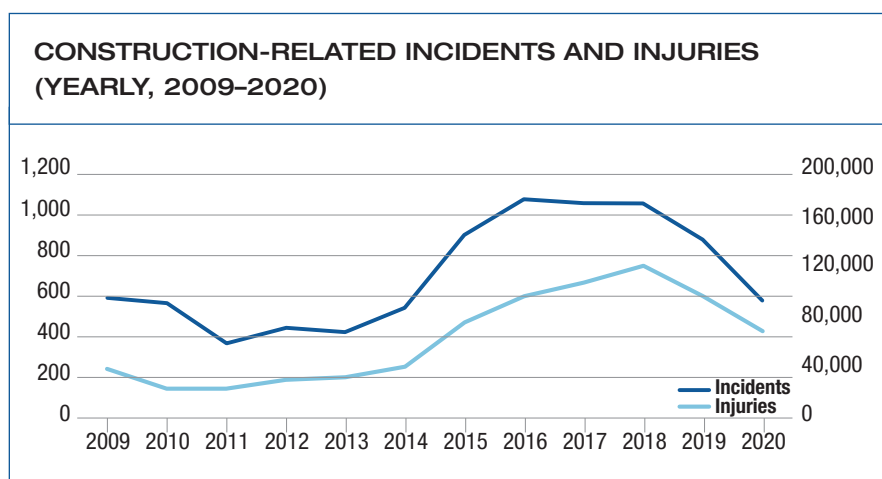


Figure 2: Construction-related incidents and injuries from 2009–2020.

OATH/ECB VIOLATIONS BY CLASS		
	2018	2019
Class -1	37,721	47,787
Class -2	46,569	45,217
Class -3	4,201	2,464
Total	88,491	95,468

Table 2: Annual totals of DOB issued OATH summonses/ECB violations separated by class. OATH summonses/ECB violations are issued by the Department of Buildings when a property does not comply with a section of the NYC Construction Codes and/or Zoning Resolution. There are three classes of OATH summonses: Class 1 (Immediately Hazardous), Class 2 (Major), Class 3 (Lesser).

2019 compared to 2018. It is worth noting that the staffing of our construction enforcement units increased by 12.5% from 2018 to 2019; nevertheless, other factors such as changes in access rates to properties and inspection enforcement sweeps may also have contributed to the increase in violations.

The single most common Class-1 summonses that we issued in 2019 was for failure to comply with a previously issued Order of the Commissioner. These summonses are issued after follow-up inspections reveal a property owner or construction professional failed to follow our orders and correct previously cited non-compliant conditions. **These follow up violations account for more than 12% of all of the Class-1 violations issued in 2019.** When we encounter situations where our orders are not followed, we are following up on our initial summonses with additional enforcement actions to make sure that corrective repairs are made, hazardous conditions are remediated, and sites are kept in a safe condition.

The next most common reason for the issuance of a Class-1 summons was for Work Without a Permit violations, **making up almost 9% of Class-1 summonses issued in 2019.** In the interest of public safety, construction work in New York City requires permits and approvals from the Department of Buildings, prior to the start of a project. Cutting corners by hiring unregistered contractors to perform unpermitted work also means cutting back on safety standards. We refuse to let that type of behavior happen unchecked on our watch. In 2019, we increased our aggressive actions on non-code-compliant activity in every area. Below, **Figure 3** provides a look at the specific categories of violations where we issued more summonses in 2019, compared to 2018:

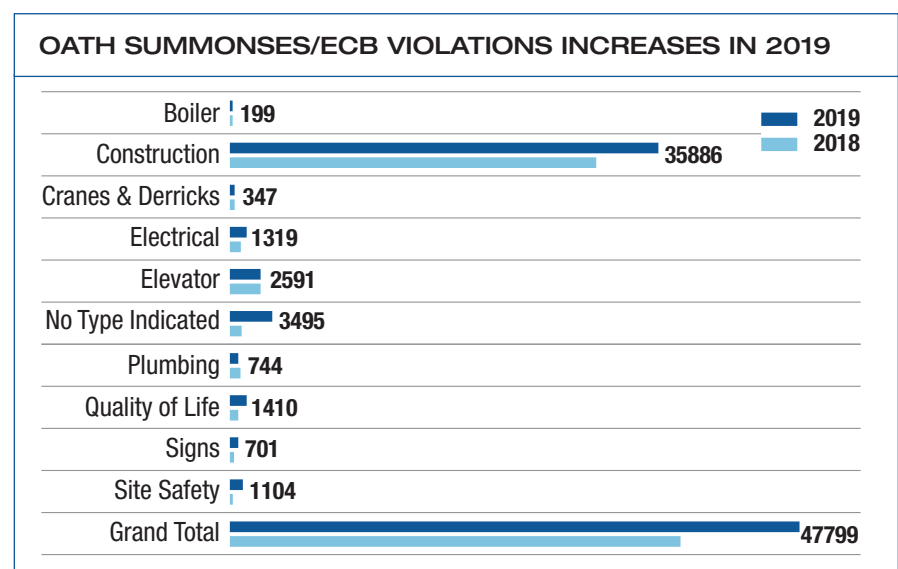


Figure 3: DOB-issued OATH/ECB violations that increased in 2019 separated by category.

OATH/ECB violations and their associated fines are just one of the tools the Department uses to make it clear to the industry that there are repercussions for unsafe and dangerous work practices. In 2019, we also issued more direct orders to owners and contractors with our administrative DOB violations (**up over 19%**) and more construction site Stop Work Orders (**up over 20%**) than in the preceding year, as shown in **Table 3**. This number represents both Full and Partial Stop Work Orders combined. Full Stop Work Orders (SWO) are issued when the conditions on a work site pose such a significant safety risk, that it necessitates shutting down activity throughout the entire job site. These Full Stop Work Orders are a powerful tool and necessary in certain circumstances to protect workers, the public, and neighboring properties. When appropriate, the Department also has the ability to issue Partial Stop Work Orders, stopping work in a specific part of a work site, or associated with a specific type of work on a larger project, and allowing the rest of the work at the site to proceed. The ability to issue Partial Stop Work Orders gives the Department added flexibility when determining the best course of action to take with respect to a site, shutting down specific hazardous elements of a work site in the interest of public safety, while allowing the safe construction activity to continue unimpeded. Whether a Partial Stop Work Order or a Full Stop Work Order is issued, the message is the same, the Department will immediately shut down any construction work in the City that is unsafe.

These Full Stop Work Orders are a powerful tool and necessary in certain circumstances to protect workers, the public, and neighboring properties.

OATH SUMMONSES/ECB VIOLATIONS, DOB VIOLATIONS, AND STOP WORK ORDERS		
	2018	2019
Full Stop Work Orders	6992	7676
Partial Stop Work Orders	4817	6501
DOB Violations	99,841	119,283
OATH/ECB Violations	88,491	95,468

Table 3: Total annual OATH summonses/ECB violations, DOB violations, and Stop Work Orders issued in 2018 and 2019. A DOB violation is a notice that a property is not in compliance with a provision of applicable law or an order from the DOB Commissioner. An OATH summons/ECB violation is a summons for non-compliance with the NYC Construction Codes or the NYC Zoning Resolution.

To sum up the enforcement actions taken by the Department in the 2019 calendar year, we:

- ◆ Responded to **122,195 complaints and 1,888 incidents**;
- ◆ Issued **over 95,000 OATH summonses/ECB violations and almost 120,000 DOB violations**;
- ◆ Issued **50 Criminal/Appearence Summonses**; and
- ◆ **Disciplined 90 licensed design and construction professionals.**

This more aggressive enforcement from the Department of Buildings has led to a decrease in both injuries and construction-related incidents. However, we still unfortunately saw 12 construction-related fatalities in 2019 and witnessed several other major construction and building incidents. As **Figure 4** demonstrates, the biggest single cause of worksite incidents in 2019 was from worker falls, which accounted for a quarter of all construction-related incidents that year. The next leading cause, making up **10%** of incidents, was material falling or material failure, where parts of a construction site fall onto a worker. The next most likely causes of a construction site incident involved mechanical construction equipment, and scaffold or shoring incidents.

There were also a large number of construction-related incidents that were caused by a variety of factors that don't fall into one of our listed categories. In **Figure 4** below, these have been labelled as "Other construction-related" incidents, and include various situations ranging from tripping incidents, injuries related to hand tools, orthopedic injuries and electrical shocks. **Figure 5** on the following page shows a breakdown of this "Other" category. Along with all other incident types, "Other construction-related" incidents were also down, **decreasing by 29%**, in 2019 from 2018.

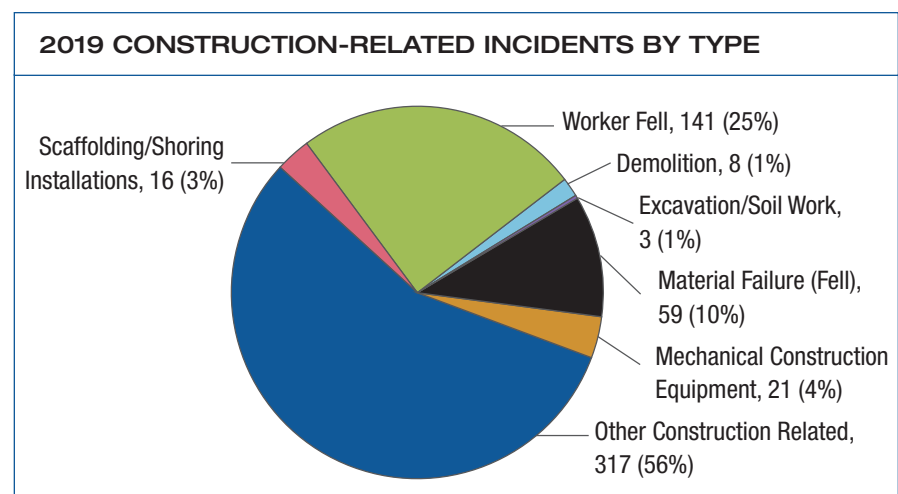


Figure 4: Percentage breakdown of all construction-related incidents in 2019 by type of incident.

2019 CONSTRUCTION-RELATED INCIDENTS CLASSIFIED AS “OTHER”

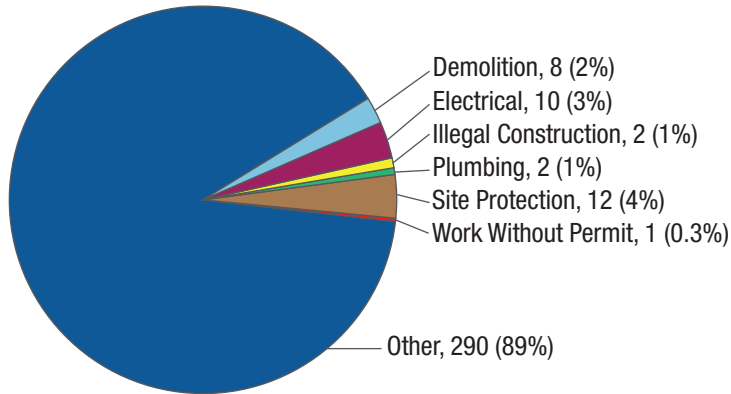


Figure 5: Construction-related incidents classified as “Other” occurring in 2019 broken down by type of incident. These are miscellaneous construction related incidents that result in an injury but do not fit into a single defined incident cause category.

Every building construction-related fatality in New York City receives a full investigation by the Department of Buildings and our partners in law enforcement. Our exhaustive investigations are intended to find out exactly what went wrong in order to hold the responsible parties accountable, and to determine whether changes to existing regulations can prevent similar incidents in the future. In the following section, we will review the fatal building construction-related incidents that took place in 2019 and take a look at other major incidents.

Every building construction-related fatality in New York City receives a full investigation by the Department of Buildings and our partners in law enforcement.

THE FOLLOWING IS A REVIEW OF THE 12 TRAGIC BUILDING CONSTRUCTION-RELATED INCIDENTS IN NEW YORK CITY THAT COST WORKERS THEIR LIVES IN 2019:



MIDTOWN FAÇADE REPAIR

On April 8, 2019, a construction crew performing façade repairs from a suspended scaffold at 311 East 50th Street, Manhattan, placed a standoff bracket on a C-hook to increase distance between the scaffold from the front of the building. While lowering the scaffold, the bracket slipped causing the C-hook to move forward—impacting the coping stone on top of the parapet wall. The impact pushed the stone off the top of the wall, striking a worker on the scaffold, killing him.

INCIDENT CATEGORY: This incident was considered the result of a **Material Failure**.

WHAT WENT WRONG: This incident was caused by the failure to protect the coping stone and the improper use of a standoff bracket. Following this and another incident involving stand-off brackets, the Department took action to prohibit their further use in New York City. *See page 53 for an update on [Stand-Off Brackets](#).*



BROOKLYN HEIGHTS WATER LEAK REPAIR

On April 10, 2019, two workers were completing roofing and brick column encasement repairs on the roof of a 12-story building at 1 Pierrepont Street in Brooklyn. While one of the workers was setting bricks, the other worker was moving scaffold sections and other materials near the edge of the roof. There were no guardrails or parapet located at the roof level. There were high winds that day and the worker was apparently blown off the roof and fell to his death. Harnesses were on site but not in use.

INCIDENT CATEGORY: This incident was categorized as a **Worker Fall**.

WHAT WENT WRONG: Our investigation determined that there was a failure to tie-off, and the work site also lacked required guardrails.



SOHO CRANE ASSEMBLY

On April 13, 2019, a team of workers at 570 Broome Street in Manhattan were assembling a mobile crane in order to hoist mechanical equipment to the roof of the building and using an assist crane to lift the counterweights into place. After placing one of the counterweights on the back of the crane using two of the three ropes attached to the hook, the crane operator lifted the ropes away from the weight. The third rope caught the lifting lug and pulled the weight into the air. The worker attempted to jump off the crane deck but the weight struck the deck and knocked the worker to the ground. The worker died from his injuries.

INCIDENT CATEGORY: This incident falls into the **Other construction-related** category. More specifically, this falls into an OSHA category called “Struck By.”

WHAT WENT WRONG: Our review of this incident showed failure to remove the excess rope, which was not needed for the pick, was the major contributing factor leading to this fatality.



MIDTOWN SITE CLEAN UP

On May 18, 2019, a construction crew was brought in to clean up a construction work site where an overnight shift had been installing curtain wall pieces at 335 Madison Avenue, Manhattan. The overnight crew removed the guardrails surrounding a floor opening used for hoisting in order to make their work more efficient. However, they failed to replace the railings when they were done with their work. Later, as a cleaning crew member swept the deck, he walked backwards into the hoisting shaft and fell three stories to his death.

INCIDENT CATEGORY: This incident was considered a **Worker Fall**.

WHAT WENT WRONG: Our investigation determined that failure to have the required railings in place led to this fatal incident.



SUGAR HILL FAÇADE REPAIRS

On June 22, 2019, construction workers using a supported scaffold to complete façade work at 880 Saint Nicholas Avenue in Manhattan took a break for lunch. One of the workers went back up to the scaffold to retrieve an item, which is when he fell to his death.

INCIDENT CATEGORY: This was another incident of a **Worker Fall**.

WHAT WENT WRONG: The Department's investigation into the incident revealed that the scaffold, which exceeded 50 feet, was unpermitted and improperly installed. It was also lacking deck boards and guardrails. The lack of proper installation was a key contributing factor to this deadly fall. As a result of the serious safety lapses at the site, DOB revoked the licenses of two Special Riggers who were associated with the construction site.



FAR ROCKAWAY WALL PLACEMENT

On July 20, 2019, construction workers were installing pre-assembled wall sections at 68-04 Tides Road, Queens, using a mobile crane. While workers were placing a wall section in between two previously installed wall sections, the assembly bumped into one of the installed sections causing it to break loose from its hold down brackets, and fatally fall on top of a worker.

INCIDENT CATEGORY: This was categorized as a **Material Fall**.

WHAT WENT WRONG: Our investigation found inadequate sequencing, failure to shore and brace installed sections of the prefabricated panels, and lack of proper communications were all contributing factors to this incident. While a crane was being used at the time of the incident, the crane was found not be a contributing factor in this fatal incident.



NORWOOD MATERIAL DELIVERY

On August 27, 2019, workers were building a 4-story structure at 94 East 208th Street in the Bronx. After placing the working deck on the 3rd floor, the contractor accepted delivery of masonry materials onto the deck to continue construction operations. Shortly after the material delivery, the 3rd floor deck collapsed, killing one worker and injuring others.

INCIDENT CATEGORY: This incident was one of a number of **Material Failures** involving a failure of cold-form-steel in 2019. *See also page 56 for an update on **Cold-Form Steel**.*

WHAT WENT WRONG: Our investigation found that failure to brace the deck, a lack of oversight by the Construction Superintendent, failure to follow the Special Inspector instructions, lack of knowledge surrounding the requirements of cold-form steel construction and lack of bracing of the cold-form steel were the major contributing factors to this incident.



NORTH CORONA SIDEWALK SHED INSTALLATION

On August 30, 2019, construction workers were assembling a sidewalk shed at 34-49 107th Street, Queens. One of the workers was passing materials from the back of a flatbed truck to other workers who were erecting the shed. After handing materials to the other workers on the shed, the worker placed one foot on the crossmember of the shed and the other foot on the truck bed in what appeared to be an attempt to climb onto the shed. After losing his balance, he grabbed a junior beam off the shed which was not yet secured to the shed frame. The I-beam slid back, striking him in the face and caused him to fall between the shed and the truck. The beam followed him to the ground into the gap. The worker succumbed to his injuries.

INCIDENT CATEGORY: This incident was considered a **Worker Fall**.

WHAT WENT WRONG: The failure to properly access the shed was a key factor in this fatality.

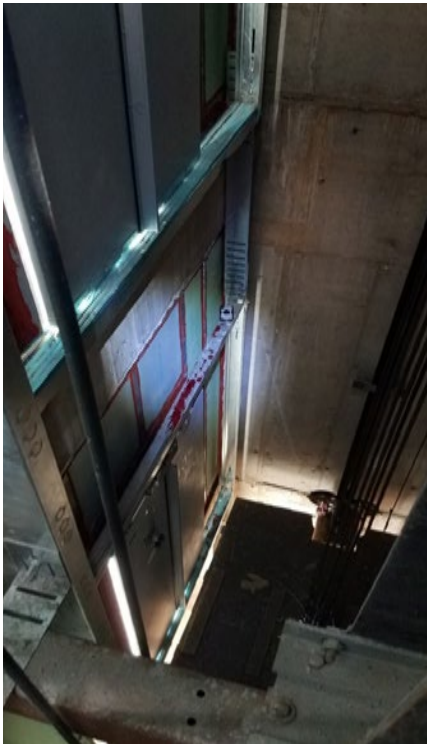


LOWER EAST SIDE ASBESTOS CLEANUP

On October 21, 2019, workers were doing asbestos abatement cleanup at 60 Norfolk Street in Manhattan, the scene of a large building fire that occurred in 2017. Just before the incident, two workers were standing underneath an archway spraying water on the debris piles with a hose to control the dust. Other workers on the site were using an excavator with crawler treads and a grappler hook, as well as a bobcat to move the debris. The vibrations from the machinery caused an existing piece of façade to collapse in on the two workers holding the hose, injuring one and fatally striking the other.

INCIDENT CATEGORY: This incident was categorized as a **Material Fall**.

WHAT WENT WRONG: Our investigation determined that failure to shore and brace the existing façade, in addition to improper use of the equipment lead to the collapse.

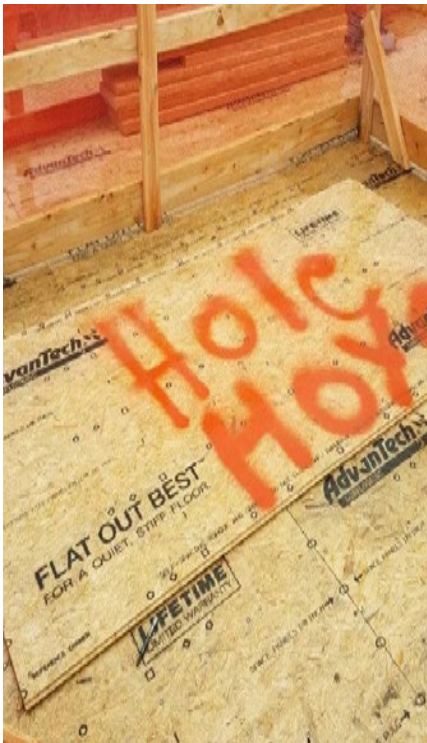


MIDTOWN ELEVATOR PLATFORM

On October 24, 2019, workers were travelling up to the 35th floor of a new 38-story hotel at 1227 Broadway in Manhattan, to perform fireproofing work. Rather than utilizing the construction hoist, the workers took control of a temporary elevator platform inside the building that was awaiting cab installation. As they neared the 32nd floor, one of the workers dropped his cell phone and it landed on the top of the door frame ledge. The worker laid down on the deck of the platform in an attempt to retrieve the phone. As he reached down, his head contacted the deck on the 33rd floor and he was pinned between the platform and the deck. The worker succumbed to his injuries.

INCIDENT CATEGORY: This incident fell under the OSHA category “Struck By” which for the Department is **Other construction-related**.

WHAT WENT WRONG: Failure to secure the temporary elevator platform, and the use of the platform by an unauthorized worker were the contributing factors to this incident.



MIDWOOD NEW BUILDING PROJECT

On November 11, 2019, a newly hired worker was assigned to move a stack of plywood on the second-floor deck of a residential new building project at 3420 Bedford Avenue in Brooklyn. He was not aware that the bottom panel of plywood, which covered a yet to be constructed stairwell, was not secured to the deck. There was no controlled access zone around the plywood stack nor any warnings of the stairwell opening. The worker began lifting the plywood and moving it to another area. When he lifted the last piece, he walked forward and stepped into the unmarked stairway well falling three stories to the basement floor. The worker succumbed to his injuries.

INCIDENT CATEGORY: This was another incident categorized as **Worker Fall**.

WHAT WENT WRONG: The failure to secure the opening cover, lack of pre-task planning, and failure to set up a controlled access zone were the main factors leading to this incident.



MOTT HAVEN SCAFFOLD INSTALLATION

On December 20, 2019, a construction worker was assisting another worker in building a scaffold at 20 Bruckner Boulevard in the Bronx. The worker on the scaffold asked for another wood plank to continue the installation work. Although there were other planks nearby, the worker entered a controlled access zone on the floor above and fell through the opening landing 20 feet below. He was transported to the hospital where he died two weeks later from his injuries.

INCIDENT CATEGORY: This **Worker Fall** was the final building construction-related fatality in 2019.

WHAT WENT WRONG: Allowing access to the Controlled Access Zone without proper tie-off equipment was a key factor in this fatality. The failure to properly safeguard the work site was another factor.

NEAR MISSES AND MAJOR NONFATAL CONSTRUCTION-RELATED INCIDENTS

The Department investigated other construction-related incidents in 2019 that could have easily ended in tragedy, but thankfully did not, despite having all the makings of a potentially fatal incident. Below is a review of notable potentially fatal near misses of 2019:



GOWANUS SUPPORTED SCAFFOLD

On June 11, 2019 a supported scaffold located on the roof of 243 4th Avenue in Brooklyn was damaged during a severe weather high wind event which had been forewarned in a DOB weather advisory the previous day. During the high wind event, sections of the supported scaffold were blown off the rooftop bulkhead and rained down onto an outdoor eating and drinking establishment located next door to the work site. Several patrons were sitting in the outdoor area at the time of the incident, and one was struck in the head by falling debris. The patron sustained serious injuries but thankfully survived. An investigation revealed that the ties used to stabilize the supported scaffold had been removed and the scaffold was awaiting dismantling by a sub-contractor, who had been notified over two weeks prior to the incident.

INCIDENT CATEGORY: This incident was categorized as a **Material Fall**.

WHAT WENT WRONG: Failure to safeguard the work site was a major factor in this almost fatal incident.



ALPHABET CITY CRANE OPERATIONS

On July 30, 2019, construction workers were using a crane to place roofing materials and steel at 749 FDR Drive in Manhattan. During the pick, the crane operator bypassed safety features on the crane and lifted a load of steel beams that weighed more than 4,400 pounds, exceeding the crane's permitted lifting capacity of 3,700 pounds. This caused the crane's boom to bend and partially collapse. The boom's collapse caused the operator to lose control of the steel load, which struck the roof and side of the building before falling to street level onto the FDR Drive service road, requiring closure of the FDR Drive. In addition, slings not rated to lift the load were also used, which caused them to break.

INCIDENT CATEGORY: This was categorized as a **Material Fall**.

WHAT WENT WRONG: This incident was the result of improper planning, failure to use certified slings, by-passing machine safeties, failure to obtain weight of the load, and using a crane that was not rated for the pick as designed. This major incident could have resulted in fatalities, but thankfully the only injuries related to this incident were minor.



MIDTOWN MATERIAL HOIST

On September 13, 2019, workers were lowering debris in a canvas bucket using a power winch off the side of a building at 270 Park Avenue in Manhattan. The workers overloaded the bucket causing the cable to snap dropping the material load 10 stories. The heavy load partially crashed through the roof of the below sidewalk shed and nearly hit a pedestrian.

INCIDENT CATEGORY: This incident was categorized as a **Material Fall**.

WHAT WENT WRONG: In this case, failure to inspect the cables of the power winch and overloading the basket were the key factors leading to the incident.



ASTORIA DEBRIS REMOVAL

On October 1, 2019, workers were unloading debris from a suspended scaffold and onto the sidewalk shed in front of 44-14 Newtown Road in Queens. While work was ongoing, one of the outriggers for the suspended scaffold system was torn from its mount on the roof and spiraled down to the shed below piercing the parapet wall of the shed.

INCIDENT CATEGORY: This incident was categorized as a **Material Failure**.

WHAT WENT WRONG: In this incident, improper set up on the primary counterweight support and improper set up of the tie back were the contributing factors.



SOUTH BRONX STEEL BEAM INSTALLATION

On February 16, 2019, a worker was installing a beam for the third-floor deck at 556 Bergen Avenue in the Bronx. During installation operations, one of the construction workers was hit in the shoulder and then lost his balance causing him to slip off the beam. His personal fall arrest system harness was the only thing preventing him from falling to the ground. The worker sustained non-life-threatening injuries.

INCIDENT CATEGORY: This incident was categorized as a **Worker Fall**.

WHAT WENT WRONG: This incident was determined to be the result of a failure to safeguard the site, partly due to a failure to properly control the load while placing a concrete panel on to a steel frame.



UPPER WEST SIDE NEW TOWER FORMWORK

On April 16, 2019, at a high-rise project located at 200 Amsterdam Avenue in Manhattan, workers were stripping material in the vicinity of the 26th floor. One worker lost control of an 8-foot piece of formwork which then fell below the DOKA system and through a net landing onto the street below. There were no injuries related to this incident.

INCIDENT CATEGORY: This incident was the result of a **Material Fall**.

WHAT WENT WRONG: The failure to maintain control of the formwork and improper netting at the site were main factors leading to the incident.



ROSEDALE ROOF REPLACEMENT

On July 17, 2019, construction workers were replacing roofing materials at a two-story home at 138-24 233rd Street in Queens, which included the underlying plywood sheathing. One of the workers, who was not tied off and did not have a harness, was working close to the edge when he slipped off the roof falling two and a half stories. The roofer sustained a severe head injury in the fall. Five of the six workers that were on site did have safety harnesses in place. However, there was no anchor point observed at the roof to attach the harnesses to, and there was no evidence the workers were provided with hard hats. Furthermore, no permits had been issued to the contractor for the sheathing replacement work.

INCIDENT CATEGORY: This incident was categorized as a **Worker Fall**.

WHAT WENT WRONG: The failure to tie-off was a key factor leading to this incident.

Having safe
construction job sites
requires total
buy-in to the belief
that safety is the
number one priority.

After every building construction-related incident that occurred in 2019, major and minor, fatal and nonfatal, the Department carried out a thorough review of the causes of the incident. When we saw a trend in the misuse of material such as cold-form steel or equipment failing such as stand-off brackets, we offered industry guidance and spearheaded changes to construction regulations, which will be discussed later in this report.

A common thread observed by the Department during our investigations into all of these incidents, was a consistent failure of construction contractors and workers to implement proper construction safeguards. Time and time again, the failure to follow basic safety regulations led to deaths and injuries on building construction work sites, affirming that these incidents were in fact preventable. It also reaffirms the benefits of site safety training for construction workers and supervisors, as well proactive DOB inspections that can catch unsafe situations before incidents occur.

Once more, the occurrence of these incidents also shows that having safe construction job sites requires total buy-in to the belief that safety is the number one priority, from general contractors, sub-contractors, site safety professionals, developers, owners, and workers. Every person who sets foot on to a construction site has to adhere to the city's site safety regulations to protect not only themselves, but their coworkers, and the public as well. Currently, despite our ability to hold contractors legally responsible for causing death or serious injury to their workers, through the issuance of violations and other enforcement actions, the law currently allows them to continue pulling permits at other work sites even after one of these serious incidents. To hold supervisors and contractors accountable for their roles, the Department is putting in place policies and seeking legislation to address safety lapses from those with construction supervisory roles. These policies will be highlighted throughout the report. For future legislative pursuits in this area see page 67.

As the summary of major incidents in 2019 shows, while a significant cause of injury for workers came from work site falls, the contributing factors that lead up to the individual incidents varied. Reducing work site injuries cannot be accomplished with just a single policy change. Instead, the problem must be attacked on multiple fronts, with simultaneous initiatives all with the singular goal of increasing work site safety. For this reason, we continue to focus on what we know works, the continued implementation of a broad worker safety training program, increasing the frequency of onsite Department inspections, and increasing safety supervision requirements for more work sites city wide. These strategies have already been proven to work in recent years, making sites safer

and decreasing injuries to construction workers. As **Table 4** illustrates below, construction-related incidents, both with and without injuries, were down across the board in 2019 compared to 2018 due in part to these simultaneous Department initiatives:

	2018	2019	Difference	Percent Difference
Total Construction-related Incidents	1190	959	-231	-19.4%
Total Construction-related Incidents <i>Without</i> Injury or Fatality	444	394	-50	-11.27%
Total Construction-related Incidents <i>with</i> Injury or Fatality	746	565	-181	-24.2%

***Table 4:** Annual percentage difference of construction-related incidents, with and without injury, and all construction-related incidents for 2018 and 2019.*

We will now look at the 2020 calendar year to see how it stacked up against prior years in the area of construction safety.

2020: BUILDING SAFELY DURING A PANDEMIC

In 2020 we entered a new paradigm of construction safety enforcement. In the second quarter, we quickly shifted from an agency enforcing standard safety regulations on ongoing construction work sites in a thriving industry, to one enforcing the cessation of all construction work deemed non-essential, which accounted for the vast majority of construction sites in New York City. In late March 2020, the New York Governor issued an Executive Order pausing all nonessential construction across the state, in an effort to slow the spread of the novel coronavirus in the construction industry. In response, the Department of Buildings speedily facilitated the shutdown of over 33,000 nonessential work sites across New York City. We performed multiple enforcement sweeps of every worksite across the city to verify their continued compliance with the Governor’s Executive Order as well as their ongoing safety. We regularly monitored the approximately 8,000+ sites where construction activity was deemed essential and allowed to continue. Our field inspection sweeps of nonessential work sites during this time involved

making sure that these sites were closed and not posing a danger to the public. Throughout the pause on nonessential construction, we:

- ◆ Inspected building construction work site in the city 7-8 times from late March to early June to verify compliance with the Executive Order;
- ◆ Performed approximately 227,000 total compliance inspections; and
- ◆ Issued almost 300 Stop Work Orders (SWO) at work sites where we found nonessential work ongoing, in defiance of the Executive Order.

The relatively low number of Stop Work Orders issued in Spring 2020 during these inspection sweeps shows widespread compliance from the construction industry during this time of crisis.

On June 8, 2020, New York City entered Phase 1 of the state's COVID-19 reopening plan. On this date, all non-essential construction projects that were previously halted, were allowed to resume. After the official restart, our agency resumed the normal work of construction safety enforcement, while also enforcing a new set of NYS COVID-19 health and safety regulations for construction sites. Those regulations will be discussed in-depth later in this report. See page 58 for [COVID-19 Safety Guidelines](#).

Due to the many changes brought on by the pandemic, including only having nine full months of normal construction activity, it is difficult to compare 2020 to previous years. However, for frame of reference, below we will take a look at how 2020 stood up in terms of construction activity and DOB-issued enforcement actions. **Table 5** shows the overall numbers of violations that we issued in the last three years:

OATH/ECB VIOLATIONS BY CLASS			
	2018	2019	2020
Class -1	37,721	47,787	29,678
Class -2	46,569	45,217	31,058
Class -3	4,201	2,465	1,619
No class indicated	*	1	*
Total	88,491	95,469	62,355

Table 5: Annual total of DOB issued OATH summonses/ECB violations by class.

In terms of the staffing of our construction enforcement units, there was relatively little difference (0.7%) in the number of inspectors and support staff in 2020 compared to 2019. Therefore, staffing would unlikely

account for the difference in the violation numbers. In **Table 6** below, we have a broad view of enforcement actions taken by DOB compared across the number of active permits for 2019 and 2020. New York City saw a **7% decline in active permits** throughout the year in 2020 compared to 2019. In 2019, DOB was issuing the equivalent of almost one violation for every two permits issued. In 2020, that ratio decreased to one violation for every three permits issued. Class- 1 violations in 2019 accounted for **almost 25%** of the total number of permits. In 2020, that number was **16%**. The total number of SWOs issued as a percentage of permits saw very little change in these years.

VOLUME ISSUED		
	2019	2020
Stop Work Orders	14,379	11,307
DOB Violations	119,283	67,263
OATH/ECB Violations	95,469	62,355
Active Permits	200,943	186,361
OATH/ECB Violation per Permit	0.48	0.33
Class-1 OATH/ECB Violation per permit	0.24	0.16
Stop Work Order per Permits	0.07	0.06

Table 6: Total OATH/ECB violations, DOB violations, and Stop Work Orders issued in the 2019 and 2020 calendar years and those figures as a percentage of Active Permits. **Note: SWOs and ECB violations are not all due to permit activity. They may be due to complaints which may include illegal conversions or illegal work without a permit.**

On the following page is a breakdown and comparison of all construction incidents, injuries and fatalities for the 2019 and 2020 calendar years. In 2020, we saw a **17% reduction in construction incidents**, a **15% reduction in injuries**, and **33% reduction in construction fatalities**; however, in 2020 we also had full construction activity for **only 75%** of the year.

CONSTRUCTION-RELATED INCIDENTS, INJURIES, AND FATALITIES BY CAUSE OF INCIDENT						
Incident Type	Number of Incidents		Injuries		Fatalities	
	2019	2020	2019	2020	2019	2020
Excavation/Soil Work	26	13	3	1	0	0
Material Failure (Fell)	138	65	66	25	4	2
Mechanical Construction Equipment	50	15	22	3	1	0
Scaffold/Shoring Installations	47	51	24	9	0	0
Worker Fell	156	159	140	141	6	4
Other Construction-Related	542	493	340	323	1	2
Total	959	796	595	502	12	8

Table 7: Construction-related incidents, injuries, and fatalities by cause of incident for the years 2019 and 2020.

In **Table 8** below, we can see how construction-related incidents in 2020 compared to those in 2019:

DIFFERENCE BETWEEN CONSTRUCTION-RELATED INCIDENTS, WITH AND WITHOUT INJURY, AND ALL CONSTRUCTION-RELATED INCIDENTS				
	2019	2020	Difference	Percent Difference
Total Construction- related Incidents	959	796	-163	-17.0%
Total Construction- related Incidents Without Injury or Fatality	394	311	-83	-21%
Total Construction- related Incidents with Injury or Fatality	565	485	-80	-14.2%

Table 8: Percentage difference of annual total of construction-related incidents, with and without injury, and all construction-related incidents for years specified.

In 2020, while construction-related incidents were down **17%** from 2019, worker falls continued to be major source of work site injuries. Workers falling once again made up the single largest specific category (**29%**) of construction-related incidents taking place in New York City. Material falling incidents was the second single largest category (**4%**).

Notably, incidents that don't fit into a defined category also decreased by **9%** in 2020 compared to 2019. Breaking down this Other category by the type of work being performed (**Figure 7**), shows that the vast majority of these incidents are happening during regular construction activity on new building and alteration jobs.

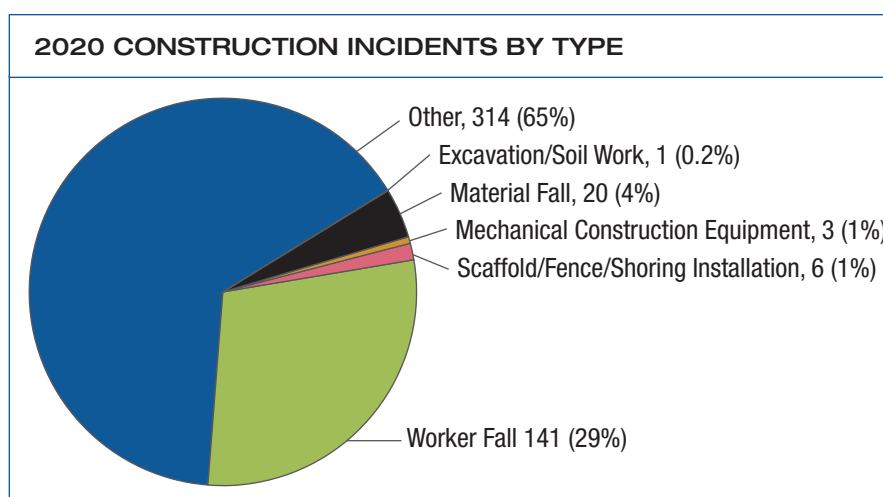


Figure 6: Percentage breakdown of all construction-related incidents in 2020 by type of incident. 65% of construction-related incidents in 2020 were categorized as “Other Construction-related,” indicating they do not easily fit into one of the specific incident categories.

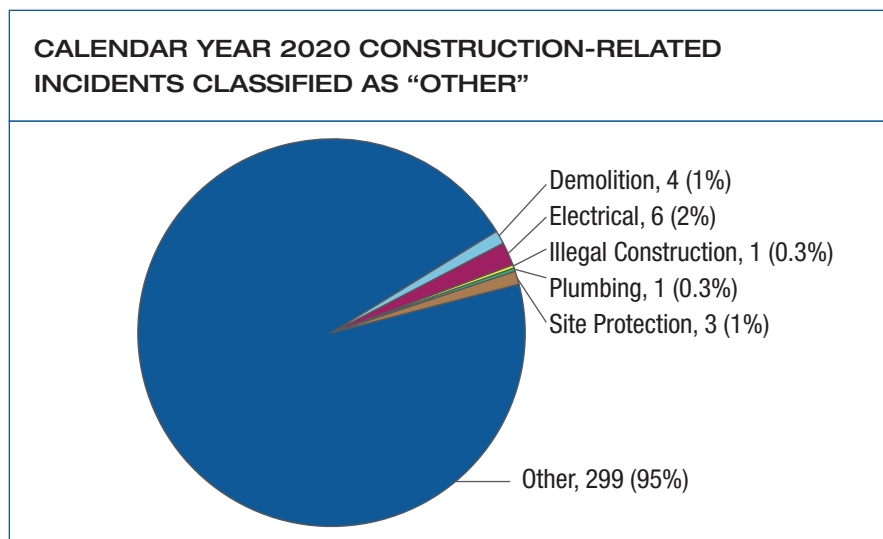


Figure 7: Other Construction-Related Incidents broken down by work type in the 2020 calendar year.

BELOW WE PROVIDE A DEEPER LOOK AT SEVEN OF THE EIGHT TRAGIC FATAL BUILDING CONSTRUCTION-RELATED INCIDENTS THAT COST WORKERS THEIR LIVES IN 2020:



BOROUGH PARK BRANCH CIRCUIT INSTALLATION

On June 20, 2020, a homeowner at 1154 39th Street, Brooklyn, hired an unlicensed contractor to install high hat lighting in their home. The worker was in the cockloft of the home putting in new wiring. The worker cut an existing wire in the cockloft which was still energized, resulting in the worker being electrocuted. The worker succumbed to his injuries.

INCIDENT CATEGORY: This incident was categorized as **Other construction-related** and falls into the OSHA category “Electrocution.”

WHAT WENT WRONG: An unlicensed worker performing electrical work on an energized line was the key contributing factor to this fatality.



MURRAY HILL FAÇADE REPAIR

On July 16, 2020, workers were executing a large façade restoration project at an 11-story building at 136 East 36th Street, Manhattan. A worker on a suspended scaffold rig was lowering the scaffold at the end of the workday. While descending, a large section of cornice separated from the building and fell on top of him, killing him. The cornice landed onto the suspended scaffold and sidewalk shed. In addition to the worker who was fatally injured, three other workers at the site suffered serious injuries.

INCIDENT CATEGORY: This incident was categorized as by the Department as **Material Fall**.

WHAT WENT WRONG: The failure to institute adequate safety measures and to follow proper sequencing during construction operations were contributing factors to this fatality.

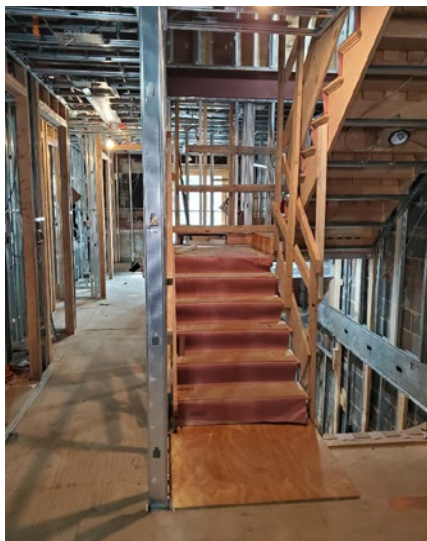


GREENPOINT VERTICAL NETTING INSTALLATION

On July 20, 2020, workers were constructing a new cast-in-place concrete building at 30 Kent Avenue, Brooklyn. The construction workers had completed the 11th floor of the building and were in the process of relocating guardrails on the exterior of the formwork to the perimeter of the structure so that the formwork could be removed. Vertical netting was then installed after the guardrail installation. A worker installing vertical netting at the perimeter on the 11th floor stepped on a piece of cantilevered formwork built to allow work near the leading edge. At the same time other construction workers, working on the floor below, were removing the shoring supporting for this same formwork. The formwork collapsed, causing the worker to fall 10 stories. The worker succumbed to his injuries. The worker was not wearing a safety harness at the time of the collapse. That day, neither a Site-Specific Safety Orientation nor a Pre-Shift Safety Meeting had been given to the workers, as required by Code.

INCIDENT CATEGORY: This incident was labelled a **Worker Fall**.

WHAT WENT WRONG: The lack of a site safety briefing, no pre-task plan meeting, not following the site safety plan, and failure to follow work sequencing were all key factors to this fatality. The worker should have also been utilizing PPE, specifically a safety harness, and have been tied off since he was relocating guardrails that created a controlled access zone at the perimeter of the building.



BOROUGH PARK FRAME WORK

On August 20, 2020, a worker at 1465 56th Street, Brooklyn, was in the process of reframing a bathroom partition wall near a stairwell. A short piece of plywood had been placed vertically at the floor edge but was not sufficient as a guardrail since it did not meet height requirements. While performing this reframing work the worker lost his balance and fell down the stairwell to the first floor, where he succumbed to his injuries.

INCIDENT CATEGORY: This incident was considered a **Worker Fall**.

WHAT WENT WRONG: The lack of proper work sequencing, failure to create a controlled access zone, in addition to inadequate guardrails, and failure to tie off were all contributing factors to this incident.



FINANCIAL DISTRICT DUCT WORK

September 18, 2020, a major construction project was underway at 1 Wall Street in Manhattan. A security guard who worked in the building was at the end of his shift and was awaiting access to an area of the first floor prior to leaving the site. While waiting, the guard leaned against a guardrail protecting an open shaft way. Prior to this, workers had removed the guardrails to perform work on a duct. The railings were not adequately reinstalled, as required, leaving large openings near the opening of the duct. The railing on which the security guard was leaning against failed, and the guard fell 62 feet through an opening into a mechanical shaft, where he succumbed to his injuries.

INCIDENT CATEGORY: This incident was labelled a **Worker Fall**.

WHAT WENT WRONG: Failing to properly install and maintain the guardrails was a key factor in this fatality.



EAST WILLIAMSBURG SUPPORTED SCAFFOLD INSTALLATION

On November 13, 2020, a worker was erecting supported scaffold at 710 Metropolitan Avenue, Brooklyn, the site of a 7-story building undergoing alteration work when he slipped and fell from the 3rd level of the scaffold, falling approximately 24 feet. The worker succumbed to his injuries.

INCIDENT CATEGORY: This incident was labelled a **Worker Fall**.

WHAT WENT WRONG: Failure to secure deck planks before relying on them to support a load, and stepping on a cantilevered section were key factors to this fatality.



SUNSET PARK RETAINING WALL

On December 28, 2020, workers were excavating the area adjacent to a retaining wall in the back yard, between two houses at 454 42nd Street Brooklyn, and 453 43rd Street, Brooklyn. The workers had not implemented adequate shoring measures for the retaining wall adjacent to their excavation hole. As a result, the retaining wall collapsed into the backyard at 454 42nd Street, and onto the two workers. One of the workers succumbed to their injuries. The excavation and repair work on the retaining wall did not have the required DOB work permits.

INCIDENT CATEGORY: This incident is considered as **Other construction-related** and the OSHA category “Struck by.”

WHAT WENT WRONG: The retaining wall was not constructed properly and the failure to shore and brace the unstable wall prior to working beneath it were key factors to this fatality.

NEAR MISSES AND MAJOR NONFATAL CONSTRUCTION-RELATED INCIDENTS

The Department investigated other construction-related incidents in 2020 that could have easily ended in tragedy but did not despite having all the makings of a potentially fatal incident. Below is a review of notable potentially fatal near misses of 2020:



MURRAY HILL EXCAVATION

On July 16, 2020, workers were performing excavation work at 509 3rd Avenue, Manhattan. The excavation work at the site was in preparation for a planned new 35-story tower project. Adjacent to this site was an existing building also undergoing permitted construction work at 211 East 34th Street, Manhattan. While channeling soil at 509 3rd Avenue, workers observed wall movements at 211 East 34th Street, and subsequently moved their machinery away from the unstable building, which eventually collapsed. Fortunately, the workers noticed the hazardous situation in time, and the partially collapsed building was vacant at the time of the incident. There were no reported injuries.

INCIDENT CATEGORY: This incident was under the category of **Excavation/Soil Work**.

WHAT WENT WRONG: Failure to shore and brace the neighboring building, failure to monitor the building wall, and failure to evaluate the neighboring building were all contributing factors in this incident.



LONG ISLAND CITY ALTERATION PROJECT

On July 13, 2020, a major permitted alteration project was underway on an existing 6-story commercial office at 45-18 Court Square, Queens. As part of the alteration, the contractor was casting new concrete columns within the existing brick and mortar structure. While work was ongoing to cast a new concrete column at the 6th floor of the building, the pressure from the concrete pour caused the existing façade of the building to bulge outward approximately 1.5 inches. This incident could have caused a potential collapse of the building. Thankfully, there were no injuries associated with this incident.

INCIDENT CATEGORY: This incident was considered a **Material Failure**.

WHAT WENT WRONG: Failure to shore and brace the existing structure, and failure to tie the existing wall to the new concrete floor were major factors in this incident.



MIDTOWN WEATHERVANING CRANE

On the windy evening of October 29, 2020, a headache ball attached to a tower crane struck the façade of the new tower construction site at 111 57th Street, Manhattan. The crane had been placed in a weathervaning configuration while not in use, allowing it to safely spin 360 degrees in the wind to reduce wind resistance on the crane's boom. While weathervaning, the lifting (headache) ball hanging off the end of the boom repeatedly swung into the new building construction at the upper floors which resulted in large sections of glass and aluminum debris falling off the building into the street below. The crane had been left out of service with an excessive amount of drift in the load line. Fortunately, no one was injured.

INCIDENT CATEGORY: This incident was considered a **Material Fall**.

WHAT WENT WRONG: Our investigation determined that excessive slack in the load line allowed the hook and ball to reach the structure while the crane was weathervaning. Proper tower crane storage procedures for high wind events would include shortening the load line so it could not hit the building.

The 2019 and 2020 incidents that are detailed in this report serve to remind us of the potential dangers associated with any construction activity, and the deadly consequences of cutting corners on the job site. They also highlight the benefits of worker safety training, proper supervision from safety professionals, adherence to the existing safety regulations on the books, and implementing an industry-wide culture of safety. These steps taken together can help mitigate the potential dangers associated with construction activity. We know that cutting corners and disregarding safety protocols on a construction site costs lives. We also know that buildings can be constructed without incident when safety is made a priority. Collectively, all those involved in a construction project have to be vigilant about the unique safety risks on their work sites. This goes especially for those in charge, the permit holders, supervisors, licensees, and site safety professionals that are running the day-to-day operations on these construction sites. At the Department of Buildings, we are committed to holding those working in a supervisory capacity accountable for the work that goes on at their work sites. By increasing our presence on work sites through proactive field inspections, we are sending a message to those in charge that we are watching, and that we are prepared to take swift action if necessary, to protect the lives of our fellow New Yorkers.

INCIDENTS INVOLVING PEDESTRIANS AND MEMBERS OF THE PUBLIC

Our dense vertical city is connected in countless different ways. We do not build or work in a vacuum. With approximately 35,000 active construction sites located across every neighborhood in the five boroughs, every New Yorker is impacted in some way by construction. Our efforts at the Department to enhance safety in the construction industry means a safer city for everyone that walks the sidewalks of New York.

There is a direct relationship between safer construction jobsites in our city and general public safety. Similar to the declines in construction worker injuries, we saw a decline in the combined total of construction-related injuries to pedestrians and other members of the public in 2019 compared to the previous year. In 2020, amidst the pandemic, there was a precipitous decline in construction-related injuries and no fatalities for members of these groups.

On the following page, **Table 9** provides a breakdown of construction-related injuries and fatalities to pedestrians walking underneath construction sites and other members of the public:

CONSTRUCTION-RELATED INJURIES AND FATALITIES INVOLVING PEDESTRIANS AND MEMBERS OF THE PUBLIC						
	Pedestrians		Members of the Public		Totals	
	Injuries	Fatalities	Injuries	Fatalities	Injuries	Fatalities
2018	34	0	18	1	52	1
2019	36	0	6	0	42	0
2020	14	0	2	0	16	0

Table 9: Construction-related injuries and fatalities involving pedestrians and members of the public. **Note:** Pedestrians here refers to anyone that was not a construction worker that suffered an injury or a fatality as the result of construction-related activity. Member of the public refers anyone who is not a pedestrian or construction worker, e.g., first responders. Injuries here refers specifically to reported injuries and does not include injuries that were not reported to the Department of Buildings. This table does not include pedestrians and other members of the public who were injured by non-construction-related façade collapses.

Pedestrians, tenants, occupants of neighboring buildings, and first responders can all potentially be put at risk if they are in close proximity to construction activity where the proper safeguards are not implemented.

While protections for tenants in buildings undergoing construction activity can greatly address construction in residential settings (See [Focus On: Office of the Tenant Advocate \(OTA\)](#) on page 60) the public can also be indirectly impacted by other factors from construction activity including but not limited to, falling construction debris, unsafe excavation projects, damage to attached properties, and structural collapses. These incidents can cause major damage to neighboring buildings, as we saw in a few cases from the 2019 and 2020 incident reviews; they can also lead to potentially lethal consequences. DOB enforcement strategies are aimed at preventing these incidents and protecting our fellow New Yorkers.

Contractors that fail to protect neighboring buildings and the public face immediate Stop Work Orders and stringent enforcement actions from the Department of Buildings. The table on the following page shows two types of violations issued by the Department of Buildings in 2019 and 2020 that involved damage to properties connected to a site where construction activity was taking place:

VIOLATION DESCRIPTION			
	2019	2020	Total Violations
Failure to Protect Adjoining Structures during Excavation	27	27	54
Failure to Notify DOB of Accident or Damage to an Adjoining Property	68	70	138
Total Violations by Year	95	97	192

Table 10: Two types of violations involving damage to an adjoining property and the total number of issued violations for those categories in 2019 and 2020.

Pedestrians, tenants, occupants of neighboring buildings, and first responders can all potentially be put at risk if they are in close proximity to construction activity where the proper safeguards are not implemented.



HIGHLIGHTS: CONSTRUCTION SAFETY ENFORCEMENT REVIEW, 2019-2020

FOCUS ON: PROACTIVE INSPECTIONS AND THE CONSTRUCTION SAFETY COMPLIANCE (CSC) UNIT

THE FIRST YEARS OF THE CSC UNIT: In 2017, Local Law 196 was passed by the New York City Council, introducing the city's first-ever comprehensive safety training requirements for construction workers on larger work sites across the city. This Site Safety Training (SST) legislation requires that all construction workers and all safety supervisors on New York City's largest work sites take mandatory safety training courses. In response to this new landmark legislation, the Department overhauled the construction safety unit formerly known as the Building Enforcement Safety Team, informally known as the BEST Squad. In September 2018, the BEST Squad was split up into the Construction Safety Enforcement (CSE) unit, and the Construction Safety Compliance (CSC) unit. Enforcement and oversight of the new Local Law 196 SST requirement for construction workers and safety supervisors was assigned to the CSC unit.

Staffed with dozens of new inspectors, the CSC unit focuses on proactive site safety inspections of the larger and more complex construction sites in New York City, known collectively as SST work sites. These are a new type of inspection, which were not occurring before the creation of the CSC unit. During these inspections, members of the CSC unit look to see that construction workers working on these sites have the required SST cards, proving that they have taken the required training courses necessary to work on these SST work sites. During these field visits, CSC inspectors also look to ensure that site specific construction site safety plans are being adhered to, the construction sites are implementing required safeguards, and that the contractors are following all applicable regulations in the New York City Construction Codes.

Dubbed a "SWAT team of inspectors" by the [*New York Times* in 2019](#), the Department's CSC unit is raising the bar for construction safety in major cities, with their reoccurring surprise inspections of work sites in all five boroughs. In 2019, its first full year of operation, CSC hit the ground running, conducting proactive inspections at thousands of SST work sites. The recent decreases in building construction-related incidents and injuries can be at least partially attributed to these proactive inspections and the physical presence of DOB inspectors on the work site, making sure that safety rules are being complied with. The success of the unit

has sent a strong message to bad actors: expect a consistent presence from the DOB, and if you cut corners expect aggressive enforcement.

By the numbers in 2019, their first full year of operation, the CSC unit:

- ◆ Conducted over 21,500 inspections at approximately 10,000 active work sites;
- ◆ Issued approximately 13,000 violations at 3,400 unique sites (an average of nearly four violations per site); and
- ◆ Issued approximately 2,400 Stop Work Orders (SWO).

In 2020, its second full calendar year, CSC:

- ◆ Conducted over 15,500 inspections at approximately 9,500 active work sites;
- ◆ Issued approximately 7,600 violations at 2,775 unique work sites (an average of less than three violations per site); and
- ◆ Issued over 1,900 Stop Work Orders (SWO).

Since the unit has been in operation, the CSC unit's effective enforcement of the Building Code has led to a total of \$35,321,982 in fines imposed and \$16,374,948 in fines paid.

In 2019, CSC conducted proactive inspections across the five boroughs, with Brooklyn receiving the most violations. In 2020, Brooklyn again received the most violations.

CSC ISSUED VIOLATIONS		
Borough	2019	2020
Manhattan	3,654	1,753
Bronx	1,104	911
Brooklyn	5,302	2,952
Queens	2,528	1,846
Staten Island	286	171
Grand Total	12,874	7,633

Table 11: A breakdown of CSC issued violations across the five boroughs for the years specified.

SST work sites can be new building projects, major alterations, enlargements, extensive repair programs, and demolitions. Although the unit visited various kinds of construction projects, in 2019, most violations, **32%**, were being issued at new building projects. In 2020 this trend continued, with **43%** of all violations issued by the CSC unit issued at new building projects.

The numbers discussed are the result of just a single unit in the Department, rooting out unsafe conditions by carrying out surprise inspections to preempt preventable incidents. They are one enforcement unit of many within the Department that is focused on the issue of construction safety in New York City. Other enforcement units in the Department focus on responding to 311 complaints from the public, responding to emergency incidents, conducting targeted enforcement sweeps, oversight of construction cranes, and performing audits of site safety plans. To put the CSC unit's activity in perspective, **Table 12** offers a look at the total violations issued by the Department's other enforcement units over the last two calendar years:

OATH/ECB VIOLATIONS ISSUED BY UNIT		
	2019	2020
Construction Safety Compliance	12,874	7,633
Construction Safety Enforcement *	12,778	8,975
Construction Safety Engineering	64	78
Emergency Response Team	4,542	2,948
Cranes and Derricks	486	151
Grand Total	17,870	12,152

Table 12: Total Oath/ECB violations issued broken down by other DOB enforcement units for the 2019 and 2020 calendar years. *The Construction Safety Enforcement (CSE) Unit conducts emergency inspections, responds to construction incidents, responds to 311 complaints for construction sites, and conducts re-inspections for violations and SWOs issued by the CSC Unit. The unit also performs technical reviews/audits of construction documents to verify Code compliance.

DOB enforcement inspections can prevent injuries and potentially save lives, by spotting dangerous violating conditions at construction work

TOP 5 SOURCES OF SWOs IN 2019	
Construction Safety Compliance Proactive Inspection	2418
Construction Enforcement Work Order*	1767
Work Without a Permit	1526
Construction Safety Enforcement Targeted Sweep	1435
Site Conditions Endangering Workers	926

Figure 8: Top five sources of Stop Work Orders issued by DOB in 2019.

*Construction Enforcement Work Orders are Department Stop Work Orders that are the direct result of an enforcement inspection, such as those resulting from inter agency referrals, targeted Department investigations, construction-based tenant harassment investigations, and special construction safety sweeps.

sites, and immediately intervene with enforcement actions to stop that dangerous work from continuing. In **Figure 8** on the previous page, we can see the top reasons why the Department of Buildings issued Stop Work Orders in 2019. In 2019 and 2020, the majority of Stop Work Orders were issued as the result of a proactive site visit from the CSC unit. It is important to note that since the CSC unit's inspections are proactive and not a response to an incident, all SWOs issued by this unit halted hazardous work before a potential incident could happen.

The figure below shows a picture of the five most common sources of Department of Buildings issued Stop Work Orders in 2020:

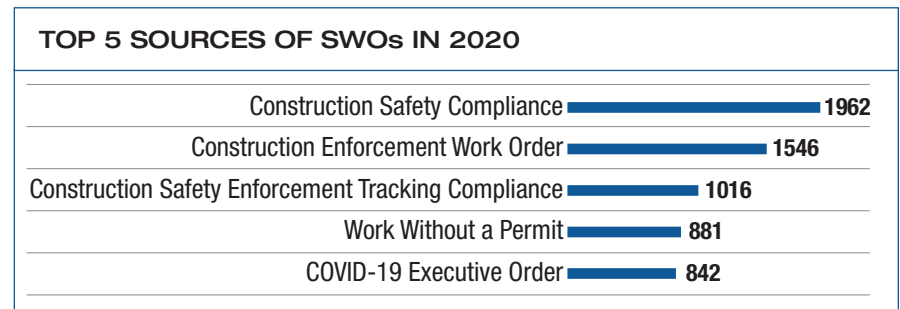


Figure 9: The top five sources for the issuance of a Stop Work Order in the 2020 calendar year.

In 2019 and 2020, the CSC unit found that many of the Stop Work Orders and OATH summonses they were issuing were for similar violating conditions found at sites across the city. The ten most frequent violations of the NYC Construction Codes that CSC Inspectors found in 2019 and 2020 were:

- ◆ Failure to institute safety measures during active construction operations; not having guardrails where required;
- ◆ Failure to maintain adequate housekeeping;
- ◆ Work that does not conform to approved construction documents and/or amendments;
- ◆ Failure to have required documents on site, i.e., missing logbooks, worker safety orientation logs, toolbox talks, design drawings, Tenant Protection Plan, or Safe Construction Bill of Rights;
- ◆ No Construction Superintendent or designated competent person on an active permitted jobsite at time of inspection;
- ◆ No Site Safety Plan on jobsite at time of inspection;
- ◆ Failure to ensure that all workers were properly trained as required pursuant to Local Law 196; workers missing OSHA 30-hour training cards;

- ◆ Failure to provide overhead protection where required for pedestrians; missing sidewalk shed;
- ◆ Work that does not conform to approved construction documents and/or amendments; and
- ◆ Working with an expired permit.

PROACTIVE ENFORCEMENT AMID NEW COVID REQUIREMENTS:

Prior to the ongoing health pandemic, CSC was focused primarily on conducting unannounced proactive inspections of larger construction sites across the city. In 2020, the global coronavirus pandemic and the subsequent Governor's Executive Order pausing nonessential construction across the state that Spring added a new responsibility for the unit: monitoring compliance with the Executive Order. For this shift in posture, CSC took the lead in coordinating the agency efforts with other Department units assigned to conducting the daily citywide sweeps of all permitted construction sites of all sizes for the entire length of the nonessential construction pause, from March 31, 2020 until June 8, 2020.

From March onwards, CSC inspected to ensure the construction industry's compliance with the Governor's Executive Orders by visiting every permitted work site, large and small, across the city. Following the restart of nonessential construction activity on June 8, 2020, the CSC unit began enforcement of new COVID-19 health and safety requirements issued by the State and implemented by the Department of Buildings in consultation with our partners at the NYC Department of Health and Human Hygiene (DOHMH). Of the total 7,633 OATH summonses the CSC unit has issued throughout the entire year in 2020, some 195 OATH summonses (or 2.5%) were related to violations of the COVID-19 health and safety guidelines, which demonstrates the large degree of compliance with the new measures.

FOCUS ON: EMERGENCY RESPONSE TEAM AND OPERATIONS CENTER (ERT)

Along with FDNY, NYPD, NYC Emergency Management and other first-responder agencies in New York City, the Department of Buildings is often called to the scene of construction or buildings related emergencies. We will now look at the Department unit dedicated to 24/7 emergency response incidents across the city.

When the Department gets an emergency referral from our fellow city agencies, our highly specialized Emergency Response Team (ERT) is called to respond. ERT is responsible for the Department's immediate citywide response to construction or buildings related incidents, complaints, and emergencies, 24 hours a day, 7 days a week, and 365 days a year. Working closely with first responders, ERT inspectors are called to multiple incidents each day in neighborhoods across the entire city. Based out of a permanent command center in the Queens Borough Hall in Kew Gardens that works in conjunction with NYC Emergency Management (NYCEM), ERT inspectors have expertise across construction disciplines and are trained in emergency management procedures, as well as disaster incident response protocols. ERT uses this expertise when responding to the scene of a range of building-related incidents including fires, explosions, foundation undermining, collapses and other disasters. Once on scene, ERT inspectors provide the initial assessment and take any necessary steps to immediately address potentially hazardous conditions. If a project or structure is assessed to be dangerous, ERT drafts orders to vacate the unsafe areas or have properties demolished, sealed, or fenced. Depending on what they find at the scene, ERT will call to the scene additional inspectors and engineers from one of the Department's other specialized units for further follow up.



One example of the emergency response activity of ERT took place in the summer of 2019. On June 10, 2019, a private helicopter flying in foggy conditions crashed landed on top of the roof of a skyscraper at 781 7th Avenue, right in the middle of Midtown Manhattan. The pilot was killed in the crash. First responders on scene quickly requested the Department of Buildings to the scene to ascertain the condition of the tower. ERT responded to the 54-story office tower within minutes of getting the call to begin structural stability inspections of the building, and coordinate with first responders on emergency remediation measures.

ERT performed the preliminary inspection and issued the order to vacate the impacted building. While other DOB units, in this case the Forensic Engineering Unit (FEU), were also involved in the response, ERT was and is typically first on the scene in such scenarios. They are called on to make quick decisions related to buildings and construction sites in the interest of protecting the public.

The numbers below represent some of the actions taken by ERT in response to buildings or construction-related emergencies in 2019:

- ◆ Performed 16,479 complaint inspections;
- ◆ Issued 4,542 violations and 878 SWOs; and
- ◆ Responded to 894 incidents.

In 2020, ERT:

- ◆ Performed 15,522 complaint inspections;
- ◆ Issued over 3,000 violations and 554 SWOS; and
- ◆ Responded to 751 incidents.

ERT-ISSUED VIOLATIONS BY YEAR			
Type	2018	2019	2020
Class -1	2,505	3,224	2,161
Class -2	1,844	1,234	864
Class -3	346	84	25
Total	4,695	4,542	3,050

Table 12: Violations issued by the Emergency Response Team (ERT) by class for years specified. Class 1 violations are the most severe violation issued by DOB and are issued for immediately hazardous conditions.

From **Table 12**, we see that more than half of the violations issued by ERT in 2018 were for immediately hazardous or Class-1 OATH/ECB violations. In 2019, that number increased to more than two-thirds (71%) of all OATH/ECB violations issued by the unit and remained constant at **almost 71%** of total ERT issued violations in 2020.

Many of the emergency incidents that ERT are called to respond to are related to ongoing building construction-activity. Below are breakdowns showing additional data on how ERT contributes to the mission of holding bad actors accountable following a construction-related emergency.

Table 13 on the following page shows that 2020 saw a decrease in the number of injuries as a result of construction-related activity in the incidents where ERT was called to the scene. This conforms to larger trends of fewer construction-related injuries seen citywide. In 2019, **almost 41%** of construction-related incidents that ERT responded to involved an injury or fatality. In 2020, that percentage was **almost 45%**, but there were also less construction-related incidents that solicited an ERT response in 2020 compared to 2019.

CONSTRUCTION-RELATED INCIDENTS BY YEAR			
Type	Incidents Received	Injuries Occurring	Fatalities Occurring
2019	185	72	3
2020	119	50	3
Grand Total	304	122	6

Table 13: Total construction-related incidents responded to by ERT, and number of injuries and fatalities occurring among those incidents. **One incident may feature multiple injuries.**

The top categories of construction-related incidents that ERT responded to were material and worker falls:

CONSTRUCTION-RELATED INCIDENTS RESPONDED TO BY ERT				
Type	2019		2020	
	Incidents Received	Percentage of Incidents Received	Incidents Received	Percentage of Incidents Received
Excavation/Soil Work	7	3.8%	4	3.4%
Material Fell	54	29.2%	30	25.2%
Mechanical Construction Equipment	6	3.2%	1	0.8%
Scaffold/Shed/Fence/Shoring/Installation	22	11.9%	13	10.9%
Worker Fell	24	13.0%	18	15.1%
Other	72	38.9%	53	44.5%
Grand Total	185	100.0%	119	100.0%

Table 14: Total construction-related incidents responded to by ERT by type of incident. Incidents in the “other” category represent a wide-range of emergency situations that do not fit into any of the above categories.

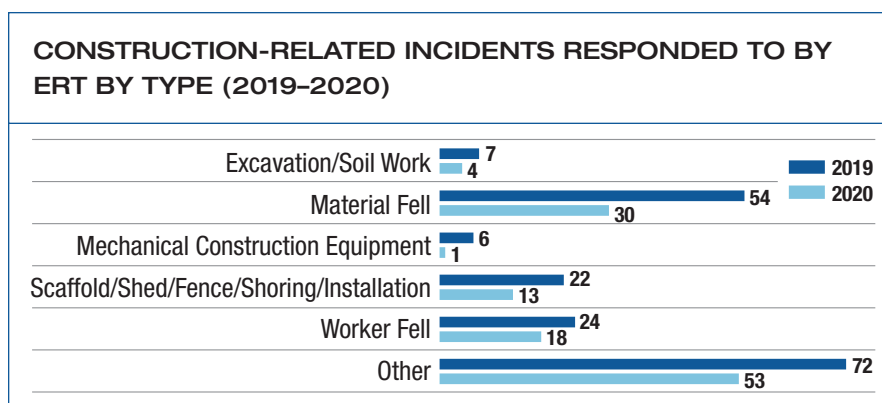


Figure 10: Graphical depiction of construction-related incidents responded to by ERT by type of incident, comparing 2019 to 2020.

In 2019 and 2020 the ERT team responded to incidents across all the five boroughs, with the highest number of incident responses taking place in Brooklyn. Brooklyn was also the recipient of the highest number of violations from ERT inspectors in both of these years.

INCIDENTS RESPONDED TO BY ERT						
Year	Bronx	Brooklyn	Manhattan	Queens	Staten Island	Total
2018	121	238	173	154	28	714
2019	127	311	229	186	41	894
2020	102	264	108	164	41	751

Table 15: Total incidents responded to by ERT (both construction-related and non construction-related) by borough for 2019 and 2020. It is, again, important to note that a single incident can have multiple violations.

VIOLATIONS ISSUED BY ERT		
Borough	2019	2020
Manhattan	756	554
Bronx	654	373
Brooklyn	1788	1252
Queens	1135	756
Staten Island	209	115
Grand Total	4,542	3,050

Table 16: Total violations issued by ERT by borough.

FOCUS ON: SITE SAFETY TRAINING—CREATING A CULTURE OF SAFETY

In the past several years, the construction industry has undergone a major change with the advent of safety training requirements for construction workers on larger work sites. Previously, anyone could be hired as a construction worker or laborer on any construction site in New York City, no matter their experience level in the construction industry. Local Law 196 of 2017 changed this by requiring construction and demolition workers on all large and complex construction sites in New York City to have taken at least 40 hours of mandatory site safety training classes from OSHA-approved and DOB-approved training providers. This landmark legislation was the first time that construction workers and laborers in New York City were required to have additional qualifications, specifically related to keeping themselves and their fellow workers safe, before stepping on a work site in the city.

The implementation of this safety training program was rolled out by the Department of Buildings in stages, requiring workers to have at least 10 hours of safety training by March 1, 2018; at least 30 hours of safety training by December 1, 2019; and at least 40 hours of safety training by March 1, 2021. Additionally, site safety supervisors, who are responsible for ensuring safe operations on a work site, were required to obtain at least 62 hours of mandatory safety training by December 1, 2019. These SST requirements affect workers on approximately 4,600 work sites across the city, specifically the larger work sites that can have dozens or even hundreds of workers on site at any one time, and where site safety supervision is required by the NYC Construction Codes.

Our Construction Safety Compliance (CSC) inspectors have been conducting unannounced, proactive inspections of every work site where site safety training is required, checking that everyone working on the site has the proper safety training, as

proven by SST identification cards issued by DOB-approved course providers upon the successful completion of 40 hours of training courses. Responsibility for workers to obtain this safety training falls upon the general contractors, property owners, and employers of the workers. When one of our inspectors finds workers on a SST work site without the SST card, the Department will issue three separate violations for each untrained worker: one to the owner of the site, one to the permit holder, and one to the employer of the untrained worker if they are not also the permit holder. Each of these violations carries civil penalties of up to \$5,000. These civil penalties can be mitigated if the employer sponsors training for the untrained worker. To date, we have seen commendable compliance with Local Law 196 from the construction industry and buy-in from contractors across the city with these SST requirements for workers and site safety professionals. During site visits, our inspectors are finding that the majority of workers have obtained the required training.

For those workers and small businesses that need assistance in paying for worker safety training, our partners at the NYC Department of Small Business Services (SBS) have set up a Construction Site Safety Reimbursement Program, a one-time grant for individuals and small construction firms, with 1-15 employees, to offset the cost of site safety training. In addition, SBS offers free training to workers at their Workforce1 Career Centers. As of early 2021, over 121,000 SST cards have been issued to NYC construction workers, indicating the successful completion of the required safety training. In the first quarter of 2021, we also convened an internal review team to examine Local Law 196 and will present our findings and recommendations later in the year to the construction industry on ways to build on our efforts in creating a culture of safety.

MAKING SURE EVERYONE GETS THE TRAINING THAT THEY NEED

CBO AND DAY LABORER OUTREACH: Ahead of the Local Law 196 site safety training deadlines the Department of Buildings partnered with a coalition of community-based organizations (CBO) advocating for the safety of day laborers on building construction sites in conducting numerous multilingual meetings and forums. Our outreach was centered on fostering awareness of the legally mandated safety training requirements, how to get training ahead of the upcoming deadlines, and how the Department was implementing Local Law 196. This outreach helped us obtain valuable feedback, including highlighting the need for increased language access to Department materials. As part of our outreach to CBOs and day laborers, we took the following actions in 2019:

- ◆ Visited construction sites and distributed nearly 60,000 palm cards in 13 different languages directly to workers over the course of the entire year;
- ◆ As part of a dedicated “day of action” in November, we visited 1,000 construction sites in a single day with targeted outreach to the city’s day-laborer community, informing them of the SST requirements;
- ◆ Sent direct mailings to permit holders and site safety professionals to notify them of the increased SST requirements;
- ◆ Released a new site safety construction map on our website allowing workers the ability to determine if the site where they will work requires site safety training;
- ◆ Published a course provider map, allowing workers to determine where courses are being offered, and in which languages they are being offered;
- ◆ Orchestrated a five-borough outreach advertising campaign, which included ads in multiple languages on radio, subways, and in over 30 community newspapers, to inform workers about the site safety training deadlines;
- ◆ Enacted a rule requiring that all SST construction sites, where the training is required, must have informational signage in all languages spoken by workers at the site about the SST requirements; and
- ◆ Required site safety worker orientations and safety refresher meetings held on SST work sites to include information pertaining to Local Law 196 SST requirements for each worker in the designated citywide spoken languages.

Our outreach was centered on fostering awareness of the legally mandated safety training requirements, how to get training ahead of the upcoming deadlines, and how the Department was implementing Local Law 196.

Through our outreach efforts in 2019, we heard directly from workers that they needed guidance on how to get this training. In response, we reorganized our Local Law 196 materials to create specific content for workers, supervisors and employers and made it available in more of the languages spoken at construction sites in New York City. These efforts were all in keeping with our goal to ensure there are no barriers to workers getting the construction safety training that they need to keep themselves and their coworkers safe.

AN EXPANSION OF ONLINE TRAINING AND BUILD SAFE/LIVE

SAFE DIGITAL: In 2020, due to the global coronavirus pandemic, and social distancing concerns, the Department curtailed our traditional in-person worker outreach programs and sought new ways to increase access to worker training. During the public health crisis, we expanded the number of training courses that approved course providers could deliver to construction professionals online to include all training courses that do not require hands-on training. This expansion in online training was in addition to the Site Safety Training (SST) classes that were already available online.

Before the onset of the pandemic in New York City, in early March 2020, there were three Department-approved course providers offering online training. By the year's end, the number of Department-approved providers had increased to 49. Not only did we work with our approved training providers to increase the availability of the number and variety of approved online training courses, classes were also made available in many of the 14 different languages that are commonly spoken on New York City construction sites.

Similarly, before March 2020, only 35 DOB-approved training courses in total could be offered online and those courses were limited to Site Safety Training (SST) classes. By year's end, there were 49 Department-approved course offerings for construction professionals that can be taught in an online format, which included both SST Courses, licensing courses, and Worker Continuing Education courses, including:

- ◆ 4-Hour Mast Climber User and Operator
- ◆ 30-Hour Master Rigger
- ◆ 8-Hour Master Rigger Renewal
- ◆ 30-Hour Climber/Tower Crane Rigger
- ◆ 8-Hour Climber/Tower Crane Rigger Renewal
- ◆ 30-Hour Special Rigger
- ◆ 8-Hour Special Rigger Renewal
- ◆ 8-Hour Hoisting Machine Operator Class B Rating

- ◆ 8-Hour Master & Special Electrician Renewal
- ◆ 7-Hour Master Plumber & Master Fire Suppression Piping Contractor Renewal
- ◆ 7-Hour Periodic Gas Piping Inspector Qualification
- ◆ 16-Hour Limited Gas Work Qualification
- ◆ 40-Hour Site Safety Manager
- ◆ 8-Hour Site Safety Manager Refresher/Chapter 33
- ◆ 8-Hour Site Safety Coordinator

At the Department's first ever Build Safe Live Safe digital industry conference, held in September 2020, DOB safety professionals provided free virtual training seminars on construction worker safety, and the SST requirements for Local Law 196 of 2017. Considering the restrictions on hosting an in-person event during the ongoing pandemic, we shifted gears on this traditionally in-person conference to a digital-only format, which allowed us to expand what used to be a one-day event into a weeklong series of seminars. Participants were able to benefit from the knowledge of our in-house experts and other industry experts in over 20 live webinars on topics ranging from proper construction safeguards, worker safety, tenant protection plan requirements, and other important construction industry topics.

The Department held its first ever
Build Safe Live Safe
digital industry conference.

FOCUS ON: NEW SITE SAFETY REGULATIONS AND PENALTIES

In 2019 and 2020, the Department implemented new regulations targeting a variety of unsafe worksite practices that put construction workers at a higher risk of injury or fatalities. We also implemented a series of policy changes, increased penalties for DOB-issued violations, strengthened façade maintenance regulations, and added new requirements for Tenant Protection Plans. We also oversaw enforcement of new mandates requiring new technology to be implemented for cranes and elevators operating in New York City.

C-HOOK PROHIBITION: In September 2019, the Department banned the use of stand-off brackets attached to cornice hooks, commonly known as C-hooks, while performing work on suspended scaffold rigs. The use of stand-off brackets was a commonly used method to give suspended scaffolds additional clearance from the face of the building wall or parapet. While these brackets are no longer allowed in New York City, construction contractors may continue to use outrigger beams, parapet clamps, and standard C-hook devices while performing work on a suspended scaffold. Since October 2019, continued installation or use of stand-off brackets on a C-hook suspended scaffold rig will result in violations, Stop Work Orders, and additional potential enforcement actions issued to the contractor and licensed rigger.

In 2019, there were 22 construction-related incidents involving suspended scaffolding which resulted in 13 injuries and one fatality. Our inspectors determined that two of these incidents were associated with the failure of stand-off brackets. Earlier in the report, we discussed the April 8, 2019 standoff bracket failure at 311 East 50th Street in Manhattan that tragically resulted in a worker fatality. Later that year, on June 1, 2019, the Department responded to another stand-off bracket failure at 42 West 39th Street in Manhattan. These incidents both featured dangerous stand-off bracket failures and the Department quickly realized that the use of C-Hooks with stand-off brackets presented a risk to workers and the public. Following these incidents with standoff brackets, we took the following actions:

- ◆ Prior to prohibiting the use of C-Hooks with stand-off brackets, the Department did a sweep of over 600 construction sites where suspended scaffold rigs were being used and found improper use of C-hooks to be a cause for concern, among other safety issues. Those sweeps resulted in 169 violations and 66 Stop Work Orders, and the discovery of 10 sites using stand-off brackets.
- ◆ In September 2019, the Department issued a Buildings Bulletin and a Service Notice on the prohibition of the use of stand-off brackets with C-Hooks.
- ◆ After the prohibition of the use of stand-off brackets attached to a cornice hook, we re-inspected all sites where the brackets had been in use. All the re-inspected sites had removed the brackets and were found to be in compliance with the ban.
- ◆ We also conducted educational outreach and collaborated with the Special Riggers Association to inform their members about the ban. We believe this collaboration was a contributing factor to the overwhelming compliance that we have seen with this new regulation.
- ◆ The Department will also seek to push for City Council legislation in line with the new C-Hook regulations in 2021.

CHANGES TO OUR FAÇADE INSPECTION

PROGRAM: In 2019, the Department accelerated changes already in progress to strengthen our Façade Inspection Safety Program (FISP) rules and policies. Under these tough new policies, property owners with buildings greater than six stories in height now receive more frequent proactive inspections from the Department and must comply with additional requirements for their mandatory periodic façade inspection which must be performed at least once every five years. The Department also greatly increased penalties for failure to make repairs if unsafe façade conditions are discovered, and

increased penalties for failure to file the necessary 5-year FISP reports with the Department. The new FISP rules also requires that building owners post Department-issued façade condition certificates in the lobby of their building in a visible location.

FISP inspections for these taller buildings are performed by a Qualified Exterior Wall Inspector (QEWI), registered design professionals that specialize in inspecting building façades. QEWIs are hired by building owners to complete, certify and submit FISP compliance reports. These compliance reports must be provided to the Department for our review every five years and are diligently reviewed by our plan examiners. New regulations from the Department were implemented in February 2020 that increased the experience requirement for QEWIs, who now must have at least seven years of relevant experience with façades over six stories in order to perform this role. Our new strengthened façade maintenance regulations include requirements that:

- ◆ QEWIs must provide a time frame for repairs of unsafe façade items to bring a building to Safe With a Repair and Maintenance Program (SWARMP) or Safe status;
- ◆ Repair timeframes of more than five years will not be accepted; and
- ◆ Extensions will not be granted to building owners beyond the recommended repair time frame provided by QEWI.

We have strengthened our façade maintenance regulations to include requirements and announced the hiring of new staff position for the Façade Inspection Unit.

Following a façade related fatality that occurred in Times Square, Manhattan, in December 2019, the Department ordered an immediate sweep of all façades over six stories tall where the building owner's QEWI had filed as Unsafe FISP filing. In roughly 30 hours, DOB inspectors visited all buildings fitting these criteria to determine if they required additional pedestrian protection measures. While this was the sole fatality involving a partial façade collapse at a FISP building in 2019, we believe one is too many. We subsequently took actions to ensure that any of the buildings that were missing pedestrian protections immediately installed those measures. In situations where owners failed to comply with our orders, city contractors are brought in to install sidewalk sheds around the buildings at the owner's expense.

The Department is making every effort to ensure that building owners fix unsafe façade conditions in a timely manner in order to safely remove pedestrian protection measures, and get their buildings in good shape, in the interest of public safety. Here are some of the other major actions we took in 2019 and 2020 to enhance our Façade Inspection Safety Program (FISP):

- ◆ We announced the hiring of 12 new staff positions for the Façade Inspection unit, doubling its inspectorial size, and requiring additional experience for façade inspectors. All new inspectors within the façade unit have experience in some degree with façades or exterior walls. All façade unit inspectors also attend a rigorous training academy and months of on-the-job training. Additionally, all new inspectors are receiving tailored, façade-specific training developed in-house by the façade unit's leadership staff—a first for the Department.
- ◆ Buildings found to have unsafe façades, or ones that require remedial repairs, will now get follow-up inspections from DOB staff within 60 days of receiving a Class 1 façade violation to ensure pedestrian protection measures are in place.

If our inspectors observe that no pedestrian protection measures have been installed during these follow inspections, orders will be issued for the work to be performed by city contractors at the owner's expense.

- ◆ All buildings greater than six stories in height—not just those that have previously received a violation—now face the possibility of proactive DOB safety compliance reviews. 25% of these buildings are selected at random to receive these safety reviews. In Cycle 8 of the Façade Inspection Safety Program (FISP), which lasted from 2015 through 2020, we had 11,199 Safe and SWARMP reports submitted to the Department. Approximately 3,528 of these buildings received inspections. The Department conducts follow up inspections of all Unsafe reports it receives.
- ◆ In 2019, the façades unit engaged in industry outreach, delivering presentations on trends in façade maintenance and construction to ten separate engineering and architecture firms who represent a significant portion of all QEWIs working in New York City. These firms, combined, are responsible for about a quarter of all of our FISP filings. The Façade Unit also presented a seminar on common façade failures at our annual Build Safe/Live Safe Digital Conference in September 2020.
- ◆ There were 1,587 OATH/ECB violations issued by the Façades Inspection unit in 2020. Almost 90% of these violations were issued for failure to maintain buildings walls or appurtenances, or for failure to protect public safety due to an unsafe façade.

HOLDING OWNERS ACCOUNTABLE IN

CRIMINAL COURT: Throughout the city, the Department encounters building owners with unsafe façade conditions who put up sidewalk sheds as a pedestrian protection measure but fail to follow

up with the necessary repairs to their buildings that would allow them to eventually take down the shed. In some rare instances, the sidewalk shed remained in place around a building for ten years or more, taking up valuable public space and becoming an eyesore in the community. Long-standing sidewalk sheds when repairs are not ongoing are unacceptable and create a public nuisance in neighborhoods across New York. In 2019, the Department began a process of pursuing court actions against these building owners with long-standing sidewalk sheds to force them to make the repairs so the sheds can safely come down.

- ◆ Starting in Fall 2019, the Department initiated criminal court cases against seven building owners who have had sidewalk sheds up for over 10 years and were not taking steps to make the necessary repairs. The first court dates were scheduled for October 2019.
- ◆ For the seven buildings owners with sheds up for over 10 years, six cases are still pending in criminal court. One shed has been removed and the repair work at two other locations has almost been completed, which will facilitate the removal of two more sheds. The pending cases were delayed in 2020 due to COVID-related court closures.
- ◆ In 2020, the Law Department started to file civil court actions against owners with sidewalk sheds that are over 6+ years old. We will continue working down the list of worst offenders, using a

The Department began a process of pursuing court actions against these building owners with long-standing sidewalk sheds.

variety of strategies until we get compliance from all building owners with long-standing sidewalk sheds that have been in place for over three years.

COLD-FORMED STEEL: Overloading and improper installation of cold-formed steel for building construction projects can result in catastrophic injury and property damage. There were four construction-related incidents in 2019 that were determined to be the direct result of improper installation or installation contrary to manufacturer's specifications of cold-formed steel, and an overloading of the floors. Following the tragic worker fatality in August 2019 due to a building collapse caused by the overloading of cold-formed steel (see page 18), our agency issued a Service Notice and Buildings Bulletin in December 2019 with guidance for contractors on the proper use of cold-formed steel.

- ◆ In 2019, eight injuries and one fatality resulted from incidents involving improper use of cold-form steel.
- ◆ As a result of these observations, the Department conducted direct outreach by visiting 108 sites that were using cold-formed steel. We educated workers and owners with direct outreach and printed materials available in multiple languages, about the dangers of improper usage of cold-formed steel.
- ◆ We also performed outreach to elected officials in the boroughs which had a prevalence of incidents involving cold-formed steel to enlist their help on spreading the word to their constituents in the construction industry about the proper use of this construction technique.

The Department intends to pursue legislation in the City Council focused on improving the safety and proper use of cold-formed steel. This will be discussed in [Future Legislative Pursuits](#), on page 67.

Our agency issued a Service Notice and Buildings Bulletin with guidance for contractors on the proper use of cold-formed steel.

ELEVATOR DOOR LOCK MONITORING

SYSTEMS: In New York City, there are over 90,000 total elevator devices that complete a combined average of four million trips each day. New Yorkers depend on passenger elevators to get us safely to our homes and offices and decades of safety advancements have helped to minimize risks associated with these critical transportation devices. A more recent safety advancement for elevators are Door Lock Monitoring (DLM) systems. With a Door Lock Monitoring system in place, the elevator is physically prevented from moving up or down while the elevator doors are open. This system is critical in preventing passengers from getting stuck in between the car and the floor, due to the doors being open. By January 1, 2020 all automatic passenger and freight elevators were required to have DLM systems installed and building owners were required self-certify the installation and tests of these systems.

In 2019, our Elevators Unit at the Department, received an average of 50 DLM system test notifications per day from property owners, who were coming into compliance with this new requirement. In the run up to the deadline, the unit received up to 100 DLM test notifications in a single day. In 2020, following the passage of the deadline, there were between 20—40 self-certification notifications submitted to the Department each day. Following these notifications, the Department audits a portion of those who self-certified. These audits were conducted in addition to the Department's regular elevator safety checks which are performed during routine annual inspections or complaint-driven inspections.

Automatic passenger and freight elevators are now required to have DLM systems installed and building owners are required self-certify the installation and tests of these systems.

In 2020, the Elevators Unit issued a total of 2,837 OATH summonses/ECB violations for not having a door lock monitoring system installed, which is **almost 42%** of all violations (6,798) issued by this unit. To put these numbers in context, in 2019, prior to the mandate, the Elevators Unit issued a total of 5,713 violations over the course of the entire year, meaning there has been a **16% increase** in elevator violations since this DLM system requirement was implemented. The Department recognizes that not all elevators in the city have successfully installed a DLM system yet, and the implementation of this requirement is an ongoing process. The Department is committed to following up with building owners, to ensure compliance, as it is essential for the safety of all New Yorkers that the rest of the city's passenger elevators install these potentially lifesaving upgrades.

CRANE MODERNIZATION: New York City already has the most stringent regulations in the country for construction cranes and derricks in place to protect the public in our growing vertical city. In recent years, the Department has been committed to strengthening our policies even further, to prevent collapses and other crane-related incidents. Our Cranes and Derricks unit (C and D) is at the forefront of this work to improve crane and derrick safety in our city. Staffed with highly specialized crane inspectors and engineers, this unit works to ensure that every building construction crane operating in our city is closely adhering to all of our regulations. C and D inspectors conduct regular field visits to monitor ongoing crane and

hoisting operations throughout the city to determine whether it is performed safely as per manufacturer recommendations, best industry practices, and the requirements of the NYC Construction Codes. Unfortunately, despite our regulatory oversight, crane-related incidents still occur in our city. While injuries resulting from crane incidents declined in 2019 from 2018, we did see two crane-related fatalities. In 2020, there was a total of 9 incidents involving cranes which resulted in three injuries. There were no crane-related fatalities in New York City in 2020.

CRANE-RELATED INJURIES AND FATALITIES			
Year	2018	2019	2020
Injuries	15	8	3
Fatalities	0	2	0

Table 17: Total construction crane-related injuries and fatalities in New York City by years specified.

Proper safety training, strict enforcement, and modern technology are essential elements of crane safety. The Department believes that crane-related injuries in our city can be reduced to zero if the construction industry adheres to best safety practices and always follows the crane manufacturers device-specific recommendations. That also means that whenever a crane is in operation every single person at the job site, and not just the crane operator, must be diligent to prevent injuries to themselves and their coworkers. Human error can be mitigated by better training for all workers on the site, such as the SST training mandated by Local Law 196 of 2017. Likewise, equipment failure can be mitigated by mandating that only modern, safe, and tested hoisting equipment is used for construction work in the five boroughs.

When a crane-related incident does occur, whether through an equipment failure, unsafe crane operations, or a failure to safeguard the construction site, modern technology can offer clues as to what went wrong. In line with this thinking, the C and D

Unit at the Department of Buildings is overseeing the modernization of the city's crane industry through the implementation of Local Law 3 of 2018 and Local Law 79 of 2017.

- ◆ On January 1, 2019, the Cranes and Derricks unit began carrying out the implementation of Local Law 3 of 2018 which allows only cranes having an age of less than 25 years from the manufacturer date to be used in the city. All cranes manufactured 25 years ago or older were taken out of service and prevented from operating in the city.
- ◆ In 2019, this unit also oversaw the implementation of Local Law 79 of 2017 which mandates that no certificate of operation for a crane or derrick shall be issued or renewed on or after January 1, 2019, unless the crane is equipped with an event recorder.

New York City has the most stringent regulations in the country for construction cranes and derricks.

- A crane event recorder is required for us to be able to collect data such as, crane configuration, overload condition, status of limits switches, and operator overrides. Similar to a plane's "black box," a crane event recorder lets the Department know what happened in the moments before an incident. By knowing this information, we can figure out why the incident occurred, and if necessary, hold the responsible parties accountable.

FOCUS ON: COVID-19 SAFETY GUIDELINES

After facilitating a temporary pause of all non-essential construction in New York City in the Spring of 2020, pursuant to an Executive Order issued by the Governor, to help slow the spread of the coronavirus pandemic, the Department was then tasked with helping restart the city's construction industry. The central challenge in this endeavor was allowing for the reopening of the city's tens of thousands of non-essential construction sites, while at the same time protecting construction workers from the potential spread of coronavirus. Construction sites under normal circumstances can be crowded places, with dozens of workers in close proximity, and few sanitary facilities. In early June 2020, the Department issued new COVID-19 health and safety guidelines for all construction work sites in the city in accordance with the State's mandates. These guidelines were created in partnership with our colleagues at the NYC Department of Health and Mental Hygiene (DOHMH), addressing industry-

specific concerns for the 33,556 non-essential construction sites that were allowed to re-open.

The new health and safety regulations for construction sites included, but were not limited to:

- ◆ Ensuring compliance with social distancing protocols and maintaining six feet of distance between all personnel except where safety or work functions require shorter distance;
- ◆ Requiring anyone on site, including workers, other construction professionals, and approved visitors to wear face coverings at all times;
- ◆ Having readily available hygiene and hand washing stations;
- ◆ Posting COVID-19 safety measures signage visible to workers, reminding everyone to adhere to all safety protocols while on site, including

proper hand hygiene, physical distancing, appropriate use of personal protective equipment, and cleaning and disinfecting protocols;

- ◆ Making sure that tightly confined spaces (e.g., elevators, hoists) are occupied by only one individual at a time, unless all occupants are wearing a face covering and the space is kept under 50% maximum capacity;
- ◆ Ensuring safety plan(s) are conspicuously posted on-site, including a copy of the submitted New York State affirmation of compliance with all applicable COVID-19 regulations pursuant to the Governor's orders;
- ◆ Properly completing and updating cleaning and disinfection logs;
- ◆ Creating a COVID-19 communication plan for employees, visitors, and clients on site; and
- ◆ Correctly completing and updating logs of every person who may have had close contact with others on site to ensure effective contact tracing.

For one month after the June 8, 2020 reopening, the Department was out visiting every work site in the city, educating workers and property owners on the new safety requirements, and how to implement them at the work site. Our inspectors provided on-site guidance on best practices to contractors and site safety professionals, to help them understand what was now required to continue to work safely,

while mitigating the risk of contagion spread. During this first month of field visits, our inspectors refrained from issuing violations, and associated fines, in favor of educating contractors of the new requirements. As part of this educational campaign, weekly inspection summary checklists were distributed to all stakeholders associated with a site in order to ensure full understanding of inspection results, as well as a citywide summary distributed to all permitted sites.

After the first month, the Department began taking enforcement actions for those contractors who were aware of the new regulations and still refused to comply. At the end of the grace period, subsequent violations resulted in financial penalties, and continued noncompliance led to the issuance of Stop Worker Orders and additional summonses with accompanying civil penalties of up to \$5,000 for each offense. By the end of 2020, our inspectors conducted field visits at every construction site in the city multiple times specifically to monitor and verify compliance with the new COVID-19 health and safety protocols. This amounted to **488,693 separate work** site field visits. During these continual rounds of construction site visits, our inspectors observed widespread compliance with our new health and safety regulations. Even after hundreds of thousands of field visits conducted in 2020, DOB issued only **386 violations**, and issued **76 SWOs** specifically for noncompliance to these COVID-19 health and safety regulations. While the pandemic led to new challenges for sites to operate safely in our city, the regular and consistent goal of keeping workers and the public safe doesn't change.

FOCUS ON: OFFICE OF THE TENANT ADVOCATE (OTA)

Renovation and maintenance projects are necessary for the proper upkeep of buildings in our city. The Department recognizes that living in a building that is undergoing construction can be temporarily difficult and disruptive, however, we are steadfast in our commitment that this construction activity should never be dangerous or present hazards to the occupants. It is our goal to help minimize the impacts of ongoing construction activity for tenants and provide greater transparency for the public on the construction process. As part of that commitment, the Department of Buildings created the Office of the Tenant Advocate (OTA), which was established as a result of Local Law 161 of 2017, passed by the New York City Council. This DOB office serves as a dedicated resource and a first point of contact for tenants who are affected by construction work in occupied multiple dwellings, or who are dealing with other related Construction Code issues in their building. Information on how tenants can contact OTA directly by phone and email is on the Department's website, and tenants can reach out with their concerns, questions and complaints regarding construction, contractors, and Tenant Protection Plans.

In 2019, its first full year of operation, OTA received 1,842 inquiries directly from the general public and responded to each of them, on average, in 2 days or less. In 2020, OTA received 2,236 inquiries while the wait time for a response decreased to less than 1.5 days. Inquiries submitted directly to OTA are separate from complaints filed through New York City's 311 system. Most inquiries OTA receives involve questions on the safety of a residential space or the safety of construction work being done and generally fell into the categories below:

- ◆ Matters of general maintenance;
- ◆ Work without a permit complaints;
- ◆ Failure to comply with a Tenant Protection Plan (TPP) complaints; and
- ◆ Failure to post a Tenant Protection Plan Notice or Safe Construction Bill of Rights complaints.

When a member of the public files a complaint for construction as harassment using the 311 system, these complaints are routed directly to the Department of Buildings' Office of the Buildings Marshal (OBM). This office at the Department oversees various investigative and enforcement initiatives, including tenant protection enforcement. OTA, working closely with OBM, receives complaints and determines which cases require additional follow up investigation or field inspections. While enforcement for construction-based tenant harassment is handled by OBM, when necessary, OTA may also refer cases to other specialized enforcement units in the Department for follow up inspections. In 2020, OTA made 532 complaint referrals to other DOB units, including 333 directly to OBM. Here's a look at OTA inquiries and referrals in 2019 and 2020:

This office serves as a dedicated resource and a first point of contact for tenants who are affected by construction work or who are dealing with Construction Code issues in their building.

OTA REFERRALS BY YEAR & QUARTER										
	2019					2020				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
OTA Inquiries	311	247	523	660	1,741	582	396	621	637	2,236
Referred to OBM	*	*	*	40	40	82	81	102	68	333
Other DOB enforcement unit	*	*	*	15	15	38	56	66	60	220
Other City/State/ Legal services	*	*	*	49	49	121	368	485	500	1,474

Table 18: Total inquiries received by OTA including a breakdown by referrals to other DOB units and external agencies. An asterisk refers to a period before this data began to be collected and reported.

Based on these referrals, Department units carry out inspections that help to protect tenants from potentially unsafe conditions and forms of construction-based tenant harassment like:

- ◆ Gut renovations without DOB permits
- ◆ False filings for construction projects
- ◆ Dust resulting from ongoing construction work
- ◆ Intentional damage to heating systems and boilers

The table below offers a snapshot of the Department's safety inspections carried out on behalf of tenants in recent years:

TENANT SAFETY INSPECTIONS			
Year	2018	2019	2020
Complaints	743	1,318	2,286
Inspections	595	1,355	2,302
Violations	332	797	637
Stop Work Orders	93	123	392
Vacate Orders	18	2	2

Table 19: A breakdown of the total tenant safety complaints and inspections conducted by DOB, and total enforcement actions issued as a result of these inspections for years specified.

In 2020, OTA began the process of planning for the creation of a specialized Tenant Protection Plan Exam unit responsible for review and scrutiny of Tenant Protection Plans (TPP) required for construction projects in occupied buildings. TPPs must be prepared and submitted to the Department for the alteration, construction, or partial demolition of buildings in which there are any dwelling units that will be occupied during the period of construction work. The Department will not issue a permit for construction work in these occupied buildings without a submitted and approved TPP on file. TPPs show how the contractor will protect tenants during construction work taking place in their buildings with site-specific information addressing the following concerns:

- ◆ Adequate egress
- ◆ Fire safety measures
- ◆ Health requirements that address such things as construction debris and dust
- ◆ Structural safety
- ◆ Compliance with housing code
- ◆ Noise restrictions pertaining to the hours during which construction work can be undertaken
- ◆ Maintenance of essential services such as heat, hot water, gas and electricity, etc.

In 2020, Office of the Tenant Advocate also oversaw the Department's implementation of Local Law 106 of 2019, which included the requirement that Tenant Protection Plans (TPP) must now be prepared by a either a Registered Architect or Professional Engineer specifically contracted by the permit holder for the approved work. In addition, the legislation required both property owners and their contractors to sign statements certifying that the construction work that will be performed will fully comply with the approved TPP for the project, and that the Registered Design Professional for the project will provide updated amendments to the TPP during different phases of the construction project, as necessary. The direct involvement of these design professionals in the creation and implementation of the TPP, and the certified responsibility of the contractors to follow the TPP, provides a layer of oversight that the ongoing construction work is complying with these site-specific plans meant to protect tenants from disruptive construction operations in their buildings.

We've developed site-specific plans meant to protect tenants from disruptive construction operations in their buildings

Prior to Local Law 106 of 2019, these Registered Architect or a Professional Engineers associated with the project would only be responsible for drafting Tenant Protection Plans during the planning stages of an application, and once approved, they would typically move on to other projects. Thanks to these new requirements, the design professional for the project will now be more directly involved with tenant protection concerns affecting New Yorkers living in under-construction buildings. More oversight on a construction site will lead to better adherence to proper safety measures which in turn not only protects tenants in the building, but the workers on the site as well.

DISCIPLINARY ACTIONS: ACCOUNTABILITY OF LICENSED DESIGN PROFESSIONALS AND LICENSED PRACTITIONERS

When the Department encounters a construction professional who consistently flouts regulations, ignores safety protocols, and puts their fellow New Yorkers at risk, we turn to the Legal and Regulatory Affairs Unit at DOB to implement enhanced enforcement actions. This unit holds bad actors in the industry accountable for their actions by affecting their ability to continue working in our city, through the use of suspensions, license probations, license revocations, and the removal of filing privileges. The Legal and Regulatory Affairs Unit at the Department is made up of different teams:

SPECIAL ENFORCEMENT TEAM (SET)

This team is responsible for auditing the plans submitted to the Department by Registered Architects and Professional Engineers, who are licensed by the State of New York. The unit also conducts audits of Special Inspection Agencies, private inspection firms which are licensed by the Department. When SET finds one of these design professional who is filing and self-certifying a pattern of multiple non-code compliant plans or special inspection reports, they take action to limit these filing and self-certification privileges through either a suspension or revocation—whether voluntarily through a stipulated surrender, or through a hearings at the Office of Administrative Trials and Hearings (OATH). The actions taken by SET prevents these bad actors from continuing to file plans and special inspection reports for construction work in New York City temporarily or permanently. Holding these bad actors accountable sends a strong signal to the industry that there are repercussions for not abiding by the rules in New York City. Below are some of the disciplinary actions the Department has completed through the work of SET:

ENFORCEMENT ACTIONS TAKEN				
	2017	2018	2019	2020
Professional Certification Privileges Surrenders/Settlements	17	18	28	27
Full Filing Privileges Surrenders/Settlements/Revocations/Suspensions	2	4	5	2

Table 20: Total number of enforcement actions taken by DOB's Special Enforcement Team against the professional certification and filing privileges of New York State-licensed design professionals by year.

In 2019 and 2020, as is representative of previous years, the bulk of SET cases stemmed from internal referrals from other Department units, targeted audits by SET, and investigations of professionals who were involved in construction-related incidents. The primary reasons for an internal referral of a design professional for further investigation by SET were suspicions of negligence, incompetence, and false filings. When a referral to SET is made, and audits are commenced, SET will review professionally certified filings submitted to the Department from the design professional. Enforcement actions are taken when the SET finds patterns of code and zoning issues.

The major issues SET found in 2019 and 2020 in the Professional Certification audits of New York State licensed Design Professionals included:

- ◆ Failure to provide adequate means of egress;
- ◆ Failure to provide adequate fire proofing;
- ◆ Alterations of Multiple Dwellings that do not provide adequate light/air/ventilation/minimum room sizes;
- ◆ Improperly changing the Use/Egress/Occupancy of a building under a minor alteration application without obtaining a new Certificate of Occupancy.

The major issues SET found in the audits of filings from DOB-licensed Special Inspection Agencies in 2019 and 2020 included:

- ◆ Performing inspections while not being registered;
- ◆ Performing inspections without possessing required qualifications;
- ◆ Failing to perform inspections as required by the Building Code; and
- ◆ Failing to provide inspection reports as requested by Commissioner's Order.

LICENSEE DISCIPLINARY UNIT (LDU)

This team disciplines trades that are licensed by the city, including general contractors, plumbers, electricians, hoist machine operators, and riggers, through fines, suspensions, or revocations of their DOB-issued licenses. LDU cases can originate with referrals from within the agency, including those that come as a result of an investigation into a construction-related injury or fatality at a work site, submission of false documents to the Department, failure to disclose material information on a license application, or acts of negligence or incompetence in carrying out the duties of a licensee. LDU cases also stem from complaints received from

members of the industry and members of the public, referrals from other government agencies, and from reviews of routinely generated analytics reports.

An increased emphasis on analytics reports, used to find construction professionals with a high number of violations, has led to an increase in the number of cases being brought against General Contractors. In addition, LDU increasingly investigates misconduct by Construction Superintendents and other safety professionals licensed by the Department. In 2019 and 2020, LDU focused their resources on investigating General Contractors working in New York City who had accumulated a high number of adjudicated Class 1 OATH summonses, as well as on prosecuting licensees involved in incidents at construction sites.

By the numbers, the Licensee Disciplinary Unit (LDU) at the Department has taken the following disciplinary actions:

DISCIPLINARY ACTIONS, SURRENDERS, REVOCATIONS, AND SUSPENSIONS RESULTING FROM LDU INVESTIGATIONS				
	2017	2018	2019	2020
Total Disciplinary Actions	77	108	50	27
Surrenders, Revocations and Suspensions (Included in Total)	37	27	39	18

Table 21: Total disciplinary actions, surrenders, revocations, and suspensions resulting from LDU investigations by year.

In 2019 and 2020, the type of licensee misconduct observed by LDU included:

- ◆ Licensee's failure to perform their duties at a site involving a serious injury or fatality;
- ◆ Failure to include workers on their payroll;
- ◆ Accumulation of a high number of adjudicated Class-1 OATH Summonses;
- ◆ Accumulation of a high amount of unpaid fines related to DOB-issued violations;
- ◆ Failure to report accidents to the Department;
- ◆ Failure to have their business properly established as required by the Code;
- ◆ Failure to pay their workers prevailing wages; and
- ◆ Making false statements on documents submitted to the Department.

LICENSING BACKGROUND UNIT (LBU)

This team reviews new license applications and license renewal applications, to ensure that only qualified individuals in good standing with the Department are allowed to obtain DOB—issued licenses. In 2019 and 2020, the top reasons for license denials were:

- ◆ Lack of Qualifying Practical Experience;
- ◆ Lack of required training or certification;
- ◆ Outstanding city debt, unpaid/unresolved; and
- ◆ Failure to provide supporting documentation on request.

Looking at the numbers, the following license applications were denied following investigation by the Licensing Background Unit (LBU) at the Department:

LICENSE DENIALS AS A RESULT OF LBU INVESTIGATION				
	2017	2018	2019	2020
Licenses Denied (Initial)	181	217	197	144
Licenses Denied (Renewal & Reinstatements)	7	14	11	8

Table 22: Total license denials as a result of LBU investigation by year.

LOOKING TO THE FUTURE: LEGISLATION, OUTREACH, AND INNOVATION

FUTURE LEGISLATIVE PURSUITS

As the Department considers additional measures to improve safety on construction sites in New York City, our focus has turned to pushing for new legislation which would allow for greater oversight by the Department of Buildings. Currently, there are several pending construction safety bills that are advanced by the Department and are reflective of a thorough analysis of construction-related incidents that occurred in recent years. This legislative package is aimed at building on the over 20% decrease in construction-related injuries we saw in 2019 and continue the further decline of more than 15% construction-related injuries which occurred in 2020. We will put forth every effort to see this proposed package of construction safety legislation become law. Items that we are pursuing include:

- ◆ **General Contractor Licensing:** This would create a new license class for all general contractors working in New York City, which would strengthen DOB's ability to bring enforcement actions against contractors whose actions put workers and the public in harm's way by suspending or revoking their licenses. *This new licensing requirement for all general contractors, would be similar to the licensing authority we have over other construction professionals, such as plumbers, electricians, riggers and crane operators. Currently, contractors do not need a license to work in NYC, and only need to be registered with the Department.*
- ◆ **Require More Projects to Have DOB-Licensed Safety Professionals and Site Safety Plan Reviews:** This would require more work sites in New York City to retain DOB-Licensed Site Safety Coordinators and require additional DOB approval of Site Safety Plans by changing the definition of "Major Building" projects in our Building Code, where these increased safety requirements are mandated. *Currently Major Building projects are defined as projects 10 or more stories in height, or projects 100,000 square feet or more in size. The new proposed definition would expand Major Building projects to any project that is seven stories or more in height.*
- ◆ **Require Construction Superintendents on all Projects requiring DOB-Licensed Safety Professionals:** This would require a full time Construction Superintendent on all sites requiring a DOB-licensed Site Safety Coordinator or Manager. The primary purpose of this legislation is to require an additional individual on each

We will put forth every effort to see this proposed package of construction safety legislation become law.

SST work site who is responsible for the safety of workers on site and the public. *Whereas DOB-licensed safety professionals focus on safety and code compliance, construction superintendents perform a broader management role of each site.*

Once implemented, these proposals will result in more work sites across the city having more direct supervision from licensed, responsible parties. The proposals will affect the larger and more complex construction projects across the city, which our data shows present the greatest risk of potential injury.

As mentioned previously, we will also pursue legislation that improves the safety of cold-formed steel light-frame construction in response to the associated incidents. This is in follow up to our guidance issued to construction contractors across the city. We will also push for legislation prohibiting the use of C-hooks with stand-off brackets in response to incidents we saw in 2019 that were related to its usage, codifying into law a previous Buildings Bulletin issued by the Department.

In 2019, a local law to bring the New York City Plumbing Code up to date with the 2015 edition of the International Plumbing Code was introduced by the New York City Council. The changes to our Plumbing Code, which the Department advocated for, and which passed into law in 2020, will aid in the conduct of development inspections, strengthen existing protections against cross-contamination in food handling, and result in a more performance-based approach to roof drainage. Some of the highpoints of Plumbing Code changes are:

- ◆ A new requirement that each well of a multiple compartment sink discharge independently to a waste receptor;
- ◆ New provisions related to roof drain flow rate; and
- ◆ New provisions that limit the cutting away of a structural member during the installation or alteration of a plumbing system.

In addition to construction safety, in 2020 we advanced a bill to streamline the development process in New York City that would create a completely new category of Certificates of Occupancy. This bill which, was passed in November of 2020, enables DOB to issue “Interim Certificates of Occupancy (ICO)” for completed portions of buildings that are found by the Department to be safe for occupancy following DOB inspection. Prior to this, we could issue Temporary Certificates of Occupancy (TCO) prior to the completion of a project, as a step towards a building obtaining a Final Certificate of Occupancy (CO) but unlike the new ICOs, TCOs must be continually renewed every 90 days. Failure to renew a TCO can lead to violations from the Department. The new ICOs created by this legislation do not require these same administrative

renewals, reducing unnecessary paperwork at the Department, while also adding certainty to a project for property owners securing financing for their developments, and to commercial and residential tenants moving into a space, who would no longer have to worry about the ICO expiring.

Finally, the Department intends to make 2021 a code revision year. Additional legislation was recently introduced updating New York City's Construction Codes, following the Department's extensive Code Revision Process to of our 2014 NYC Construction Codes. This legislation would update our Building Code, Fuel Gas Code, Mechanical Code, Plumbing Code, and General Administrative Provisions so that the City's construction and building regulations reflect modern developments and industry best practices. In addition, in the near future the Department will also be seeking to push for legislation to create a new Existing Building Code, which specifically addresses alterations to existing buildings. This would provide enhanced guidance to the industry by consolidating applicable code provisions when a building is being renovated.

OUTREACH

We provide
technical support
and leveraging our
expertise to build
upon our team's
disaster-response
experience in
preparation for a
potential natural
disaster.

In recent years, the Department has committed to increasing transparency and accessibility for the industries that we regulate. This commitment is tied to our mission of creating a partnership with the construction professionals who build and maintain our city, in order to instill a universal culture of safety in these industries.

In 2019, the Department engaged with our partners across the construction and development industries, including property owners, developers, property managers, contractors, design professionals, licensees, unions, construction workers, day laborers, elected officials, community boards and other community-based organizations, to provide education and guidance on safe construction practices including site safety training requirements. In addition to extensive outreach on worker training, the Department hosted and participated in industry sessions and other forums where we engaged directly with various sectors of the construction industry like manufacturers and engineering and architecture firms. In these industry sessions, we provided guidance on code compliance, industry trends, ways to improve safety, and granted these professionals access to DOB subject matter experts to ask specific technical questions.

In 2020, the Department also engaged in crisis response outreach as part of a city-wide response to earthquakes in Puerto Rico. Under a City-to-City mutual aid agreement with the City of New York, we sent sixteen of our inspectors and structural engineers to share their expertise in structural stability inspections with their counterparts in Puerto Rico, and to help local officials determine the safety of buildings across the island.

By providing technical support and leveraging our expertise during this disaster, the Department not only helped our fellow Americans in need, but we built upon our team's disaster-response experience in preparation for a potential natural disaster here in the city. Should the need or occasion arise in the future, the Department will be ready to aid in future disaster relief efforts.

IN-HOUSE INNOVATION AND INDUSTRY INPUT ON ADVANCING CONSTRUCTION SAFETY

The Department understands that great ideas can come from anywhere, which is why in 2020 we launched our first-ever innovation challenges, soliciting proposals from the public on ways to improve our Construction Codes, implement new sustainability measures, and increase construction safety in our city. In partnership with the NYC Economic Development Corporation and Urban Tech Hub @ Company, we launched two innovation challenges last year, one dedicated to sustainability innovations, and a “Hack the Building Code” challenge geared towards improving our regulations.

For the “Hack the Building Code” competition, we invited the industry to submit ideas on the best ways to improve the City's buildings, keep construction workers and the public safe, and modernize the construction process. The winners of that challenge provided ideas on using technology to facilitate safer and more efficient façade inspections, proposed better equipment for use on the construction site, and suggested new technology to sterilize the air in elevators, which in the era of COVID-19 is a major safety concern. The winning ideas were presented at our virtual Build Safe/Live Safe conference and are being supported for future inclusion in our regulations.

In 2020, we engaged with the industry in new and socially distant ways and the response was positive. The Department aims to continue this industry collaboration in the future and believes by working together we can generate creative solutions to protect workers and the public—to build safe.

MORE TO COME: HOW WE BUILD ON A WINNING FORMULA

Whether it be
in traditional or
digital settings, or
through innovation
competitions
to engage the
industry, we know
that together we
can build and
sustain a safe
New York City.

It is clear that the actions we have taken at the Department, working hand-in-hand with the industry, have helped to make strides in increasing safety on construction sites in New York City. However, there is still much more to do; building construction-related fatalities remained flat in 2019 compared to 2018, at twelve a year. While building construction-related fatalities declined in 2020 to eight total, even one fatality is too many. We will not stop pushing for greater safety on the work site, until every worker that sets foot on a job site in the morning knows for a fact that they will return home to their families in the evening.

Although 2020 brought a new host of challenges, the men and women who work at the Department of Buildings met them head on. We implemented new construction site regulations in response to the coronavirus pandemic, and proactively transitioned many of our customer service transactions to be available online. We greatly expanded the number of filings that could be submitted through our online portals, DOB NOW and e-Filing, as well as the range of online training and online tools. We plan to keep expanding these online portals and consider digital options and alternatives for engagement, as in the case of our 2020 Digital Build Safe Live Safe Conference.

Working with the New York City Council, we plan on pursuing updates to the New York City Construction Codes to further improve construction and building safety. We intend to push forward legislation that will require contractors to demonstrate their qualifications before they can conduct work in the city through a new licensing measure.

We will also impose additional safety requirements at more construction sites and require additional safety supervision at our larger construction sites. Likewise, we will be looking to further increase the penalties for violations of the New York City Construction Codes that pose a severe threat to life, health, safety, and property, and where such violation results in death or serious physical injury.

Finally, recognizing there is strength in collaboration, we will further expand our outreach to the industry to pursue our shared goal of creating a culture of safety on construction sites. Whether it be in traditional or digital settings, or through innovation competitions to engage the industry, we know that together we can build and sustain a safe New York City. Where there is real buy-in from the industry on the importance of regulation, everyone is safer.

We believe that every injury, and every fatality, on the work site is preventable. We also believe that the efforts outlined in this report illustrate positive steps towards a safer place for everyone who lives, works, and builds in our city.



2019 –
2020

CONSTRUCTION SAFETY REPORT