The COVID-19 pandemic brought a halt to the growth of the construction industry nationwide which, prior to the pandemic, had been growing strongly. This was especially true in New York State and New York City.

Before 2020, the nation’s construction employment increased for nine consecutive years, though it never met the peak reached before the Great Recession. However, in the State and the City, jobs reached a record high by 2015. Construction employment in the City grew especially robustly, rising by 43.5 percent from 2011 to 2019, the City’s fastest-growing sector during this period.

As New York City was the national epicenter of the COVID-19 outbreak, the industry in the downstate area suffered disproportionately. In 2020, downstate construction employment declined by 12.9 percent, much worse than the 1.7 percent drop in the rest of the State. More than half the industry job losses in the State were in New York City. Employment has remained at lower levels during the first few months of 2021.

The State placed a pause on nonessential construction from March to June 2020, and construction spending in the City declined in 2020 for the first time since 2011. The New York Building Congress expects spending to rebound slightly in 2021. Since that forecast was published, the Biden Administration passed a $1.9 trillion economic relief package that includes state and local aid. In addition, the President introduced a $1.7 trillion plan to overhaul and upgrade the nation’s infrastructure. Federal relief, pent-up demand, and potential for new infrastructure projects should boost construction activity and spending in the City.

**Highlights**

- In 2020, New York State had the fourth-largest construction sector in the nation, but also had the highest job losses.
- The loss of 44,400 construction jobs was the State’s worst annual decline in more than 25 years.
- New York City accounted for more than half the industry’s statewide job losses.
- The City’s construction employment declined by 14.4 percent (23,300 jobs) in 2020, worse than for the private sector overall.
- Most construction firms in New York City employ fewer than 20 people (91 percent in 2020). These small firms are responsible for about one-third of all construction jobs.
- Construction was the fourth highest-paying employment sector in New York City in 2020, with an average salary of $87,200. The sector was responsible for $11.8 billion in wages.
- More than a quarter (27 percent) of the workers in the industry earned more than $80,000.
- Immigrants held 53 percent of the construction jobs in New York City, much higher than in the rest of the State (18 percent) and the nation (24 percent).
- In 2020, construction spending in the City fell from a record high in 2019 to $55.5 billion, an 8.5 percent decline. Construction firms generated an estimated $85 billion in economic activity in 2020, representing 7.8 percent of New York City’s total economic output.
National and State Employment

In 2020, the U.S. construction industry lost 224,000 jobs, declining to a total of 7.3 million (see Figure 1). Employment dropped by 3 percent, less than the 6.2 percent decline across the private sector overall. In comparison, during the Great Recession (2007 to 2010), the United States lost nearly 2.2 million construction jobs from the record peak of 7.7 million reached in 2006, which was never fully recovered. Following the previous three downturns (in 1980, 1990 and 2001), the industry’s recovery periods lasted an average of five years. In 2021, the industry is on pace to add 96,000 jobs.¹

FIGURE 1
National Construction Employment

In March 2020, in response to the COVID-19 pandemic, New York’s Governor issued the “New York State on PAUSE” executive order, which mandated the suspension of all nonessential construction projects and included some of the most stringent restrictions in the country. Though construction activity resumed in early June, the economic impact was severe. In 2020, New York State had the highest construction job losses of any state and accounted for nearly 20 percent of the industry’s job losses nationwide.

In the nine years before the pandemic, the State’s construction industry added a total of 99,800 jobs at an average annual rate of 3.2 percent. After reaching a record 406,600 in 2019, the industry lost 44,400 jobs (10.9 percent), falling to 362,200 in 2020 (see Figure 2).² While this was the worst annual decline in more than 25 years, it was still less severe than the drop in the State’s total private employment (11.6 percent). Across the State, the industry’s recovery after the prior two recessions (in 2001 and 2008) lasted five and seven years, respectively.

In 2020, New York had the fourth-largest construction industry in the nation, after California, Texas and Florida. These three states each experienced employment declines of less than 5 percent in 2020. New York’s 10.9 percent decline was the third-largest of any state, behind West Virginia (15.8 percent) and Louisiana (15.1 percent).

Metropolitan areas account for slightly more than 95 percent of all New York State’s construction jobs.³ The three downstate metro areas (New York City, Nassau-Suffolk and Orange-Rockland-Westchester) represented more than 70 percent of the jobs in 2019, and experienced almost 84 percent of the job losses in 2020 (see Figure 3). From 2010 to 2019, employment in these areas had risen by 42.1 percent, much higher than in the rest of the State (4.4 percent). However, in 2020, downstate employment declined by 12.9 percent, much worse than in the rest of the State (1.7 percent). More than half the construction job losses in the State were in New York City.
New York City Employment

Construction employment in the greater New York City metropolitan area totaled 373,800 jobs in 2020, the highest in the nation (see Figure 4). The area includes not just New York City, but also Long Island, the lower Hudson Valley and most of northern New Jersey. The area accounted for 4.7 percent of all construction jobs in the nation.

Prior to the pandemic, the construction industry in New York City experienced eight consecutive years of growth through 2019, adding a total of 48,900 jobs to reach a record high of 161,300 (see Figure 5). During this period, construction was the City’s fastest-growing employment sector (43.5 percent), much faster than total private sector employment growth (24.3 percent).

FIGURE 4
Construction Employment
Top 10 Largest Metropolitan Areas, 2020

<table>
<thead>
<tr>
<th>Metro Area</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York City</td>
<td>373,800</td>
</tr>
<tr>
<td>Houston</td>
<td>284,100</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>249,400</td>
</tr>
<tr>
<td>Dallas-Fort Worth</td>
<td>220,000</td>
</tr>
<tr>
<td>Chicago</td>
<td>169,700</td>
</tr>
<tr>
<td>Washington, D.C.</td>
<td>161,000</td>
</tr>
<tr>
<td>Phoenix</td>
<td>138,100</td>
</tr>
<tr>
<td>Atlanta</td>
<td>129,500</td>
</tr>
<tr>
<td>Seattle</td>
<td>125,900</td>
</tr>
<tr>
<td>San Francisco</td>
<td>120,500</td>
</tr>
</tbody>
</table>


As in the nation and the State, the pandemic has had a significant impact on construction employment in New York City. However, unlike in the nation and the State, construction in the City fared worse than the overall private sector. While private employment declined by 12.7 percent in 2020, construction employment fell by 14.4 percent (23,300 jobs) to 138,000 (see Figure 6). This was the largest one-year decline for the industry in terms of percentage and total jobs lost since the data series began in 1990. After five months of losses, employment has resumed growth in March and April 2021.

Among the five boroughs that make up New York City, Queens lost the most construction jobs in 2020 (6,900 jobs or 12.5 percent). Manhattan was next (6,800 jobs or 15.4 percent), followed by Brooklyn (5,600 jobs or 15.9 percent), the Bronx (1,600 jobs or 12.6 percent) and Staten Island (1,200 jobs or 11.4 percent).
One measure of construction activity is the number of permits issued by the New York City Department of Buildings for new buildings, renovations, conversions, demolitions and other projects. Prior to the pandemic, the number of permits grew for 10 consecutive years to reach a record high of 176,400 in 2019, although the growth rate had slowed and was nearly zero that year (see Figure 7). In 2020, the number of permits declined by 19.8 percent to 141,500.

For the 10-year period through 2019, Brooklyn had the largest increase in permits issued (73.5 percent), followed by Staten Island (61.5 percent) and the Bronx (53.0 percent). Manhattan had the biggest drop in permits in 2020 (23.4 percent), followed by Queens (19.0 percent).

While total permits issued have remained higher than during the Great Recession, initial permits for new buildings fell 31.2 percent in 2020 and are at the lowest level ever since the data series began in 1996. For the first four months of 2021, total construction permits issued are up 20.4 percent from the prior year, with permits for new buildings up 14.2 percent, though both remain below 2019 levels.

**Construction Spending**

The effects of the pandemic, including the pause in nonessential construction from March to June 2020, have had a major impact on construction spending in New York City. The New York Building Congress (NYBC) estimates that New York City construction spending (residential, nonresidential and government) in 2020 totaled $55.5 billion, or $5.1 billion less (8.5 percent) than the previous year (see Figure 8). This is the first decline after eight consecutive years of growth, during which spending grew at an average annual rate of
12.9 percent to reach a record high of $60.6 billion in 2019. Spending is expected to remain relatively flat in the next two years, increasing by 2.6 percent in 2021 but decreasing by 1.5 percent in 2022 to reach $56.1 billion.

The NYBC estimates that residential construction spending in the City decreased by 9.8 percent to $17.8 billion in 2020. According to IHS Markit, a leading economic data and forecasting company, the City’s population is expected to decline in the next few years. With the same assumption, the NYBC expects lower demand for housing. It projects residential spending will decline by 19.6 percent in 2021 and 12.8 percent in 2022 to reach $12.5 billion, the lowest level since 2013.

Spending on nonresidential construction (e.g., for offices and hotels) in the City fared even worse in 2020, declining by an estimated 21.4 percent to $16.6 billion, the lowest level since 2015. However, unlike residential spending, nonresidential spending is expected to recover in the next two years, increasing by 17.1 percent in 2021 and 11.6 percent in 2022 to reach $21.7 billion.

Hotel construction has continued to boost the construction sector in 2021, despite a steep drop in visitors (67 percent in 2020) and many permanent closures since the onset of the pandemic. As of December 2020, 110 hotels were in the pipeline across all five boroughs. More than half (65) are located in the outer boroughs (Brooklyn, the Bronx, Queens, and Staten Island). Office construction spending is expected to increase in 2021 because, in addition to the creation of new space, existing interiors will need renovations to reduce the risk of COVID-19 and adjust to changes in work environments.

Government construction spending was the only category of construction spending in the City that was estimated to grow in 2020, increasing by 6.7 percent to $21.0 billion as the federal and State governments attempted to stimulate the declining economy. During the State’s pause on construction, many government construction projects were deemed essential and allowed to continue, such as those involving the Metropolitan Transportation Authority (MTA), other infrastructure, schools and health care facilities. The NYBC projects that growth in government spending will continue in 2021, increasing by 9.9 percent, but then decline by 5.5 percent in 2022 to reach $21.9 billion.

Since the NYBC forecast was published, the Biden Administration passed a $1.9 trillion economic relief package, the American Rescue Plan (ARP), that includes state and local aid, with New York State receiving $12.7 billion and New York City receiving $5.9 billion. The ARP and the previously passed federal pandemic relief bills will likely boost government construction activity and spending in the City.

In addition, the President has proposed a $1.7 trillion American Jobs Plan that provides substantial funding for roads and bridges, rail, ports and airports, water infrastructure, broadband, and commercial building retrofits. A recent counterproposal would reduce spending to $928 billion, focusing on transport infrastructure. The President’s proposal could encourage more expansive private investment across a greater breadth of projects, though any legislation passed to provide funding for key projects in the region (e.g., the Gateway Tunnel) would be a welcome boost for the industry.

After declining by 9.9 percent in fiscal year (FY) 2020 (ending June 30, 2020), capital spending by the City of New York is expected to increase by 4.2 percent to reach $10.2 billion in FY 2021 (see Figure 9). The City expects spending to increase the next four years to total $15 billion by FY 2025.

The MTA’s $54.8 billion capital plan for 2020-2024 was put on hold in response to the pandemic. This limited the MTA’s capital spending in 2020 to $6.9 billion, $1.9 billion lower than the NYBC’s
estimate. The MTA plans to resume its capital plan in 2021, as it will receive $10.5 billion in federal aid for its operating budget, which includes $6.5 billion from the latest federal stimulus bill. The federal aid has allowed the MTA to retain workers and focus on infrastructure projects like the next phase of the Second Avenue Subway, upgrading subway signals, and making additional subway stations accessible in accordance with the Americans with Disabilities Act.

The MTA still faces uncertainties related to other planned funding sources for the capital program, including new sources of revenue from congestion pricing, internet sales and mansion taxes. The MTA has also had chronic difficulty meeting its capital commitment goals. In 2016 through 2019, it set average annual goals of $7.1 billion for capital commitments, but was able to commit only an average of $5.8 billion.13

The Port Authority (PA) of New York and New Jersey has a 2017-2026 capital spending plan for many of its projects, released in 2017, which calls for $32.2 billion of spending over the ten-year period. The PA updated the plan in 2019, adding $4.8 billion in spending.14 Projects include the JFK Airport redevelopment plan, which will cost $13 billion and build two new terminals. Construction was expected to start in 2020 with completion anticipated in 2025, but after the project was put on hold in response to the pandemic, there is some uncertainty as to when construction will begin and when the project will be completed.

The AirTrain project is expected to cost $2 billion, and connect LaGuardia Airport to a new station at Willets Point, which will connect to existing Long Island Rail Road and subway service. The project is still in the planning stages, with construction expected to start in June 2021.

The PA also plans to replace the Port Authority Bus Terminal in Manhattan at a cost of as much as $10 billion. Funding of $3 billion will be provided from the 2017-2026 capital plan, with additional funding to come from the development of up to four new high-rise towers. The project remains in the planning stage.

The State recently passed its budget for State Fiscal Year (SFY) 2021-22, which anticipates $311 billion for infrastructure investment through the next two five-year capital programs. In January 2021, the State completed and opened the $1.6 billion, 255,000-square-foot Moynihan Train Hall near Penn Station, utilizing a public-private partnership.

To further invest in infrastructure around the area, the State created the $51 billion Midtown West Redevelopment plan. This includes the new Port Authority Bus Terminal, developing the Empire Station Complex, affordable housing and community restoration, a new waterfront park at Pier 76 and expansion of the Javits Center.

Construction Firms

The number of construction firms in New York City has grown by 23.5 percent since 2010, reaching 15,370 in 2020.15 Despite the drop in employment in 2020, the number of firms actually rose that year, though more slowly than in prior years. Although firms with fewer than five employees were the only category that increased in number, they increased by more than the number of larger firms declined. The Office of the State Comptroller (OSC) estimates (utilizing the IMPLAN® model)
that construction firms generated $85 billion in economic activity in 2020, representing 7.8 percent of the City’s total economic output.

Most firms (91.1 percent) employed fewer than 20 people and were responsible for one-third of the jobs in the sector (see Figure 10). Two-thirds of these firms were in Queens (39 percent) and Brooklyn (30 percent). Most of the firms with 500 or more employees were in Manhattan and Queens (46.7 and 43.3 percent, respectively).

**FIGURE 10**
Size of NYC Construction Firms, 2020

<table>
<thead>
<tr>
<th>Size</th>
<th>Number of Firms</th>
<th>Share of Firms</th>
<th>Share of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 19</td>
<td>14,004</td>
<td>91%</td>
<td>34%</td>
</tr>
<tr>
<td>20 to 99</td>
<td>1,152</td>
<td>7%</td>
<td>33%</td>
</tr>
<tr>
<td>100 to 499</td>
<td>208</td>
<td>1%</td>
<td>28%</td>
</tr>
<tr>
<td>500 or more</td>
<td>8</td>
<td>&lt; 1%</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15,370</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Sources: NYS Department of Labor, Quarterly Census of Employment and Wages; OSC analysis

An estimated 61.7 percent of all construction jobs were in firms that ranged in size from 20 to 499 employees. Large firms (those with 500 or more employees) accounted for less than 0.1 percent of all construction firms in the City but for 4.3 percent of the jobs in the construction sector.

In 2016 (the latest available data), the New York City metropolitan statistical area had a slightly higher share of women-owned construction firms (9.3 percent) than the State (9.0 percent) and the nation (8.8 percent). The City metropolitan area also had a higher share of minority-owned construction firms (25.3 percent) than the State (20.7 percent) and the nation (19.1 percent). Minority-owned firms had a smaller average number of employees than other construction firms.

**Average Salaries**
In 2020, construction was the fourth highest-paying employment sector in New York City, with an average salary of $87,200 (see Figure 11).

The average construction salary in the City was 11.5 percent higher than the statewide average for the sector ($78,200) and the highest among the State’s metropolitan areas.

From 2010 to 2019, the average salary in the construction industry increased by 20.5 percent, faster than in the overall private sector (19.5 percent). In 2020, while total wages in construction declined for the first time since 2010, the average salary increased by 4.0 percent. However, this was lower than growth in the overall private sector average salary (12.8 percent). The private sector average was boosted by severe employment declines in low-paying industries such as retail, restaurants and tourism. As a result, in contrast to prior years, the average salary in construction was lower than the citywide average in the private sector even when the high-paying securities sector is excluded ($92,300).

**Work Force Characteristics**
In 2019, a total of 284,400 workers participated in the construction industry in New York City (73 percent were City residents). Most were employed by private companies (84 percent in 2019), a higher share than in the rest of the State.
(69 percent) and the nation (73 percent). The remaining workers were self-employed independent contractors (12 percent) or employed by government agencies (4 percent). More than a quarter (27 percent) of the workers in the industry earned more than $80,000.

The industry encompasses about 130 different construction and nonconstruction occupations. The most common is laborer, which accounted for over a quarter of the workers in New York City in 2019 (see Figure 12). Other top occupations were carpenters (9 percent), construction managers (8 percent), electricians (8 percent), and pipe-layers and plumbers (6 percent).

**FIGURE 12**
**Occupations in the Construction Industry**
**New York City, 2019**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Share of Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laborers</td>
<td>27%</td>
</tr>
<tr>
<td>Carpenters</td>
<td>9%</td>
</tr>
<tr>
<td>Construction Managers</td>
<td>8%</td>
</tr>
<tr>
<td>Electricians</td>
<td>8%</td>
</tr>
<tr>
<td>Pipe-layers and Plumbers</td>
<td>6%</td>
</tr>
<tr>
<td>Construction Supervisors</td>
<td>4%</td>
</tr>
<tr>
<td>Painters and Paperhangers</td>
<td>4%</td>
</tr>
<tr>
<td>Remaining Occupations</td>
<td>34%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Sources: U.S. Census Bureau, American Community Survey; OSC analysis

Nonconstruction occupations include administrative staff, clerks, truck drivers, accountants, engineers, designers, sales agents, and providers of security services and janitorial services. These occupations accounted for one-quarter of the jobs in the construction industry in 2019.

In 2019, immigrants held 53 percent of the jobs in the construction industry in New York City, a much higher share than in the rest of the State and the nation (see Figure 13). Nearly half came from Mexico, Ecuador, Guatemala, the Dominican Republic, China, and Poland. Overall, the construction industry had the second-highest share of foreign-born workers of any sector.

The construction industry offers good-paying jobs to workers who have not earned a college degree. Over 56 percent of workers had no college experience, higher than in any other sector (see Figure 14). These workers earned an average of $48,300 in 2019, one-third more than in other industries. By contrast, only 27 percent of the
workers in other industries had no college experience. The Building and Construction Trades Council of Greater New York supports pre-apprenticeship programs that prepare New York City residents for careers in the unionized construction industry.

Women represent a small but growing share of the workers in the construction industry. By 2019, they represented 10 percent of the industry in New York City (up from 7 percent in 2009), similar to the shares in the rest of the State and the nation. The number of women in the industry in the City increased by 63 percent between 2009 and 2019.

Hispanics made up the largest share of workers in the industry (39 percent), a higher share than in the rest of the State (16 percent) and the nation (30 percent). Whites accounted for 37 percent of industry workers (compared with 77 percent in the rest of the State), Blacks or African Americans made up 14 percent (compared with 5 percent in the rest of the State), and Asians made up 9 percent (compared with 1 percent in the rest of the State).

More than one-fifth of the jobs in the construction industry in New York State and the New York City metropolitan area were held by union members. According to the Building and Construction Trades Council of Greater New York, there are 124,100 unionized construction workers in New York City, representing more than half of the workers in construction occupations.

**Rebuilding New York**

The COVID-19 pandemic has had a significant impact on the construction industry in the United States and New York State, but it has particularly affected the industry in New York City. After eight consecutive years of growth, construction projects in the City were abruptly halted in the second quarter of 2020, spurring concerns about their future given uncertainties surrounding the real estate industry and government finances.

Instead, after a significant dip in the second quarter, the industry reopened and began to address shifting, pent-up demand for residential projects and commercial renovations. Government has also taken a leading role in maintaining construction spending after the initial pause.

This mix of factors has allowed construction employment in the City to return faster than some other industries, but it still lags behind the rebound in employment seen in the private sector overall.

It is likely to take years before construction spending reaches pre-pandemic levels, and the composition of future construction demand (i.e., residential, nonresidential, government) remains uncertain. Government spending is likely to grow as a result of federal, State and City actions, but private spending will have to return before the industry is able to regain pre-pandemic levels.

Passage of a federal infrastructure bill would provide an on-ramp for construction spending to maintain a growth trajectory and encourage private investment to follow and leverage government investments.

In addition to significant investment in transportation and housing by the City, State and MTA, State investment in transportation infrastructure in Midtown should spur commercial development and help jump-start private investment. OSC continues to provide comprehensive, timely reviews of State and public authority contracts so that resources are distributed quickly to move projects forward.

The recent reopening of New York State will place demands on the industry to equip our built environments for life after COVID-19. If the region can continue to expand reopening safely, construction employment opportunities for those who remain out of work, along with contracts for firms whose business remains slow, should return as well. Economic recovery efforts that enhance opportunity and boost population growth would also improve the industry’s outlook. The
construction industry has played an integral role confronting many of the physical challenges faced during the pandemic in New York City and New York State. A healthy construction industry will be needed to continue that role, rebuilding the City and State during the recovery, so that we are prepared for the future.
Endnotes


2  New York State Department of Labor, Current Employment Statistics.

3  New York State Department of Labor, Current Employment Statistics. While the Department of Labor reports construction separately for the State, it does not report construction separately (includes natural resources and mining) for metropolitan areas. OSC’s estimate of the metropolitan area’s share of State construction employment includes natural resources and mining in both for comparability.

4  U.S. Bureau of Labor Statistics. The New York City metropolitan area includes the five boroughs of New York City; the New York counties of Dutchess, Nassau, Putnam, Orange, Rockland, Suffolk, and Westchester; the New Jersey counties of Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex and Union; and Pike County in Pennsylvania.

5  New York City Office of Management and Budget. Seasonally adjusted employment data.

6  New York State Department of Labor, Quarterly Census of Employment and Wages.


11 City of New York, Fiscal Year 2022 Capital Commitment Plan, April 2021.


13 For further discussion of the MTA, see Office of the State Comptroller, Annual Update: Metropolitan Transportation Authority’s Debt Profile, Report 1-2022, April 2021.


15 New York State Department of Labor, Quarterly Census of Employment and Wages.


17 New York State Department of Labor, Quarterly Census of Employment and Wages.
