



NYC Subway Station Conditions

Highlights

- The share of worn or damaged structural components increased from 27 percent in 2012 to 29 percent by 2017.
- Only 31 stations had all of their structural components in good repair, down from 57 in 2012.
- 67 stations had more than half of their structural components in disrepair, an improvement from 2012 (86 stations).
- The number of stations with serious structural deficiencies (those rated 4.0 or higher) declined from 188 in 2012 to 158 in 2017.
- 149 stations had their architectural components in good repair, 8 more than in 2012.
- Only 26 subway stations were free of both structural and architectural deficiencies, down from 51 in 2012.
- 65 percent of platform edges were worn or damaged, up from 43 percent in 2012. The 2017 survey found that nearly 11 percent had serious defects, virtually the same share as in 2012.
- 17 percent of station stairs were worn or damaged, an improvement since 2012 (23 percent). Less than 1 percent had serious defects in 2017.
- Nearly all station lighting was reported to be in good condition, an improvement from 2012.
- Tiles or other finishings on more than one-third of platform floors, walls and ceilings were in disrepair, unchanged from 2012.
- All of the components at 17 stations required painting, up from 6 stations in 2012.
- The share of structural components in disrepair increased in the Bronx (34 percent) and Queens (44 percent) between 2012 and 2017.
- Only 8 stations in Manhattan (including 4 that recently opened) had all of their structural components in good repair, down from 15 in 2012.

The New York City subway system, which is used by more than 5 million riders each weekday, includes 472 stations. The system is operated by New York City Transit (NYCT), an affiliate of the Metropolitan Transportation Authority (MTA). Over the past 37 years, 287 stations have been renovated and countless others have had components repaired, at a cost of more than \$6 billion.

Every five years, NYCT assesses the condition of the structural and architectural components in the subway stations. The survey rates components on a scale of 1.0 to 5.0. Those rated less than 3.0 are considered to be in good repair. Components rated 3.0 or higher are worn or damaged. This report is based on the results of the 2017 survey.

With limited resources, NYCT has focused on those components in the worst condition. NYCT reports a 25 percent reduction between 2012 and 2017 in the number of structural components with serious defects and an 89 percent reduction in serious architectural defects. Despite these efforts, the total number of worn or damaged structural components (including platform edges) increased by 8 percent between 2012 and 2017. In addition, only 26 of the 471 subway stations in operation at the time of the survey had all of their structural and architectural components in good repair, half as many as in 2012.¹

The MTA is in transition with new leadership and board members, as well as promises of increased accountability, transparency and better management. Along with these changes, New York State has approved new resources for the MTA's 2020-2024 capital program.

The 2017 survey shows that NYCT has reduced the number of serious structural deficiencies, but the list of needed repairs has grown and fewer stations are in good repair. In September, the MTA will release its proposed capital program for 2020-2024. It will be up to the MTA Board to ensure that limited capital resources are prioritized and used effectively to provide the greatest benefit to riders.

Structural Components

In 2017, there were nearly 15,500 subway station structural components systemwide, including stairs and platform components. The total number of worn or damaged components increased by 8 percent between 2012 and 2017. As a result, 29 percent of all structural components were in need of repair, up from 27 percent in 2012 (32 percent were in need of repair in 2007).

The number of structural components with serious deficiencies (those rated 4.0 or higher) declined by 25 percent between 2012 and 2017. Still, 474 components had serious deficiencies.

While NYCT forecasts that the share of structural components in need of repair will decline from 29 percent in 2017 to 23 percent after the completion of the 2015-2019 capital program, the forecast only accounts for planned repairs and does not take into account any deterioration of components that were previously reported to be in good repair. In 2012, NYCT predicted that the share of structural components in need of repair would decline to 21 percent after the completion of the 2010-2014 capital program, but the 2017 survey found that the share had grown to 29 percent.

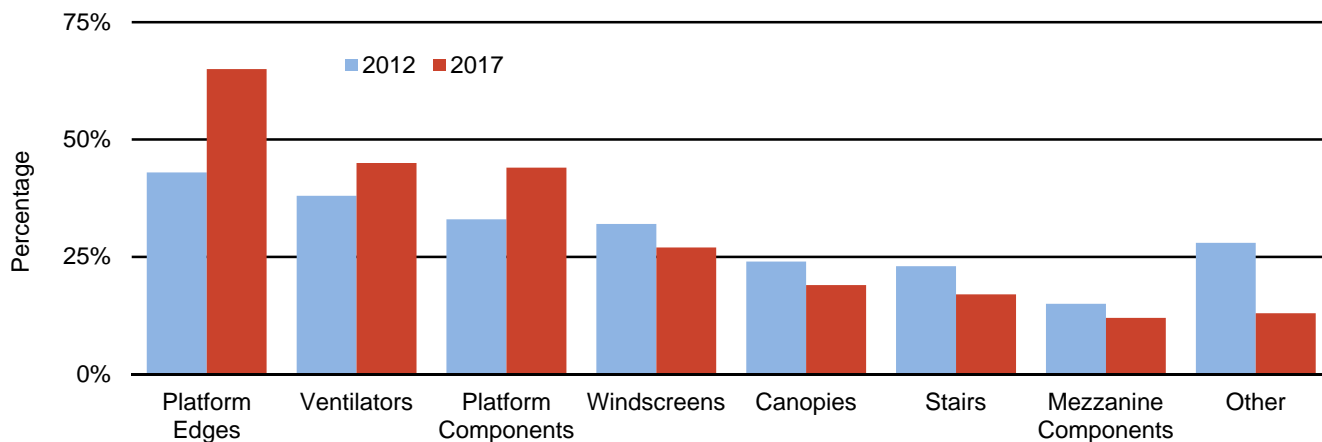
Platform edges, which are important to rider safety because they close the gap between the platform and the train, have consistently been the most deteriorated components in the subway system.

In 2007, 57 percent of all platform edges were worn or damaged. By 2012, the share had declined to 43 percent as NYCT made a concerted effort to make repairs in the aftermath of highly publicized incidents. By 2017, however, the condition of platform edges had deteriorated, with 65 percent in need of repair (see Figure 1). In 2017, nearly 11 percent of all platform edges still had serious defects, virtually the same share as five years earlier. Overall, one-third of platform edges were rated 3.5 or higher.

NYCT predicts that more than half of all platform edges will still need work even after the completion of the 2015-2019 capital program. (Again, this forecast does not take into account any deterioration of edges that were in good repair in 2017.)

The share of other platform components and ventilators in need of repair has also increased since 2012, but the condition of windscreens, canopies and stairs has improved. NYCT reports that 17 percent of station stairs were worn or damaged in 2017, an improvement since 2012 (23 percent). Less than 1 percent had serious defects in 2017.

FIGURE 1
Share of Structural Components in Disrepair



Sources: Metropolitan Transportation Authority; OSC analysis

FIGURE 2
Share of Structural Components in Disrepair

	2007	2012	2017
Bronx	27%	23%	34%
Brooklyn	43%	32%	26%
Manhattan	18%	22%	24%
Queens	47%	35%	44%
Total	32%	27%	29%

Sources: Metropolitan Transportation Authority; OSC analysis

Figure 2 shows that among the four boroughs served by the subway system, the stations in Queens had the largest share of worn or damaged structural components in 2017 (44 percent), followed by the Bronx (34 percent). While NYCT reported that it had made progress in these boroughs between 2007 and 2012, conditions had deteriorated by 2017.

The share of structural components needing work in Manhattan’s subway stations increased between 2007 and 2017 from 18 percent to 24 percent. The most progress was made in Brooklyn, where the share of components in disrepair declined from 43 percent to 26 percent during the ten-year period.

Architectural Components

In 2017, there were nearly 22,000 architectural components in the subway stations. NYCT reported a 44 percent reduction in the number of worn or damaged components between 2012 and 2017. (It reported an 89 percent reduction in serious defects.) As a result, only 7 percent of all architectural components were in need of repair in 2017, down from 13 percent in 2012.

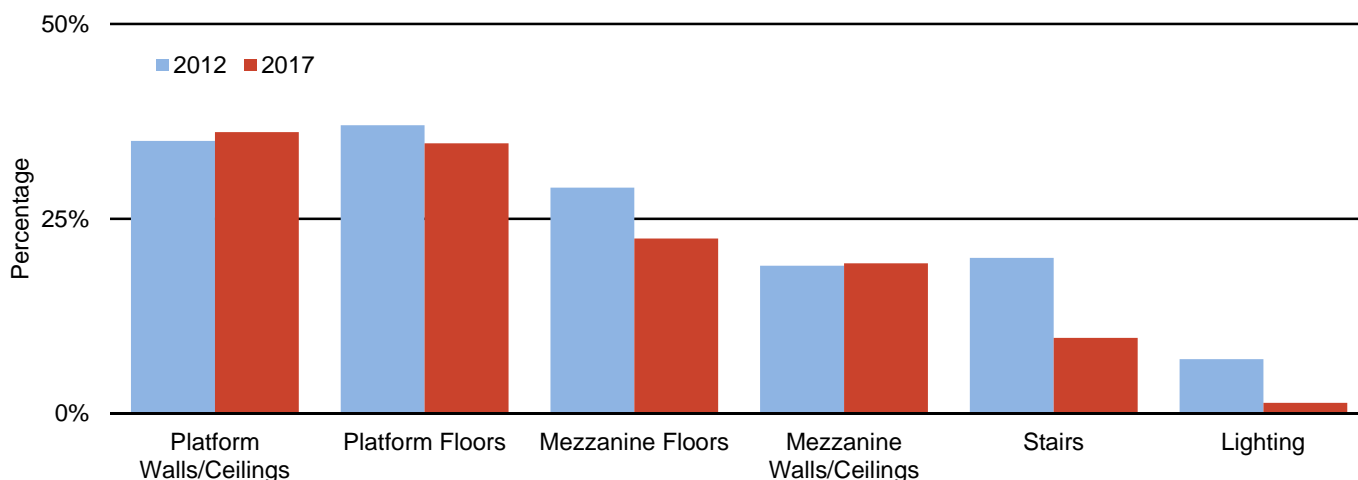
Nearly all lighting was reported in good repair and the appearance of stairs and mezzanine floors had improved since 2012 (see Figure 3). However, more than one-third of the tiles or other finishings on platform floors, walls and ceilings were worn or damaged, unchanged from 2012.

Of the nearly 7,800 painted components, 20 percent needed to be painted. This also represents an improvement from 2012, when 27 percent were in need of painting.

Subway Station Conditions

The number of stations with serious structural deficiencies declined from 203 in 2007 to 188 in 2012 to 158 in 2017. Figure 4 shows that there was also a decline in the number of stations with more than half of their structural components in disrepair (from 86 in 2012 to 67 in 2017). However, fewer stations had all of their structural components in good repair than five years earlier (57 in 2012 compared with 31 in 2017).

FIGURE 3
Share of Architectural Components in Disrepair



Sources: Metropolitan Transportation Authority; OSC analysis

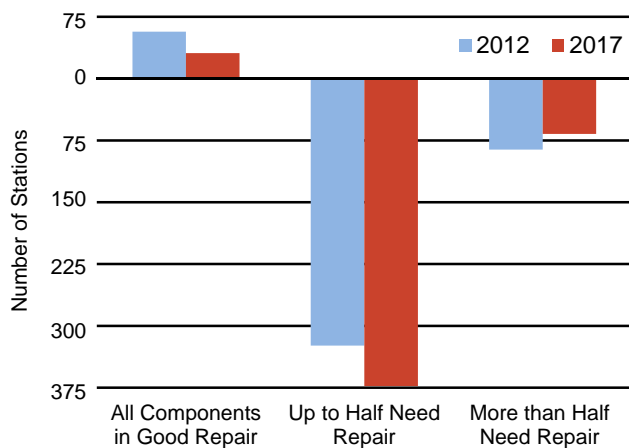
The survey also shows that stations restored to good repair are not always maintained. In 2007, 52 stations had all of their structural components in good repair, but only 8 were still in good repair ten years later. Similarly, of the 57 stations that were in good repair in 2012, only 10 were still in good repair five years later

Only 8 of the 150 stations in Manhattan (including 4 that recently opened) had all of their structural components in good condition, compared with 15 in 2012. While 78 percent of the structural components at the Times Square shuttle station were in need of repair, NYCT hopes to reduce the share to 33 percent with the completion of the 2015-2019 capital program.

In Brooklyn, only 11 of 170 stations were in good repair, compared with 29 in 2012. More than two-thirds of the structural components at the Borough Hall station on the No. 2/3 line were worn or damaged.

None of the 70 stations in the Bronx had all of their structural components in good repair, whereas 12 did in 2012. Half of the structural components at the 149th Street station (Grand Concourse) on the No. 4 line needed repair.

FIGURE 4
Condition of Structural Components by Subway Station



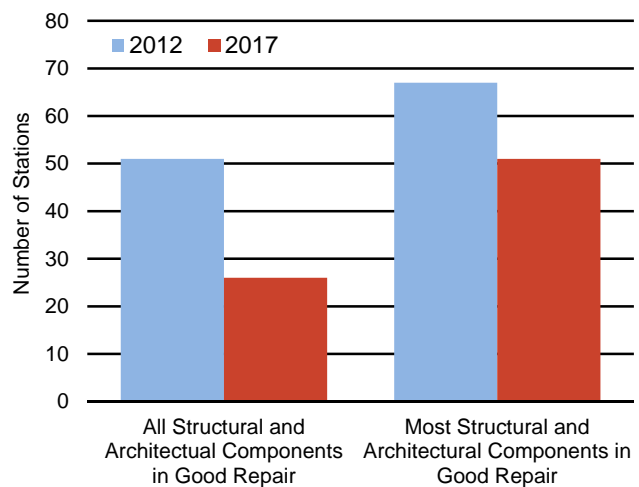
Sources: Metropolitan Transportation Authority; OSC analysis

While Queens had the largest share of structural components in disrepair, the borough also had more stations in good repair than five years earlier. NYCT reported that all of the structural components in 12 of 81 stations were in good repair, up from 1 in 2012. However, 45 percent of the structural components at the Main Street station on the No. 7 line, the most heavily used station in Queens, were worn or damaged.

In 2017, the architectural components at 149 stations were in good repair, 8 more than in 2012. However, only 26 stations had both their structural and architectural components in good repair, down from 51 in 2012 (see Figure 5). This includes four stations that have opened since 2015. While another 51 stations had most, but not all (at least 90 percent), of their structural and architectural components in good repair, this also represented a decline from 2012 (67 stations).

In addition, at least half of the components at 71 stations needed to be painted, down from 109 in 2012. However, all of the components at 17 stations required painting, up from 6 in 2012.

FIGURE 5
Condition of Structural and Architectural Components by Subway Station



Sources: Metropolitan Transportation Authority; OSC analysis

¹ The Cortlandt Street subway station was damaged in the terrorist attacks on the World Trade Center and was not in operation when the 2017 survey was conducted.