

Trends From a Decade: 2014-2024 Response Times To Medical Emergencies Getting Worse

Introduction

The New York City Fire Department (FDNY) coordinates responses to all medical emergencies reported through the City's 9-1-1 system. These responses are carried out by both FDNY and non-FDNY ambulances for all medical emergencies reported over the 9-1-1 system, and both are included in this report. Non-FDNY ambulances are operated by the City's private nonprofit hospital networks under long standing agreements with FDNY to provide ambulances dedicated to the 9-1-1 system. Combined, non-FDNY ambulances make up a third of the ambulances responding within the 9-1-1 system.

This project relies on data from three sources:

1. [EMS Incident Dispatch Open Data dataset](#) published by FDNY;
2. [Mayor's Management Reports](#); and
3. Personnel Management System data.¹

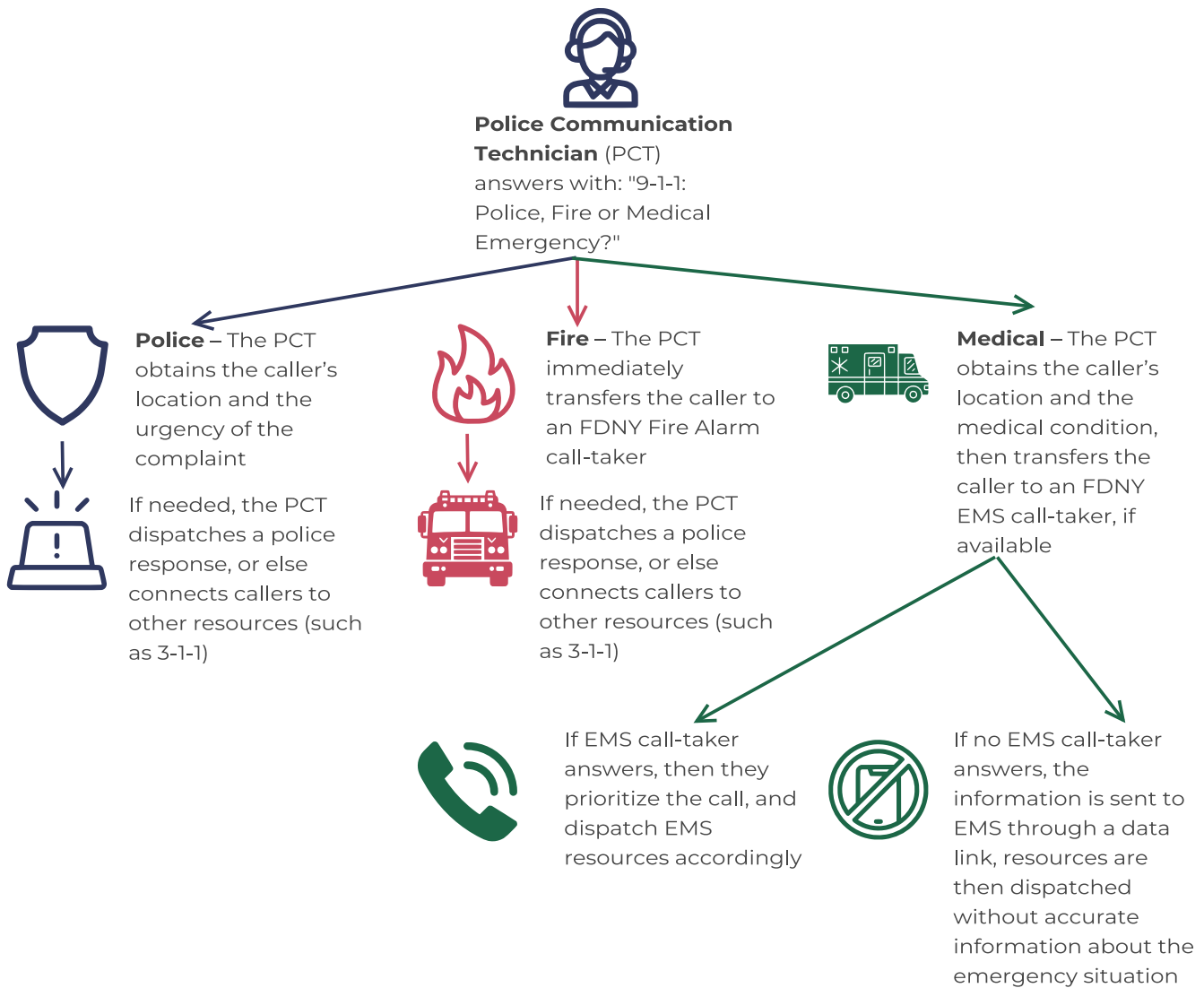
What Happens When Someone Calls 9-1-1?

What Happens When Someone Calls 9-1-1 with a Medical Emergency?

- All calls to 9-1-1 are initially answered by a New York City Police Department (NYPD) Police Communications Technician (PCT), working at one of the two citywide Public Safety Answering Centers (PSACs), and the PCT takes the address information.
- The PCT then attempts to transfer the call to an FDNY Emergency Medical Dispatcher (EMD), and if an EMD answers, they trade badge numbers and the PCT remains on the line while the EMD uses a scripted triage program. Meanwhile, the address is transferred via a data link (as are calls where the caller gets disconnected for whatever reason).

FIGURE 1

What Happens When Someone Dials 9-1-1?



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- Based on the answers to the triage question(s), the EMD records the call type (such as “Cardiac,” “Difficulty Breathing,” or “Trauma”), which are automatically graded into segments, in decreasing order of severity. “Segment 1” calls, such as for cardiac arrest or choking, are processed and dispatched before higher numbered-segment calls with less serious illnesses or injuries.
- After entering the call information for dispatch, the EMD may in appropriate cases, remain on the line with the caller to provide “pre-arrival instructions” (which are incorporated into the triage algorithms), such as coaching the caller on how to begin “compression-only” Cardiopulmonary Resuscitation (CPR) until help arrives.

Unlike calls about fires, which are received by FDNY through multiple sources (including calls to 9-1-1 through street alarm boxes, or received from private fire alarm companies), all calls reporting medical emergencies are received through 9-1-1.

Advanced Life Support (ALS) Calls and Basic Life Support (BLS) Calls

The segment designation of the call determines what type of response each call receives. The National Highway Traffic Safety Administration (NHTSA), part of the U.S. Department of Transportation, provides national guidance, while the scope of ALS and BLS care is further defined at the state level by each state’s Department of Health. ALS incidents involve heart attacks and other very serious medical emergencies, and ALS ambulances are staffed by two highly trained paramedics. BLS ambulances are staffed by two EMTs, as BLS incidents involve less serious medical emergencies, such as abdominal pain. The primary difference between paramedics and EMTs is that paramedics undergo more advanced training. Segment 1 calls receive a response by both an ALS and a BLS ambulance. In time-sensitive responses to Segment 1 calls, CPR is critical for improving resuscitation rates. Given that the BLS ambulance network is larger, BLS units often can respond more quickly to these calls. In serious emergencies, however, both BLS and ALS ambulances play essential roles, particularly since the overall number of BLS ambulances exceeds that of ALS ambulances.

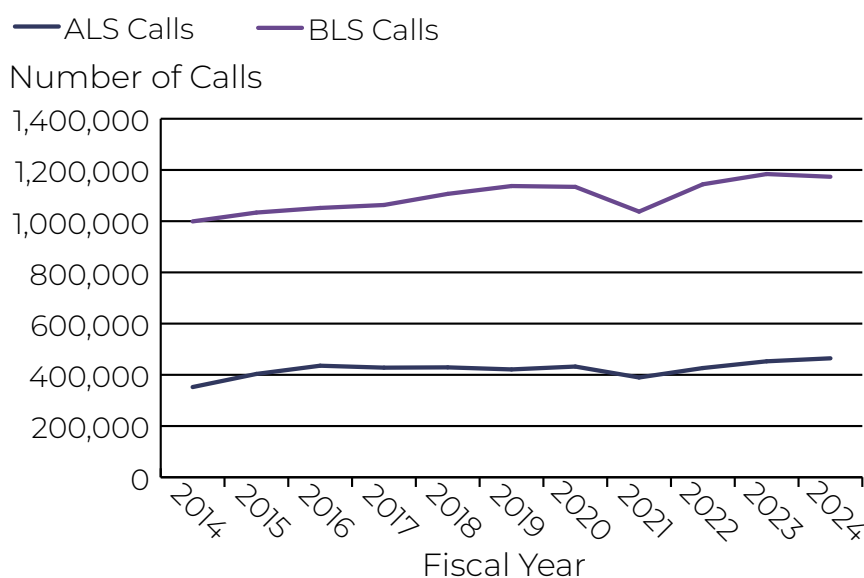
Segment 2-3 mostly receive ALS ambulances, though some can additionally receive a BLS ambulance. Segment 4-8 calls receive a BLS ambulance only, and response times are

correspondingly slower because they are responding to lower priority, less severe medical issues. Medically trained fire companies are also dispatched to the incidents defined as being the most serious to provide lifesaving initial BLS-level care until an ambulance arrives, but are not a part of this analysis.

As shown in Figure 2, the majority of calls are categorized as BLS. This has been consistently true over the past decade. The total number of ALS calls increased by 31% over the decade, from 352,200 in 2014 to 464,500 in 2024. The total number of BLS calls also increased by 17%, from 999,100 in 2014 to 1,173,400 in 2024. For both call types, total calls declined in 2021 during the

FIGURE 2

Total ALS and BLS calls from 2014-2024



SOURCE: IBO analysis of FDNY’s EMS Incident Dispatch Data on OpenData
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pandemic shutdown. In the three years since 2021, the number of total calls of both types of calls has rebounded, reaching levels even higher than they were before the pandemic by 2024.

Within the FDNY, EMT Staffing Levels Have Increased by 27% Over the Past Decade, While Paramedic Staffing Levels Only Increased by 9%

FDNY EMT staffing levels peaked at 3,100 in 2017 and then declined to 2,600 the following year. As shown in Figure 3, EMT staffing levels have almost recovered since 2018, reaching 3,000 in 2024. The decline during the intervening years may be attributed to the firefighter promotional exam, which led to hundreds of EMTs and some paramedics leaving EMS to take jobs as firefighters.

Nonetheless, over the past decade, EMT staffing levels grew by 27%. Paramedic staffing levels have also grown slightly over the same period, with 970 paramedics in 2024 compared with 880 in 2014, a 9% increase.

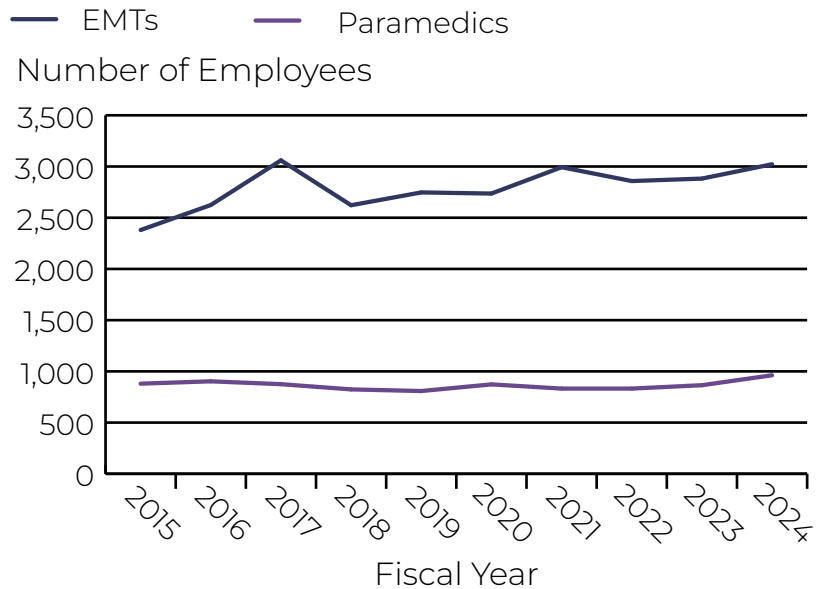
How are ‘Response Times’ Calculated?

There are three primary methods used to calculate and report EMS response times in the Mayor’s Management Report (MMR) for the “most serious” calls, (referring to Segment 1-3 calls, most of which require an ALS ambulance):

1. FDNY dispatch + travel time only by ambulances and fire companies, with calls starting at indication of life threatening emergency;
2. FDNY dispatch + travel time only by ambulances and fire companies; and
3. End-to-end response time: time from the initial call to 9-1-1 to when the first unit arrives (by ambulances and fire companies, by ambulances, and by fire companies).

FIGURE 3

2014-2024 EMT and Paramedic Staffing Levels



SOURCE: IBO analysis of City Human Resource Management System
NOTE: This data only includes FDNY employees and not EMTs or paramedics that work for ambulances that are operated or contracted by nonprofit hospitals, which represents 1/3 of the system, according to 2026 FDNY ambulance tour count data.

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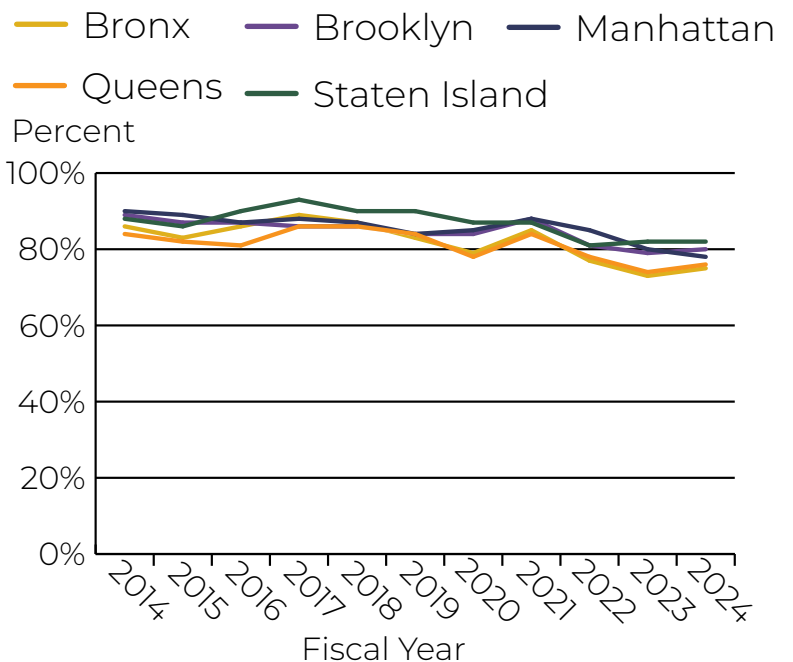
The only indicator of the three that is designated as a “critical indicator” in the MMR is the second one. “Critical indicators” in the MMR are designated by the Mayor’s Office of Operations in consultation with the Fire Department. What separates the first two methods are calls that initially are designated as not life-threatening, but are elevated when a caller calls back with new information. Those calls are captured in both calculations, but in the first one, the response time starts when the call is elevated as being life threatening (so the response time clock begins after the second call is processed and entered for dispatch), whereas in the second one, it begins when the initial call is processed and entered for dispatch. The third method, end-to-end, is the most comprehensive, as it covers the time from when a caller dials 9-1-1 until the first unit arrives (and is reported separately for combined ambulances and fire companies, just for ambulances, and just for fire companies). End-to-End time includes both the duration of time spent by the 9-1-1 call-taker identifying the caller as a medical incident, entering the address, and transferring the caller to the EMS call-taker and the time spent by the EMS call-taker confirming the address, determining the medical nature and severity of the call, and entering the call for dispatch. End-to-end response time has been reported since 2013 on the Mayor’s Office of Data Analytics (MODA) website on behalf of FDNY and NYPD, as required by the City Council in Local Law 119. FDNY has publicly addressed end-to-end response times in City Council hearings as well as in the MMR.

In the next three figures (Figures 4, 5, and 6), IBO reports on the second method, dispatch + travel time from the initial call. In Figure 7 IBO compares those response times with end-to-end response times to demonstrate the discrepancies between what the FDNY reports as the response times and what callers experience in reality. IBO reports on response times within 10 and 20 minutes to remain consistent with the response time thresholds used in the previous IBO report on response times.

FDNY EMS has responded to rising response times by citing traffic congestion (including at the [Ambulance Response Times Oversight City Council Hearing](#) on November 1, 2024), although fire response times have not similarly been affected over the previous ten years.

FIGURE 4

Percent of ALS Calls Responded to Within 10 Minutes, by Borough



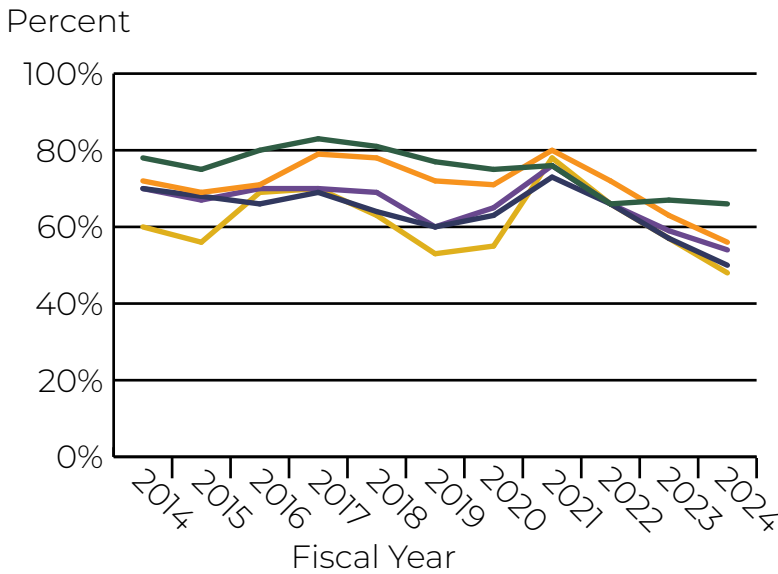
SOURCE: IBO analysis of FDNY’s EMS Incident Dispatch Data on OpenData

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FIGURE 5

Percent of BLS Calls Responded to Within 10 Minutes, by Borough

— Bronx — Brooklyn — Manhattan
— Queens — Staten Island

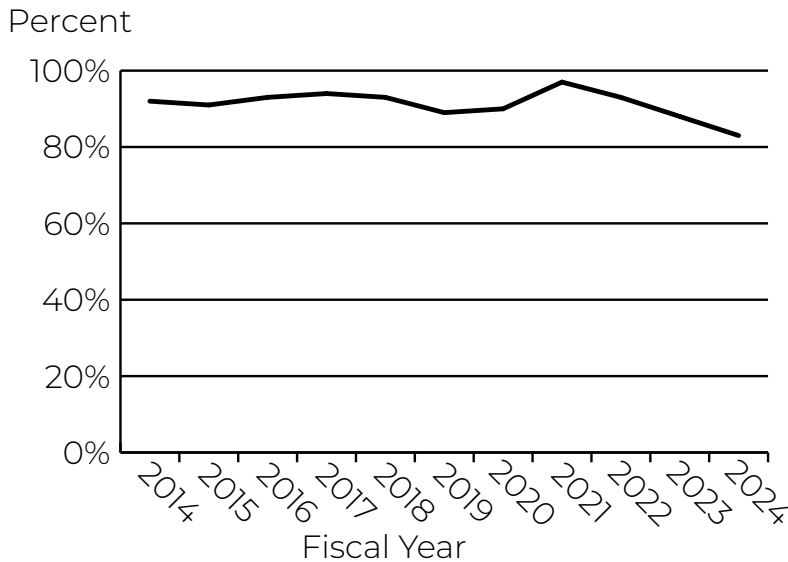


The Percent of ALS Calls With Response Times Below 10 Minutes Has Fallen in All Boroughs Over the Past Decade

As shown in Figure 4, in 2024, the percent of ALS calls responded to within 10 minutes ranged from 82% in Staten Island to 75% in the Bronx. Over the decade, the steepest decline in ALS calls with response times below 10 minutes was in Manhattan with a decline from 90% to 78% from 2014 to 2024, a 12 percentage-point decrease. The percent of ALS calls with response times less than 10 minutes was the best in Staten Island (82%), though the percentage still declined by 4 percentage points over the 10-year period. Almost all ALS calls (97%) were responded to within 20 minutes in 2024, a trend that has remained consistent over the previous decade.

FIGURE 6

Percent of BLS Calls Citywide Responded to Within 20 minutes



The Percent of BLS Calls with Response Times Below 10 Minutes Has Fallen in All Boroughs Over the Past Decade

As shown in Figure 5, the percent of BLS calls responded to within 10 minutes has declined in every borough over the decade. Compared with ALS response times, though, there is much wider variation in BLS response times by borough. In 2024, the percent of BLS calls responded to in less than 10 minutes ranged from 68% in Staten Island to 48% in the Bronx. The steepest

SOURCE Figs 5 & 6: IBO analysis of FDNY's EMS Incident Dispatch Data on OpenData

decline in BLS calls with response times below 10 minutes was in Queens, with a decline from 72% to 56% from 2014 to 2024, a 16 percent decrease. The percent of BLS calls with response times less than 10 minutes was the best in Staten Island, though it still declined by almost 10 percent over the previous decade.

When it comes to BLS calls that are responded to within 20 minutes, there are not substantial differences by borough, but the citywide trend is important to note (as shown in Figure 6). Over the decade, there was a 9 percentage-point decrease in the percent of BLS calls responded to within 20 minutes, from 92% in 2014 to 83% in 2024. The percent of calls responded to within 20 minutes actually increased during the 2021 pandemic year, up to a high of 97%, only to drop even farther over the subsequent three years to its lowest point of 83% in 2024.

EMS Call Processing and End-to-End Response Times Have Also Increased Over the Past Decade

As shown in Figure 7, overall end-to-end response times to the most serious calls (Segment 1-3) have increased to almost 11 minutes (10 minutes and 52 seconds) in 2024. This is almost 2 whole minutes longer than the lowest average time over the decade, 8 minutes and 56 seconds in 2017. Over the same period, the average response times (from the initial call to when the first unit arrives) have also risen to a high of 8 minutes and 16 seconds in 2024. The difference in these two response times calculations is call processing times, which IBO has found to be consistently at or well above two minutes annually; in 2022 call processing times were close to 3 minutes (2 minutes and 51 seconds). The purpose of Local Law 119 is to highlight the element of response time that is devoted to call processing time. These times may sound small, but in the most serious Segment 1-3 calls, every second counts—according

FIGURE 7

Average End-to-End Response Times For the Most Serious Calls Have Increased to Almost 11 Minutes in 2024

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Average 'End-to-End' Response Times	9:31	9:13	9:09	8:56	8:58	9:22	10:19	9:34	10:17	10:43	10:52
Average Response Time from Dispatch	6:46	7:04	7:03	6:46	6:55	7:23	7:37	6:46	7:26	7:59	8:16
Call Processing Time	2:45	2:09	2:06	2:10	2:03	1:59	2:42	2:48	2:51	2:44	2:36

SOURCE: IBO analysis of Mayor's Office of Data Analytics Data

NOTE: IBO calculated Call Processing Time by subtracting the average response time from the end-to-end times reported on the MODA website for each fiscal year. The end-to-end data reported on the MODA website varies from the data reported in the MMR (for Fiscal Year 2024 the end-to-end time in the MMR was 10 minutes and 52 seconds; but was exactly 12 minutes on the MODA website), but the call processing time reported by MODA for 2024 (2 minutes and 32 seconds) was very close to the time calculated by IBO using the MMR data (2 minutes and 36 seconds).

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to the [American Heart Association](#), in cardiac arrests, survival chances decrease by 10% for every minute that immediate CPR and use of an Automated External Defibrillator is delayed

Conclusion

The percentages of ALS and BLS calls responded to within 10 minutes has declined in all boroughs, although not equally: the decline was significantly greater in the Bronx than it was in Staten Island, for example. These disparities are worth examining closer as the City aims to address its worsening EMS response times across the board. IBO’s analysis also shows the importance of end-to-end response time calculations, which are reported in compliance with Local Law 119 passed by the City Council in 2013. These more encompassing calculations reflect the caller’s experience of response times. The Fire Department reports that the increase in response time is due to the increase in the average number of medical incidents per day and the increase in average turnaround time for ambulances at hospitals. IBO found that for the most serious calls (ALS) staffing levels have increased proportionally less than call volume. Lack of appropriate staffing levels for these most critical calls likely contribute to longer response times.

Endnote

¹ This report updates IBO’s July 2022 publication on the Fire Department of New York’s (FDNY’s) emergency response times. This report includes the years 2014-2024 (all years refer to fiscal years). The 2022 report relied on different data sets, a fact that contributes to some of the differences reflected in the results summarized in the current report. With the inclusion of the current data sets, this analysis is more thorough and comprehensive than the previous report.

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