



CITY OF CHICAGO
OFFICE OF INSPECTOR GENERAL

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Follow-up to OIG's Second Audit of the Chicago Fire Department's Fire and Emergency Medical Response Times

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I | Introduction

The City of Chicago Office of Inspector General (OIG) has completed a follow-up to its October 2021 second audit of the Chicago Fire Department's (CFD or the Department) response times to calls for emergency fire and medical services.¹ Based on the Department's responses, OIG concludes that CFD has not implemented corrective actions related to the audit findings.

The purpose of the 2021 audit was to determine whether CFD had goals for fire and emergency medical services (EMS) response times consistent with state and national standards and whether CFD response times met those standards. OIG concluded that CFD had not implemented performance management strategies that would allow it to evaluate fire and EMS response times in alignment with best practices, nor had the Department remedied data issues identified by OIG in 2013.

Based on the results of the 2021 audit, OIG recommended that CFD management,

- acknowledge the importance of department-wide quantitative performance measures and begin public annual reporting on its response time performance;
- establish and document department-wide turnout, travel, and total response time goals at the 90th percentile for both fire and EMS; or, if they believed National Fire Prevention Association (NFPA) recommended turnout and travel times were unachievable in Chicago, conduct a systematic evaluation of local factors affecting response times and set reasonable goals for turnout, travel, and total response times accordingly;²
- identify, monitor, and remedy the cause of gaps in its data;
- consider hiring an internal data specialist to improve data quality; and
- ensure that any external partners it engages to analyze departmental data conduct a full assessment of that data's completeness and reliability.

In its response to the audit, CFD "acknowledge[d] the importance of department-wide quantitative performance measures" and described corrective actions it would take.

In April 2023, OIG inquired about corrective actions taken by CFD in response to the audit. Based on CFD's follow-up response, OIG concludes that CFD has not implemented corrective actions. Notably, CFD has neither hired staff to assist with data analytics nor found another method to analyze data gaps. CFD has not worked with the Office of Emergency Management and Communications (OEMC) to assess the root causes of data gaps. Finally, CFD has not employed an after-action reporting and improvement planning mechanism to improve data quality. CFD attributed failures to implement corrective actions to the COVID-19 pandemic and budget shortfalls.

¹ OIG published the first audit of CFD's fire and emergency medical response times in October 2013. City of Chicago Office of Inspector General, "Chicago Fire Department Fire and Medical Incident Response Times Audit," October 18, 2013, <https://igchicago.org/wp-content/uploads/2013/10/CFD-Response-Time-Audit-Report.pdf>.

² NFPA publishes a set of management and operations best practices for fire departments. NFPA Standard 1710 is widely accepted as a national benchmark for fire and emergency response times. During the 2021 audit, CFD told OIG that the Department "has a goal . . . to meet or exceed [the fire response time] requirements" of NFPA Standard 1710. The 2020 edition of Standard 1710 lists a fire response turnout goal of 80 seconds or less and travel goal of 240 seconds or less, and an emergency medical response turnout goal of 60 seconds or less and travel goal of 240 seconds or less. National Fire Protection Association, "NFPA Standard 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments," 9, Quincy, Massachusetts: National Fire Protection Association, 2020.

OIG urges CFD to fully implement the audit's corrective actions. Below, OIG summarizes its audit findings and recommendations, as well as CFD's response to the follow-up inquiry.

OIG thanks the staff and leadership of CFD for their cooperation during the audit and their responsiveness to the follow-up inquiries.

II | Follow-Up Results

In April 2023, OIG followed up on its October 2021 second audit of the Chicago Fire Department's fire and EMS response times.³ CFD responded by describing the status of corrective actions taken in response to OIG's recommendations. Below, OIG summarizes the three original findings, the associated recommendations, and the status of CFD's corrective actions in response to those recommendations.

| Finding 1: CFD has not implemented performance management practices that would allow the Department to evaluate its fire and EMS response times.

OIG Recommendation 1 |

OIG recommended that CFD management acknowledge the importance of department-wide quantitative performance measures and begin public, annual reporting on response time performance. The reports should include the component pieces of turnout and travel time and should use percentile measurements.⁴ Further, consistent with NFPA 1710, the reports should provide geographic analysis that identifies areas of the city where CFD is not meeting its response time goals.⁵

State of Corrective Action 1 | Not Implemented

In response to the audit, CFD acknowledged the importance of department-wide quantitative performance measures. The Department stated it did not have personnel available to analyze the data or publish an annual report, but it had been taking steps to hire additional staff. CFD also planned to expand the role of its analysis partner, Urban Labs at the University of Chicago, to analyze response time performance.

In response to OIG's April 2023 follow-up inquiry, CFD reported that, although it had developed a work order for Urban Labs to conduct the recommended analysis, it had not executed an agreement with Urban Labs to do so. Further, CFD stated that the City's Office of Budget and Management (OBM) has denied budget requests for personnel and other resources necessary to conduct the data analysis. Therefore, neither CFD nor Urban Labs have analyzed response times. CFD reported that it could make such annual reports available to the public within six months of budgetary approval for personnel and technology resources.

³ City of Chicago Office of Inspector General "Second OIG Audit of the Chicago Fire Department's Fire and Emergency Medical Response Times," October 12, 2021, <https://iqchicago.org/2021/10/12/second-oig-audit-of-the-chicago-fire-departments-fire-and-emergency-medical-response-times/>.

⁴ NFPA defines *turnout time* as "the time interval that begins [...] by either an audible alarm or visual annunciation or both and ends at the beginning point of travel time," and *travel time* as "the time interval that begins when a unit is en route to the emergency incident and ends when the unit arrives at the scene." National Fire Prevention Association, "NFPA Standard 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments," 9, Quincy, Massachusetts: National Fire Protection Association, 2020.

⁵ NFPA 1710 is the standard defining fire and EMS response time goals. NFPA 1710 allows for departments to modify the prescribed goals in response to a community-wide risk assessment.

| Finding 2: CFD has not documented response time performance goals outside of its state-required EMS plan.

OIG Recommendation 2 |

OIG recommended that CFD management establish and document department-wide turnout, travel, and total response time goals for both fire and EMS at the 90th percentile—that is, that 90% of responses should meet the time goal. OIG also recommended that, if Department management believed NFPA recommended turnout and travel times were unachievable in Chicago, CFD conduct a systematic evaluation of factors affecting response times and set reasonable goals for turnout, travel, and total response times accordingly.

As noted in the 2021 audit, the Illinois Department of Public Health (IDPH) and the EMS Systems Act sets *minimum* standards for Illinois hospitals and EMS providers, and includes “a commitment to optimum [EMS] response times up to six minutes in primary coverage areas.”⁶ NFPA Standard 1710, widely accepted as a national benchmark for fire and emergency response times and with which CFD has reported a goal of complying, recommends a total fire response time goal for turnout and travel combined is 5 minutes and 20 seconds, and the total EMS response time goal is 5 minutes.

State of Corrective Action 2 | Not Implemented

During the 2021 audit, CFD told OIG that the Department “has a goal [...] to meet or exceed [the fire response time] requirements of NFPA Standard 1710. In response to the audit, CFD acknowledged it can set standards closer to those of the NFPA (5 minutes and 20 seconds for fire response times and 5 minutes for EMS response times) than those mandated by the Illinois Department of Public Health (IDPH) and the EMS Systems Act (6 minutes for EMS response times).⁷ However, the Department believed it should not set a specific percentile goal before comprehensively analyzing the underlying data. CFD stated that it would use an “after-action reporting and improvement planning format” to analyze response times.

In response to the April 2023 inquiry, CFD again stated that it does not have the resources to analyze response time data without the allocation of additional budget resources. CFD cited the COVID-19 pandemic as a reason for not having implemented the reporting and improvement format to which it committed in October 2021.

⁶ CFD is required to meet strict reporting requirements and submit written plans to the Illinois Department of Public Health (IDPH) which include “a commitment to optimum [EMS] response times up to six minutes in primary coverage areas.” Illinois Administrative Code title 77, § 515.810 (2018). CFD’s internal Medical Administration and Regulatory Compliance division monitors CFD’s compliance with the Act. IDPH is authorized to take regulatory action if CFD does not meet those requirements, such as imposing fines or creating a corrective action plan.

⁷ IDPH and the EMS Systems Act provides standards related to Illinois hospitals and EMS providers only. They do not provide standards for fire response times.

| Finding 3: **CFD's data is not** adequate to reliably measure key components of response time.

OIG Recommendation 3 |

OIG recommended that CFD work with OEMC to assess the root causes of data gaps and address these issues moving forward so that these gaps are not recreated in the City's planned-for new computer-aided dispatch (CAD) system.⁸ Specifically, OIG recommended that CFD pursue system capabilities that would facilitate the analysis of turnout and travel time, thereby enabling a better understanding of potential issues in its response process. In addition, OIG recommended that CFD,

- consider collaborating with OEMC and the City's Office of Public Safety Administration (OPSA) to leverage existing global positioning system (GPS) technology in CFD vehicles to address blank and inaccurate time fields, while waiting for the new CAD system to become operational;⁹ and
- work with OEMC to continuously monitor the number of blank and inaccurate time fields in its existing and new CAD systems, and work toward achieving completeness and accuracy in all data fields.

State of Corrective Action 3 | Not Implemented

In response to the audit, CFD stated that it would work with OEMC to assess the root causes and ensure the same issues would not be recreated in the new CAD system.

In response to the April 2023 follow-up inquiry, CFD stated that it cannot assess root causes of data gaps before the new CAD system goes live, because it believes data gaps may differ between the old and new systems. CFD stated that with the Chicago Police Department (CPD) and OEMC's help, it has used GPS data to fill in missing time fields for ambulance runs that were involved in investigations. It also stated that this has been an intensive, case-by-case process, and that the large volume of uninvestigated ambulance runs prevents analyzing gaps in that data.

CFD stated that the City is targeting late 2023 to early 2024 to implement the new CAD system. Additionally, CFD stated that while the CAD system will likely record vehicle movement, it may not detect when a vehicle is prohibited from arriving on scene because of safety concerns or direction from CPD. CFD added that any such limitations are "within exclusive purview of OEMC."

⁸ As explored in OIG's 2021 audit, CFD and OEMC use this system to dispatch and track emergency response vehicles. The current CAD system was implemented in 1995. In January 2020, OEMC announced that the City entered into an agreement to replace the current CAD system, with the new system scheduled to go live in November 2022. As of this follow-up report, the new CAD system is not yet live.

⁹ The City established OPSA beginning in 2020 to seek efficiencies and savings by centralizing the administrative functions of its public safety departments, including CFD, OEMC, and CPD.

OIG Recommendation 4 |

OIG recommended that CFD,

- ensure that its data analysis partners¹⁰ conduct a full assessment of its data completeness and reliability, including an assessment of any trends in missing data;¹¹
- use the results of this assessment to address any operational errors that led to missing data, thereby enabling comprehensive response times analyses; and
- consider working with OBM to create and fund a position for an internal data analyst, who could combine their operational expertise with technical skills to improve data quality.

State of Corrective Action 4 | Not Implemented

In response to the audit, CFD stated it agreed that analyzing data completeness and reliability is a necessary first step. The Department would consider working with Urban Labs and attempt to create a position to do the data analysis in CFD.

In response to the April 2023 follow-up inquiry, CFD stated it has not tasked Urban Labs with analyzing response time data. CFD further reported that multiple requests to OBM for the allocation of budget resources to create a data analysis position have been denied.

¹⁰ During the 2021 audit, the Department had expected to sign a contract with the University of Chicago Urban Labs to conduct a series of analytical tasks.

¹¹ OIG consulted with a statistics expert from the Government Accountability Office about whether a percentile analysis is possible with the amount of CFD's missing data. They stated that department management should assess whether there is a pattern to the missing data. If there is a pattern (for example, if all events missing timestamps occurred at night or came from the same firehouse), management should remedy the problem. If management do not know if there is a pattern, they cannot analyze the whole population reliably.



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