



REPORT TO THE CITY COUNCIL BY THE CITY INTERNAL AUDITOR

AUDIT OF THE FIRE DEPARTMENT, FIRE FIGHTER DIVISION INTERNAL AUDIT REPORT (IAR) 070021-01

March 29, 2021

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Report Highlights

Page(s)

- Did not meet response time guidelines set by National Fire Protection Association standards.
- 21 (70%) of 30 fire fighters did not complete all required training hours.

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The Council
City of Shreveport

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March 29, 2021

Councilman James Flurry
Chairman, Shreveport City Council

Dear Councilman Flurry:

Subject: IAR 070021-01 – Audit of the Fire Department, Fire Fighter Division

Attached please find the report mentioned above. Management comments are included in the report.

Sincerely,

Leanis L. Steward, CPA, CIA
City Internal Auditor

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EXECUTIVE SUMMARY
AUDIT OF THE FIRE DEPARTMENT, FIRE FIGHTER DIVISION
INTERNAL AUDIT REPORT (IAR) 070021-01

Performance Audit:
FIRE DEPARTMENT, FIRE FIGHTER
DIVISION

Why We Did This Audit

We have completed an audit of the Shreveport Fire Department, Fire Fighter Division. This audit was conducted as one of our regularly scheduled audits included in the annual Audit Plan developed by the City Internal Auditor. Our objectives were to determine if:

- Response times for fire suppression incidents met or exceeded National Fire Protection Association (NFPA) standards.
- Documented policies and procedures were clear, updated and communicated to personnel.
- Required training and certifications were obtained.

What We Recommended

We recommended the Fire Department:

- Improve and monitor response times for fire incidents.
- Continue to monitor and ensure that required training hours are completed when possible.

What We Found

Fire Fighter Division provides fire suppression, responds to emergency medical service calls, hazardous material incidents, bomb threats, water and underwater rescue and recovery, various public service calls and more.

Generally, we found that operational and administrative controls within the organization were adequate. However, we identified the following issues:

- The Fire Department did not meet the guidelines established in NFPA 1710 for turnout and travel times for fire suppression incidents.
- **21 (70%) of 30** fire fighters did not complete all the required annual hours for one or more of the training categories.

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Introduction and Background

The Shreveport Fire Department, Fire Fighters Division not only provides fire suppression, but also responds to emergency medical service calls, hazardous material incidents, bomb threats, water and underwater rescue and recovery, various public service calls and more. Additionally, the division is involved in fire prevention and public education. Pre-incident surveys of existing businesses and buildings are conducted daily by firefighters to minimize potential danger and increase the efficiency of fire operations in the event of a future emergency at the structure. The Fire Fighter's Division operates **22** fire stations with approximately **500** fire fighters. At the time of audit work, the Shreveport Fire Department maintained a Class 1(highest) Rating by the Property Insurance Association of Louisiana (PIAL). This classification is used by member companies of the PIAL to develop fire insurance premiums.

The objectives of this audit were to determine the following:

- Response times met or exceeded National Fire Protection Association (NFPA) standards;
- Documented policies and procedures were clear, updated, and communicated to personnel;
- Completion of required training and certifications.





Recommendation Evaluation Risk Criteria

This report contains two findings with two recommendations. The chart below summarizes our evaluation of risk for the recommendations outlined in the report. Each recommendation was assessed a high, medium, or low risk level based on a qualitative assessment of exposure and/or corrective action priority.

Risk Levels	Recommendations
<p>High Represents a significant level of risk exposure to city assets, public safety, or achievement of objectives or mission. Corrective action should have the highest priority.</p>	<p>➤ Improve and monitor response times for fire incidents (Finding: Response times met or exceeded National Fire Protection Association standards.)</p>
<p>Medium Represents a moderate level of risk exposure to the city from extensive operating inefficiencies or high-level non-compliance issues. Corrective action should occur expeditiously.</p>	<p>➤ Continue to monitor and ensure that required training hours are completed when possible (Finding: Completion of required training and certifications.)</p>
<p>Low Represents a minimal level of risk exposure to the city from inefficiencies or low-level non-compliance issues. Corrective action should occur as appropriate.</p>	



Scope and Methodology

The scope of this audit includes Fire Department, Fire Fighter Division operating activities and performance occurring during the period January 2016 – December 2019. To answer our objectives, we reviewed relevant internal controls and developed audit procedures that included but were not limited to the following:

- Interviewing management
- Reviewing training requirements
- Reviewing policies and procedures, rules and regulations and National Fire Protection Association standards
- Analyzing response times for fire suppression incidents

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings, conclusions, and recommendations based on our audit objectives.

We thank the personnel in the Shreveport Fire Department for their cooperation courtesy and assistance in gathering information provided to us in our work on this project.





FINDINGS AND RECOMMENDATIONS



Objective: Determine if response times met or exceeded National Fire Protection Association standards.

Response Times

Internal Audit compared the Fire Department’s actual fire suppression incidents response times for the years 2016-2019 to the National Fire Protection Association (NFPA) standards for turnout and travel times. The National Fire Protection Association is an organization that establishes guidelines that are recognized nationally and followed by the Fire Department to measure its performance.

The 2016 Edition of National Fire Protection Association standard NFPA 1710 states the following regarding response times relating to Travel Time and Turnout Time:

Section 3.3.53.7 Travel Time

The time interval that begins when a unit is enroute to the emergency incident and ends when the unit arrives at the scene.

Section 3.3.53.8 Turnout Time

The time interval that begins when the emergency response facilities (ERFs) and emergency response units (ERUs) notification process begins by either an audible alarm or visual annunciation or both and ends at the beginning point of travel time.

Section 4.1.2.1

80 seconds turnout time for fire and special operations response and 60 seconds turnout for EMS response.

240 seconds or less travel time for the arrival of the first engine company at a fire suppression incident.

Section 4.1.2.4

The Fire Department shall establish a **performance objective of not less than 90% for the achievement of each turnout time and travel time** performance objective specified in 4.1.2.1

We noted that the Fire Department did not meet the guidelines established in NFPA 1710 for turnout and travel times. The table below shows that for each year the **90% achievement was not met** for turnout nor travel time for fire suppression incidents. (**Auditor Note:** Excluded Emergency Medical Service (EMS) since this was tested in the EMS audit performed in 2018.)

Year	Total Fire Suppression Incidents	Turnout Time	Travel Time	Achieved 90% or more
2016	1277	47% (601) met 80 sec	73% (938) met 240 sec	No
2017	1237	47% (587) met 80 sec	71% (879) met 240 sec	No
2018	1210	45% (544) met 80 sec	74% (893) met 240 sec	No
2019	1117	42% (470) met 80 sec	73% (814) met 240 sec	No



The tables below displays the average turnout times and travel times for those incidents that did not meet the standards set by NFPA.

Average Turnout Times for Incidents Not Meeting the Standard			
Year	Avg Turnout Sec	Standard	Difference (%)
2016	117.7	80	37.7 (47%)
2017	118.5	80	38.5 (48%)
2018	121.3	80	41.3 (51%)
2019	120.5	80	40.5 (50%)

Average Travel Times for Incidents Not Meeting the Standard			
Year	Avg Travel Sec	Standard	Difference (%)
2016	312.5	240	72.5 (30%)
2017	317.1	240	77.1 (32%)
2018	316.3	240	76.3 (31%)
2019	319	240	79 (33%)

Also, we reviewed the 10 longest travel times (ranging approximately from 11 to 33 minutes) for incidents in each of the years 2016-2019 and found that **17 (43%) of 40** incidents did not note an explanation for delay in the event record.

These slow turnout and travel times could lead to increased chance of loss of life and/or property. Possible common reasons for slower response times include:

- Dispatched unit may be at another incident at time of dispatch,
- A unit farther away from the incident may be responding to the incident,
- Heavy or slow traffic flow due to time of day, inclement weather, train, road construction or vehicle accident,
- Wrong location of incident could be provided by caller,
- Incorrect arrival time recorded,
- MDC (Mobile Dispatch Computer) could be malfunctioning in unit responding which could cause incorrect times (i.e., enroute and arrival times.) to be captured, or
- Unit may be staging in safe area until police can secure scene.

Recommendation 1: Fire Department management should improve response times for fire incidents to meet NFPA 1710 standard. Management should ensure that Fire Personnel are recording in Fire RMS (Records Management System) explanations for delays by monitoring and analyzing response times to determine reason and a solution for slow turnout and travel times.



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Management Response: Response times have increased due to aging apparatus fleet and more maintenance hours to keep them running. Many times, we have no reserve apparatus to put a crew in while their truck is out of service for maintenance. We will replace some of our aging fleet in 2021 with an equipment package and hopefully a larger portion of our fleet with a 2021 General Obligation Bond passed by voters.

SFD will begin in 2021 a weekly report of each apparatus average turnout time and travel time to ensure we are staying within NFPA standards. A Fire Chief Directive will be issued to ensure all members are aware of NFPA standards of Turnout Time and Travel Time. We are presently trying within our financial means for technology to replace as many MDC as possible as many are well past their service life and there is not sufficient replacement funding for all of them. Officer accountability will be put in place when times outside the standard are not met.

We respond multiple engine, truck, rescue, medic, and battalion chief companies to a first alarm fire to meet NFPA 1710 requirements. The first arriving engine gives a size up. If there is nothing visible, they go in to investigate and have all other responding companies slow down their response and respond with normal traffic flow (Code 1-No lights or sirens). This is a nationally accepted practice that is a risk management tool to prevent Apparatus Accidents. Statistics show that when responding lights and sirens there is a great increase of apparatus accidents. This also reduces liability to the city of Shreveport.

We have purchased new MDC based on the funding we have; but we cannot replace them all at one time due to a very small line item for IT upgrades.

Additionally, our records management system does not allow us to separate out these various calls that affect the overall averages. Such as the responses above, staging units waiting for police, units responding from outside their normal response area, etc. We are working towards getting a new records management system but that requires funding that I have yet to be able to get funded. I have had it in our unfunded needs for years.

Due Date: Less Than 6 Months

Objective: Determine whether documented policies and procedures were clear, updated, and communicated to personnel.

The Fire Department has documented policies and procedures that provide guidance in carrying out the day-to-day operations in an efficient and effective manner and to comply with rules and regulations. They are clear, specific, updated as needed and communicated to personnel.



Objective: Determine completion of required training and certifications.

Training Requirements

Internal Audit reviewed a sample of 30 fire fighters (i.e., Recruits, Fire Fighters, Fire Engineers, Fire Captains, Fire Battalion Chiefs and Fire Assistant Chiefs) training records to determine if required training hours established by Property Insurance Association of Louisiana (PIAL) were completed for years 2016-2018. The below chart displays the training categories and required training hours. (**Auditor Note:** Excluded EMS requirements since this was tested in the EMS audit performed in 2018.)

Required Annual Training Hours						
PIAL Training	Recruit	Fire Fighter	Fire Engineer	Fire Captain	Fire Battalion Chief	Fire Assistant Chief
Recruit Training	240					
Company Training		192	192	192	192	192
Hazardous Materials		6	6	6	6	6
Driver Operator			12			
Officer Cont. Ed.				12	12	12
Drills		18	18	18	18	18
New Driver/Operator			60			
Officer Training Certification				NFPA 1021 Officer Certification		
Incident Command (ICS)		4	4	4	4	4
Initial Fire Cause and Origin				8	8	8

21 (70%) of 30 fire fighters did not complete all the required annual hours for one or more of the training categories for years 2016-2018.

Not meeting the training requirements could affect the Property Insurance Association of Louisiana (PIAL) class rating for the Fire Department. Currently the Fire Department has the highest rating, Class 1. Sometimes long-term sick leave, military leave and vacations causes the required training hours to not be met during the calendar year.

Recommendation 2: Fire Department management should continue to monitor and ensure that required training hours are completed when possible.



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Management Response: The Training Division will work closely with the Operations Asst. Chief to ensure all members are compliant with required training hours. The Deputy Chief will have all three Asst. Chief complete a monthly evaluation of all assigned members training hours and will report any deficiencies.

Due Date: Less Than 6 Months

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