Omaha Fire Department

NFPA 1710 Annual Evaluation - 2016

It is the mission of the Omaha Fire Department to protect the lives, property, and environment of our community through preparation, prevention, and protection in a competent and courteous manner. The members of our department hold themselves and each other to a high ethical standard with integrity, professionalism, and compassion being at the core of every decision we make.
Message from the Fire Chief

It is the mission of the Omaha Fire Department to serve our community in a competent and courtesy manner as we protect lives, property and the environment through preparation, prevention and protection. Analyzing critical data is a vital component of our ability to achieve our mission by responding quickly and efficiently to all calls for service. The National Fire Protection Association (NFPA) developed a standard that established staffing, response time, and reporting goals for career fire departments. The NFPA 1710, Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the public by career fire departments, is recognized nationally as a model plan and is used by elected officials, fire service leaders, and the public to gauge the risk in our community and the fire department’s ability to respond and manage those risks.

The Omaha Fire Department is unique in terms of our scope of responsibility and areas of coverage. We currently provide a wide range of emergency services to citizens of three communities spanning two counties (Douglas and Sarpy). We respond to mitigate emergency incidents that pose very diverse risks that encompass urban, rural, suburban, and metropolitan areas and provide public education, code enforcement and a variety of additional services to the aforementioned communities.

In 2016, the Omaha Fire Department began work to upgrade its infrastructure in relation to technology and communication. Our department committed a significant amount of time, energy, and resources to ensure that our response data is being collected in an accurate and reliable manner. We have continued to invest in human capital by thrusting support to our IT personnel, which has provided them with opportunities to increase their understanding and capability in data collection. The results of these efforts have paid enormous dividends as demonstrated in this report.

Our department strives to enhance our service delivery and does not take our responsibility lightly. We take great pride in our work and will continue to adjust to technological advances to efficiently expand our service potential.

Respectfully,

Fire Chief Daniel Olsen
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>MESSAGE FROM THE FIRE CHIEF</td>
<td>P. 1</td>
</tr>
<tr>
<td>FIRE ORGANIZATION</td>
<td>P. 3</td>
</tr>
<tr>
<td>DEFINITIONS</td>
<td>P. 4</td>
</tr>
<tr>
<td>FIRE SUPPRESSION OBJECTIVES</td>
<td>P. 5</td>
</tr>
<tr>
<td>EMS OBJECTIVES</td>
<td>P. 6</td>
</tr>
<tr>
<td>ALS OBJECTIVES</td>
<td>P. 7</td>
</tr>
<tr>
<td>INITIAL FULL ALARM ASSIGNMENT OBJECTIVES</td>
<td>P. 9</td>
</tr>
<tr>
<td>INCIDENT COUNT BY UNIT</td>
<td>P. 10</td>
</tr>
<tr>
<td>INCIDENT COUNT BY TYPE</td>
<td>P. 11</td>
</tr>
<tr>
<td>GEOGRAPHY</td>
<td>P. 12</td>
</tr>
<tr>
<td>FIRE ZONE EVALUATIONS</td>
<td>P. 14</td>
</tr>
<tr>
<td>PREDICTABLE OUTCOMES</td>
<td>P. 16</td>
</tr>
<tr>
<td>ACHIEVING COMPLIANCE</td>
<td>P. 17</td>
</tr>
<tr>
<td>SOURCES</td>
<td>P. 18</td>
</tr>
</tbody>
</table>
The Omaha Fire Department was established on May 2, 1860 with a hand drawn cart and staffed with 40 volunteer personnel. In 2016, the budgeted complement was 637 sworn fire personnel and five civilian personnel. The Fire Department provides fire protection, rescue and emergency medical services for the city of Omaha. Typical functions of fire department personnel include, but are not limited to: firefighting, advanced life support treatment and transportation, hazardous material response, fire inspections, high angle and confined space rescue.
DEFINITIONS

Initial Full Alarm Assignment: Those personnel, equipment, and resources ordinarily dispatched upon notification of a structure fire.

NFIRS: National Fire Incident Reporting System

PSAP: Public Safety Answering Point (Douglas County 911)

Response Objective: Measurement of time segments that include Turnout Time and Travel Time

Response Time is defined as turnout time plus travel time

Total Response Time is defined as the time interval from the receipt of the alarm at the primary PSAP to when the first emergency response unit is initiating action or intervening to control the incident

Travel Objective: Measurement of time segment which includes only Travel Time

Travel Time is defined as the time interval when the emergency units are first en route (wheels turning) to an emergency and the time when the unit arrives

Turnout Time is defined as the time interval that begins when the emergency response units notification process begins by either an audible alarm of visual annunciation or both and ends at the beginning point of travel time

Turnout Objective: Measurement of time segment which includes only Turnout Time

*Total Response Time = PSAP until 1st Arriving Unit
FIRE SUPPRESSION

Includes all 100 codes of the National Fire Incident Reporting System (NFIRS) to include, but not limited to: structure, mobile, natural vegetation & outside fires.

Fire suppression is defined as the activities involved in controlling and extinguishing fires. Fire apparatus is defined as a vehicle designed to be used under emergency conditions to transport personnel and equipment, and to the support the suppression of fires and mitigation of other hazardous materials. An “engine” company is designed to carry and pump water to support extinguishing activities, along with other fire ground activities.

2016 – NFPA 1710 - 1st ENGINE OBJECTIVES

The 1st Engine objectives measures fractal times that involve engine companies. Turnout time is the amount of time it takes for an engine company from the sounding of the alarm until the “wheels are turning”. Travel time measures when the “wheels are turning” until the engine arrives on location. Response time is the sum of turnout and travel time. The performance measurement is based upon the time of the first arriving engine on a fire incident.

TURNOUT PERFORMANCE – 64.0%
Objective is 80 seconds for 90% of events

1ST ENGINE PERFORMANCE - TRAVEL: 78.9%
Objective is 240 seconds for 90% of events

1ST ENGINE PERFORMANCE - RESPONSE: 80.2%
Objective is 320 seconds for 90% of events
3 YEAR SUMMARY

EMERGENCY MEDICAL SERVICES
Includes all 300 codes of the National Fire Incident Reporting System (NFIRS) to include, but not limited to: medical emergencies, personal injury collisions, extrications, water and ice rescues.
2016 – NFPA 1710 - 1st EMS ARRIVAL OBJECTIVES

The 1st EMS objectives measures fractional times that involve engine, truck and medic companies. Turnout time is the amount of time it takes for a medic unit from the sounding of the alarm until the” wheels are turning”. Travel time measures when the “wheels are turning” until the medic unit arrives on location. Response time is the sum of turnout and travel time. The performance is based upon the time of the first arriving engine, medic or truck on an EMS incident.

**TURNOUT PERFORMANCE – 36.6%**
Objective is 60 seconds for 90% of events

**EMS 1st ARRIVAL PERFORMANCE - TRAVEL: 78.0%**
Objective is 240 seconds for 90% of events

**EMS 1st ARRIVAL PERFORMANCE - RESPONSE: 71.5%**
Objective is 300 seconds for 90% of events

**3 YEAR SUMMARY**

![3 Year Summary - EMS Objectives](image)

**ADVANCED LIFE SUPPORT (ALS) OBJECTIVE**

The ALS unit objective is defined as having an ALS unit arriving in 480 seconds of travel time and a BLS unit within 240 seconds of travel time at an emergency medical incident 90 percent of the time. An additional 60 seconds is added for the response objective. This is the first year the Omaha Fire Department has reported this objective.
ALS UNIT PERFORMANCE - TRAVEL: 72.8%
BLS Unit Objective is 240 seconds, ALS Unit Objective is 480 for 90% of events

ALS UNIT PERFORMANCE - RESPONSE: 65.4%
BLS Unit Objective is 300 seconds, ALS Unit Objective is 540 for 90% of events

3 YEAR SUMMARY

3 Year Summary - ALS Unit Objective
2016 - FULL ALARM ASSIGNMENT OBJECTIVES

The Initial Full Alarm Assignment Capability is defined as the fire department’s capability to deploy an initial full alarm assignment within 480 seconds travel time to 90% of the incidents as established in Chapter 4 (NFPA Standard).

INITIAL FULL ALARM PERFORMANCE - TRAVEL: 85.4%
Objective is 480 seconds for 90% of events

INITIAL FULL ALARM PERFORMANCE - RESPONSE: 85.8%
Objective is 560 seconds for 90% of events

3 YEAR SUMMARY
INCIDENT COUNT BY UNIT

The OFD responds to priority (lights and sirens) and non-priority incidents. NPPA 1710 uses only priority incidents in its criteria of measuring performance. Below are the incident count by unit that is used for our standards.

<table>
<thead>
<tr>
<th>Engine</th>
<th>Truck</th>
<th>Medic</th>
<th>B/C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>Count</td>
<td>Unit</td>
<td>Count</td>
</tr>
<tr>
<td>E1</td>
<td>3,231</td>
<td>TR1</td>
<td>3,128</td>
</tr>
<tr>
<td>E21</td>
<td>2,305</td>
<td>TR21</td>
<td>2,216</td>
</tr>
<tr>
<td>E22</td>
<td>938</td>
<td>TR31</td>
<td>1,691</td>
</tr>
<tr>
<td>E23</td>
<td>1,102</td>
<td>TR34</td>
<td>2,010</td>
</tr>
<tr>
<td>E24</td>
<td>2,776</td>
<td>TR41</td>
<td>2,460</td>
</tr>
<tr>
<td>E3</td>
<td>1,673</td>
<td>TR53</td>
<td>1,022</td>
</tr>
<tr>
<td>E30</td>
<td>2,109</td>
<td>TR61</td>
<td>1,472</td>
</tr>
<tr>
<td>E31</td>
<td>1,747</td>
<td>TR63</td>
<td>1,128</td>
</tr>
<tr>
<td>E33</td>
<td>2,018</td>
<td>TR78</td>
<td>1,670</td>
</tr>
<tr>
<td>E34</td>
<td>1,952</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E41</td>
<td>2,536</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E42</td>
<td>2,309</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E43</td>
<td>1,206</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E5</td>
<td>3,134</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E52</td>
<td>1,566</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E53</td>
<td>2,183</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E56</td>
<td>1,617</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E60</td>
<td>1,504</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E61</td>
<td>1,374</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E63</td>
<td>846</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E65</td>
<td>1,295</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E71</td>
<td>824</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E77</td>
<td>646</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E78</td>
<td>1,454</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Specialty Unit Incident Counts

Water Tender 71 – 10
Water Tender 77 – 15
Rescue 30 (Air Supply) – 185
Rescue 33 (Special Ops/Hazmat) – 1,063
Rescue 60 (Backup Special Ops/Hazmat) – 78
INCIDENT COUNT BY TYPE
NFIRS categories 100 and 300 (Fire and EMS call types)

*includes all Fire Incidents that are coded 100 series

*includes all EMS incidents that are coded 300 series
GEOGRAPHY

The city of Omaha, the largest in Nebraska, is bordered on two sides by the Missouri and Platte Rivers. Omaha has a wide variety of interstates, highways and residential streets totaling 4,326 miles. Additionally, the city has numerous biking and nature trails to include the Keystone Trail and Bob Kerrey Pedestrian Bridge.

Recent gentrification in historic areas has increased the population in areas such as Midtown, Benson and Aksarben. The central business district is located in downtown Omaha, which has a fluctuating populations during the day and major events at the Century Link and TD Ameritrade Park.

Quick Facts

- The OFD is responsible for 192.85 square miles with a population base of 508,802 which includes the cities of Omaha, Millard and Elkhorn.
- The response area is divided into 7 main areas (battalions) with 184 fire zones.
- The OFD’s apparatus fleet includes:
  - 24 Fire Stations
  - 24 Engines (pumps)
  - 9 Trucks (ladders)
  - 15 Medic Units
  - 7 Battalion Chiefs
Definitions as per 5th Edition CFAI Standards of Cover Manual:

**Metropolitan:** A designation with both incorporated and/or unincorporated geography with populations of over 200,000 people in total and/or a population density of over 3,000 people per square mile. These areas are distinguished by mid-rise and high-rise buildings, which can be interspersed with smaller structures.

**Urban:** Designation refers to an incorporated or unincorporated area with a population of over 30,000 people and/or a population density of over 2,000 people per square mile.

**Suburban:** Designation refers to an incorporated or unincorporated area with a population of over 10,000-29,999 people and/or any area with a population density of 1,000-2,000 people per square mile.

**Rural:** Designation refers to an incorporated or unincorporated area with a total population of less than 10,000 people or with a population density of less than 1,000 people per square mile.
FIRE ZONE EVALUATIONS
FIRE ZONES 320 & 321

1. Southern portion of the zones near Harrison Street have frequent missed objectives due to the location being outside the four minute travel of Station 31. A mutual aid agreement exists with the Bellevue Fire Department in an effort to address missed objectives in the zones. Station 31 has also been identified as a candidate for re-location.

FIRE ZONE 501

2. Zone 501 has frequent missed objectives due to the location being outside the four minute travel of Station 31, Station 30, and Station 61.
FIRE ZONE 409

1. Zone 409 has frequent missed objectives due to the location being outside the four minute travel of Station 53, Station 42, and Station 41. Using GIS and historical data, it has been concluded that Station 53 is the closest station and it is correctly assigned as the first due station. Additional factors include heavy Dodge Street traffic, multiple lights en route and the restriction of residential streets. Station 53 has also been identified as a candidate for re-location.

FIRE ZONES 219 & 215

2. Zones 219 & 215 have frequent missed objectives due to the location being outside the 4 minute travel of Station 23, Station 21. Station 21 is required to cross Sorensen Parkway with limited crossing points. Station 23 is located at the northern most part of their territory which delays response times to both zones.
PREDICTABLE OUTCOMES

The Commission on Fire Accreditation International Standards of Cover identifies two critical response needs that drive the measurement of the first arriving units:

1. The flashover point of a fire.
2. The point of brain death in a cardiac arrest patient.

In both instances early arrival and intervention will provide for better patient outcomes and a safer work environment for our employees. We realize that any delay in responding to a call for service could possibly change the potential outcome of the incident to include greater fire intensity and lower survivability following a cardiac event. We will continue to monitor our service delivery and explore new technologies that will better assist in gathering data and problem identification.
ACHIEVING COMPLIANCE

In an effort to improve, our department has identified both long and short term goals as listed below in order of importance. As noted, several of these items are currently underway.

1. Capital Improvement Funding (CIP) through the city of Omaha mayor’s office. Relocating the below stations addresses 3 out of the 6 fire zones listed as deficient in the geography section of this report.
   - Station 31
   - Station 53

2. Research, development & deployment of new fire station alerting systems
   - Fact finding for Request for Proposal (RFP)
   - Initial meetings with potential vendors (request information)
     i. Improvement in the capture of en route times with new system

3. Mobile Data Terminal (MDT) continual maintenance
   - Research and development for the replacement of the current MDT fleet
   - Full time DotComm employee (hardware support)
     i. Continued preventative maintenance program of MDT fleet.

4. Douglas County GIS
   - New GIS imagery Spring 2016
   - Spatial analysis of response data

5. NFPA 1710 – Power Business Intelligence
   - Continual development of advanced data models to improve the data analysis process
   - PowerBI reports and dashboards (online visualization)
SOURCES


This evaluation is in compliance with the NFPA 1710 4.1.2.5.2 Evaluations guidelines.

GIS layer data (fire zones) provided by Michael Schonlau, Douglas County GIS.

Partial geography statement provided by Michael DeBoer, University of Nebraska at Omaha graduate student.

Douglas County Population Density – Joshua Corrigan, MAPA, GIS Coordinator