

Management and Operations Study of the Fire Department

CITY OF SPRINGDALE, ARKANSAS

FINAL REPORT

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TABLE OF CONTENTS

	Page Number
1. INTRODUCTION AND EXECUTIVE SUMMARY	1
2. ORGANIZATIONAL STRUCTURE AND MANAGEMENT SYSTEMS	9
3. ASSESSMENT OF FIRE DEPARTMENT SUPPRESSION OPERATIONS	32
4. ASSESSMENT OF FIRE PREVENTION, PUBLIC EDUCATION AND OTHER SERVICES	48
APPENDIX A: PROFILE OF THE FIRE DEPARTMENT	61
APPENDIX B: RESULTS OF THE EMPLOYEE SURVEY	75

1. EXECUTIVE SUMMARY

In March 2012 the Matrix Consulting Group began the project to evaluate the Springdale Police (evaluated in a separate report) and Fire Departments. This report focuses on the review of the Fire Department, which included an extensive review of management, staffing and other services. In reaching the concluding point of the study, the project team has assembled this report, which summarizes our findings, conclusions and recommendations, where appropriate. This study was conducted with cooperation and assistance of City of Springdale personnel and the full support of the members of the Springdale Fire Department.

In this study of the Springdale Fire Department (SFD), the project team utilized a wide variety of data collection and analytical techniques. The project team conducted the following data collection and analytical activities:

- The project team began an intensive process of interviewing personnel in every Fire Department Division and collecting a wide variety of data designed to document workloads and service levels.
- 42 staff members at every rank and in every function were interviewed either one on one or in small groups. This included personnel in administration, operations, prevention and support functions.
- An anonymous employee survey was developed and responded to by 51 members of the agency.
- The project team collected detailed workload statistics for the primary functional areas, including calls for service from the computer aided dispatch / records management system, budget documents and other statistical reports.

In this report recommendations are only made for areas the project team has identified as areas where a change should be made to improve function, practice or efficiency (either cost efficiency or process efficiency).

2. EXECUTIVE SUMMARY

The members of the Springdale Fire Department were instrumental during the process for conducting this study. From making themselves available for interviews to responding to requests for data during the process, it was clear the agency has members with a great deal of pride in the organization and a desire to provide excellent fire and EMS services to the City of Springdale.

Several recommendations and/or improvement opportunities are provided at the end of the sections within the chapters; all of these recommendations are summarized in the following table:

RECOMMENDATIONS
Chapter 2 – Organizational Structure and Management Systems
Conduct a strategic planning process, which involves both internal and external stakeholders. Page 9
Review the current Mission Statement to ensure it fully describes the mission of the Springdale Fire Department. Develop Clear Vision and Value Statements for the Agency as part of the strategic planning process. Page 9
Consider appointing a policy review committee responsible for the annual review and providing recommended revisions to departmental policies and procedures. This committee should meet quarterly to ensure the review of policies occurs on a set schedule. Page 12
The City should consider establishing a compensation policy for Fire Department employees to ensure salaries remain competitive with surrounding agencies. Page 17
Chapter 3 – Assessment of Fire Department Emergency Operations
Conduct a full risk assessment of the community to identify the risks faced along with an assessment of the likelihood of an emergency to occur. Page 30
Consider staffing all engine and ladder companies with a minimum of three (3) personnel daily. Page 30
The Springdale Fire Department should work with the dispatch center to ensure call received and call dispatch times are accurately recorded and reported. Page 32
The City should formally adopt service level objectives. While targets should be locally determined, the project team believes the City should adopt a one-minute dispatch processing time and a one-minute thirty-second reflex time for 90% of priority one emergency calls. Page 32
The City of Springdale should develop response time performance standards based on population density and actively monitor response time performance on a quarterly basis. Page 37
Discontinue the practice of staffing Rescue 1 on a daily basis and reallocate those personnel to bring the minimum staffing of Engine 1 to 3-person minimum staffing on a daily basis. Page 39
The City should continue their plans to relocate stations 2 & 3 and locate them to appropriately meet established response time performance standards as developed by the City. Page 44
Chapter 4 – Assessment of Public Education, Fire Prevention & Other Services
The Fire Department should develop a work schedule for fire prevention personnel, which maximizes their utilization such as 4-10 hour days to allow for the currently scheduled after hour activities to be handled without overtime. This can include staggered start times and workdays to provide maximum daily coverage. Page 48

RECOMMENDATIONS
Consider adopting the NFPA recommended inspection frequency standard. Page 50
Formalize and schedule company inspections on a regular basis. Page 51
Develop a risk classification for commercial occupancies and pre-fire plan occupancies based on risk. Page 51
Consider establishing a self-inspection program for small, B-type occupancies. Page 51
Begin developing a formalized public education program with annual goals for the number and types of programs offered to the community based on a community risk assessment. Page 52
The Springdale Fire Department should actively pursue the use of training facilities available in Rogers and Fayetteville and schedule multi-company evolutions with their first due mutual aid partners at these facilities a minimum of once annually. Page 54

The recommendations have greater detail provided within the specific Chapters of the report.

2. ORGANIZATIONAL STRUCTURE AND MANAGEMENT SYSTEMS

This first analytical chapter of the report focuses on key organizational structure and management system issues facing the Fire Department.

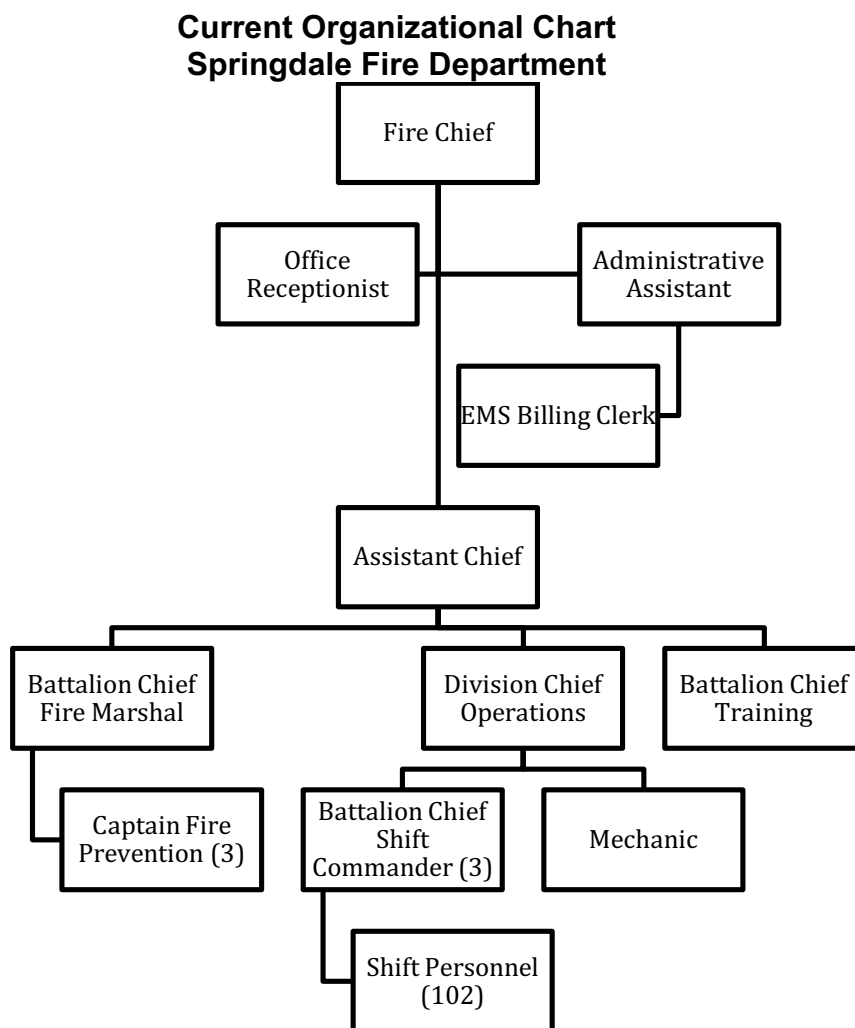
1. THE GENERAL ORGANIZATIONAL MAKEUP OF THE SPRINGDALE FIRE DEPARTMENT APPEARS EFFECTIVE, BUT REPORTING RELATIONSHIPS CAN BE IMPROVED.

The Springdale Fire Department provides response to fire, emergency medical emergencies, hazardous materials incidents, natural and man-made disasters, mutual aid assistance to neighboring communities and related services in an effort to reduce life and property loss. The Department provides specialized rescue operations and supports a regional hazardous materials response team, which serves the NW Arkansas area. In addition the Fire Department inspects businesses and properties, assists with code enforcement and conducts public education programs. There are four functional areas in the Fire Department: Operations (Fire and EMS), Fire Prevention, Training, and administrative support.

The fire department has a total of 117 personnel, including 113 sworn personnel and 4 civilian personnel. The following are the total employees by position:

Position	Authorized Positions	
	Current	Vacant
Fire Chief	1	1
Assistant Chief	1	0
Battalion Chief	5	0
Captain	24	0
Firefighter	81	0
Civilian	4	0

In conducting the assessment of the Springdale Fire Department, the Matrix Consulting Group applied a series of “best management practices” to each area of the Fire Department to determine where the Fire Department, which could benefit from improved practices.



In order to evaluate the organizational structure of the Springdale Fire Department, the project team first had to identify the criteria by which the organizational structure would be judged. The paragraphs, that follow, describe those criteria as well as describe what is meant by each of them:

- **Accountability and Responsibility is clearly identified:** The organization must be consistent with the concept that clear lines of authority and decision making exist to achieve excellence. Areas of responsibility are clearly delineated and points of accountability are readily identifiable.
- **Span of Control or Communication is Optimal:** Effective organizations are structured so that lines of communication are identifiable and where there are multiple reporting relationships, responsibility for communication and control are clearly identified and understood.
- **There are essential checks and balances in place where necessary:** Checks and balances are necessary in both clinical (EMS) and operational areas to ensure staff performance is reviewed against established performance measures.
- **Structure is based on task requirements and work flow as opposed to specialized skills of individual members:** There is a tendency in some organizations to organize work patterns around the specific passions or skills of individual members.
- **Similar titled positions have similar responsibilities and levels of accountability:** The organization should be structured such that decision making authority and the ability of decisions to impact the organization in a strategic way are all found at similar levels of the hierarchy.
- **Support functions are logically grouped and do not, through this grouping, create additional layers of oversight:** Organizational structures should group support functions together, separated from operations, only when the scale and scope of the operation requires it.

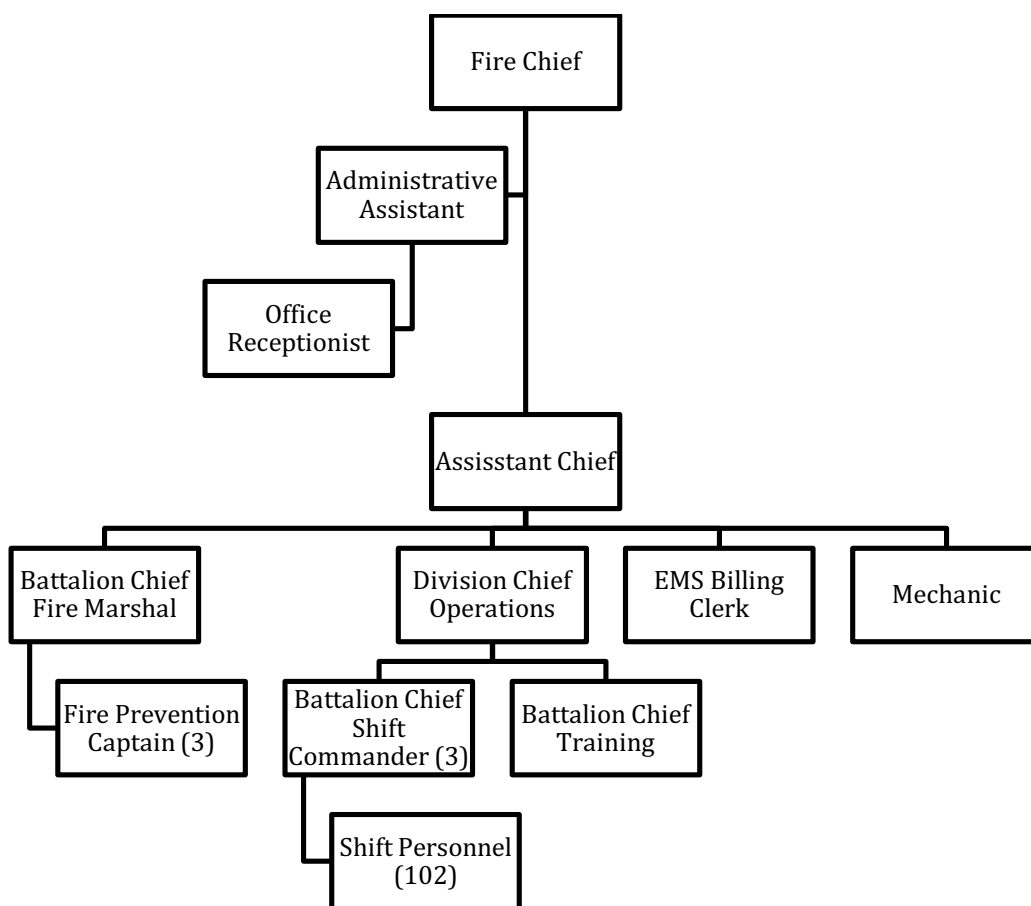
The section, that follows, provides our analysis of the current organizational structure and opportunities for improvement.

During interviews with management personnel it was clear that a strong planning and working relationship exists between the Division Chief of Operations and the Battalion Chief of Training. The majority of the training provided in the agency involves operations personnel and the maintenance and development of critical skills required to perform effectively on emergency scenes. As the Division Chief of Operations is involved in daily meeting with the Operations Battalion Chiefs and fully understands the

strengths and weaknesses of personnel and the types of training required, reporting directly to the Division Chief of Operations as opposed to the Assistant Chief would also better align the Battalion Chief of Training with a reporting relationship of like functions.

The Assistant Chief would be better utilized overseeing and managing critical support functions in the agency such as EMS billing and the Mechanic to ensure these functions perform at adequate levels and appropriate checks and balances are maintained. The following is the proposed organizational structure for the Springdale Fire Department.

**Proposed Organizational Chart
Springdale Fire Department**



2. THE SPRINGDALE FIRE DEPARTMENT HAS A WELL DEFINED MISSION STATEMENT, BUT LACKS A VISION STATEMENT OR VALUES.

Having clear mission and vision statements provides members with the foundation of why the agency exists and where they are headed. While the development of these statements is important, they must be constantly communicated to ensure all personnel are operating from the same baseline information on what the purpose of the agency is so all members are working together to achieve the shared vision.

The Springdale Fire Department has adopted the following Mission Statement:

The Springdale Fire Department exists to enhance the quality of life in Springdale by minimizing the devastating effects of fires, medical emergencies, and natural and artificial disasters.

We believe that to accomplish our mission we will:

- Provide the highest quality emergency fire, rescue and medical response services.
- Provide a pro-active, community based fire and safety education and prevention environment.
- Respond to any hazardous substance release to mitigate, control, and confine the substance release to minimize its negative impact upon the community.
- Participate with other agencies to provide a broad based, emergency response, and safety oriented environment.

Without fail, we are always prepared to protect and provide for our customers...

The Citizens of Springdale.

While the agency does have a Mission Statement to explain why they exist, there are several areas where the Mission Statement discusses elements that should be included in the Vision Statement (How the Mission is achieved). The Department currently has not adopted a Vision Statement to let members of the Fire Department know where they are headed and how they will achieve the Mission. The agency also

does not have a Value Statement to fully explain the core values of the organization, how they define the organization and guide the behavior of employees.

In an anonymous employee survey conducted by the project team, 51% of fire department employees disagreed with the statement that the Springdale Fire Department has a clear vision / direction for the future.

As part of a focused effort to ensure both employees and the community fully understand the goals and capabilities of the fire department a strategic planning process should be conducted with annual updates. The fire department has not formally conducted a strategic planning process specific to their long-term mission, which involves staff from all levels of the organization as well as external stakeholders from the community. Because of a lack of strategic planning, personnel are directing the majority of their efforts to immediate issues of the day and are unable to devote time toward significant planning for future service delivery needs, or developing new programs and services desired by the residents and business community of Springdale. A customer-centered strategic planning process specific to the fire department could resolve much of this deficiency and give the department a clear sense of direction.

Recommendation: Conduct a strategic planning process, which involves both internal and external stakeholders.

Recommendation: Review the current Mission Statement to ensure it fully describes the mission of the Springdale Fire Department. Develop Clear Vision and Value Statements for the Agency as part of the strategic planning process.

3. THE CITY OF SPRINGDALE ENJOYS AN EXCELLENT ISO RATING AND SHOULD CONTINUE PRACTICES TO MAINTAIN THIS RATING.

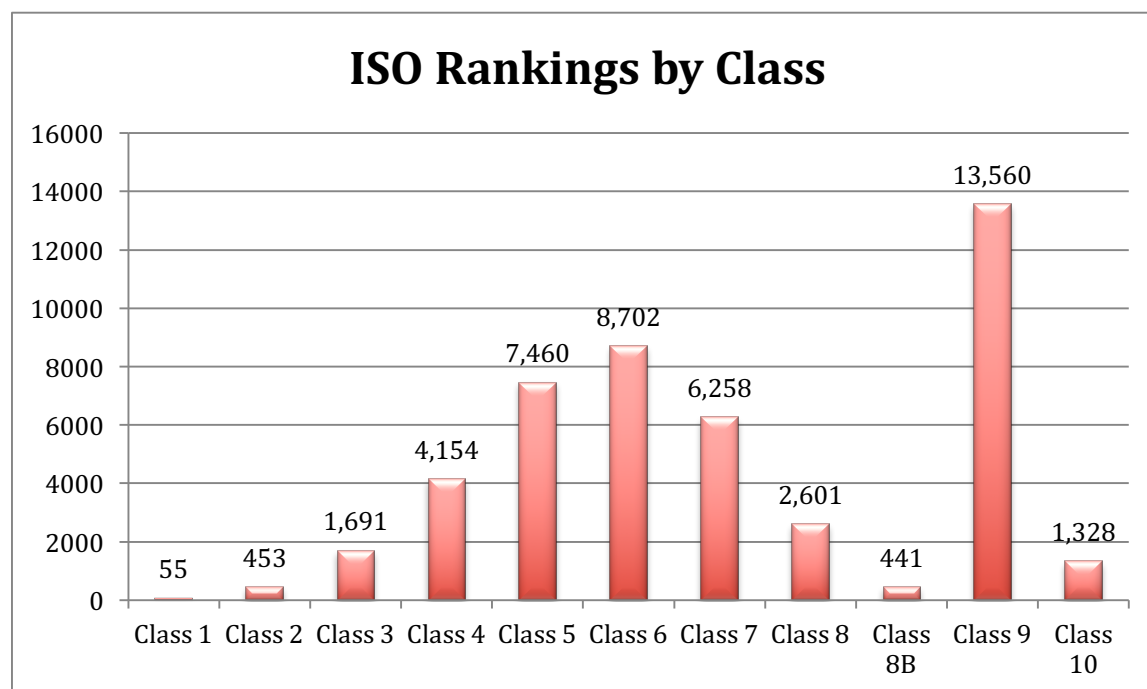
The current ISO property class rating for the City of Springdale is Class 2. The class rating is important to the community as many property insurance companies base the fire risk portion of premiums on the community's ISO rating.

According to ISO:

"Virtually all U.S. insurers of homes and business property use ISO's PPC (Public Protection Classification) in calculating premiums. In general, the price of fire insurance in a community with a good PPC is substantially lower than in a community with a poor PPC, assuming all other factors are equal." ⁽¹⁾

The ISO uses a 1 to 10 rating scale, with Class 1 being the best level of service and Class 10 representing no fire service being provided at all. The ISO reviews fire protection in three major categories:

- Communication (10%)
- Water Supply (40%)
- Fire Department (50%)



As the chart above illustrates, the achievement of a Class 2 rating places SFD in an elite category. The capital costs associated with becoming a Class 1 rated community often outweigh any cost savings realized by the community, which is why there are so few Class 1 agencies in the United States.

The current ISO credit system is broken down into the following maximum percentage points.

FIRE DEPARTMENT CLASSIFICATION	MAXIMUM PERCENT
Credit for:	
ENGINE COMPANIES	10.00
RESERVE PUMPERS	1.00
PUMP CAPACITY	5.00
LADDER-SERVICE COMPANIES	5.00
RESERVE LADDER COMPANIES	1.00
DISTRIBUTION	4.00
COMPANY PERSONNEL	15.00
TRAINING	9.00
TOTAL	50.00

The ISO Fire Suppression Rating Schedule states that response areas with five buildings that are three stories or 35 feet or more in height, or with five buildings that have a Needed Fire Flow (NFF) greater than 3,500 GPM, or any combination of these criteria, should have a ladder company. Based on this requirement the current decision to staff two ladder companies on a daily basis in the areas of the community with multi-story and high fire flow target hazards is a good strategy.

4. POLICIES AND PROCEDURES IN THE FIRE DEPARTMENT ARE COMPREHENSIVE AND MEET INDUSTRY STANDARDS, BUT PROCESS FOR REVIEWING AND UPDATING CAN BE IMPROVED.

The Fire Department operates under the direction of a detailed set of policies and procedures, which provide guidance on the organizational structure, membership, roles

and responsibilities, expected functions and training requirements. Critical policies examined by the project team appeared to be timely and in line with what is expected in a policy manual for a modern and progressive fire department.

The policy and procedure manual is developed, amended and reviewed by Chief level officers annually for both accuracy and content. According to interviews there is little involvement of line staff in the development and maintenance of departmental policies. In order to ensure that policies remain timely and meet the needs of the Department and community, the annual review of policies should be conducted by members at all levels of the organization to allow input and to determine if revisions are required. In fact the employee survey indicated that 51% of employees believe that the policies and procedures of the agency are up to date and followed consistently. By involving staff at all levels of the organization, personnel would have a better understanding of how the policies are developed and reasons for certain requirements. It would also allow command staff to hear from line personnel areas of concern with current policies from an operational perspective.

The Fire Chief should appoint an internal committee designated to conduct annual reviews and develop recommended revisions to departmental policies and procedures.

Recommendation: Consider appointing a policy review committee responsible for the annual review and providing recommended revisions to departmental policies and procedures. This committee should meet quarterly to ensure the review of policies occurs on a set schedule.

5. THE SPRINGDALE FIRE DEPARTMENT TYPICALLY HAS A LOW ATTRITION RATE, BUT EXPERIENCED A SPIKE IN 2011.

The attrition rate experienced by an organization is one significant factor in assessing the health of an organization. A low employee attrition rate is one indicator that employees are receiving fair compensation, the organization is well managed and of the general health of the organization is good. The attrition rate is the percentage of employees who separate from employment for any reason (retirement, resignation, termination, etc.).

Organizations typically will be more productive and efficient when they are able maintain their high quality employees. A “normal” amount of turnover, or attrition, is healthy for an organization but excessive attrition over consecutive years is a drain on resources and an indication that improvements are needed. Fire department that effectively train their new employees and enjoy a low attrition rate develop a stronger team and respond more effectively to emergencies as all personnel understand their role and function well as part of the effective response force to mitigate the emergency. Low turnover will also result in a higher average staffing levels on apparatus and reduced overtime to fill “minimum staffing” requirements. The following paragraphs present the 2009 – 2011 attrition rates for the Springdale Fire Department.

The key goal for a fire department to maintain stability in their personnel resources is to keep the attrition rate reasonably low over the long term. The attrition rate is one of the two primary factors that reduce staffing in field services and the skill level of the employees that are providing the services to the community. The second factor is use of accumulated leave time. The following table shows the number of employees who have separated from Springdale the FD over the last three years.

Fire Department Attrition 2009 - 2011

Calendar Year	Number	Attrition Rate
2009	5	4.3%
2010	1	0.9%
2011	11	9.5%
Total	17	
Annual Average	5.7	4.9%

A total of 17 personnel separated from the fire department over the three-year period for an average attrition rate of 4.9%. The attrition rate of 9.5% in 2011 is high and could be a key indicator for the increased overtime required in 2011. Of the 11 separations seven (7) were retirements, which may indicate this is an isolated occurrence of high turnover.

The fire department should establish a goal of maintaining an attrition rate of less than 5% annually. Providing a competitive pay and benefit package to attract quality candidates and ensure their continued important is one factor ensuring the agency attracts and keeps high quality employees. The workplace for fire personnel includes the physical items such as the stations, apparatus and the equipment used by personnel. As the stations also serve as “living quarters” for firefighters it is important that they function appropriately and offer comfortable accommodations. Other elements include affecting the turnover of fire personnel include positive working relationships with their peers, the quality of the employee’s direct supervisor and a feeling of belonging to the organization. If too many negative factors are present it can lead to serious consideration of whether or not to change employers. There are a wide variety

of factors involved in keeping high quality employees and four specific employee needs¹ have been identified and are listed here:

- The need for trust – expecting that the agency will deliver on its promises, be open and honest in its communication, invest in the employee, provide fair treatment and compensation.
- The need to have hope – ability to grow in the organization, develop skills and have opportunities for career progress or advancement.
- The need to feel a sense of worth – the employee's confidence that hard work, competence and commitment to the organization will lead to recognition and reward.
- The need to feel competent – the expectation that an employee's skill level will be matched to assignments that use the skills and are challenging.

Fair compensation is one of the incentive factors for employees to stay with their current employer. In Springdale, the compensation offered to most of the sworn employees of the fire department is lower than that of other agencies in the immediate area. Compensation rates from other fire departments in the Northwest Arkansas region were obtained as part of this study and are provided in the following table.

¹ 7 Hidden Reasons Employees Leave by Leigh Branham, 2005, American Management Association, NY

CITY OF SPRINGDALE, ARKANSAS
Management and Operations Study of the Fire Department

	Springdale	Rogers	Bentonville	Fayetteville	Other Cities Avg.	% Above Springdale
Firefighter – Start	30,090	33,000	33,189	31,037	32,409	7.7%
Firefighter – Top	43,820	57,462	49,784	44,690	50,645	15.6%
Firefighter / Driver – Start	31,817	N/A	35,491	37,179	36,335	14.2%
Firefighter / Driver - Top	47,726	N/A	54,478	51,734	53,106	11.3%
Company Officer - Start	42,885	54,642	45,986	43,039	47,829	11.5%
Company Officer - Top	64,327	78,419	71,401	59,889	69,903	8.7%
Battalion Chief - Start	50,696	72,134	51,727	49,823	57,895	14.2%
Battalion Chief - Top	76,045	81,410	80,850	69,329	77,196	1.5%
Assistant / Deputy Chief - Start	55,905	71,430	59,987	55,483	62,300	11.4%
Assistant / Deputy Chief - Top	83,857	89,000	93,059	84,557	88,872	6.0%

The average pay rate for entry level firefighters for the three other surveyed cities is 7.7% above Springdale's pay rate and the average highest pay rate is 15.6% above the highest Springdale Firefighter pay.

While Rogers does not have a Driver pay rate the average starting driver pay is 14.2% higher in the other two cities and the top pay 11.3% higher for drivers.

The average starting Company Officer (Captain) pay rate in the three comparison cities is approximately 11.5% above that of Springdale Captains and the highest level of compensation is 8.7% above Springdale.

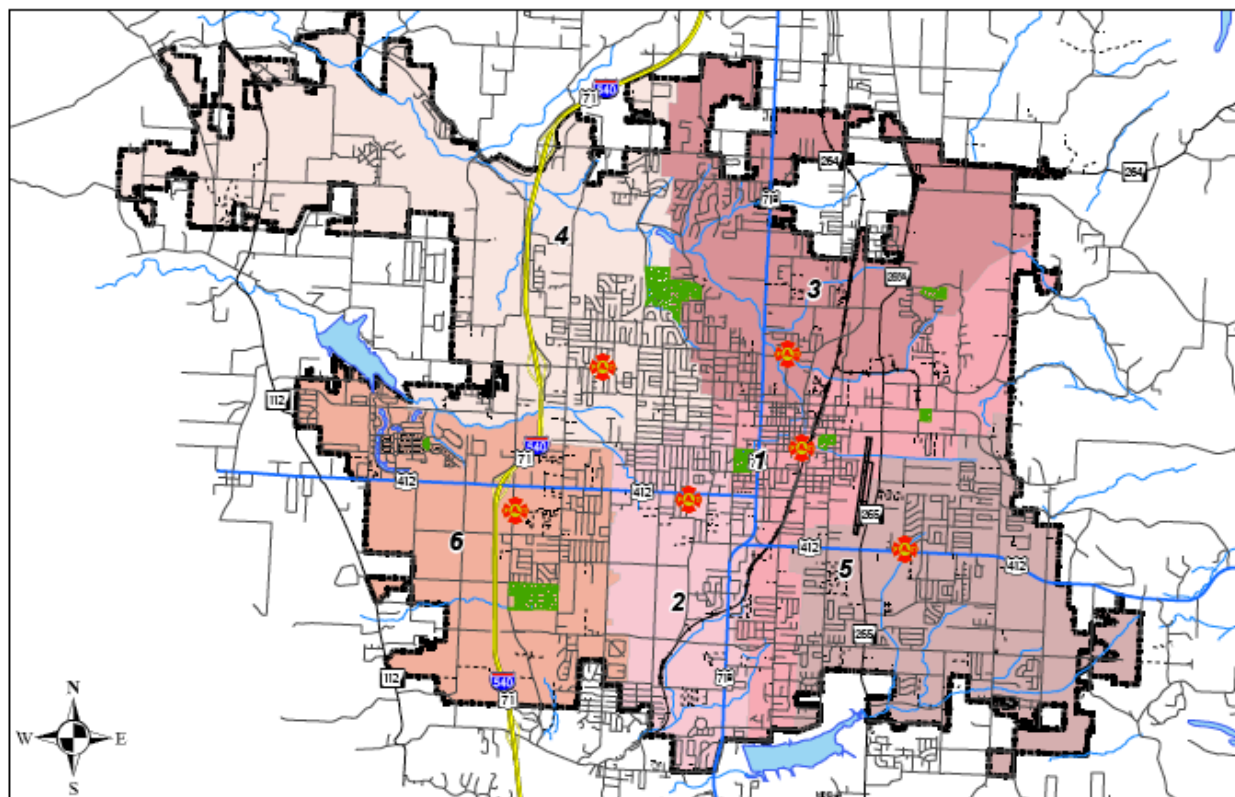
The average starting Battalion Chief pay rate in the three comparison cities is approximately 14.2% above that of Springdale Battalion Chiefs and the top pay 1.5% above Springdale.

Assistant/Deputy Chief pay starts at 11.4% higher in the comparison cities and the top pay is 6.0% higher in the comparison cities than pay for the Springdale Assistant Chief position.

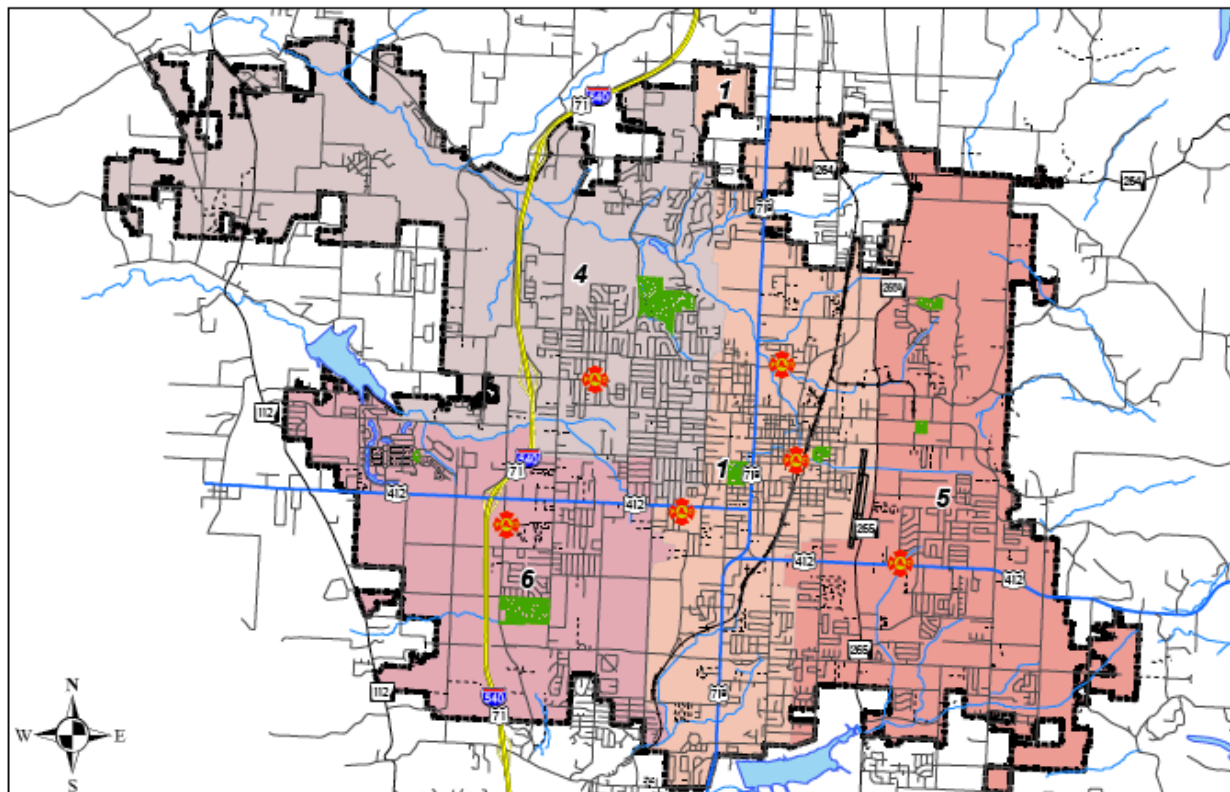
Recommendation: The City should consider establishing a compensation policy for Fire Department employees to ensure salaries remain competitive with surrounding agencies.

3. ASSESSMENT OF FIRE DEPARTMENT EMERGENCY OPERATIONS

The primary focus of the Fire Department is to provide effective fire and EMS emergency response to the community. This function of departmental operation involves the majority of the resources of the Department. The following map shows the current station locations and response areas for each station providing fire response:



The next map depicts the ambulance response districts of the Springdale Fire Department. As shown the agency deploys ambulances from four of the six fire stations to provide EMS transport services.



1. THE SPRINGDALE FIRE DEPARTMENT HAS ADOPTED SERVICE LEVEL STANDARDS

The adoption of performance standards for fire and EMS response is a critical first step in the evaluation of fire, rescue, and EMS service levels and staffing alternatives. While there are national standards that can be used to evaluate fire and EMS service delivery, each community must identify the key risks and necessary level of protection it needs based on its own unique circumstances. Once these performance standards are established a community can assess its performance and determine if current resources support the desired level of service. In Springdale the current service level standard is responding to emergency calls on average within 4 minutes travel time.

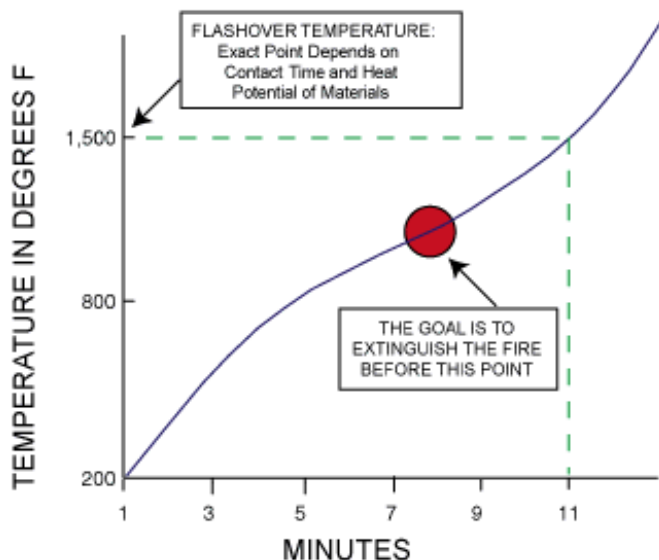
(1) Efforts to “Standardize” Service Level Objectives Are Based on Fire Growth Behavior and Research on Cardiac Arrest.

Nationwide, a great deal of effort and research has been put into developing performance objectives for the delivery of fire and EMS services. This effort is critical for agencies making decisions about deployment and location of emergency resources. The objectives promoted for fire/rescue and EMS have their basis in research that has been conducted into two critical issues:

- What is the critical point in a fire's "life" for gaining control of the blaze while minimizing the impact on the structure of origin and on those structures around it?
- What is the impact of the passage of time on survivability for victims of cardiac arrest?

The chart, that follows, shows a typical "flashover" curve for interior structure fires. The point in time represented by the occurrence of "flashover" is critical because it defines when all of the contents of a room become involved in the fire. This is also the point at which a fire typically shifts from "room and contents" to a "structure" fire – involving a wider area of the building and posing a potential risk to the structures surrounding the original location of the fire.

Generalized Flashover Curve



Note that this chart depicts a fire from the moment of inception – not from the moment that a fire is detected or reported. This demonstrates the criticality of early detection and fast reporting as well as rapid dispatch of responding units. This also shows the critical need for a rapid (and sufficiently staffed) initial response – by quickly initiating the attack on a fire, “flashover” can be averted. The points, below, describe the major changes that occur at a fire when “flashover” occurs:

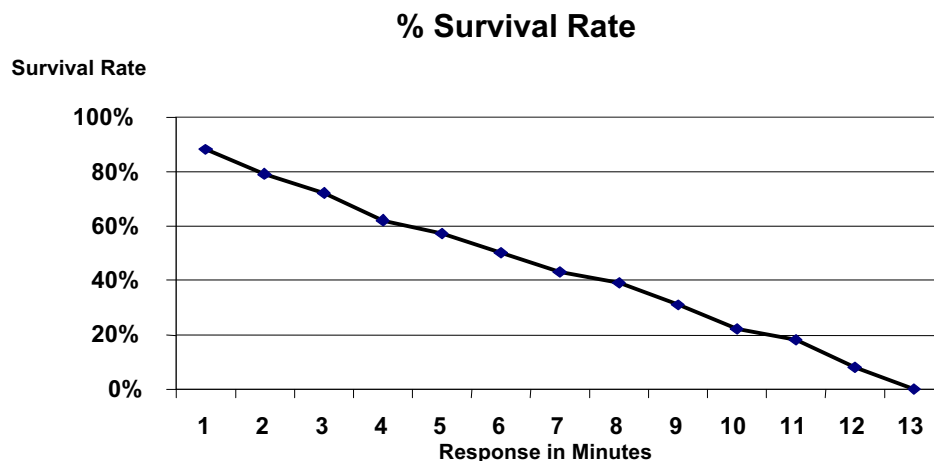
- It is the end of time for effective search and rescue in a room involved in the fire. It means that likely death of any person trapped in the room – either civilian or firefighter.
- After this point in a fire is reached, portable extinguishers can no longer have a successful impact on controlling the blaze. Only larger hand-lines will have enough water supply to affect a fire after this point.
- The fire has reached the end of the “growth” phase and has entered the fully developed phase. During this phase, every combustible object is subject to the full impact of the fire.
- This also signals the changeover from “contents” to “structure” fire. This is also the beginning of collapse danger for the structure. Structural collapse begins to

become a major risk at this point and reaches the highest point during the decay stage of the fire (after the fire has been extinguished).

It should be noted that not every fire will reach flashover – and that not every fire will “wait” for the 8-minute mark to reach flashover. A quickly responding fire crew can do things to prevent or delay the occurrence of flashover. These options include:

- Application of a “fast attack” methodology.
- Venting the room to allow hot gases to escape before they can cause the ignition of other materials in the room.
- Not venting a room – under some circumstances this will actually stifle a fire and prevent flashover from occurring.

Each of these techniques requires the rapid response of appropriately trained fire suppression resources that can safely initiate these actions. In the absence of automatic fire suppression systems, access to interior fires can again be limited by a safety requirement related to staffing levels. OSHA and related industry standards require the presence of at least 2-firefighters on the exterior of a building before entry can be made to a structure in which the environment has been contaminated by a fire. In the absence of a threat to life demanding immediate rescue, interior fire suppression operations are limited to the extent a fire service delivery system can staff to assure a minimum of 4-people actively involved in firefighting operations. The second issue to consider is the delivery of emergency medical services. One of the primary factors in the design of emergency medical systems is the ability to deliver basic CPR and defibrillation to the victims of cardiac arrest. The chart, that follows, demonstrates the survivability of cardiac patients as related to time from onset:



This graph illustrates that the chances of survival of cardiac arrest diminish approximately 10% for each minute that passes before the initiation of CPR and/or defibrillation. These dynamics are the result of extensive studies of the survivability of patients suffering from cardiac arrest. While the demand for services in EMS is wide ranging, the survival rates for full-arrests are often utilized as benchmarks for response time standards as they are more readily evaluated because of the ease in defining patient outcomes (a patient either survives or does not). This research results in the recommended objective of provision of basic life support within 4-minutes of notification and the provision of advanced life support within 8 minutes of notification. The goal is to provide BLS within 6 minutes of the onset of the incident (including detection, dispatch and travel time) and ALS within 10 minutes. This is often used as the foundation for a two-tier system where fire resources function as first responders with additional (ALS) assistance provided by responding ambulance units and personnel.

Additional recent research is beginning to show the impact and efficacy of rapid deployment of automatic defibrillators to cardiac arrests. This research – conducted in King County (WA), Houston (TX) and as part of the OPALS study in Ontario, Canada –

shows that the AED can be the largest single contributor to the successful outcome of a cardiac arrest – particularly when accompanied by early delivery of CPR. It is also important to note that these medical research efforts have been focused on a small fraction of the emergency responses handled by typical EMS systems – non-cardiac events make up the large majority of EMS and total system responses and this research does not attempt to address the need for such rapid (and expensive) intervention on these events.

The results of these research efforts have been utilized by communities and first responders, often on their own with no single reference, to develop local response time and other performance objectives. However, there are now three major sources of information to which responders and local policy makers can refer when determining the most appropriate response objectives for their community:

- The Insurance Services Office (ISO) provides basic information regarding distances between fire stations. However, this “objective” does little to recognize the unique nature of every community’s road network, population, calls for service, call density, etc.
- The National Fire Protection Association (NFPA) promulgated a documented entitled: “NFPA 1710: Objective for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments.” This document (NFPA 1710) was published in 2001 and generated a great deal of dialogue and debate – which is still on-going.
- The Commission on Fire Accreditation International (CFAI) in its “Standards of Coverage” manual places the responsibility for identifying “appropriate” response objectives on the locality. These objectives should be developed following a comprehensive exercise in which the risks and hazards in the community are compared to the likelihood of their occurrence.

While each of these efforts provides a reference point for communities to follow, only NFPA 1710 and CFAI offer any specificity. It is important to note that the

performance objectives (in terms of response times) provided in the NFPA 1710 document are derived from the basic research previously described. These include the following (all are taken from section 4.1.2.1.1 of NFPA 1710):

- One minute (60 seconds) for the processing of an incoming emergency phone call, including the completion of the dispatching of fire response units.
- “One minute (60 seconds) for turnout time.” This is also called reflex time, reaction time, “out-the-chute” time, etc. This is the time that elapses between dispatch and when the units are actively responding.
- “Four minutes (240 seconds) or less for the arrival of the first arriving engine company at a fire suppression incident and / or 8 minutes (480 seconds) or less for the deployment of a full first-alarm assignment at a fire suppression incident.”
- “Four minutes (240 seconds) or less for the arrival of a unit with first responder or higher level capability at an emergency medical incident.”
- “Eight minutes (480 seconds) or less for the arrival of an advanced life support unit at an emergency medical incident, where this service is provided by the fire department.”
- In section 4.1.2.1.2, NFPA 1710 goes on to state: “The fire department shall establish a performance objective of not less than 90 percent for the achievement of each response time objective specified in 4.1.2.1.1”

It is important to note the “and / or” found in the initial response objective statement. This indicates that a system would meet the intent of the standard if it can reasonably plan to deliver either the single unit, 4-minute travel time standard, the first alarm, 8-minute travel time standard, or both. It should also be noted that it is implied that the total time allotted is additive with each successive event. For example, a system which arrived on-scene in 6-minutes or less 90% of the time (from time of dispatch) would be in compliance – even if the turnout time was longer than a minute (though that should clearly be improved).

It is also critical to note that these time objectives apply to emergency calls for service – there is nothing in NFPA 1710 (nor in any other objective) that suggests that communities cannot establish a differential response to calls for service determined to be non-emergency in nature. A second element of the NFPA 1710 performance objectives addresses unit and total response staffing. These objectives are described in NFPA 1710 as follows:

- Engine and truck companies should be staffed with a minimum of four personnel (sections 5.2.2.1.1 and 5.2.2.2).
- Section A.3.3.8 defines a company as either a single unit or multiple units, which operate together once they arrive on the fire ground.
- A total initial response is defined (in section 5.2.3.2.2) as having a total of 15 people (if an aerial is utilized) for 90% of calls. This is broken down as follows:

One (1) incident commander.

One (1) on the primary supply line and hydrant.

Four (4) to handle the primary and backup attack lines.

Two (2) operating in support of the attack lines, performing forcible entry.

Two (2) assigned to victim search and rescue.

Two (2) assigned to ventilation.

One (1) assigned to operate the aerial device.

Two (2) to establish an initial rapid intervention team.

- If an incident is determined to require additional resources, the fire department should have as an objective the ability to respond with:
- Additional units as needed (through its own resources or via automatic and mutual aid).
- Assignment of two (2) additional personnel to the rapid intervention team.
- Assignment of one (1) as an incident safety officer.

It is interesting to note that the four person companies discussed in some areas of NFPA 1710 are not maintained in the description of primary tasks to be accomplished on the fire ground – recognition that the requirements of the response in the field are dynamic and do not fit neatly into size and shape of any particular response configuration. These objectives apply to the initial and follow-up response for reported structure fires. The document does not suggest that this response be mounted for all incidents.

The Commission on Fire Accreditation uses a population and density component to determine what the performance of the fire department should be to meet best practices and does not require a set number of personnel per piece of apparatus, but rather that an effective response force can be delivered to an emergency scene. For the purposes of CFAI, Springdale would be considered an urban fire department. An urban setting is defined as a population of 30,000 and/or a population density of 2,000 or more people per square mile. CFAI also gives a community a range of acceptable performance standards from “Baseline”, minimally accepted performance to “Benchmark”, fully compliant with best practices. CFAI sets the following performance standards for an urban fire department:

Alarm Handling:	Baseline 90 seconds 90% of the time Benchmark 60 seconds 90% of the time
Turnout:	Baseline 90 seconds 90% of the time Benchmark 60 seconds 90% of the time
Travel Time:	Baseline 5 minutes 12 seconds 90% of the time Benchmark 4 minutes 90% of the time
Balance of First Alarm:	Baseline 10 minutes 24 seconds 90% of the time Benchmark 8 minutes 90% of the time

CFAI also recognizes the importance of deploying an effective response force. They base this on the types of risk the agency is responding to and the number of personnel required to perform the critical fire ground tasks. The following table shows the effective response force by risk type:

Critical Task	Maximum Risk	High Risk	Moderate Risk	Low Risk
Attack Line	4	4	4	2
Search and Rescue	4	2	2	0
Ventilation	4	2	2	0
Backup Line	2	2	2	2
Rapid Intervention	2	2	0	0
Pump Operator	1	1	1	1
Water Supply	1*	1*	1*	1*
Support (Utilities)	1*	1*	1*	1*
Command	1	1	1	1
Safety Officer	1	1	1	1
Salvage/Overhaul	2	0	0	0
Command Aid	1	1	0	0
Operations Chief	1	1	0	0
Logistics	1	0	0	0
Planning	1	0	0	0
Staging Officer	1	1	0	0
Rehabilitation	1	1	0	0
Division Supervisors	2	1	0	0
High-rise Evacuation	10	0	0	0
Stairwell Support	10	0	0	0
Total Personnel	50-51	21-22	14-15	8-9

It is essential that there exist a response plan in place to be able to deliver a sufficient number of personnel to the scene to accomplish the critical tasks. Structure fires are the most labor-intensive incidents and depending on weather conditions can require additional personnel to maintain an effective operation. The majority of risks in the City of Springdale will fall into the moderate categories, but there are several commercial occupancies that will rate as high or special risks. The following table illustrates risk categories by occupancy type:

<p>Moderate</p> <ul style="list-style-type: none"> • Detached single family dwellings • Older multi-family dwellings easily reached with pre-connected attack lines • Railroad facilities • Mobile homes • Industrial or commercial occupancies under 10,000 sq. ft without high fire load • Aircraft on airport property • Loss of life or property limited to occupancy 	<p>High</p> <ul style="list-style-type: none"> • Concentrations of older multi-family dwellings • Multi-family dwellings that are more than two stories tall and require major hose deployment • Buildings with low occupant load, but with high concentrations of fuel load or hazardous materials • Aircraft off airport property • Mercantile facilities • Built-up areas with high concentrations of property with substantial risk of life loss, severe financial impact upon the community or the potential for unusual damage to the property or the environment
<p>Low</p> <ul style="list-style-type: none"> • Automobile fires • Carbon monoxide calls • Grass and low fuel type fires • Single patient EMS calls • Automobile accidents or industrial accidents • Tractor trailer fires • Storage sheds • Out buildings • Detached garages 	<p>Special Risk</p> <ul style="list-style-type: none"> • Apartment complexes over 25,000 sq. ft. • Government or infrastructure risks • Hospitals • Nursing Homes • Industrial complexes with fire flows of more than 3,500 gpm • Refineries and warehouses • Vacant/abandoned structures • All building where available water supply is less than projected fire flow

As the size of structure, complexity of the incident, or life safety risks increase so does the risk category. For this reason high occupancy and unprotected structures fall into the high-risk category. This will include assemblies, schools and the three story multi-family, “triple-deckers” prevalent in the area.

At current minimum daily staffing levels, SFD has 30 personnel available for immediate response to all emergencies. If fully staffed the daily workforce can be as high as a maximum of 36 personnel. As shown above this is an effective response force for the typical risks found in Springdale, including high-risk occupancies. Analysis of the typically daily staffing of SFD showed the department is staffed on average with 30.7 emergency response personnel daily, slightly above minimum staffing levels.

It is not fiscally possible or responsible to staff a fire department for the worst-case scenarios, which is why Springdale, like most communities, has mutual aid agreements in place with surrounding jurisdictions to handle the larger incidents, which are not common.

The fire department should conduct a full risk assessment of the community to identify the risks faced along with an assessment of the likelihood of an emergency to occur. This practical assessment of the community will allow SFD to work with the City of Springdale to determine what the most appropriate staffing levels should be for the fire department on a daily basis and when additional resources or facilities will be required as the City continues to grow, particularly in the northwest portion of the community.

Recommendation: Conduct a full risk assessment of the community to identify the risks faced along with an assessment of the likelihood of an emergency to occur.

Recommendation: Consider staffing all engine and ladder companies with a minimum of three (3) personnel daily.

(2) The City of Springdale Should Formally Adopt and Actively Monitor Performance Related to Locally Defined Service Level Objectives.

When calculating response times there are three components, which should be recorded:

1. **Call Processing** – The time from call receipt to dispatch of emergency personnel.
2. **Turnout** – The time from dispatch of the call to units responding to the call.
3. **Travel Time** – The time from initial response to arrival at the emergency.

The goal (benchmark) for call processing should be 90% of priority one calls in 60 seconds with 90% of calls processed in 90 seconds the baseline acceptable

performance standard. The goal (benchmark) for turnout should be 90% of calls responded to within 60 seconds with 90% responded to in 90 seconds the minimal (baseline) performance standard. The goal for travel time will be dependent on the type of area being served and will be discussed later in the report. This is important, as the two components of response time that are controllable are dispatch and turnout times. Travel time will be dictated by distance, weather and road conditions.

Tracking call processing time performance is problematic in Springdale as the CAD data provided by the dispatch center showed call received time and call dispatch time to be simultaneous. This does not allow an accurate evaluation of performance for the dispatching of priority one fire and EMS calls.

Members of the Springdale Fire Department consistently stated the department goal of a 4-minute response time to emergency calls, but not other indicators of performance were indicated. The City and the Fire Department have not identified or formally adopted service level targets for initial response to emergency medical calls or fire incidents. While the project team believes the standards utilized in the following sections are appropriate for the City, service level targets should be adopted only after careful consideration of local risks and the financial implications of maintaining those levels.

The current performance of the dispatch center and SFD, based on available CAD records indicates the following:

Alarm Processing: Not reported in CAD data

Turnout Time: 1:53 / 90% of the time

Travel Time: 4:09 / 90% of the time

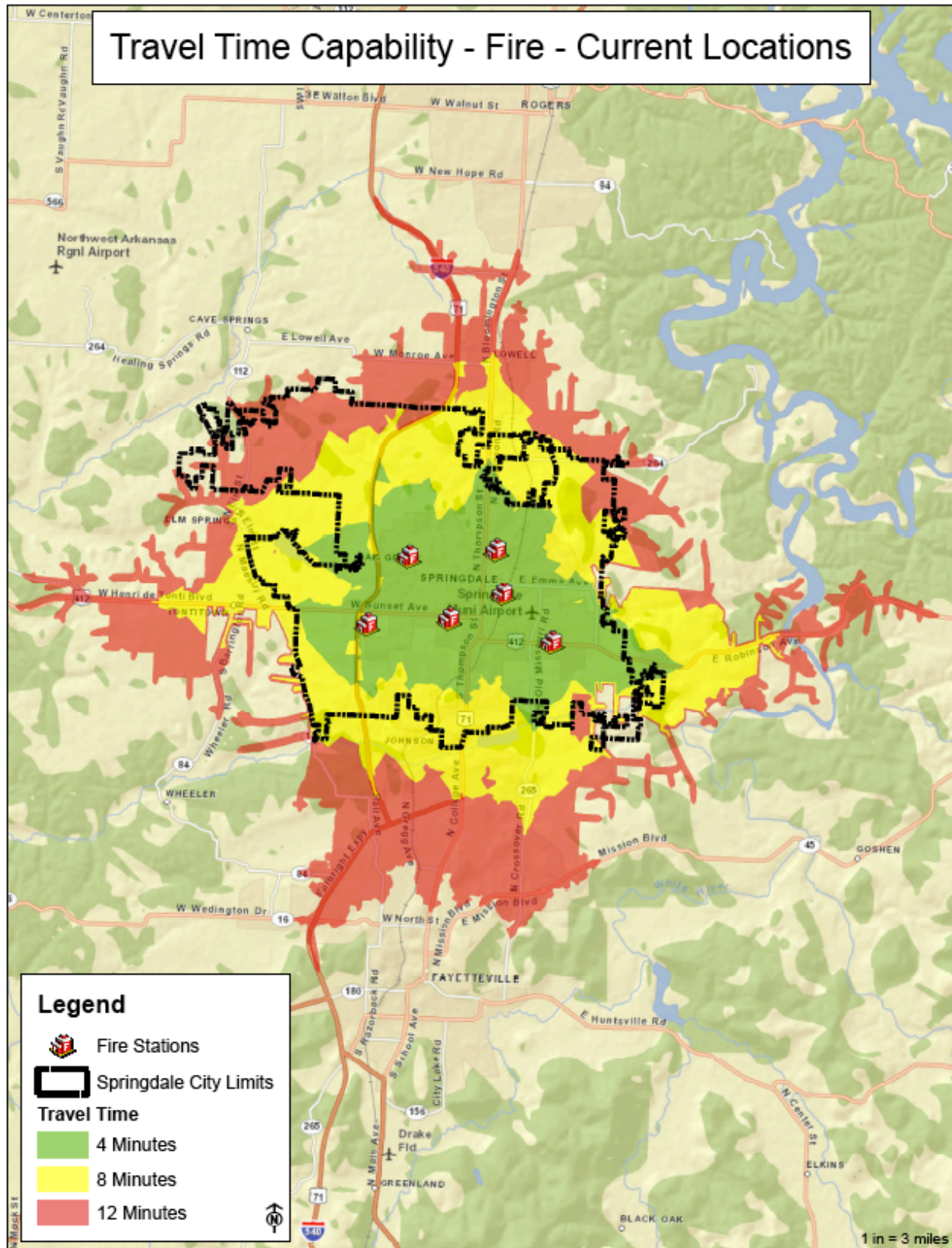
As shown, only travel time is currently meeting recommended performance standards. It is important to note that personnel indicated that issues with connectivity of MDT's might be causing an increase in turnout time and decrease in travel time, as enroute times may not be accurate.

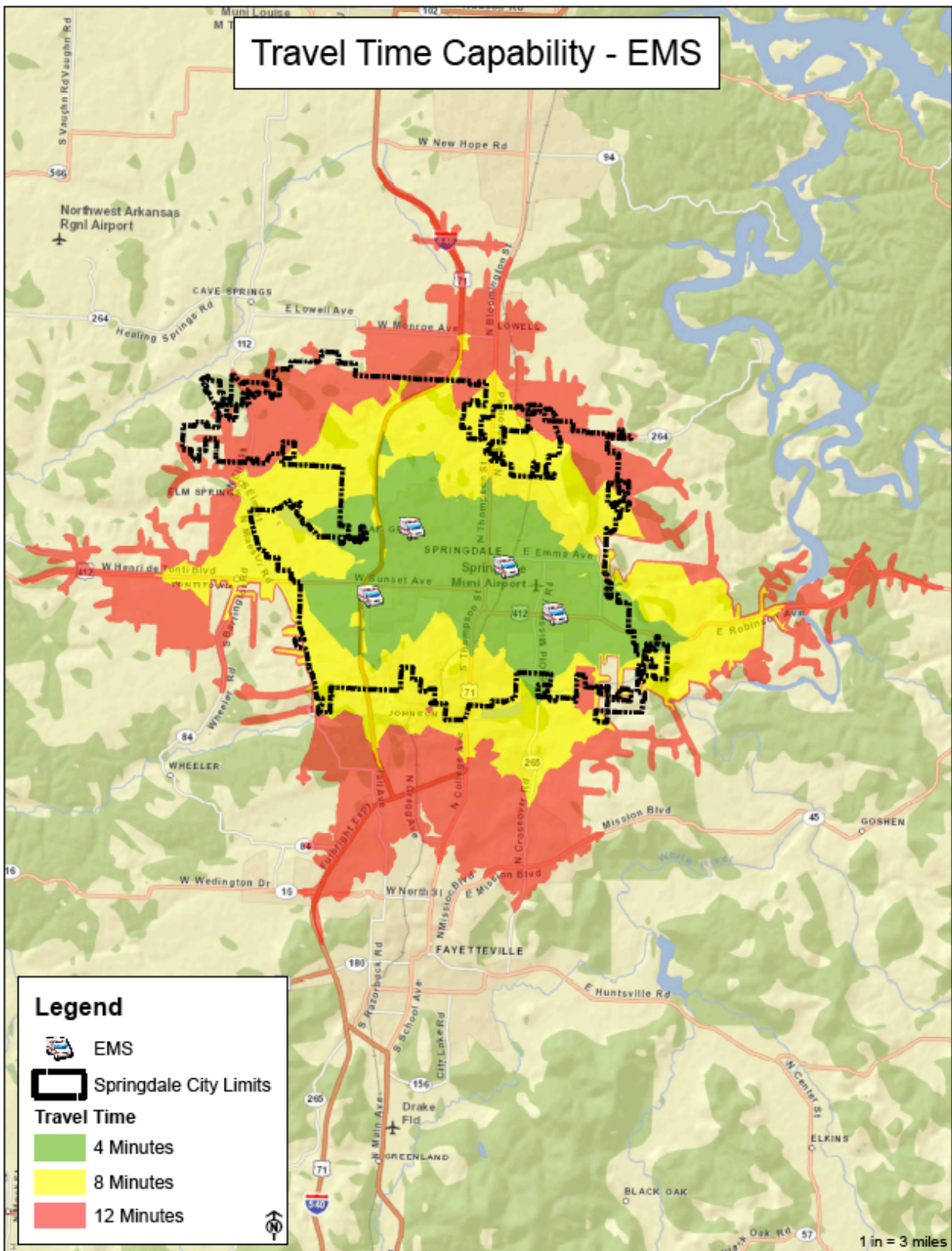
Recommendation: The Springdale Fire Department should work with the dispatch center to ensure call received and call dispatch times are accurately recorded and reported.

Recommendation: The City should formally adopt service level objectives. While targets should be locally determined, the project team believes the City should adopt a one-minute dispatch processing time and a one-minute thirty-second reflex time for 90% of priority one emergency calls.

(3) The Current Fire Station Network Provides Excellent Coverage in the Most Populous portions of the City, but not in newly developing areas.

The next step for the project team was to assess the current fire station network. As shown, the overall performance of the Springdale FD related to travel times is excellent, with 90% of priority one calls reached in 4:08 travel time. The following maps show the projected travel times for fire and EMS calls based on current station locations.



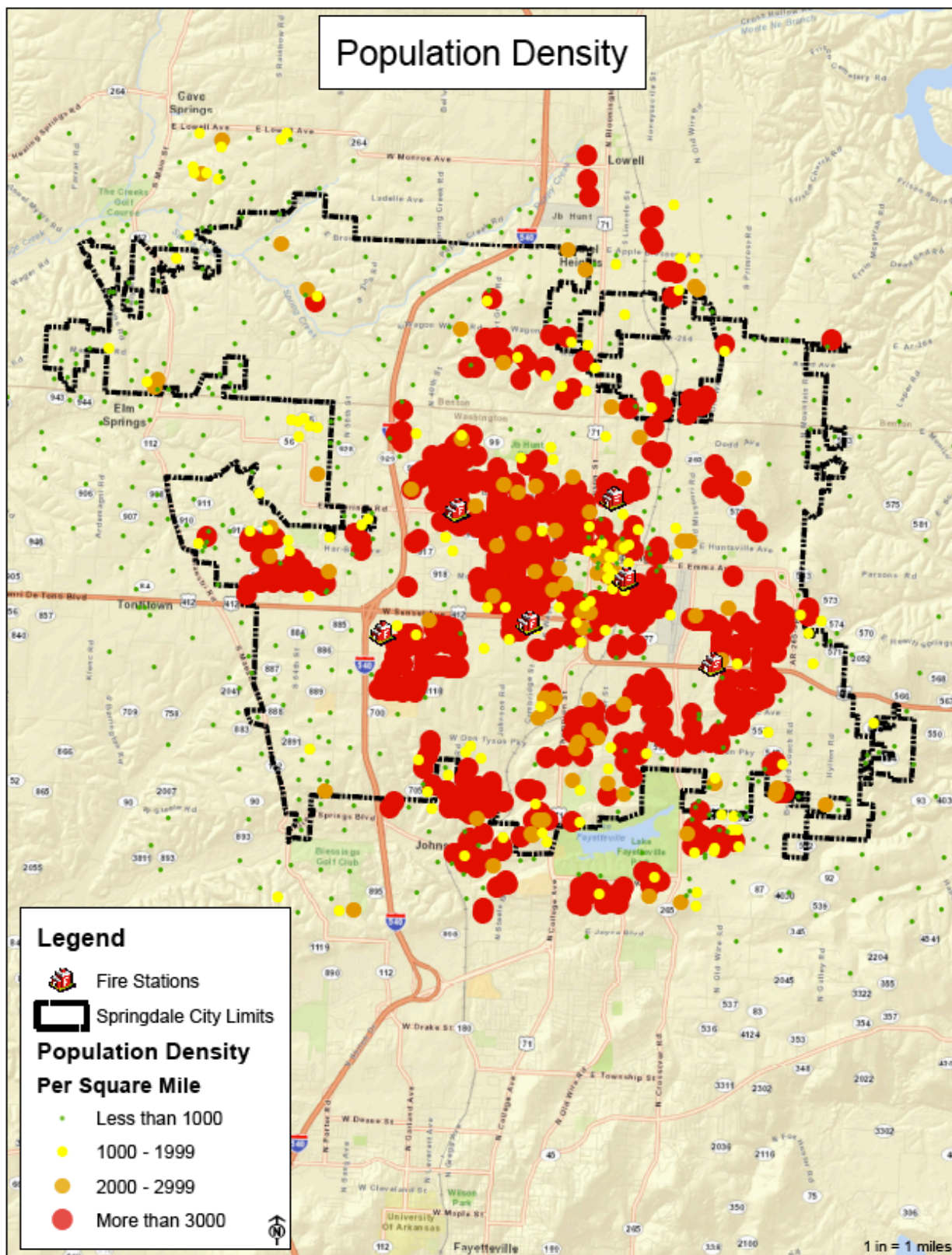


As shown, the current station configuration provides excellent response times of four minutes or less for both fire and EMS calls to the central portions of the City, but as you move outward predicted response time increase.

The Commission on Fire Accreditation suggests response time performance should be based on community type. To achieve the different performance standards, communities are categorized by population or population density according to the following criteria:

- Wilderness:** Rural Areas not readily accessible by public or private roads.
- Rural:** Population less than 10,000 or a density of less than 1,000 people per square mile.
- Suburban:** Population of 10,000 – 29,999 and/or a density of between 1,000 – 2,000 people per square mile.
- Urban:** Population over 30,000 and/or a density of over 2,000 people per square mile.
- Metropolitan:** Population over 200,000 and/or a density of over 3,000 people per square mile.

The City of Springdale has a population of 69,797 according to the 2010 census and covers 46.98 square miles for a density of 1,486 people per square mile. For the purposes of response time performance this would place Springdale in the Urban/Suburban categories. Due to the mixed nature of the development of Springdale it may benefit the community to have tiered response time targets based on density of various response districts in the community. The following map shows how the density varies in the community in terms of population density levels in different areas:



As shown, the majority of the population in Springdale is located in the central and southern portions of the community with the northern and western portions of the community being more sparsely populated. By developing response districts or zones the agency would be able to identify when additional stations are required due to growth in an area requiring a faster response standard. This approach would allow the community to designate urban, suburban and rural response zones. The following table shows the expected travel time performance associated with these community types:

Category	1 st Unit	2 nd Unit	Balance of 1 st Alarm	Performance
Urban				
Benchmark	4:00	8:00	8:00	90%
Baseline	5:12	10:24	10:24	90%
Suburban				
Benchmark	5:00	8:00	10:00	90%
Baseline	6:30	10:24	13:00	90%
Rural				
Benchmark	10:00	14:00	14:00	90%
Baseline	13:00	18:12	18:12	90%

Benchmark times indicate “best practices”, while baseline performance is the minimally acceptable performance for an agency to be deemed credible by the Commission on Fire Accreditation International. The City of Springdale should develop clear response time standards and openly report those to the community.

Recommendation: The City of Springdale should develop response time performance standards based on population density and actively monitor response time performance on a quarterly basis.

(4) Current Fire Unit Response Requirements Indicates that Units have Excess Capacity.

The Springdale Fire Department responded to 7,851 emergency calls for service in 2011. The following table shows the number of times each unit was dispatched to an emergency call. Please note that several call types will result in multiple units being

dispatched, which is why the unit count is higher than the total number of calls.

SFD Unit Responses 2011		
Unit	Calls For Service	Percentage
Squad 1	2,423	12%
Squad 5	1,610	8%
Engine 1	1,513	8%
Squad 4	1,494	7%
Squad 6	1,397	7%
Engine 2	1,349	7%
Engine 3	1,040	5%
Engine 5	1,039	5%
Engine 4	895	4%
Truck 6	705	4%
Rescue 1	607	3%
Truck 1	589	3%
Battalion 1	513	3%
Engine 6	388	2%
TOTAL	15,562	

As shown Squad 1 is responding to the most calls for service annually at 2,423 or 12% of the emergency calls for service. Overall the first due units had 15,562 emergency call responses. The number of responses is an important figure as industry benchmarks for capacity of unit effectiveness is 3,500 calls for service annually, at which point an agency must make critical decisions regarding the ability to effectively provide services to the community. Currently all units in Springdale are well below the 3,500 threshold which indicates no additional units are required due to call demand. Engine 1 is the busiest engine company, but also the only engine company currently staffed with a two-person minimum staffing. The decision to add units and the decision regarding the relocation of existing stations should be made regarding response times. Based on the low utilization of Rescue 1, the best alternative to arrive at minimum staffing for Engine 1 is to remove the unit from front-line service and reallocate the

Rescue 1 personnel to Engine 1 and only deploy the Rescue unit in cases where additional technical rescue resources are required on complex emergency incidents. This can be achieved by cross staffing the unit with other units currently assigned to the main station. The following table is a system solution guide from the Commission on Fire Accreditation International (CFAI) showing a tiered approach of solutions based on calls for service thresholds. It is intended to allow Springdale to continue their proactive planning efforts for determining unit need as the community continues to grow.

THRESHOLD	POSSIBLE SOLUTIONS
Units within 90% of Threshold values: Unit/Station call loading <ul style="list-style-type: none"> Above 3,150 calls per year – single unit Above 7,900 calls per year – two units Above 12,600 calls per year – three units Performance gap rate of 2% or less. 	<ul style="list-style-type: none"> Change cover status/dynamic deployment Decrease first-due area Redeploy adjacent resources Reconfigure station resources Eliminate planned out of service time
Units at Threshold Values: Unit/Station call loading <ul style="list-style-type: none"> 3,500 calls per year – single unit 8,760 calls per year – two units 14,000 calls per year – three units Performance gap of 3 – 5%. 	<ul style="list-style-type: none"> Increase capacity of adjacent units Increase/decrease mutual aid Implement peak staffed units Redeploy resources to problem areas Relocate existing fire stations
Units over 110% of Threshold Values: Unit/Station call loading <ul style="list-style-type: none"> Above 3,850 calls per year – single unit Above 9,650 calls per year – two units Above 15,400 calls per year – three units Performance gap over 5% of target. 	<ul style="list-style-type: none"> Add new resources to station Add new resources to adjacent stations Add new station(s)

Recommendation: Discontinue the practice of staffing Rescue 1 on a daily basis and reallocate those personnel to bring the minimum staffing of Engine 1 to 3-person minimum staffing on a daily basis.

3. TWO OF THE CITY'S FIRE STATIONS FACE CHALLENGES IN TERMS OF THEIR CONDITION, LOCATION AND CONTINUED FUNCTIONALITY.

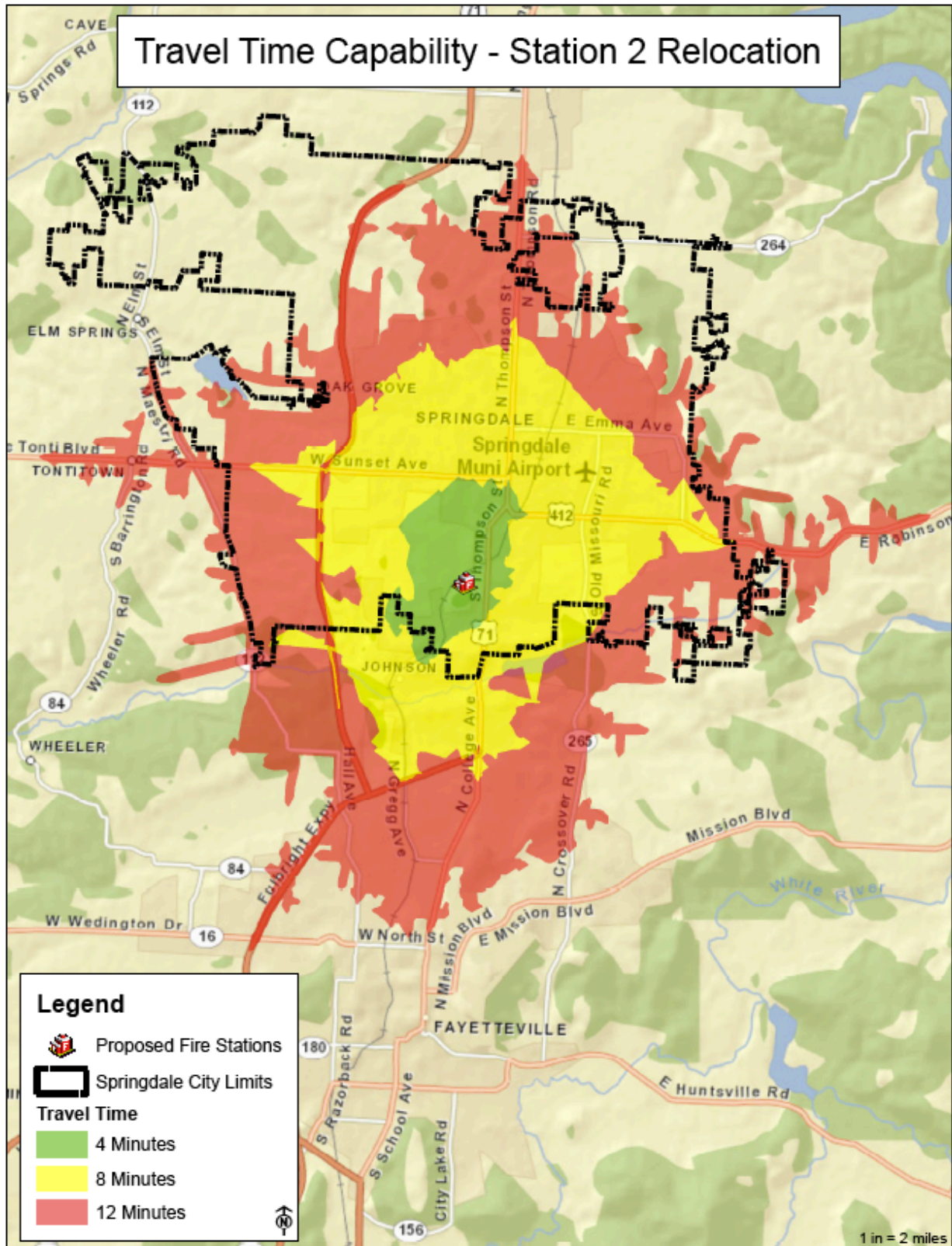
The Matrix Consulting Group personnel toured each of the City's fire stations.

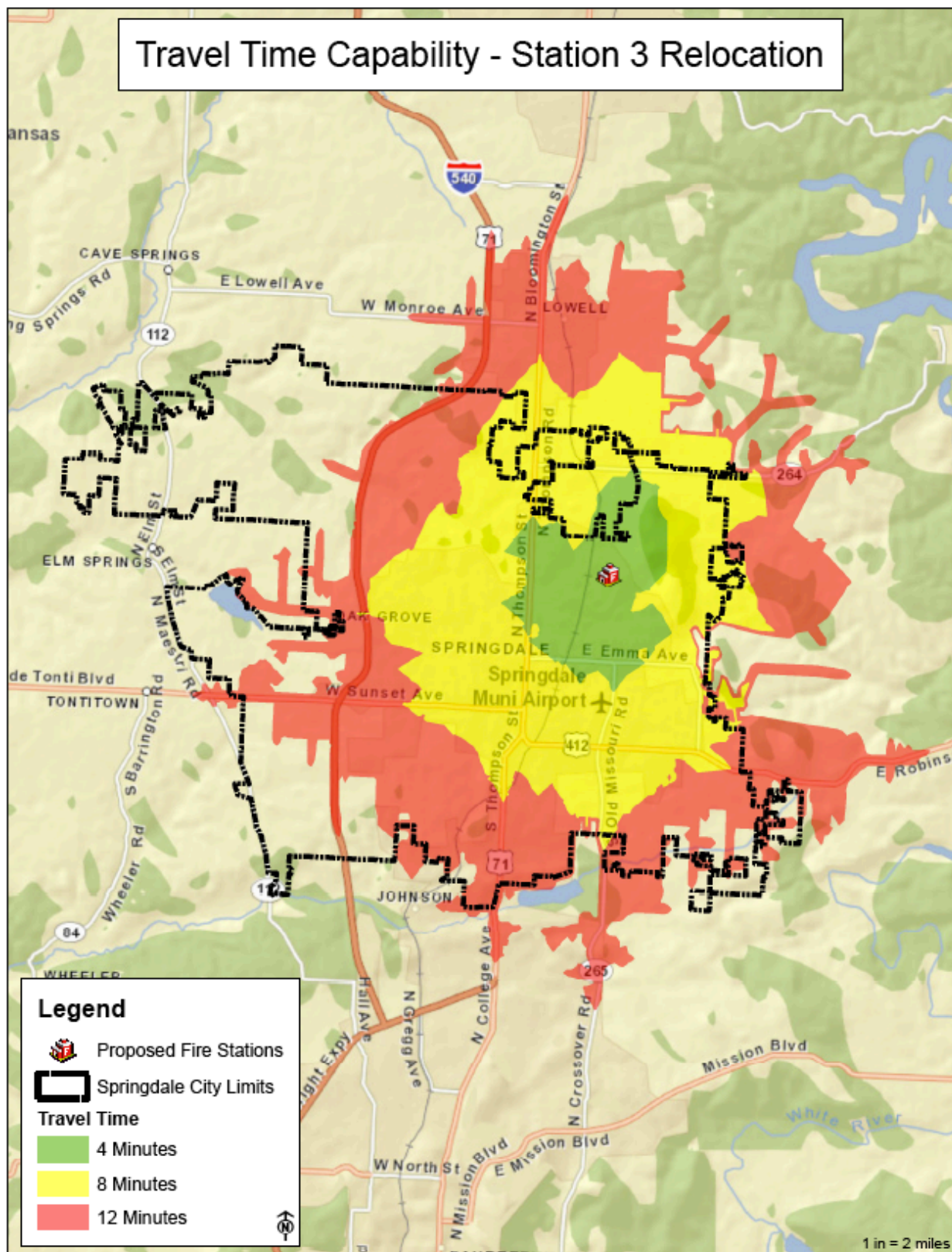
Our tour of the facilities revealed the following examples:

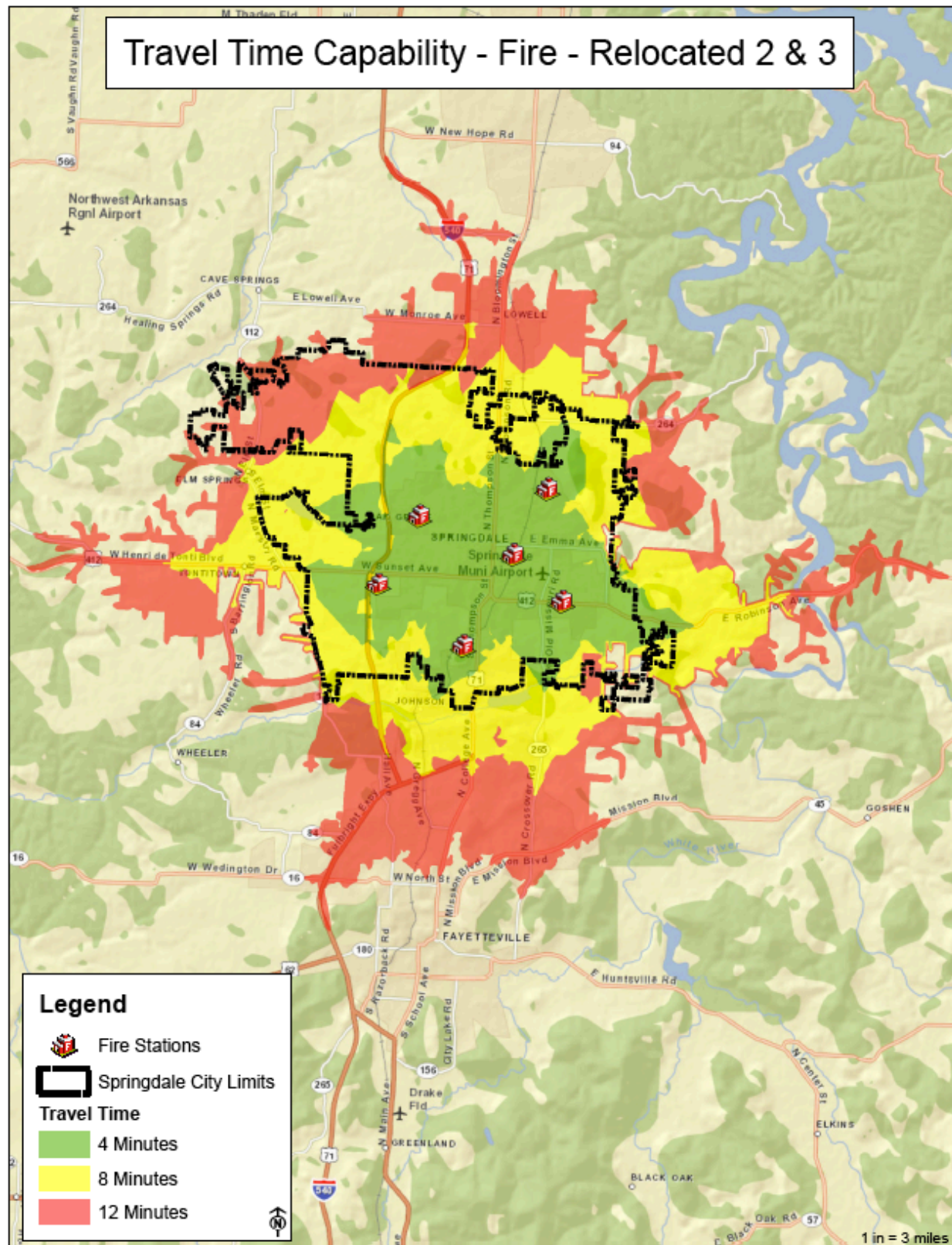
- Overall most of the fire stations were in good condition and will continue to meet the needs of the community for the foreseeable future.
- Stations 2 & 3 are in poor condition and located too close to existing stations.
- Stations 2 & 3 do not meet the basic living requirements of a modern fire department with paid personnel serving 24-hour shifts.
- Stations 2 & 3 have limited storage space, no office space, no ability to accommodate female fire personnel and inadequate space for physical training.
- The agency has excellent space for conducting classroom training, but little space for hands on, company evolutions or multi-story drills.

While the City of Springdale has plans to relocate stations 2 & 3, no progress has been made regarding land purchase or station design plans. Also, the current areas chosen for the relocation of these stations still can be improved to meet response time performance objectives when they are established.

The following maps show the projected response time performance for each of the two stations as well as the overall projected response time performance if the current proposed locations are utilized for the relocation of these facilities.







As shown above the proposed relocation sites for the two stations will continue to provide excellent response time capabilities for the central and most populated portions of Springdale and will improve response times to the northeastern and southern portions of the community, but will do little to address the longer response times the newly developing areas in the northwestern portion of the City. When the City determines the demographics of the northwestern portion of Springdale warrant the construction of an additional station, both population and call incidence should be analyzed to show the most appropriate location in the northwestern portion of the city. The current data would indicate a site near the newly constructed elementary school, but further development could impact the final location.

Recommendation: The City should continue their plans to relocate stations 2 & 3 and locate them to appropriately meet established response time performance standards as developed by the City.

4. ASSESSMENT OF FIRE PREVENTION, PUBLIC EDUCATION AND OTHER SERVICES

This chapter focuses on the fire prevention, public education and other services of the Springdale Fire Department. The first section summarizes the findings of the project team as they relate to these functions.

1. THE CURRENT FIRE PREVENTION SCHEDULE IS RESULTING IN UNDER UTILIZATION OF STAFF.

The Fire Prevention and related staff are currently working mixed schedules with the Fire Marshal working a traditional 40-hour workweek and Fire Prevention Captains working a 24-hour on 48-hour off work schedule (56 hour workweek). The following paragraphs document our key findings:

- The 24/48 schedule results in underutilization of Inspectors.
- The 24/48 schedule has reduced the ability of an inspector to provide public education activities.
- On a 40 hour workweek the current inspectors would be available to conduct inspections and provide services to the community 120 hours per week.
- On the current schedule inspectors are available to conduct inspections and provide services to the community 168 hours per week, but when sleep and down time are factored the reality is they are providing services on average less than 98 hours per week. Typically 8:00 am – 10:00 pm.

The following table illustrates the fire inspection activities for 2011:

Springdale Fire Department
Fire Prevention Activity 2011

Type of Inspection	Count Inspected	Percent of Inspections	Avg per Day
INSPECTION - Routine	1084	29.8%	2.97
INSPECTION - Follow-up Inspection	1081	29.7%	2.96
ENGINE COMPANY - Knox Key Check	819	22.5%	2.24
INSPECTION - Business License	313	8.6%	0.86
INSPECTION - Spot Check	57	1.6%	0.16
CONSULTATION - Fire Protection	51	1.4%	0.14
INSPECTION - Certificate of Occupancy	50	1.4%	0.14
INSPECTION - Complaint	36	1.0%	0.10
INSPECTION - Fire Suppression System	36	1.0%	0.10
PLAN REVIEW - Construction Plans	21	0.6%	0.06
INSPECTION - Fire Alarm System	20	0.5%	0.05
PLAN REVIEW - Fire Suppression System	18	0.5%	0.05
PLAN REVIEW - Large Scale \ NLS Development	16	0.4%	0.04
INSPECTION - Fireworks Stand	14	0.4%	0.04
INSPECTION - Public Fireworks Display Site	11	0.3%	0.03
PLAN REVIEW - Fire Alarm System	8	0.2%	0.02
CONSULTATION - Environmental assessment	2	0.1%	0.01
ENGINE COMPANY - Pre-Incident Plan (UPDATE)	1	0.0%	0.00
TOTAL/AVG.	3638	100%	10.0

As shown inspections personnel are conducting 7.4 inspections on average each day while fire personnel conduct an average of 2.24 Knox Box key inspections daily, but are not conducting any company inspections.

The current process of having fire prevention personnel conduct inspections, while companies conduct the Knox Box inspections results in several businesses being visited 2-3 annually by fire department personnel. This is inconvenient for business owners/managers who must stop what they are doing to accommodate the needs of fire personnel.

The process could be greatly improved by having fire companies responsible for conducting inspections on moderate risk occupancies in their first-due assignment area and fire prevention personnel focusing on the high and special risk hazards. All Knox Box keys could then be inspected as part of the annual inspection of the business and would result in one annual visit unless a follow-up inspection is required.

Recommendation: The Fire Department should develop a work schedule for fire prevention personnel, which maximizes their utilization such as 4-10 hour days to allow for the currently scheduled after hour activities to be handled without overtime. This can include staggered start times and workdays to provide maximum daily coverage.

2. OPPORTUNITIES SHOULD BE CONSIDERED FOR IMPROVING COMMERCIAL OCCUPANCY INSPECTIONS

The Fire Department has three (3) Captains assigned to fire prevention to conduct inspections for the agency. The following paragraphs summarize the current situation:

- Annual inspections are conducted on all schools in the City.
- Annual inspections are conducted on all restaurants in the City.
- Annual inspections are conducted on all City buildings.
- Annual inspections are conducted on apartment buildings, body shops and high hazard industrial occupancies.
- All other businesses are scheduled to receive an inspection every two years, but currently the two-year cycle is not occurring on schedule.
- All inspectors are certified as are shift Captains to (Inspector 1).

Occupancy inspections are used to locate and mitigate potential fire hazards to reduce or prevent the occurrence of fire in a community. Different types of occupancies pose different levels of fire risk and require different inspection schedules. These

inspections ensure compliance with applicable codes and verify activities are being conducted in a safe manner.

Fire departments can use inspection time as an opportunity to educate the occupants while mitigating hazards that exist in the buildings. Inspections of commercial, industrial, places of assembly, and facilities open to the public are designed to identify and eliminate potential fire hazards before an emergency occurs.

NFPA standards recommend the frequency of fire safety inspection, which vary by the type of occupancy. Generally, inspections are classified by the degree of hazard with higher hazards being inspected more frequently.

The following table illustrates the NFPA recommended frequency of inspection by hazard class and facility type:

Hazard	Example Facilities	Inspection
Low	Small stores, general offices, medical offices, non-flammable storage, and apartment common areas.	Annual
Moderate	Gas stations, stores larger than 12,000 square feet, restaurants, schools, hospitals, manufacturing facilities, small industrial uses, auto repair shops, storage of moderate flammables or hazardous materials.	Semi-annual
High	Nursing homes, large users of flammable liquids or hazardous materials, bulk flammable liquid storage facilities, facilities classified to handle “extremely hazardous substances.”	Quarterly

During interviews with Springdale Fire Department personnel it became clear that while SFD recognizes the importance of conducting fire and life safety inspections on a regular basis many occupancies in the City are not being inspected with some not having inspections in as long as four years.

The current occupancy inspection program does not have a schedule for businesses outside those special risk occupancies identified above. According to the

Fire Marshal, the majority of low and moderate risk businesses are not inspected according to the currently adopted inspection schedule, which is based on occupancy type or risk. The backlog in inspections is largely due to the fact that while companies are checking Knox Boxes, they are not conducting company inspections while onsite.

Shift personnel are currently not utilized to inspect moderate risk occupancies, which is a common method for inspecting businesses by most fire departments. These inspections serve several purposes including: building familiarization, pre-fire planning, training, identification of fire code violations, and public relations. If serious fire code violations are discovered those are sent to the Fire Prevention Office for follow-up. These company inspections should occur in the first due response area to ensure personnel remain available for immediate response and are most familiar with occupancies in their immediate response district.

These company inspections will also provide Springdale fire personnel the opportunity to perform pre-fire planning activities on commercial occupancies in the City and use those plans as learning tools during training sessions to ensure all personnel understand the risks present and the plan for addressing emergencies at these locations.

A self-inspection program for small, lower risk occupancies is another program that can be developed to reduce the workload on prevention and line staff. When administered properly, these programs are an effective way to address inspecting small businesses.

Recommendation: Consider adopting the NFPA recommended inspection frequency standard.

Recommendation: Formalize and schedule company inspections on a regular basis.

Recommendation: Develop a risk classification for commercial occupancies and pre-fire plan occupancies based on risk.

Recommendation: Consider establishing a self-inspection program for small, B-type occupancies.

3. OPPORTUNITIES EXIST TO IMPROVE THE PUBLIC EDUCATION EFFORTS OF THE SPRINGDALE FIRE DEPARTMENT.

Providing public fire education programs can have a very positive effect on minimizing the occurrence of fire in a municipality. Strong education provides an opportunity to minimize the effects of fire, medical emergencies, and disasters on a community. While the Springdale Fire Department has an excellent smoke alarm program, distributing approximately 500 smoke detectors annually, there are minimal efforts elsewhere toward conducting public education efforts in the City. The following table illustrates the public education efforts in 2011:

**Springdale Fire Department
Public Education 2011**

Type of Interaction	Count	Percent
Community Interaction	22	21%
Fire Prevention Week Presentation	20	19%
Show & Tell	13	12%
Fire Safety Talk	12	11%
Public Education Preparation Activities	12	11%
Fire Safety House Presentation	9	8%
General Community Education	5	5%
Station Tour	5	5%
Pre-Kindergarten Program	4	4%
Citizen Fire Academy	3	3%
Fire Extinguisher Training	2	2%
TOTAL	107	100%

A smoke alarm program is a very effective means to decrease fire-related fatalities. Most of the fires in the United States occur in residential occupancies. In 2009 fires caused 3,010 deaths and 17,050 injuries in the United States. This is a dramatic decline, which can be linked to smoke detector use. In 1975 less than 5% of homes had working smoke alarms; today that number is closer to 90%. In the same time period deaths dropped from 9,000 to the current number of just over 3,000 annually. Springdale Fire Department should continue their efforts to ensure that every home in Springdale has a working smoke detector.

Recommendation: Begin developing a formalized public education program with annual goals for the number and types of programs offered to the community based on a community risk assessment.

4. THE FIRE INVESTIGATION PROGRAM IN SPRINGDALE APPEARS ADEQUATE TO MEET COMMUNITY NEEDS.

The Fire Marshal and the three inspectors are responsible for determining the cause of suspicious fires in Springdale. If a fire is deemed suspicious the Fire Marshal makes the determination to contact the Springdale Police Department to conduct the criminal portion of the investigation. When a fire is determined to be intentionally set the Captain controls the investigation of the fire scene and works with the Springdale Police Department for prosecution of the case. The Fire Marshal is responsible for writing the supplemental reports related to the fire, while the police department possesses the powers and authority to arrest identified suspects.

5. THE SFD SHOULD CONTINUE THEIR PARTICIPATION IN THE REGIONAL APPROACH TO HAZARDOUS MATERIALS RESPONSE.

The City of Springdale is part of the Northwest Arkansas Regional Hazardous Materials Response Team (RHMRT) as organized by the Northwest Metro Chief, Inc.

This team is responsible for incidents involving hazardous materials during both the critical and containment stages in Level III incidents. The objective of the team is to provide expertise, assistance and equipment to the scene while performing duties as directed by the incident commander. The RHMRT exists as a mutual aid response in accordance with existing agreements with neighboring communities. Recently the City of Rogers has decided to form a hazardous materials team outside the RHMRT, but has indicated the team will be available to respond to neighboring communities. Currently the Springdale Fire Department allocates ten (10) personnel to participate as part of the regional team.

6. THE SFD SHOULD ALLOCATE TIME AND RESOURCES TOWARD TRAINING FOR MULTI COMPANY INCIDENTS AND INCIDENTS INVOLVING THEIR IMMEDIATE MUTUAL AID PARTNERS.

The Springdale Fire Department has an organized training program, which meets most of the training needs of the agency. The Training Battalion Chief develops an annual training plan and schedules training events with six months notice. There is also mandatory reading for shift personnel and monthly drills conducted by the shift Captains to ensure personnel remain proficient at the basic skills. Several of the SFD personnel have received specialized training and serve as instructors for those specialties.

The availability of training facilities for multi-company drills is an issue for the Springdale Fire Department. While there are adequate classroom facilities available, there are no drill towers or flashover chambers immediately available for the agency to conduct evolutions and related training drills. The City of Rogers Fire Department has a multi-story training tower that can be smoked, but does not have live fire training capabilities, likewise Fayetteville has fire drill training grounds, but SFD is not actively

scheduling or conducting multi-company drills with Fayetteville FD. The only multi-company training occurring is that scheduled between station Captains, as sites for training are made available, such as the current abandoned hospital building.

Recommendation: The Springdale Fire Department should actively pursue the use of training facilities available in Rogers and Fayetteville and schedule multi-company evolutions with their first due mutual aid partners at these facilities a minimum of once annually.

APPENDIX A: PROFILE OF THE SPRINGDALE FIRE DEPARTMENT

This profile provides summary information regarding the current organization and operation of the Springdale Fire Department (SFD), which serves as the context for the performance and management study. The various types of data were developed through interviews with SFD management and personnel, tours of stations and the Fire Department's response area, review of available documents and records, as well as access to computerized records and data sets. This profile provides information that will be utilized by the project team to analyze workloads, organization, management and service levels provided by the SFD. The organization of this profile is as follows:

- Organization and Staffing
- Department Budget
- Emergency Operations Daily Staffing
- Personnel Costs and Overtime Utilization
- Fire Department Roles and Responsibilities
- Fire Department Workloads and Response Times

The first section that follows provides the general overview of the Springdale Fire Department, including its organization and authorized staffing.

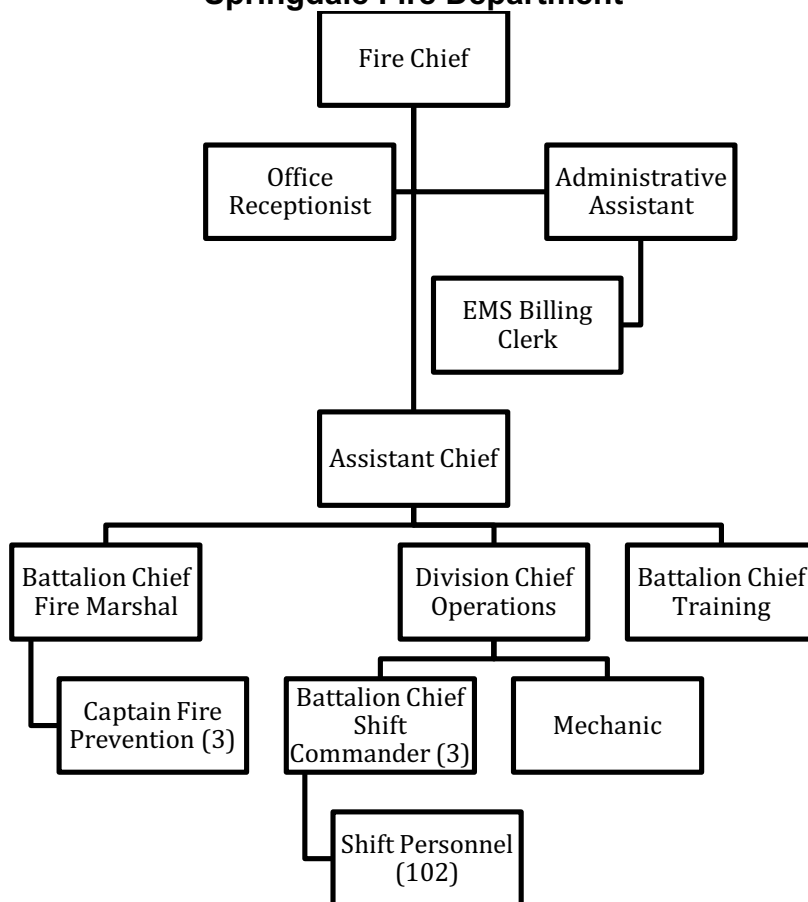
1. ORGANIZATION OF THE SPRINGDALE FIRE DEPARTMENT

The Springdale Fire Department provides response to fires, emergency medical emergencies, hazardous materials incidents, natural and man-made disasters, mutual aid assistance to neighboring departments and related emergencies in an effort to reduce life and property loss. The Department provides specialized rescue operations,

and supports a regional hazardous material team. In addition, the Fire Department inspects businesses and properties, assists with code enforcement, and conducts public education programs. There are three functional areas in the Fire Department: Fire Operations (Fire and EMS), Fire Prevention, and Training.

The organization chart on the next page shows the current organizational structure of the Springdale Fire Department when all 117 authorized positions are filled:

**Organizational Chart
Springdale Fire Department**



The table, which follows, shows the number of authorized positions over the past three fiscal years, as well as the current number of vacancies within the Springdale Fire Department:

Springdale Fire Department
Authorized Positions FY 11-12

Position	FY 2010	FY 2011	FY 2012	Current	Vacant
Fire Chief	1	1	1	0	1
Assistant Chief	1	1	1	1	0
Division Chief/Operations	1	1	1	1	0
Battalion Chief/Shift	3	3	3	3	0
Battalion Chief/Training	1	1	1	1	0
Battalion Chief/Fire Marshal	1	1	1	1	0
Captain/Shift	21	21	21	21	0
Captain/Inspector	3	3	3	3	0
Firefighter/Driver Operator	21	21	21	21	0
Firefighter	59	59	60	60	0
Mechanic	1	1	1	1	0
Administrative Assistant	1	1	1	1	0
Secretary Receptionist	1	1	1	1	0
EMS Billing/Collections	1	1	1	1	0
Total	116	116	117	116	1

The following points highlight the information presented above:

- The current number of authorized positions is 117 and includes 1 vacancy in the Fire Chief Position. The Assistant Chief is currently serving as the interim Fire Chief.
- Total staffing has increased by one position over the past three fiscal years with the addition of one (1) firefighter position.

The next section provides information on the SFD's current budgeted and projected expenditures.

2. DEPARTMENT BUDGET

The table, below, shows the SFD budgets for FY 2010 - FY 2012:

Springdale Fire Department
FY 2010 - FY 2012 Budget Comparison

Line Items	FY 2010 Actual	FY 2011 Adjusted	FY 2012 Proposed
Administration			
Personnel			
Salaries	375,695	374,730	387,200
Overtime	13,234	12,500	15,000
Benefits	119,373	131,160	150,220
Uniforms	41,441	55,000	55,000
Personnel	549,743	573,390	607,420
Professional Services	15,000	17,500	17,500
Buildings and Equipment	217,409	212,000	242,000
Supplies	193,560	198,500	208,000
Other	75,185	79,500	81,500
Capital	255,821	425,000	215,000
TOTAL FIRE ADMINISTRATION	1,306,718	1,505,890	1,371,420
Fire/EMS Operations			
Personnel			
Salaries	4,436,433	4,459,130	4,604,670
Overtime	522,850	400,000	450,000
Benefits	1,712,279	1,818,400	2,131,590
Personnel	6,671,562	6,677,530	7,186,260
Supplies	168,586	200,500	235,500
Other	36,911	44,500	62,500
TOTAL FIRE/EMS OPERATIONS	6,877,059	6,922,530	7,484,260
Prevention			
Personnel			
Salaries	242,404	241,800	253,320
Overtime	11,928	13,500	16,000
Benefits	79,039	82,450	97,490
Personnel	333,371	337,750	366,810
Supplies	6,344	7,000	8,000
Other	2,841	3,500	3,500
TOTAL FIRE PREVENTION	342,556	348,250	378,310
Resource Development			
Personnel			

Salaries	63,528	63,400	225,110
Overtime	11	1,500	12,500
Benefits	24,033	25,160	106,030
Personnel	87,572	90,060	343,640
Supplies	5,092	8,500	10,000
Other	58,556	61,000	71,000
TOTAL RESOURCE DEVELOPMENT	151,220	159,560	424,640
TOTAL FIRE	8,677,553	8,936,230	9,658,630

As shown above, the FY 2012 proposed budget is \$9.659 million. This is approximately 8.1% above the adjusted budget for FY 2011 and 11.3% above FY2010 actual expenditures.

3. OPERATIONS DAILY STAFFING

The Springdale Fire Department currently operations from 6 fire stations, each located within City limits. While fire response is limited to the city limits except when mutual aid is requested, there is a contract for providing EMS services outside the city limits of Springdale.

Station	Address
Station 1	417 Holcomb Street
Station 2	1207 Dryer Street
Station 3	403 Sanders Avenue
Station 4	3420 Elm Springs Road
Station 5	1776 E. Robinson Avenue
Station 6	1623 South 48 th Street

The current daily minimum staffing and assignment of each unit is shown in the table, which follows:

City of Springdale, Arkansas
Shift Unit Assignments by Station and Minimum Staffing

Station	Units	Full Staffing	Minimum Staffing
Station 1	Battalion 1	1	1
	Rescue 1	2	1
	Engine 1	3	2
	Truck 1	4	3
	Squad 1	2	2
Station 2	Engine 2	3	3
Station 3	Engine 3	3	3
Station 4	Engine 4	3	3
	Squad 4	2	2
Station 5	Engine 5	4	3
	Squad 5	2	2
Station 6	Truck 6	4	3
	Squad 6	2	2
Total		35	30

As shown above, a total of 35 line personnel are scheduled each day to staff units with minimum staffing being 30. It is important to note that certain positions such as paramedic, driver operator and officer require personnel with appropriate training to staff these positions, which may require overtime even if minimum staffing levels are adequate.

Personnel work 24-hour shifts on a rotating basis with 48 hours off. Shifts are scheduled to begin and end at 8:00 a.m. The shift commanders on each shift begin their tour of duty at 7:00 a.m. The rotation results in a 56-hour average FLSA workweek for shift personnel. The table, below, shows the number of shifts worked during the month of April 2012. All shifts are indicative of the oncoming shift at 7:00 am:

Springdale Fire Department
Pro forma Shift Schedule by Shift April 2012

Sun	Mon	Tues	Wed	Thu	Fri	Sat
A	B	C	A	B	C	A
B	C	A	B	C	A	B
C	A	B	C	A	B	C
A	B	C	A	B	C	A
B	C					

As shown above, the scheduled staffing for each shift is 35 personnel. The table below shows the actual staffing based on a sampling of daily attendance rosters for the first week of each month during calendar year 2011.

Springdale Fire Department
Average Staffing by Unit / Shift 2011

Shift	B1	E1	R1	SQ1	T1	E2	E3	E4	SQ4	E5	SQ5	T6	SQ6
A	1.0	2.3	1.0	2.0	3.0	3.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0
B	1.0	2.4	1.0	2.4	3.1	3.0	3.0	3.0	2.0	2.8	2.0	3.1	2.1
C	1.0	2.2	1.0	2.2	3.1	3.0	3.0	3.0	2.0	3.0	2.0	3.0	2.2
Average	1.0	2.3	1.0	2.2	3.1	3.0	3.0	3.0	2.0	2.9	2.0	3.1	2.1

As illustrated above, the actual daily staffing for the Springdale Fire Department is approximately 30.7 personnel, which is just slightly above the minimum staffing level of 30. B-shift showed the highest average daily staffing at 31.04 and A-shift the lowest at 30.44 personnel on duty per shift.

The next section provides information on personnel costs, use of leave, and overtime utilization.

4. PERSONNEL COSTS AND OVERTIME UTILIZATION

The project team collected salary data for the Fire Department. The table, below, shows the average salary cost by position:

Springdale Fire Department
Average Salaries by Position

Position	Average Salary
Fire Chief	\$88,311
Assistant Chief	73,376
Division Chief	73,289
Battalion Chief/Fire Marshal	66,539
Battalion Chief/Shift	64,427
Battalion Chief/Training	63,371
Captain/Paramedic	55,890
Captain/Fire Inspector	58,419
Captain	50,657
Firefighter/Driver Operator	42,991
Firefighter/Paramedic	40,443

Position	Average Salary
Firefighter	33,309
Mechanic	40,189
Administrative Assistant	34,094
Secretary/Receptionist	33,125
EMS Billing/Collections	32,256

The following table shows the average daily overtime usage to staff shifts by apparatus and group for the same 12-week period in Calendar year 2011. This does not include overtime related to emergency calls:

Springdale Fire Department
Average Shift Overtime Hours 2011

Shift	B1	E1	R1	SQ1	T1	E2	E3	E4	SQ4	E5	SQ5	T6	SQ6
A	1.04	4.00	3.00	1.00	3.69	9.54	9.00	7.54	2.00	7.00	4.00	10.54	5.00
B	1.00	4.14	0.00	0.00	3.77	3.14	2.11	1.35	1.00	1.31	2.29	0.50	0.00
C	0.04	7.00	0.00	2.00	4.00	3.00	6.00	8.00	2.00	4.00	0.00	8.00	3.35
Total	0.69	5.05	1.00	1.00	3.82	5.23	5.70	5.63	1.67	4.10	2.10	6.35	2.78

As indicated above, the project team obtained a sampling of attendance rosters for the first week of each month for the 2011 calendar year. The following information is arrived from an analysis of this information:

- The units with the most regular hours worked during the year were Truck 1 and Truck 6, which each averaged a staffing level of 3.1 personnel each shift. This equals approximately 74 man-hours available per day on each of these apparatus. Overall daily average staffing was highest on B-shift with approximately 745 man-hours available on B-shift.
- As shown above, operations personnel within the Department worked an average of approximately 45 hours of overtime during each 24-hour work period in calendar year 2011 (for the purposes of staffing apparatus). This equates to a daily average of just fewer than 2 operations personnel working overtime each 24-hour shift. The highest overtime occurred on A-shift with an average requirement of 67 hours of overtime per 24-hour work period. Truck 6 on A-shift had the highest overtime requirement at approximately 10.5 hours of overtime for each 24-hour work period. This means that Springdale FD is hiring an average of approximately 1.9 personnel on overtime each day to ensure proper staffing of apparatus.

The final exhibit in this section shows the total amount of leave utilized by Department personnel during 2011.

**Springdale Fire Department
Leave Utilization/Hours, 2011 by Position**

Position	Vacation	Sick	Comp	Birth day	Injury	Military	Admin Leave	Suspension Unpaid	Funeral	Jury	Holiday	Total
Chief	189.5	22.5	0	0	0	0	402	0	0	0	32	646
A. Chief	152	169.5	0	8	0	0	0	0	20	0	72	421.5
Division Chief	187.25	68.75	0	8	0	0	0	0	0	0	72	336
Fire Marshal	198.25	12	24.75	0	0	0	0	0	0	0	0	235
BC Training	155.13	11	48.37	0	0	0	0	0	0	0	0	214.5
BC Shift Captain	637.5	390	2.25	0	0	0	0	24	0	0	0	1,053.75
Inspector	767	132	0	0	0	0	0	0	5	0	0	904
Captain Shift	5,578	3,187	0	0	110.25	0	0	24	33	0	8	8,940.25
Firefighter	14,073.65	14,202.84	8.25	0	1,822.75	384	165.5	1,919.28	495.5	22.5	16	33,110.27
Total	21,938.28	18,195.59	83.62	16	1,933	384	567.5	1,967.28	553.5	22.5	200	45,861.27

As shown above, leave utilization (vacation, holiday, sick leave, etc.) varies considerably by type during 2011. The leave type with the highest utilization time was vacation, which accounted for 47.8% of leave taken. Sick time accounted for 39.7% of leave utilized and other types of leave accounted for the remaining 12.5% of leave used by sworn personnel at SFD.

5. FIRE DEPARTMENT ROLES AND RESPONSIBILITIES

The following table describes the key roles and responsibilities of personnel within the Springdale Fire Department.

Position / Classification	Authorized	Current	Key Roles and Responsibilities
Fire Chief	1	0	<ul style="list-style-type: none"> Provides the executive management of the Fire Department, including the development of policies and procedures, providing leadership for future services, budget development, identifying service gaps, working with the elected officials and City management to ensure that the SFD interests are considered. Provides education regarding how the SFD operates, what its services are, what the resource needs are. Supervises the Assistant Chief, Office Receptionist and Administrative Assistant. Develops the department's proposed annual operating budget and capital expenditure requests. Conducts weekly management meetings. Develop and present staffing recommendations to the Mayor. Meet regularly with the Mayor and City leadership team to ensure effective communication.
Assistant Fire Chief	1	1	<ul style="list-style-type: none"> Reports to the Fire Chief Supervises the Division Chief, Fire Marshal and Training Officer. Directs and administers the billing for delivery of EMS, Emergency and non-emergency billable responses. Serves as Fire Chief in absence of the Chief. Assists with development of annual budget. Assists with development of policies and SOP's. Administers and enforces city and departmental policies.
Administrative Assistant	1	1	<ul style="list-style-type: none"> Reports to the Fire Chief. Supervises and trains EMS Billing Clerk. Ensures accuracy and timeliness of billing. Supervises and trains the Receptionist. Reconciles cash box and prepares deposits. Maintains and ensures security of personnel, health and evaluation files. Prepares agency payroll. Ensures HIPPA compliance with EMS record release. Performs secretarial duties for the Fire Chief and other administrative personnel. Compiles and verifies accounts payable for SFD. Coordinate with Civil Service Commission during fire related tests and meetings. Receives and distributes department mail. Maintains appropriate inventory of office supplies.

CITY OF SPRINGDALE, ARKANSAS
Management and Operations Study of the Fire Department

Position / Classification	Authorized	Current	Key Roles and Responsibilities
Receptionist	1	1	<ul style="list-style-type: none"> • Reports to the Fire Chief. • Greet the public and answer phones at SFD headquarters. • Answer insurance questions related to EMS bills. • Print required forms for patient files related to EMS transports. • Prepares invoices for mailing and mails invoices. • Works to find correct mailing addresses for EMS invoices. • Conducts weekly collection calls for outstanding EMS invoices. • Makes determination of when accounts should be referred to the professional collection agency. • Print and send fire reports to insurance agencies when requested. • Distributes smoke detectors to those in need.
EMS Billing Clerk	1	1	<ul style="list-style-type: none"> • Reports to the Administrative Assistant. • Enters EMS reports into the billing system. • Copies reports requiring CQI. • Prepares report for billing Benton County and Lowell for ambulance service. • Files insurance paperwork as required. • Files explanation of benefits. • Enters payments on claims. • Backs up receptionist for answering SFD phones. • Conducts filing duties for Fire Marshal and Inspectors. • Sorts mail and makes deposits in absence of Admin Assistant. • Runs daily credit report. • Logs and file reports.
Division Chief / Operations	1	1	<ul style="list-style-type: none"> • Report to the Assistant Fire Chief. • Supervises the shift Battalion Chiefs and mechanic • Plans, develops and implements training programs for SFD. • Prepares specification for equipment purchases. • Serves as liaison for SFD with Medical Director. • Ensures compliance with State EMS requirements. • Assists in development of departmental policies. • Responds to critical incidents as needed. • Responsible for maintenance and upkeep of all departmental facilities. • Serves as department liaison with dispatch. • Manages radio communication system. • Coordinates and assists with developing apparatus specifications. • Oversees the fire and EMS reporting system.

CITY OF SPRINGDALE, ARKANSAS
Management and Operations Study of the Fire Department

Position / Classification	Authorized	Current	Key Roles and Responsibilities
Battalion Chief	5	5	<ul style="list-style-type: none"> • Fire Marshal <ul style="list-style-type: none"> • Reports to the Assistant Fire Chief. • Supervises Fire Inspectors • Manages public fire education programs. • Performs fire safety inspections. • Performs fire origin/cause investigations. • Reviews plans for new construction. • Enforces fire codes. • Coordinates training for fire prevention personnel. • Handles complaints related to fire safety issues. • Conducts Certificate of Occupancy inspections. • Reviews fire reports for accuracy. • Manages department fire alarm program. • Training <ul style="list-style-type: none"> • Reports to the Assistant Fire Chief • Plans, develops and implements department training program for fire, EMS, special rescue and haz-mat. • Manages department public education program. • Schedules, coordinates, and supervises instructors to ensure quality training. • Develop and monitor departmental training budget. • Functions as safety officer on critical calls. • Develops promotional evaluation instruments used during testing. • Develops policies related to departmental training. • Develops annual training plan and calendar. • Shift Commanders <ul style="list-style-type: none"> • Report to the Division Chief of Operations • Serve as incident commander on emergency scenes. • Supervises shift Captains. • Handles personnel management functions for shift personnel. • Ensures proper operation and maintenance of fire fighting equipment. • Evaluates the effectiveness of shift personnel both in groups and individually. • Ensures appropriate station and apparatus staffing. • Assists in policy development related to operational policies. • Ensures accuracy of attendance records. • Handle disciplinary issues on shifts. • Complete first report of injury and serve as infection control officer.

CITY OF SPRINGDALE, ARKANSAS
Management and Operations Study of the Fire Department

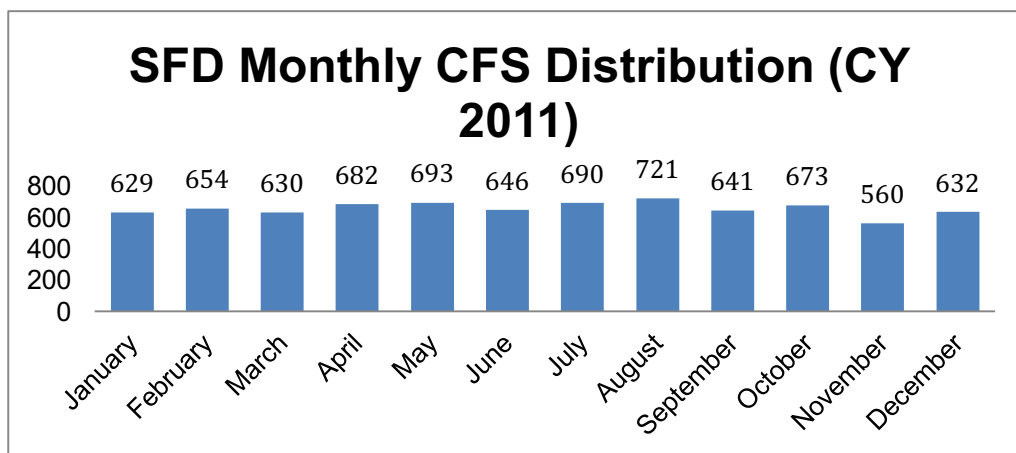
Position / Classification	Authorized	Current	Key Roles and Responsibilities
Captain	24	24	<ul style="list-style-type: none"> • Fire Suppression <ul style="list-style-type: none"> • Report to Battalion Chief /Shift Commander. • Serve as supervisor on Engine and Truck companies. • Responsible for serving as a company officer on emergency scenes. • Trains new and current personnel. • Provides supervision and oversight on the operation and maintenance of firefighting apparatus, tools and equipment at assigned stations. • Ensures stations are maintained properly. • Ensures proper completion of training records. • Ensures accuracy of incident reports. • Evaluates the effectiveness of assigned personnel. • Conducts pre-fire planning, station and site tours, inspections and equipment testing as required. • Fire Inspector <ul style="list-style-type: none"> • Reports to the Battalion Chief/Fire Marshal. • Work 24/48 shift schedule. • Conduct fire and life safety inspections. • Conduct commercial business license inspections. • Conduct routine commercial building inspections. • Conduct public education events. • Represent agency at Washington County Juvenile Fire Setters Taskforce. • Serve as safety officer on working fire scenes and as accountability officer on maydays. • Conduct after-hour occupancy checks and firework inspections at baseball field. • Answer questions related to the Arkansas Fire Code. • Investigate fires for cause and origin. • Prepares supplemental reports for fires investigated. • Investigates suspicious fires and all automobile fires. • Coordinates the agency Knox Box program.
Firefighter / Driver Operator	21	21	<ul style="list-style-type: none"> • Reports to the Shift Captain. • Drive emergency apparatus to calls for service. Responsible for safety of crew members on apparatus. • Check apparatus and equipment daily to ensure readiness. • Ensure familiarity with building and street in assigned coverage area. • Operate pumps and deliver water supply at working fires. • Performs recordkeeping and completion of forms related to truck checks and time recordings. • Conducts public education and station tours as required. • Performs annual pump and hose testing.

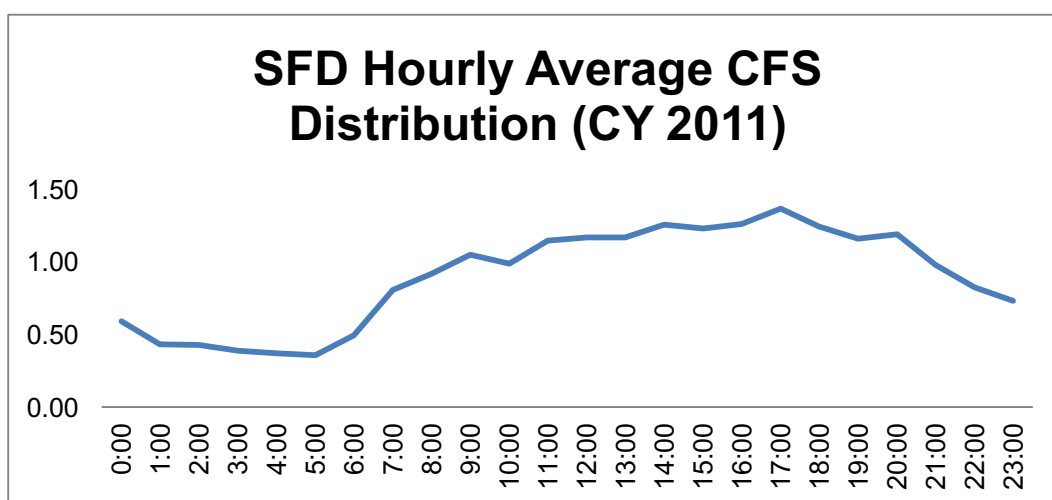
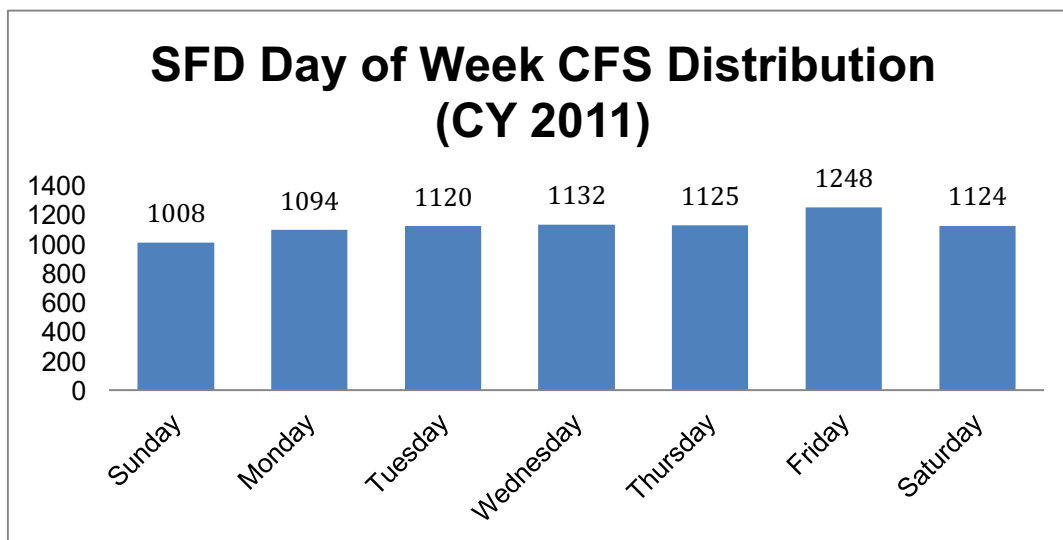
Position / Classification	Authorized	Current	Key Roles and Responsibilities
Firefighter EMT / EMT-P	60	60	<ul style="list-style-type: none"> • Reports to the Shift Captain • Assigned to an engine, truck, squad, or rescue unit. • Work 24/48 shift schedule • Participate in daily training drill. • Respond to emergency calls for service. • Provide medical treatment and transportation for the sick and injured. • Provide fire suppression on fire scenes. • Perform search and rescue, ventilation or other critical tasks on emergency scenes. • Perform public education activities as scheduled. • Serve as back-up driver if qualified. • Assist driver operator with daily apparatus checks.
Mechanic	1	1	<ul style="list-style-type: none"> • Conducts preventative and routine maintenance on agency apparatus and vehicles. • Conducts preventative and routine maintenance on agency small engine equipment. • Ensure adequate stock of parts is maintained. • Perform weekly cleaning of shop. • Track vehicle operating costs and service ability.

6. FIRE DEPARTMENT EMERGENCY RESPONSE

The Springdale Fire Department is an all hazard response agency. The Department responds to calls for service from six stations and also operates as an EMS transport agency.

The following calls for service (CFS) data was obtained by the dispatch center and shows the CFS responded to by SFD during the 2011 calendar year.





As shown, the Springdale Fire Department responded to a total of 7,851 CFS during 2011. The busiest month was August with 721 calls for service, while November was the slowest month for calls with 560. Friday was the busiest day for emergency calls with 1,248 or 15.9% of calls occurring on Friday. Sunday was the slowest day for emergency calls with 1,008 or 12.8% of calls occurring on Sunday. Calls for service typically peak between the hours of 13:00 and 20:00 and decline in the overnight hours.

APPENDIX B: RESULTS OF THE EMPLOYEE SURVEY

As part of Springdale's Public Safety Study of the Police and Fire Department, the project team developed and distributed a survey to the Fire Department employees in April 2012. The following summary provides information regarding this survey instrument.

1. AN ANONYMOUS SURVEY WAS CIRCULATED TO ALL FIRE DEPARTMENT EMPLOYEES.

An anonymous survey was circulated to all Springdale Fire Department employees to provide them with an opportunity to provide input regarding staffing, operations, and deployment practices of the department. Employees were asked to respond to a series of questions concerning overall service perceptions, management / administration, organization, staffing, operations, facilities, and training.

Respondents provided the degree to which they either disagreed or agreed with the statement, given the following options: "No Response", "Strongly Agree", "Agree", "Neutral", "Strongly Disagree", and "Disagree". For discussion purposes in this document, the project team groups the "Strongly Agree" and "Agree" responses into one grouping when reporting general employee responses; the same is true for the "Strongly Disagree" and "Disagree" and the "No Response" and "Neutral" responses.

Overall 108 surveys were distributed, of which 51 responses were received, resulting in an overall response rate of 47%.

The following tables show the overall breakdown of responses by current department assignment, sworn status, and length of service to Department.

Department Assignment:	
Administration	1
Operations	45
Prevention	2
Other	2
No Response	1

Sworn Status:	
Sworn	28
Civilian	0
No Response	23

Length of Service:	
Less than 1 year	3
1-5 years	6
6-10 years	16
11-15 years	11
16-20 years	6
More than 20 years	7
No Response	2

The sections below summarize the results of the employee survey.

2. THE MAJORITY OF RESPONDENTS HAD POSITIVE OVERALL PERCEPTIONS REGARDING FIRE DEPARTMENT'S SERVICE TO THE CITY.

Respondents were provided with statements regarding the level of service provided by the department and the level of resources / importance of the Department within the city. The survey questions in this category and their response are summarized in the table below:

Statement	Agree	Disagree	Neutral
1. The Fire Department provides a high level of service to the community.	96%	2%	2%
2. Compared to other fire departments in NW Arkansas, Springdale provides high levels of service.	92%	6%	2%
3. City residents view the Fire Department as a high priority.	67%	8%	25%
4. Compared to other fire departments in NW Arkansas, Springdale has a high amount of resources available for fire services.	55%	22%	23%

The following points summarizes the statistical information provided in the table, above:

- An overwhelming majority of the respondents, 96%, agreed with question #1 "The Fire Department provides a high level of service to the community." Only 2% disagreed and an equal amount (2%) remained neutral.

- An overwhelming majority of the respondents, 92%, agreed with question #2, “Compared to other fire departments in NW Arkansas, Springdale provides high levels of service.” Only 6% disagreed, and 2% remained neutral on the subject.
- A majority of respondents, 67%, agreed with question #3, “City residents view the Fire Department as a high priority.” Only 8 disagreed, and 25% were neutral.
- About 55% of the respondents agreed with question #4, “Compared to other fire departments in NW Arkansas, Springdale has a high amount of resources available for fire services.” 22% agreed and 23% remained neutral.

In summary, the majority of respondents agreed that Springdale’s Fire Department provided a high level of service comparative to other departments in the area and that the city’s residents viewed the department as a priority.

3. RESPONDENTS GENERALLY AGREED THAT THEY WERE ABLE TO PROVIDE INPUT AND THAT WORK PERFORMANCE EXPECTATIONS WERE CLEAR, BUT HAD FAIRLY MIXED RESPONSES TOWARDS OTHER ASPECTS OF MANAGEMENT AND ADMINISTRATION.

Respondents were asked several questions regarding department management, performance expectations and administrative planning of the Department. The questions in this category and their responses are summarized in the table, below:

Statement	Agree	Disagree	Neutral
5. Our Department has a clear vision / direction for the future.	18%	51%	31%
6. I am kept informed of Departmental information that affects me.	41%	43%	16%
7. I am able to provide input to my supervisor and management.	65%	18%	17%
8. My work performance expectations are made clear.	71%	16%	13%
9. When problems and issues arise, they are resolved in a timely manner.	27%	51%	22%
10. Staff are held accountable for their actions.	35%	31%	34%
11. Our Department seems to be innovative and progressive.	39%	39%	22%
12. Our Department does a good job planning and scheduling our work assignments.	45%	31%	24%
13. Our policies and procedures are up to date and consistently followed.	51%	29%	20%

The following points summarize the statistical information provided in the table above:

- A slim majority of respondents, 51%, disagreed with question #5, “Our Department has a clear vision / direction for the future.” About 18% agreed and 31% were neutral.
- Respondents had a mixed reaction to question #6, “I am kept informed of Departmental information that affects me.” About 41% agreed, 43% disagreed, and 16% remained neutral.
- A majority of respondents, 65%, agreed with question #7, “I am able to provide input to my supervisor and management.” About 18% disagreed, and 17% were neutral on the issue.
- A majority of respondents, 71%, agreed with question #8, “My work performance expectations are made clear.” While 16% disagreed and 13% remained neutral.
- A slight majority of respondents, 51%, disagreed with question #9, “When problems and issues arise, they are resolved in a timely manner.” 27% agreed and 22% remained neutral regarding the statement.
- Respondents had fairly mixed responses to question #10, “Staff are held accountable for their actions.” 35% agreed, 31% disagreed, and 34% remained neutral.
- Respondents had a mixed reaction to question #11, “Our Department seems to be innovative and progressive.” 39% of the respondents agreed, 39% disagreed, and 22% chose to remain neutral.
- Approximately 45% of respondents agreed with question #12, “Our Department does a good job planning and scheduling our work assignments.” While 31% disagreed and 24% remained neutral.
- A slim majority of respondent, 51%, agreed with question #13, “Our policies and procedures are up to date and consistently followed.” 29% disagreed and 20% remained neutral regarding the statement.

In summary, it can be seen that the majority of respondents agree that they are able to provide input to supervisor to management, that their work performance expectations are clear, and that policies and procedures are consistently followed (slim majority). However, a slight majority of the respondents disagree that the department has a clear vision for the future, and that the department resolve issues in a timely

manner. For the majority of the questions, the responses were fairly spread across the agree, disagree, and neutral categories.

4. THE MAJORITY OF RESPONDENTS AGREED WITH PERSONNEL TEAMWORK, FAST AND TIMELY RESPONSE TIMES, AND DEPARTMENT'S OUTREACH EFFORTS, BUT HAD MIXED RESPONSES TO OPERATIONS AND ORGANIZATIONAL ELEMENTS OF THE FIRE DEPARTMENT.

Respondents were asked to respond to several statements discussing the staffing resources, organization, and operating resources of the department. The survey questions in this category and their responses are summarized in the table below:

Statement	Agree	Disagree	Neutral
14. Staff resources are appropriate given call for service workloads.	43%	35%	22%
15. We have staffing levels needed to perform safety and effectively during incidents.	42%	29%	29%
16. Dispatch information provided to us on incidents is accurate and timely.	25%	35%	40%
17. Our personnel work well with each other on calls for service requiring multi-unit response.	98%	0%	2%
18. We get out of our stations quickly in response to emergency calls.	98%	0%	2%
19. We receive the training needed to maintain our Fire and EMS skills.	82%	4%	14%
20. We have maximized the use of technology in delivering services in the field.	14%	75%	11%
21. Our current approach to pre-fire planning is effective.	50%	25%	25%
22. The company inspection program increases life-safety in our community.	59%	8%	33%
23. Fire Prevention and Public Education Information is adequately disseminated to the community.	71%	12%	17%
24. Our Department is able to attract and retain highly qualified personnel.	45%	20%	35%
25. We are able to respond in a timely manner to high priority calls for service.	94%	4%	2%

The following points summarize the statistical information provide in the tables above:

- Respondents had a mixed reaction to question #14, “Staff resources are appropriate given call for service workloads.” About 43% agreed, 35% disagreed, and 22% remained neutral regarding the statement.
- About 42% of respondents agreed with question #15, “We have staffing levels needed to perform safety and effectively during incidents.” About 29% agreed and 19% remained neutral.
- Respondents had a mixed reaction to question #16, “Dispatch information provided to us on incidents is accurate and timely” about 25% agreed, 35% agreed, and 45% were neutral.
- An overwhelming majority of respondents, 98%, agreed with question #17, “Our personnel work well with each other on calls for service requiring multi-unit response.” None of the respondents disagreed and only 2% were neutral.
- An overwhelming majority of respondents, 98%, agreed with question #18, “We get out of our stations quickly in response to emergency calls.” 0% of the respondents disagreed, and only 2% were neutral.
- A majority of respondents, 82%, agreed with question #19, “We receive the training needed to maintain our Fire and EMS skills.” Only 4% disagreed, and 14% remained neutral.
- A majority of respondents, 75%, disagreed with question #20, “We have maximized the use of technology in delivering services in the field.” About 14% agreed and 11% were neutral.
- Approximately 50% of respondents agreed with question #21, “Our current approach to pre-fire planning is effective.” An equal amount of respondents disagreed (25%) and remained neutral (25%) on the subject.
- A majority of respondents, 59%, agreed with question #22, “The company inspection program increases life-safety in our community.” Only 8% of the respondents disagreed, and 33% were neutral.
- A majority of respondents, 71%, agreed with question #23, “Fire Prevention and Public Education Information is adequately disseminated to the community.” About 12% disagreed, and 17% remained neutral.
- Respondents had a mixed reaction to question #24, “Our Department is able to attract and retain highly qualified personnel” about 45% of the respondents agreed, 20% disagreed, and 35% were neutral.

- An overwhelming majority of respondents, 94%, agreed with question #25, “We are able to respond in a timely manner to high priority calls for service.” Only 4% disagreed and only 2% were neutral.

In summary, an overwhelming majority of respondents attested to personnel working well together and fast response times. Additionally, a majority of respondents also agreed that they receive the necessary training to perform their job, the company inspection program increases life-safety, and that the fire prevention and public education information is adequately distributed. However, a majority of respondents disagreed that technology is used effectively and for many of the other operational aspects such as personnel retention, respondents had mixed reactions.

5. A MAJORITY OF RESPONDENTS DISAGREED THAT THE APPROACH TO IT MET THE INTERNAL NEEDS OF THE DEPARTMENT AND THAT EQUIPMENT WAS BEING REPLACED AT AN APPROPRIATE SCHEDULE.

Respondents were asked to respond to a series of statements concerning the quality of the equipment and its effective use in the department. The survey questions in this category and their responses are summarized in the table below:

Statement	Agree	Disagree	Neutral
26. We have the equipment we need to provide high levels of service.	44%	29%	27%
27. The approach to IT meets the internal needs of the SFD.	9%	71%	20%
28. We have the apparatus we need to provide high levels of service.	45%	37%	18%
29. We are replacing our fire and EMS apparatus on an appropriate schedule.	20%	60%	20%
30. Our fire and EMS equipment is well maintained.	65%	18%	17%
31. Our fire and EMS apparatus is well maintained.	45%	24%	31%
32. Our equipment is repaired in a timely manner.	47%	29%	24%
33. Our fire stations are in good condition and provide a comfortable place to work.	41%	32%	27%

The following points summarize the statistical information provided in the tables above:

- Respondents had a mixed reaction to question #26, “We have the equipment we need to provide high levels of service.” About 44% agreed, 29% disagreed, and 27% remained neutral.
- A majority of respondents, 71%, disagreed with question #27, “The approach to IT meets the internal needs of the SFD.” Only 9% agreed and 20% were neutral.
- Approximately 45% of the respondents agreed with question #28, “We have the apparatus we need to provide high levels of service.” About 37% of the respondents disagreed and 18% remained neutral.
- A majority of respondents, 60%, disagreed with question #29, “We are replacing our fire and EMS apparatus on an appropriate schedule.” An equal amount of respondents disagreed (20%) and remained neutral (20%).
- A majority of respondents, 65%, agreed with question #30, “Our fire and EMS equipment is well maintained.” About 18% disagreed and 17% were neutral.
- Approximately 45% of respondents agreed with question #31, “Our fire and EMS apparatus is well maintained.” 24% disagreed and 31% remained neutral.
- 47% of respondents agreed with question #32, “Our equipment is repaired in a timely manner.” About 29% disagreed and 24% remained neutral.
- Respondents had a varied response to question #33, “Our fire stations are in good condition and provide a comfortable place to work.” Approximately 41% of the respondents agreed, 32% disagreed, and 27% were neutral.

In summary, the majority of respondents disagreed that the approach to IT met the internal needs of the department and that apparatus was being replaced at an appropriate schedule. The respondents generally agreed that their equipment was well maintained, but had mixed responses regarding the apparatus being well maintained. Respondents also had mixed responses to questions relating to equipment being repaired, and that the fire stations are a comfortable place to work.

6. RESPONDENTS GENERALLY AGREED THAT THE AMOUNT AND QUALITY OF TRAINING RECEIVED IS ADEQUATE.

Respondents were asked to respond to a series of statements discussing the amount and quality of training provided to Fire Department employees. The table on the following page summarizes the survey questions in this category and their responses:

Statement	Agree	Disagree	Neutral
34. Overall, we receive the practical training we need to keep our basic skills high.	86%	2%	12%
35. The amount of training I receive is adequate.	82%	4%	14%
36. The quality of training I receive is adequate.	76%	12%	12%
37. Company officers receive the training required to become good leaders and managers.	39%	39%	22%
38. Company officers receive the support they need to provide consistent / effective company-level training.	45%	22%	23%
39. The training we receive is well planned and organized.	55%	22%	23%
40. We receive the specialty training we need to perform well (confined space, swift water, hazmat, etc.).	51%	29%	20%

The following points summarize the statistical information provided in the table above and on the previous page:

- A majority of respondents, 86%, agreed with question #34, "Overall, we receive the practical training we need to keep our basic skills high." Only 2% disagreed and 12% remained neutral.
- A majority of respondents, 82%, agreed with question #35, "The amount of training I receive is adequate." Only 4% disagreed and 14% were neutral.
- A majority of respondents, 76%, agreed with question #36, "The quality of training I receive is adequate." An equal proportion of respondents disagreed (12%) and remained neutral (12%).
- Respondents had a mixed reaction to question #37, "Company officers receive the training required to become good leaders and managers." About 39% of the respondents agreed, 39% disagreed and 22% remained neutral on the issue.
- Approximately 45% of respondents agreed with question #38, "Company officers receive the support they need to provide consistent / effective company-level training." 22% disagreed and 23% remained neutral.
- A majority of respondents, 55%, agreed with question #39, "The training we receive is well planned and organized." 22% disagreed and 23% remained neutral.

- A slight majority of respondents, 51%, agreed with question #40, “We receive the specialty training we need to perform well (confined space, swift water, hazmat, etc.).” About 29% disagreed and 20% were neutral.

In summary, respondents generally had positive reactions towards the amount and quality of training received; however, in reaction to company officers receiving the necessary training and support, respondents had fairly mixed reactions.

7. NARRATIVE SURVEY RESPONSES

In addition to the survey’s forced choice questions, respondents were asked to provide narrative responses to two open-ended questions (#8 to #9). The responses to the questions were grouped by common themes and summarized by the project team.

(1) Please indicate what you believe are the most important strengths of the Springdale Fire Department:

Those who chose to answer the open-ended questions stated that the greatest strength lay in the teamwork between the officers, and the high level of dedication of these officers to the community and their job. Some of the additional common themes are summarized below:

- Greatest strengths of the department:
 - Strong sense of teamwork
 - Dedication of officers / commitment to serving the public and to the job
 - Strong training
 - Quality of Line Personnel
 - Good Customer Service
 - Fast Response Times
 - Strong Leadership

In summary, the majority of respondents stated that the strong sense of teamwork, dedication to the City, and strong training of the employees are the greatest strengths of the department. These strengths result in other strengths such as good

training leads to a higher quality of line personnel, customer service, and also affects response times.

(2) Please indicate what you believe are the most important improvement opportunities facing the Springdale Fire Department:

The general consensus of respondents for this question had to do mostly with updating the technology of the department and increasing the training associated with technology to be able to use it more effectively. The comments are summarized below.

- Most important opportunities for improvement:
 - Update Technology
 - Increasing training associated with technology
 - Increasing staffing
 - Expand the fire department with at least one new location
 - Create clear and consistent department policies
 - Increase accountability for leadership

In summary, the respondents stated the primary concern to be the lack of update in technology and the apparatus being used by the department. Some of the respondents also mentioned that there was a need to expand the department in at least one other location and increase support staff.