AGENDA
CITY OF SHERIDAN
JANUARY 27, 2025
STUDY SESSION COUNCIL MEETING START 5:30 P.M.

1. Discussion of Resolution 06-25: Adopting the Sheridan Fire Rescue Long Range Master Plan - Fire Chief Gary Harnish

2. Discussion of Resolution 04-25 Authorizing Submission of a Mineral Royalty Grant (MRG) in the Amount of $500,000 for the Purchase of a New Fire Apparatus - Fire Chief Gary Harnish

3. M1/M2 Update - City Planner Kelly Schroeder

4. Discussion of Strategic Planning/Communication Coordinator - City Administrator Stuart J. McRae

5. General Discussion and Potential Future Agenda Items - City Administrator Stuart J. McRae
   A. Council Request for Future Agenda Items.

CITY OF SHERIDAN, WYOMING

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Fire Rescue

MEMORANDUM

RE: Discussion of Resolution 06-25: Adopting the Sheridan Fire Rescue Long Range Master Plan - Fire Chief Gary Harnish

From: Gary Harnish, Fire Chief

To: City Council

CC: City Administrator Stuart McRae

Date: 01/22/2025

Recommendation:

Staff recommends that the Mayor and City Council adopt the Sheridan Fire Rescue Long Range Master Plan and acknowledge it as the primary document guiding the City's Fire Department operations and improvements moving into the future.

Background:

Please see attached Resolution 06-25 as well as the attached Master Plan.

Attachments

Resolution 06-25

Master Plan

CITY OF SHERIDAN
RESOLUTION 06-25

A RESOLUTION ADOPTING THE "SHERIDAN FIRE RESCUE LONG RANGE MASTER PLAN"

WHEREAS, Municipalities have been empowered by the State of Wyoming to engage in planning efforts and develop community master plans under Wyoming Statute § 15-1-503; and

WHEREAS, The City of Sheridan Fire Rescue Long Range Master Plan (Master Plan) is an important planning document that promotes fiscal responsibility in the development and management of the City Fire Department, while ensuring effective, efficient and safe operations are maintained and regulatory compliance standards are met; and

WHEREAS, The overall findings and recommendations made within the Master Plan have been presented and discussed with the City Council during a January 2025 Study Session; and

WHEREAS, It is the desire of the Mayor and City Council to formally adopt the City of Sheridan Fire Rescue Long Range Master Plan.

BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF SHERIDAN, WYOMING:

The City Council hereby adopts the City of Sheridan Fire Rescue Long Range Master Plan dated December 2024 and hereby acknowledges it as the primary document guiding the City's Fire Department operations and improvements moving into the future.

PASSED, APPROVED AND ADOPTED this ___ day of ____, 2025.

CITY OF SHERIDAN, WYOMING

_____
Richard Bridger, Mayor

ATTEST:

_____
Ashlee Foster, City Clerk

SHERIDAN FIRE RESCUE WYOMING

2024 Long-Range Master Plan

Sheridan Fire-Rescue, Wyoming

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Emergency Services Consulting International

Providing Expertise and Guidance that Enhances Community Safety

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Acknowledgments

Sheridan Fire Rescue

Fire Chief | Gary Harnish

Division Chief of Operations |Chad Brutlag

Fire Marshal |George Neeson

Local 276

City of Sheridan

Mayor | Richard Bridger

City Administrator | Stuart J. McRae

City Council Member | Greg Luhman

City Council Member | Andrew Patceg

City Council Member | Terry Weitzel

City Council Member | Aaron Linden

City Council Member | Steve Brantz

Methodology

Early in 2024, Sheridan Fire–Rescue (SFR), retained Emergency Services Consulting International (ESCI) to conduct a Long-Range Master Plan. The Long-Range Master Plan provides the agency with a detailed, high altitude, understanding of future needs and includes a host of findings and recommendations for moving forward. As such, it is designed to assist communities with quantifying current service delivery, evaluating service delivery and response performance, identifying forecast growth and emergent conditions, and developing strategies to meet anticipated needs and resultant future service demand.

Project Initiation & Development of the Work Plan

In the initial phase of the SFR Long-Range Master Plan process Emergency Services Consulting International (ESCI) developed a project work plan based on the approved scope of work. ESCI conversed with the SFR's project team to gain a comprehensive understanding of the organization's background, goals, and expectations for this project. The work plan included identifying the primary tasks to be performed, the method for evaluating the results, and possible obstacles that may arise during the project.

Acquisition & Review of Background Information

ESCI requested pertinent information and data from the SFR's Project Team. The requested data included information about the fire department service area, National Fire Incident Reporting System (NFIRS) data, automatic and mutual aid agreements, geographic planning zones and station/apparatus locations, staffing plans, financial data, relevant community comprehensive plans, land use studies, and the hazard mitigation plan. Further consideration was given to ISO reports and previous studies. ESCI used the collected data in the analysis and development of the Long-Range Master Plan.

Key Concepts & National Trends

This report includes best practices based on nationally recognized guidelines and criteria, including concepts from the National Fire Protection Association (NFPA), the Insurance Services Office (ISO), the Center for Public Safety Excellence (CPSE), laws and regulations of the State of Wyoming, and other generally accepted practices for emergency services. Where applicable, the report is written and organized in a style that is consistent with:

- Community Risk Assessment: Standards of Cover, 10th Edition, Quality Improvement for Fire and Emergency Services, Center for Public Safety Excellence, Chantilly, VA, 2021.
- NFPA 470: Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders
- NFPA 921, Guide for Fire and Explosion Investigations

- NFPA 1006: Standard for Technical Rescuer Professional Qualifications
- NFPA 1061: Standard for Public Safety Telecommunications Personnel Professional Standards Qualifications
- NFPA 1201: Standard for Providing Fire and Emergency Services to the Public
- NFPA 1225, Standard for Emergency Services Communications
- NFPA 1402, Standard on Facilities for Fire Training and Associated Props
- NFPA 1403, Standard on Live Fire Training Evolutions
- NFPA 1500, Standard on Fire Department Occupational Safety, Health, and Wellness Programs
- NFPA 1581, Standard on Fire Department Infection Control Program
- NFPA 1582: Standard on Comprehensive Occupational Medical Program for Fire Departments
- NFPA 1660: Standard for Emergency, Continuity, and Crisis Management: Preparedness, Response, and Recovery
- NFPA 1620: Standard for Pre-Incident Planning
- NFPA 1670: Standard on Operations and Training for Technical Search and Rescue Incidents
- NFPA 1710, Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments.
- NFPA 1720, Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments.
- NFPA 1851, Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting
- NFPA 1901, Standard for Automotive Apparatus
- NFPA 1911, Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles
- NFPA 1912, Standard for Fire Apparatus Refurbishing

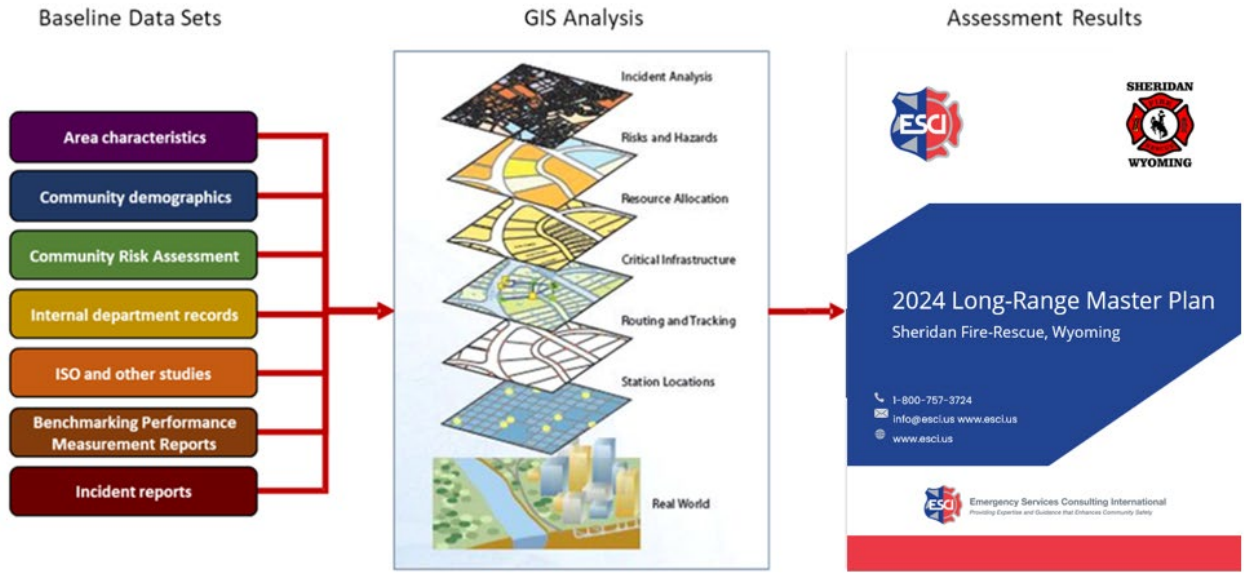
Baseline Assessment & GIS Technology

From the information provided by SFR, ESCI was able to establish a baseline assessment of current community risks and service delivery needs centered around the specialized and technical services provided by SFR. The purpose of this assessment was to identify risks, hazards, vulnerabilities, and threats in comparison to industry standards and best practices to determine current and future emergency service delivery needs.

The ESCI Planning Team also collected information, reviewed population, and other community growth patterns, and then analyzed trends and expectations. This was done to provide a glimpse into future community conditions, land use, and fire protection risks interpreting their potential impact on emergency service planning and delivery.

ESCI then used Geographic Information Systems (GIS) technology and analysis tools to visualize the data and provide additional information for the Department. The following figure illustrates the conceptual GIS methodology as applied to this assessment.

Figure 1: GIS Methodology



Performance Analysis and Development of Recommended Strategies

From the time the first fire station is built, there is an expectation that the facility can and will provide a timely response to calls for service within a given area surrounding that facility. When the original criterion was set for response time from that facility, there was an immediate location – allocation created by that fire station. The fire station provides a response to a given area within a reasonable time in a pattern that essentially is an overlay on the streets and highways that radiate outward from that location. Even before any incidents occur in a community, the geographic road-network and topographical attributes of a community create a dynamic segmentation that results in the ability of fire professionals to reasonably predict what areas can be, and those that will not be, adequately covered.

Over time the area of coverage changes and evolves based on community growth. The concept of using actual travel time today is based upon a more accurate representation of the level of service for an all-risk approach. It is more performance-based. Today, most fire agencies set a time standard that includes three elements, two of which were missing from

the strict use of mileage from a fire station – specifically, alarm processing time and turnout time. Actual time over road travel has often been used in combination with the other two-time increment components to set the community's expectation of performance.

Using this approach, fire stations are seldom located in a linear fashion. This concept is based on the time intervals identified in the Standards of Response Coverage section of the Self-Assessment Manual published by the Commission on Fire Accreditation International. This process leads to the development of a standard of response coverage, or a time and level of staffing decision, designed to control an emergency with a minimum level of loss. The process is, however, a policy choice based on risk and local conditions.

The basic performance standards with time goals are based on the rapid speed of fire growth and consequences of emergency medical situations over a short time frame. It has been determined that both fires and medical emergencies can gain a foothold resulting in higher losses when the times are excessive.

Based on this concept SFR performance was evaluated and recommendations for improvement offered.

Executive Summary

Sheridan Fire Rescue (SFR) has enlisted the services of Emergency Services Consulting International (ESCI) to conduct a comprehensive Long-Range Master Plan study. ESCI is a reputable international firm specializing in providing professional consulting services for fire, EMS, police, and communications organizations across the United States and Canada. As the consulting arm of the International Association of Fire Chiefs (IAFC), ESCI has been meeting the diverse needs of emergency services providers since 1976. ESCI has consistently delivered innovative and sustainable recommendations that are easily understood by the public and valuable to elected officials in shaping effective public safety policies. With a team of over 30 accomplished consultants who are leaders in their respective fields, ESCI offers consulting services to municipalities, districts, non-profit organizations, as well as the industrial and commercial sectors.

The purpose of completing such a document is to assist the agency in ensuring a safe and effective response force for fire suppression, emergency medical services, and specialty response situations in addition to homeland security issues. This document describes SFR's current deployment plan, community risks, response resources, deployment strategies, and service levels that have been evaluated in this study. The document identifies and discusses response time objectives and standards for measuring the effectiveness of fire department services and the deployment of its resources. The document is divided into components based on the format recommended by the Center for Public Safety Excellence.

The foundation of any service provided by a governmental agency relies on the governance structure and policies that grant the agency the responsibility and authority to act. The City of Sheridan operates under a mayor-council government, encouraging community participation in decision-making. The governing body, comprising the mayor and six elected council members serving four-year terms, appoints a City Administrator to manage daily operations, implement policies, oversee departments, and prepare the annual budget. As required by Wyoming law, the Administrator submits a tentative budget by May 15, with public hearings held by the third Tuesday in June. Sheridan has a population of 19,463 and the city covers approximately 13.63 square miles of area.

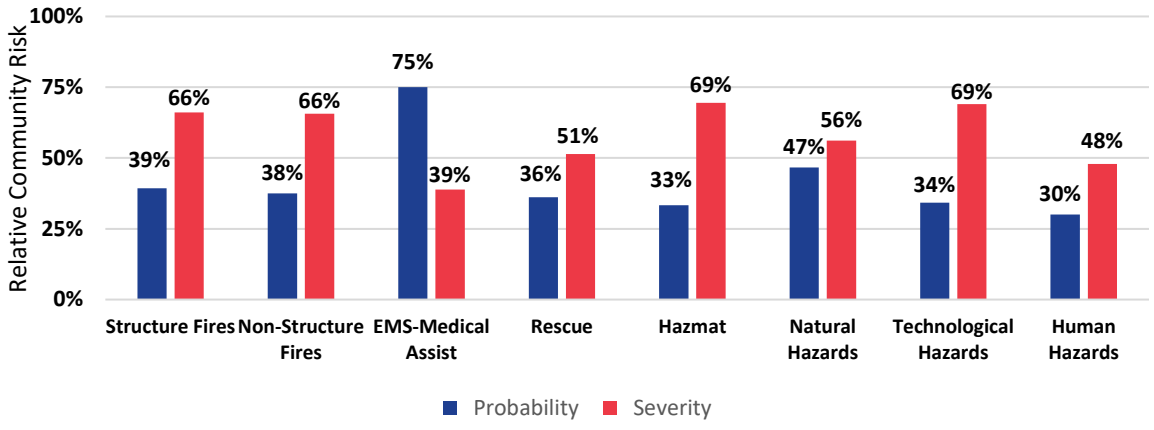
The Insurance Services Office (ISO) reviews the fire protection resources within communities and provides a Community Fire Protection Rating system from which insurance rates are often based. The rating system evaluates three primary areas: the emergency communication and dispatch system, the fire department, and the community's water supply. The overall rating is then expressed as a number between 1 and 10, with "1" the highest level of protection and "10" unprotected or nearly so. As of the latest survey, ISO rated SFR as a Class 3/3X.

Overview of the Community Risk Assessment

The Community Risk Assessment provides an assessment of community risk and potential risks present in the service area. Physical, economic, and demographic data is utilized to assess the hazards and risks threatening the community. This includes exposure to natural and man-made disasters.

Hazard Vulnerability Analysis

Sheridan is susceptible to hazards, both natural and technological/human-caused. Of the potential hazards that pose risk to the City, this risk assessment identifies several because of the likelihood of everyday occurrence and/or potential consequences. EMS is ranked as the highest community risk because of two primary factors—first, the human impact, and second, the probability. In addition, risk is defined as the probability compared to the impact of an event; the following figure illustrates the comparison of those two factors across the eight event categories.

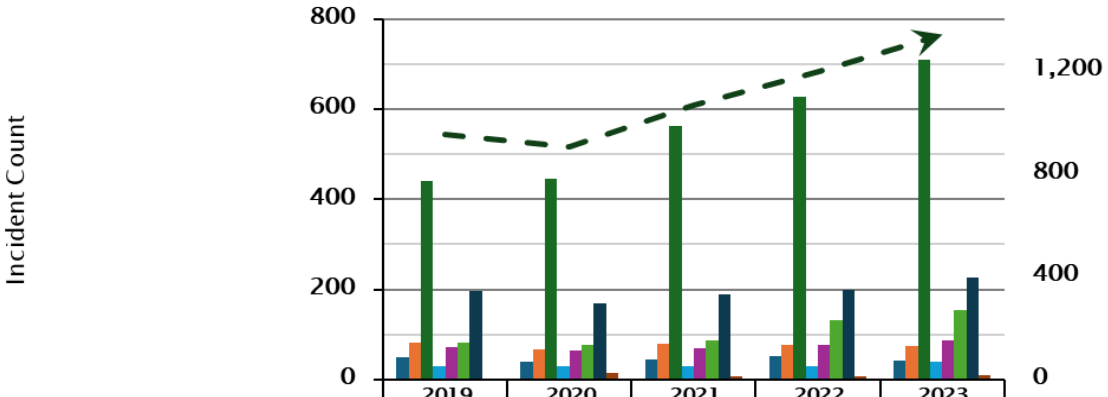


Emergency Response Demand Type and Frequency

The service demand analysis reviews current and historical service demand by incident type and temporal variation. GIS software provides a geographic display of demand. Data for the service delivery and performance analysis was provided from the department's Record Management System (RMS), specifically the National Fire Incident Reporting System (NFIRS) records and the CAD system. The dataset that was best suited for each analysis was utilized. It should be noted that the total between analyses may differ from figure to figure due to some cases of unreported or misreported data.

The following figure displays historical SFR service demand for the previous five calendar years.

Service Demand by NFIRS Incident Type, 2019–2023



	2019	2020	2021	2022	2023
Fire (100)	49	40	44	52	41
Hazardous Condition (200, 400)	81	66	80	76	74
EMS (300 except 322–324)	442	446	563	627	711
MVC (322–324)	29	28	28	30	39
Service Call (500)	72	65	68	76	86
Canceled, Good Intent (600)	82	76	87	131	153
Alarm (700)	196	170	190	200	226
Other (800, 900)	3	15	6	7	10
Total	954	906	1,066	1,199	1,340

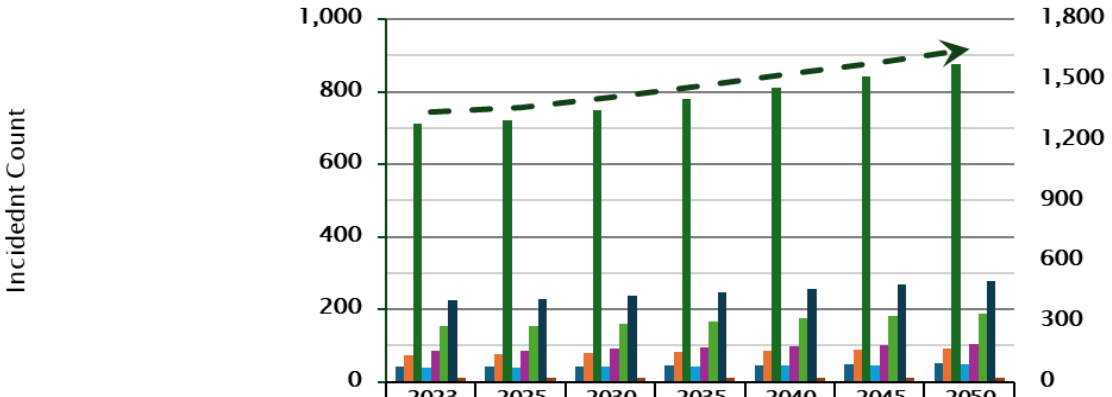
SFR experienced an overall increase of 40.5% in service demand from 2019 to 2023. This included a decrease of 5% in 2020, followed by increases of 17.7% in 2021, 12.5% in 2022, and 11.8% in 2023—resulting in a compounded annual growth rate of 7%.

Future Service-Demand Projections

Examination of SFR incident data reveals that service demand increased by nearly 40.5% from 2019 to 2023, or an average of about 7% each year. Based on that, ESCI was able to develop a projected increase in service demand—calls for service—from 2025 to 2050. This range was then compared to the historical records to determine a projected increase in service demand, based on a comparison of population-based and historically-based service projections, as shown in the following figure.

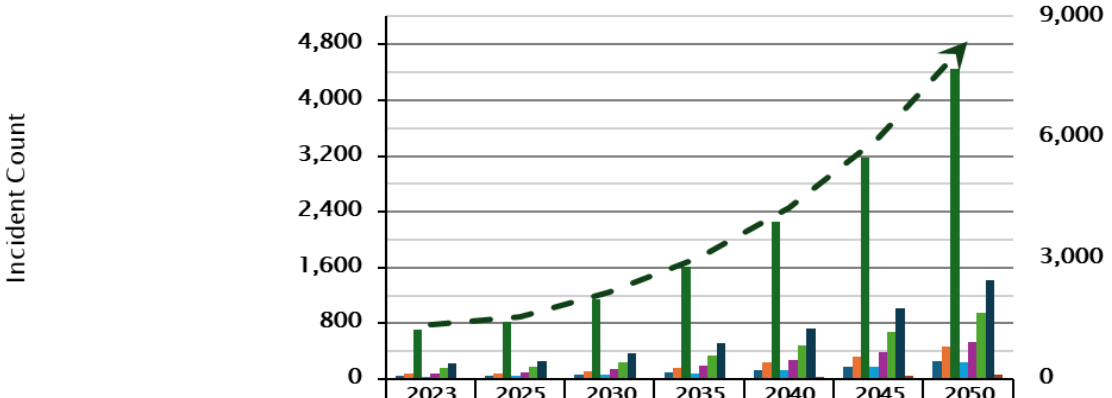
The potential service demand predictions are listed in the following figures.

SFR Projected Service Demand by Population



	2023	2025	2030	2035	2040	2045	2050
Fire (100)	41	42	43	45	47	49	51
Hazardous Condition (200, 400)	74	75	78	81	84	88	91
EMS (300 except 322–324)	711	722	751	780	811	843	876
MVC (322–324)	39	40	41	43	44	46	48
Service Call (500)	86	87	91	94	98	102	106
Canceled, Good Intent (600)	153	155	162	168	175	181	189
Alarm (700)	226	230	239	248	258	268	279
Other (800, 900)	10	10	11	11	11	12	12
Total	1,340	1,361	1,415	1,470	1,528	1,589	1,651

SFR Projected Service Demand by Historical Change



	2023	2025	2030	2035	2040	2045	2050
Fire (100)	41	47	66	93	130	183	257
Hazardous Condition (200, 400)	74	85	119	167	235	330	463
EMS (300 except 322–324)	711	815	1,144	1,607	2,257	3,170	4,453
MVC (322–324)	39	45	63	88	124	174	244
Service Call (500)	86	99	138	194	273	383	539
Canceled, Good Intent (600)	153	175	246	346	486	682	958
Alarm (700)	226	259	364	511	717	1,008	1,416
Other (800, 900)	10	11	16	23	32	45	63
Total	1,340	1,535	2,156	3,029	4,254	5,975	8,393

There is some disparity between the two projections, per capita and historical. In the SFR service area, the number of actual calls has increased significantly higher than the rate estimated from population growth alone. This suggests that call volume will increase faster than population growth as fire department response models are asked to adopt an "all risks, all hazards" approach to emergency service delivery. This trend is not unique to SFR; it is occurring across the country and is expected to continue.

Based on these comparisons, the "best case" demand for fire department services in the SFR service area is projected to increase by 311 responses (23.2%) by the year 2050. This represents an increase of approximately 3.8% every five years.

Recommendations and Improvement Goals

This Long-Range Master Plan concludes with a set of recommendations and improvement goals derived from the discussed observations and analysis. To address these recommendations effectively, a pragmatic approach is necessary. To aid in this process, ESCI has categorized them into recommended time frames.

Implementing many of these recommendations and fostering their adoption will require substantial commitment, time, and resources, including financial investments. The suggested timeframes aim to provide a practical roadmap for implementation. However, it's important to acknowledge that environmental conditions and circumstances may present challenges or opportunities that could lead to addressing certain recommendations outside the initially identified time frames.

The analysis unequivocally validates that the existing fire station is suitably placed in accordance with population density and call demand.

ESCI has grouped the recommendations into three implementation timeline categories: Short-Term Recommendations (6 months–1 year), Mid-Term Improvement Goals (1–3 years), and Long-Term Improvement Goals (3–5 years).

Short-Term and Mid-Term goals are centered around processes and performance improvements that can generally be implemented by staff and leadership within SFR. These Short-Term or Mid-Term recommendations could be as simple as continuing best practices that are already in place, or the addition of best practices not yet implemented. As such they are not listed here but are outlined in detail as part of the *Future System Recommendations and Improvement Goals* section of the report.

The Long-Term improvement goals require high levels of support from governing and supporting agencies and are presented in a user-friendly figure below, providing a concise summary on the subsequent pages. For a more comprehensive understanding, detailed elaboration can be found in the *Future System Recommendations and Improvement Goals* section of this study.

Long-Term Improvement Goals	Adopted	Completed	Target Date
Improvement Goal 1			
Establish a Long-Term Staffing Strategy to Achieve a Minimum Effective Response Force (ERF) of 9 firefighters			
Improvement Goal 2			
Develop and Fund an Appropriate Apparatus Replacement Plan			
Improvement Goal 3			
Establish Funding to Construct a Training Facility			
Improvement Goal 4			
Optimization of Fire Station Location			

Conclusion

Our assessment concludes that Sheridan Fire-Rescue demonstrates strong leadership and an innovative vision, operating at a level that meets and often exceeds community expectations. While there are opportunities for improvement, the department is effectively serving the citizens of Sheridan and is commended for proactively undertaking this project to develop a formal plan for future service delivery.

This executive summary highlights key findings from the report, which contains detailed technical data provided by SFR. The report offers a comprehensive understanding of the department's current services and provides insights into how those services can evolve to meet future needs. It equips department personnel and policymakers with critical information for making informed, data-driven decisions regarding resource deployment and service delivery in the SFR service area.

ESCI is confident that the analysis, findings, and recommendations in the report will serve as a successful road map for the department's future. As these goals and enhancements are achieved and the city continues to grow, the citizens of Sheridan can expect to receive exceptional service and protection from the dedicated professionals of Sheridan Fire-Rescue.

Description of Community Served

An assessment of the existing SFR composition and service delivery was conducted by ESCI. ESCI based this evaluation on data provided by the agency and collected during subsequent fieldwork. Where applicable, the information is compared to a combination of applicable state laws and regulations, National Fire Protection Association (NFPA) standards, Commission on Fire Accreditation International (CFAI) self-assessment criteria, the Center for Public Safety Excellence (CPSE), health and safety requirements, federal and state mandates relative to emergency services, and generally accepted best practices within the emergency services community, as well as the experience of ESCI's consultants.

The following section provides a general overview of Sheridan County, the City of Sheridan, and Sheridan Fire–Rescue (SFR).

Sheridan County, Wyoming

Sheridan County is located in north-central Wyoming and is known for its scenic landscapes, rolling plains, and proximity to the Bighorn Mountains. Established in 1888, Sheridan County has a rich history rooted in the Western frontier and is named after General Philip Sheridan, a Union cavalry leader in the American Civil War. Sheridan County covers an area of approximately 2,527 square miles, with a population of about 30,000 residents.

Sheridan County's terrain is diverse, ranging from the plains in the eastern portion to the foothills and forests of the Bighorn Mountains to the west. The county's natural resources and location make it popular for outdoor recreation, including hiking, fishing, and camping.

Sheridan County's economy has historically been based on agriculture, ranching, and natural resource extraction, such as coal mining and energy production. In recent years, tourism has become a growing sector due to the county's scenic beauty, historical significance, and recreational opportunities. Additionally, the area has a large arts scene, with local galleries, theaters, and cultural festivals.

The City of Sheridan, Wyoming

Sheridan is the county seat of Sheridan County, Wyoming. The city covers approximately 13.63 square miles of area. Founded in 1882, Sheridan was named after General Philip Sheridan, a Union general during the American Civil War. Known for its historic Western roots and scenic views of the nearby Bighorn Mountains, Sheridan is a cultural and economic hub for the region.

Sheridan is located in a diverse area that includes agriculture, tourism, and energy development. Historically, the city was supported by industries such as coal mining, ranching, and the railroad. Today, while ranching and agriculture remain important, Sheridan is also a destination for outdoor recreation, drawing visitors for hiking, fishing, and hunting. Additionally, tourism related to the Bighorn Mountains and the region's historical significance plays a significant role in the local economy.

In recent years, Sheridan has focused on diversifying its economic base by promoting sectors such as manufacturing, healthcare, and arts. Sheridan also boasts a strong educational system and is home to Sheridan College, a community college that contributes to workforce development and serves as a cultural center for the area. The city's historic downtown, with its art galleries, restaurants, and theaters, is a regional attraction and hosts numerous community events and festivals.

The city of Sheridan is also a center for healthcare services in northern Wyoming, with Sheridan Memorial Hospital offering a range of medical services to residents of the county and beyond. Additionally, Sheridan has a growing arts scene, with institutions like the WYO Theater and the Brinton Museum showcasing local and national talent.

Sheridan's history and strategic location, combined with its natural beauty and vibrant community, make it a central part of Wyoming's northern region.

City Governance

The City of Sheridan operates under a mayor-council form of government, which encourages active community participation in its decision-making processes. The governing body is composed of the mayor and six elected council members. The governing body comprises the mayor, and six council members elected to serve a four-year term. The City Administrator is appointed by the body and serves as the chief executive officer, responsible for overseeing day-to-day operations, implementing policies set by the governing body, managing city departments, and preparing the budget.

As required by Wyoming Statute §16-4-104 and Charter Ordinance 2202, the City Administrator is responsible for preparing the tentative budget and submitting it to the Governing Body by May 15th each year. The governing body will review and discuss the proposed budget during a regular or special meeting called for that purpose. A public hearing must be held by the third Tuesday in June.

City Council meetings, where local decisions are made, are held at 5:30 p.m. in the Council Chambers on the third floor of City Hall. These meetings are typically presided over by the mayor or a designated pro tempore in the mayor's absence.

If a meeting coincides with a city-observed holiday, it is rescheduled to the following business day. Agendas and minutes from these meetings are available on the city's website for residents to review.

Public participation is vital to the success of Sheridan's government. Elected officials in Sheridan encourage citizens to attend meetings, stay informed, and expect transparency in the city's operations. By engaging in these discussions, citizens contribute directly to shaping Sheridan's future, fostering an inclusive and responsive community where every voice matters.

Jurisdiction Demographics

Demographics is the statistical study of human populations and characteristics. Demographic data can include information on population size, density, growth, and organizational groupings such as race, gender, or age. Institutions like the U.S. Census Bureau conduct surveys to gather information about the nation's citizens on a regular basis. The population of the United States tends to be ethnically diverse due to the country's history of immigration which made it a cultural melting pot.

In the 2020 U.S. Census, the permanent population of the City of Sheridan was 18,737. According to Environmental Systems Research Institute (Esri) the current estimated population of the City has grown to 19,463 residents. This equates to roughly 1,497 people per square mile.

The Census Bureau's urban-rural classification is a delineation of geographical areas, identifying both individual urban areas and rural areas of the nation. The terms urban and rural categorize different landscapes, with urban referring to densely developed areas and rural areas to small towns, farms, and open spaces. These definitions help standardize data collection for analysis. After each decennial census, the U.S. Census Bureau updates these classifications. In 2010, urban areas were classified into urbanized areas (50,000+ people) and urban clusters (2,500-50,000 people), based on population density thresholds. Around 81% of the U.S. population was considered urban at that time, a figure that remained stable into 2020.

Following the 2020 Census, key updates were made. The minimum threshold for urban classification was raised from 2,500 to 5,000 people, or areas could qualify based on housing unit density. The distinction between urbanized areas and clusters was also removed—now, any area meeting the new thresholds is considered urban. These changes ensure more accurate classifications of jurisdictions, aiding in better resource planning and policy decisions.

The Census Bureau's urban areas represent densely developed territory, and encompass residential, commercial, and other non-residential urban land uses. The Census Bureau

delineates urban areas after each decennial census by applying specified criteria to decennial census and other data. Rural areas encompass all population, housing, and territory not included within an urban area. The City of Sheridan is considered an urban area by the U.S. Census Bureau. The importance of this rural designation is useful when applying the specific National Fire Protection Agency (NFPA) consensus standards to SFR operations for demand zones.

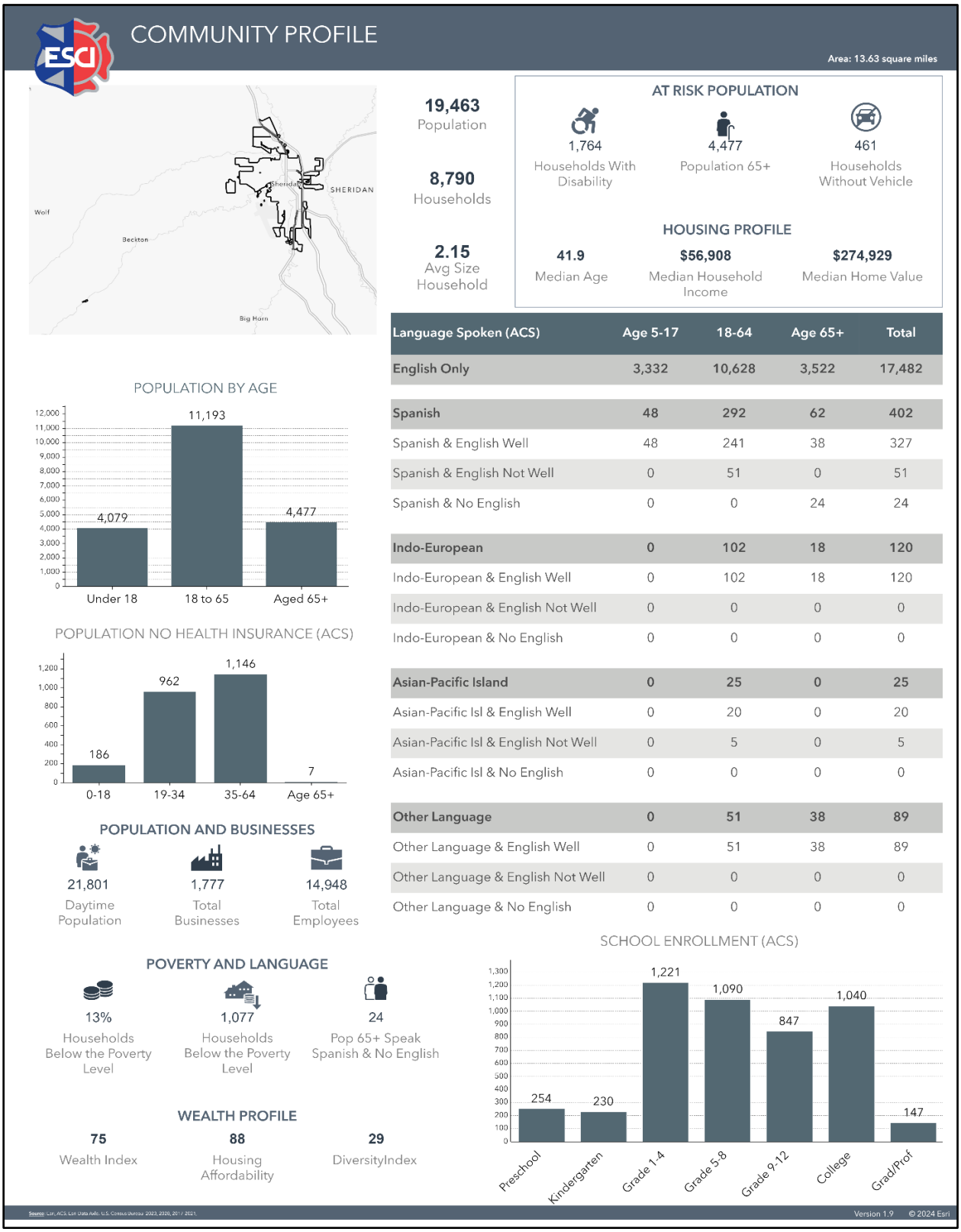
The following figure breaks down the five demand zones depicted by NFPA for population per square mile.

Figure 2: NFPA Population Breakdown

Demand Zone	Demographics/Population
Urban Area	>1000 People/Square Mile
Suburban Area	500-1000 People/Square Mile
Rural Area	<500 People/Square Mile
Remote Area	Travel Distance ≥ 8 Miles from a Fire Station
Special Risks	Determined by the Authority Having Jurisdiction

A jurisdiction can have multiple demand zones outlined at one time and each demand zone can have a respective response criterion established. For instance, Sheridan County is considered a rural area while the City of Sheridan meets the urban area designation because it has approximately 1,497 people per square mile in the city limits.

Figure 3: City of Sheridan Community Profile



Language Spoken (ACS)	Age 5-17	18-64	Age 65+	Total
English Only	3,332	10,628	3,522	17,482
Spanish	48	292	62	402
Spanish & English Well	48	241	38	327
Spanish & English Not Well	0	51	0	51
Spanish & No English	0	0	24	24
Indo-European	0	102	18	120
Indo-European & English Well	0	102	18	120
Indo-European & English Not Well	0	0	0	0
Indo-European & No English	0	0	0	0
Asian-Pacific Island	0	25	0	25
Asian-Pacific Isl & English Well	0	20	0	20
Asian-Pacific Isl & English Not Well	0	5	0	5
Asian-Pacific Isl & No English	0	0	0	0
Other Language	0	51	38	89
Other Language & English Well	0	51	38	89
Other Language & English Not Well	0	0	0	0
Other Language & No English	0	0	0	0

Organizational Overview

The Organizational Overview provides a summary of SFR's composition, discussing its configuration and the services it provides. The purpose of this section is two-fold. First, it verifies the accuracy of baseline information along with ESCI's understanding of SFR's composition. This provides the foundation from which the Long-Range Master Plan is developed.

Second, the overview serves as a reference for the reader who may not be fully familiar with the details of SFR's operations. Where appropriate, ESCI includes recommended modifications to current conditions based on industry standards and best practices.

The History of Sheridan Fire Rescue[1]



Sheridan Fire Rescue has a rich history that dates to 1888 when it was first established as the Phil Sheridan Hose Company and the Sheridan Hook and Ladder Company. Although initially classified as a volunteer organization, records indicate that members were compensated for each call, and a full-time staff member was employed to care for the horses used for firefighting. One of the earliest fire stations was located at 112 N. Main St., a building that also housed the city hall, which today is known as the Beaver Creek Saloon, with remnants of the original bay doors now bricked in as windows.

In the early 1910s, the Phil Sheridan Hose Company and Sheridan Hook and Ladder merged under Chief Jim Troyer's leadership, officially forming the Sheridan Fire Department. Chief Troyer implemented a two-platoon shift schedule, and by 1917, the department began hiring full-time firefighters. This period also marked the transition from horse-drawn to fully mechanized fire trucks. In addition to responding to emergencies, the fire department conducted regular fire safety inspections.

In 1928, the Sheridan firefighters affiliated with the International Association of Firefighters, forming Local 276. The department faced a tragic moment in 1929 when Chief Fred Tossie lost his life due to smoke exposure while battling a fire at 219 E. Loucks Street. His legacy is

[1] *Sheridan Press. (2020). Firefighters share history of Sheridan Fire Rescue, current operations. Retrieved from https://www.thesheridanpress.com/news/local/firefighters-share-history-of-sheridan-fire-rescue-current-operations/article_49238 5ce-07ff-11eb-a41c-97c660e99187.html*

honored with a headstone in the Sheridan Cemetery and a memorial plaque at the fire station.

The two-platoon system remained in place until the 1950s or 1960s when it transitioned to the current staffing model of three shifts comprising five personnel until July 1, 1999, and five personnel again after 2012. A Battalion Chief makes the sixth. During the late 1970s and early 1980s, the city and county collaborated to station city firefighters at the Sheridan County Airport, introducing a daily staffing model that integrated both city and county personnel.

However, this model dissolved by the mid-1980s as attrition reduced staffing to 15 firefighters, organized into three shifts of four firefighters and a captain, overseen by the fire chief, a division chief of operations, and a fire marshal. Recognizing the significant health risks firefighters faced, Chief Aaron Holst introduced a daily physical fitness program and an annual health assessment, a practice that continues to this day.

In 1999, following a fire service study, Sheridan Fire consolidated with Sheridan County Fire and Sheridan 911 Ambulance Service, assuming full fire response for the Sheridan Veterans Affairs Health Care System campus (VAMC Fire Protection contract is worth $195,000 to the City of Sheridan increasing by 5% per year). This consolidation introduced two fully staffed ambulances and expanded the service area beyond city limits, leading to the department being rebranded as Sheridan Fire-Rescue.

In 2009, Sheridan County established a volunteer fire department (Sheridan Area Rural Fire Protection District, a.k.a. Goose Valley Volunteer Fire Department) instead of continuing its contract with the city; private ambulance services in the area reduced the call volume for Sheridan Fire-Rescue, prompting a staffing reduction to eight-person shifts. In 2011, the city opted to contract with a private ambulance service for all emergency medical services within city limits, further reducing staffing to three shifts of five firefighters. The Division Chief of Operations position was left vacant in June of 2012 and not filled until August of 2021. The Fire Marshal position was left vacant in 2013 and not filled until July of 2024. Although Sheridan firefighters continued to conduct fire code maintenance inspections until 2020, these duties were subsequently taken over by the City's building department, allowing firefighters to shift their focus to pre-planning for existing and new construction projects. This arrangement lasted about a year and ended when the City Inspector resigned and the crews reimplemented the historical inspection program.

In December of 2022 the City Council approved 3 additional firefighter positions with all positions fill by November of 2023

Now under the leadership of Fire Chief Gary Harnish, the department has a service area of roughly 13.63 square miles and a staff of 22 employees. SFR has adopted the following mission statement and works tirelessly to achieve it.

Sheridan Fire–Rescue exists to provide a professional level of fire, life safety and emergency medical services to protect the people and property within the area served and prevent the loss of life, pain, suffering, and property damage.

Today SFR responds immediately when any member of the community needs help by providing professional, effective, and compassionate service. SFR currently operates from 1 fire station strategically located in the city. SFR Headquarters is housed in Fire Station 1 and contains the main administrative components of the department. Career staff work 24-hour shifts and provide primary fire suppression and EMS first response.

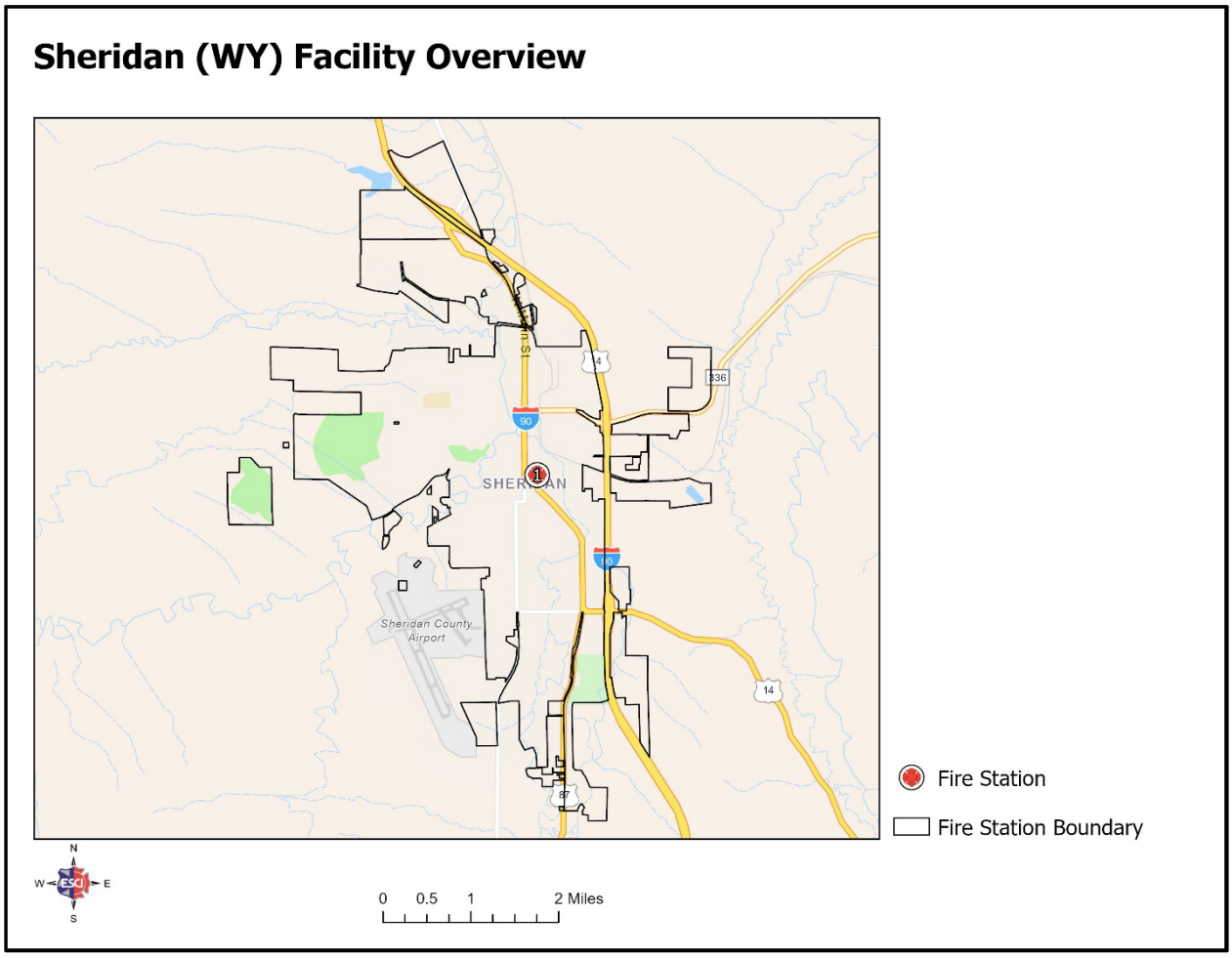
Services Provided

SFR accomplishes their mission through prevention, education, fire suppression, emergency medical services, rescue, mitigation of hazardous materials incidents, and other emergency activities.



The Sherida Fire–Rescue service area and the fire station location are depicted in the following figure.

Figure 4: Sheridan Fire–Rescue Service Area



Public Protection Classification: Insurance Services Office—Rating Bureau

The Insurance Services Office, Inc. (ISO©) is an independent company that collects and analyzes data about municipal fire suppression efforts in communities throughout the United States. According to a recent report, the ISO's Public Protection Classification program, or PPC, "is a proven and reliable predictor of future fire losses."[2] All other factors being equal, commercial property insurance rates are expected to be lower in areas with lower (better) ISO PPC Class ratings.

At the time of the most recent ISO survey, the ISO Fire Suppression Rating Schedule (FSRS) measured four primary elements of a community's fire protection system: Emergency Communications (max 10 points), Fire Department (max 50 points), Water Supply (max 40

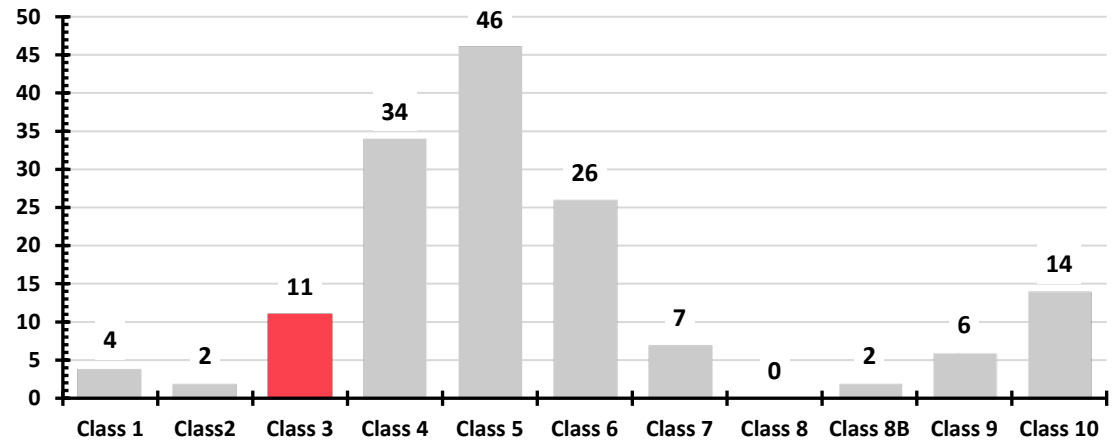
[2] Public Protection Classification, (PPC™) Summary Report, Prepared by Insurance Services Office, Inc., Mt. Laurel, New Jersey.

points), and Community Risk Reduction (max 5.5 points)-for a maximum possible total of 105.5 points.[3] The ISO then assigns a grade using a scale of 1 to 10, with Class 1 representing the highest degree of fire protection, and Class 10 designating a fire suppression program that does not meet ISO's minimum criteria.

As of 2024, SFR has a Public Protection Classification (PPC) rating of Class 3/3X[4] from the Insurance Services Office (ISO). This rating is what many insurance companies base annual premiums on for privately insured properties. The higher the PPC class, the greater the likelihood that individual property insurance premiums will increase, especially for commercial properties. PPC also provides fire departments with a valuable benchmark and is used by many departments as a valuable tool when planning, budgeting, and justifying protection improvements.

As a result of the latest reclassification, Sheridan is one of 11 communities out of 150 communities surveyed across the State of Wyoming to achieve a Class 3 rating and ranks in the top 7% of all communities surveyed in the state, as shown in the following figure.[5]

Figure 5: Comparison of ISO Class Ratings, State of Wyoming



[3] *The fourth category, community risk reduction, was added by ISO in 2012.*

[4] *For the split classification, 3/3X:*
The first class (3) applies to properties within 5 road miles of a recognized fire station and less than 1,000 feet from a fire hydrant or recognized alternate water supply. The second number class (3X) applies to properties within 5 road miles of a recognized fire station but beyond 1,000 feet of a hydrant.

[5] *Distribution of Communities by PPC Class Number within Classification: Facts and Figures about PPC™ Codes around the Country; Insurance Services Office, Inc., Mt. Laurel, New Jersey; retrieved from https://www.isomitigation.com/ppc/program-works/facts-and-figures-about-ppc-codes-around-the-country/*

ISO Element Summary

- **Emergency Communications:** SFR scored 7.10 points out of a possible 10 points.
- **Fire Department:** SFR scored 31.09 points out of a possible 50 points.
- **Water System:** SFR scored 36.66 points out of a possible 40 points.
- **Community Risk Reduction:** SFR scored 5.02 points out of a possible 5.50 points.
- **Divergence:** SFR had a divergence score of -5.89 points.
- **Total Score:** SFR had a total score of 73.98 points out of a possible 105.5.

The adjacent figure shows the grading for each of the four categories, plus divergence, from the most recent ISO audit. It is important to note that the score is slipping in a negative direction slightly.

Figure 6: ISO Classification Scores

Category	June 2014	June 2024
Communications Max score = 10.00	6.5	7.10
Percent max score	65%	71%
Fire Department Max score = 50.00	31.81	31.09
Percent max score	64%	62%
Water Supply Max score = 40.00	38.36	36.66
Percent max score	95%	91%
Risk Reduction Max score = 5.50	4.36	5.02
Percent max score	79%	91%
Divergence factor	-6.46	-5.89
Total Score	**74.57**	**73.98**
ISO Classification	**3/3X**	**3/3X**

Divergence

A note about "divergence." According to ISO, divergence "recognizes any disparity in the relative level of effectiveness of your fire department and water supply."[6] A divergence score is always negative, and ISO will reduce the overall PPC score if the relative scores for the fire department and water supply are different. In fact, the divergence factor may be high enough to result in a poorer ISO PPC classification. Thus, it is important to consider both the water supply and fire department criteria when seeking to improve a PPC classification; investing in one without the other will be less effective over time. Areas of divergence to be considered by SFR, along with the resultant impact, are quantified in the ISO report.

[6] *Divergence Factor, Insurance Services Office, Inc., Mt. Laurel, New Jersey; 1996, 2017; retrieved from https://www.isomitigation.com/technical/divergence-factor.html.*

Financial Analysis

The financial health of Sheridan Fire Rescue is being analyzed to determine the ability to provide emergency responses to protect the residents and property of the City of Sheridan. Financial analysis is important in determining the long-term sustainability of the fire department and its ability to achieve and maintain an acceptable level of service to the community.

The modeled status quo budget which follows the historical analysis yields a baseline estimate of the total cost of external and internal services provided by the department. In addition, the methodology facilitates projection of various service level changes into the future based upon the cost of adding various decision units from individual resources, engine and/or ladder companies, up to fully staffed fire stations. The cost, on an annual basis, of any major service level change including the cost of building new fire stations is presented in the main body of this study under the section titled, “Financial Basis for Cost Projections”.

Budget Development Process

The City of Sheridan’s Annual Budget is prepared and adopted in accordance with Generally Accepted Accounting Principles (GAAP) for all governmental funds, with all unrestricted appropriations lapsing at the end of each fiscal year. Serving as the foundation for the city’s financial planning and control, the budget process involves multiple stages to ensure alignment with financial goals and statutory requirements.

Each year, all City of Sheridan departments submit appropriation requests to the City Treasurer by March 30th. The Treasurer and City Administrator meet with department heads to review these budget requests, considering staffing requirements, ongoing expenses, and one-time costs for services, equipment, and projects.

Following Wyoming Statute §16-4-104 and Charter Ordinance 2202, the City Administrator prepares the tentative budget and submits it to the governing body by May 15th. This proposed budget is then reviewed in a public meeting, where the governing body assesses the allocations for each department. A public hearing, as required by law, is held by the third Tuesday in June to allow for community input—held on June 17, 2024, this fiscal year. Within 24 hours after the hearing, the governing body adopts the budget through resolution or ordinance, putting it into effect for the next fiscal year.

Post-adoption, the budget allows flexibility to reallocate any unspent funds with governing body approval. No city officer or employee may exceed the total appropriation for their department, though department heads are permitted to adjust internal allocations within their budget without requiring governing body approval. This structured approach ensures

fiscal responsibility while providing flexibility for departments to manage their funds effectively.

Department Funding

SFR has multiple divisions: Fire Administration, Fire Fighting, Fire Prevention, and Medical Services. The Fire Administration Division is funded from the General Fund, the General-Purpose Excise Tax (GPET), which is also known as the 5th Penny Sales & Use Tax, Direct Distribution (which is funded from state distributions), and Debt Service (funded from the General Fund and Special Assessment Fees). Direct Distribution is an unrestricted operating fund of which state distributions help fund. There is also a Debt Service Fund that comes out of the General Fund and Special Assessment Fees to account for loans and leases of equipment.

The Fire Fighting Division uses funds from GPET, Special Revenue (which accounts for grants and contracts that are legally obligated and designated for specific functions), and the Capital Project Fund (funded by the 6th Penny of Sales & Use Tax, GPET and Franchise Fees from public utility companies). The Capital Project Fund provides for the acquisition, construction or renovation of capital facilities or other equipment that will become assets. The Medical Services Division is funded by the General Fund, GPET, and Special Revenue funds.

Most of the salaries and benefits are paid from the General Fund in the Fire Administration Division. The General Fund for the City of Sheridan is funded by local revenues (property, vehicle and lodging taxes), licenses/permits (building/planning, liquor/contractor licenses), other local revenues (shared 911 services), state revenues (sales tax, mineral royalties, severance taxes, other revenues from the State of Wyoming), charges (passports and cemetery fees), fines and forfeitures (municipal code violations), miscellaneous (interest, contributions, sale of fixed assets, etc.) and allocated transfers (charges assessed to the enterprise funds for the cost of general government).

Revenues Analysis

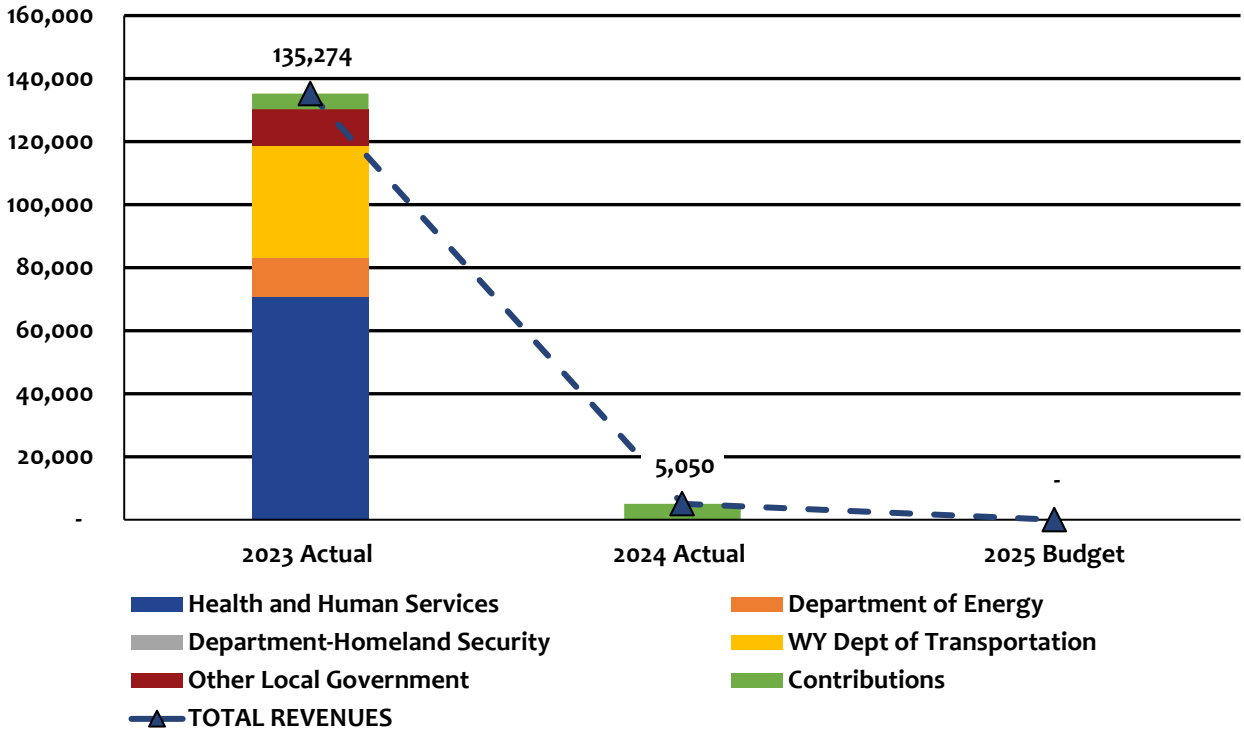
The revenues for SFR are grants and contracts that are shown in the Special Revenue Fund, of which are normally non-recurring revenues. The figure below indicates the number of grants that were provided for the department from FY 23 actuals to FY 25 budgeted.

Figure 7: Special Revenue Fund - Revenues: FY 23 to 24 Actual, FY 25 Budgeted

REVENUES	2023 Actual	2024 Actual	2025 Budget
Health and Human Services	70,839	-	-
Department of Energy	12,099	-	-
Department-Homeland Security	-	-	-
WY Dept of Transportation	35,820	-	-
Other Local Government	11,466	-	-
Contributions	5,050	5,050	-
TOTAL REVENUES	**135,274**	**5,050**	

The following graph depicts the amounts from the various grants that help SFR.

Figure 8: Special Revenue Fund Revenues, FY 23 Actual to 25 Budgeted



Expenditures Analysis

For the purposes of this analysis, the various division budgets are grouped together for the entire department to determine the total cost of operating expenditures. Recurring expenses are those that are to be reasonably expected to continue year after year. These include personnel, utilities, and fuel. Non-recurring expenditures are those that are one-time purchases or major purchases that are expected for a one-time or limited to a certain

period, i.e. capital. The figure below provides the matrix to distinguish these grouped categories used in the analysis.

Figure 9: ESCI Grouping of Operating Line Items

SFR Line Item/Description		ESCI Category
6101	Office Supplies	Operating
6103	Technology Equipment	
6104	Software & Website Fees	
6105	Uniforms/Clothing	
6108	Equip/Mach/Furniture-Non-cap	
6111	Department Functional Supplies	
6112	Postage	
6202	Memberships	
6203	Licenses/Certs-Employees	
6204	Licenses/Fees/Permits-Other	
6801	Printing	
6802	Advertising	
6803	Food	
6809	Miscellaneous	
6502	Rent/Lease-Equip/Mach/vehicles	Maintenance
6601	Contractual-Professional	
6602	Contractual-Other	
6701	Repairs/Maintenance-Buildings	
6704	Repairs/Maint-EquipMachVehArt	
6109	Petroleum Products	Utilities
6401	Gas/Electric-Buildings	
6403	Telecom Services	
6201	Travel/Training	Travel
6301	Insurance-Property	Insurance
6302	Insurance-Vehicle	
6303	Insurance-Liability	
6850	Principal	Debt
7600	Cap Outlay-Equip/Machinery Vehicles	Capital
8020	Transfer to Special Rev Fund	Transfers
8030	Transfer to Debt Service Fund	
8040	Transfer to Capital Project Fund	
6001	FT Salaries/Wages	Salaries & Benefits
6003	Overtime	
6010	FICA	
6030	Retirement	
6040	Workers Comp	
6050	Employee Insurance	

The following figure shows actual expenditures for FY 22 to 24 and FY 25 budgeted figures. Most of the department expenses are recurring, except for capital equipment. The department has debt service for Plan A contributions, shown in FY 23 thereafter.

Figure 10: Expenditures FY 22 Actual to FY 25 Budgeted

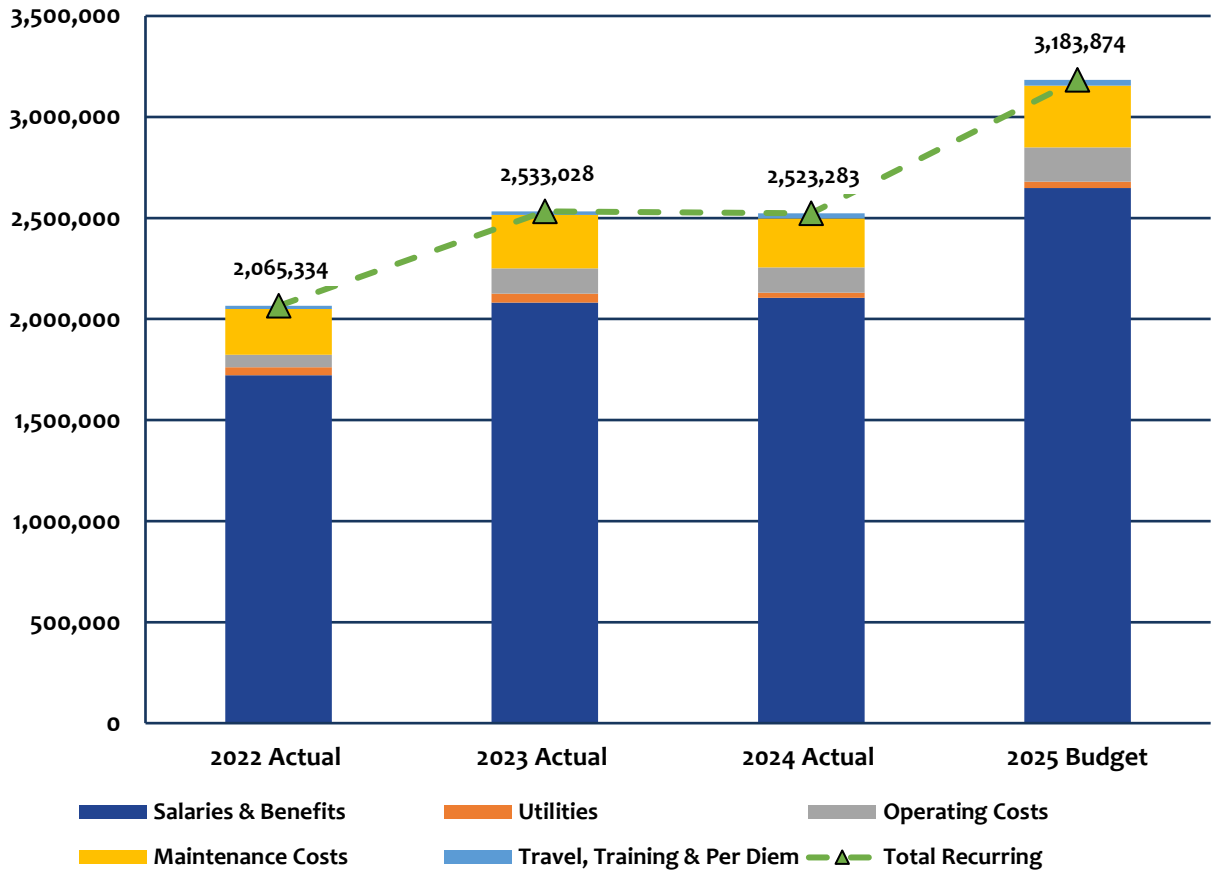
EXPENDITURES	2022 Actual	2023 Actual	2024 Actual	2025 Budget
Salaries & Benefits	1,721,471	2,082,028	2,105,785	2,648,410
Utilities	40,648	44,253	25,274	31,000
Operating Costs	60,671	124,400	124,304	170,113
Maintenance Costs	227,504	264,995	242,940	305,651
Travel, Training & Per Diem	15,041	17,352	24,980	28,700
Total Recurring	**2,065,334**	**2,533,028**	**2,523,283**	**3,183,874**
Debt Service	-	86,275	86,275	86,275
Total Debt Service	**-**	**86,275**	**86,275**	**86,275**
Capital	-	393,764	195,269	50,000
Total Capital	**-**	**393,764**	**195,269**	**50,000**
TOTAL OPERATING	**2,065,334**	**2,533,028**	**2,523,283**	**3,183,874**
TOTAL FUND	**2,065,334**	**3,013,067**	**2,804,827**	**3,320,149**

The average increase in Salaries & Benefits for the period being analyzed is 16.0%, totaling an annual average of 5.3%. The FY 25 budget includes a 5% increase in budgets. Since Salaries & Benefits comprise 83.2% of the budget, it indicates most increases are affected by this line item.

The next largest recurring line item is Maintenance, which comprises 9.6% of the operating budget. It has increased an average of 11.3% or 3.8% year over year. This grouping includes contractual services, repairs and maintenance of buildings and vehicles and rentals and leases of machinery or vehicles. Of the line items, Professional Contractual Services comprises the largest increase. Capital equipment is shown in the GPET, Special Revenues and Capital Project funds, indicating grants provide for many purchases.

The following figure indicates the grouping of line items against the total recurring expenditures.

Figure 11: Expenditures by Category, FY 22 Actual to FY 25 Budgeted



The total recurring expenditures averaged 16.1% for the period, averaging 5.4% year over year. Operating costs, while comprising 5.3% of the budget, have increased 47.3% on average for the period, indicating the largest line-item increase.

The following figure includes the Plan A contributions as part of Salaries & Benefits to indicate the total costs for personnel services.

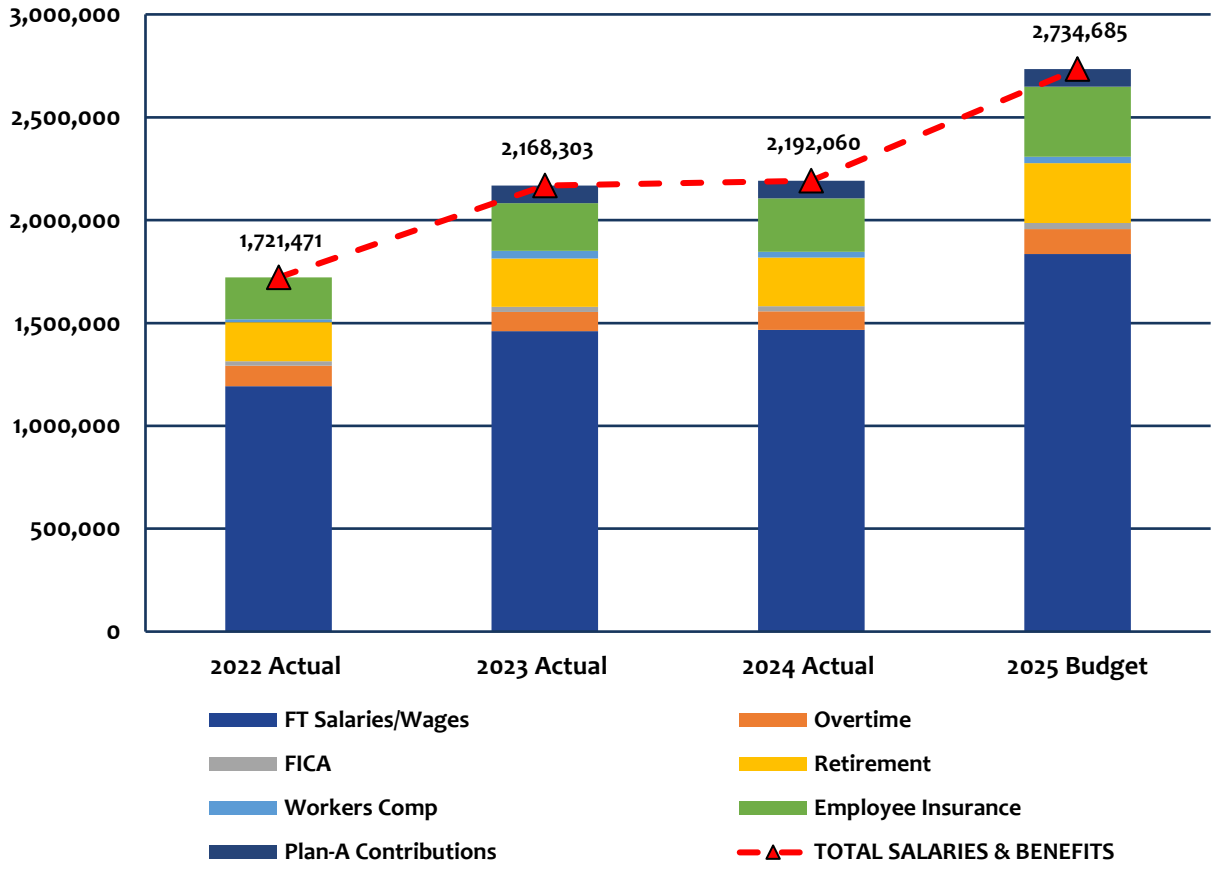
Figure 12: Salaries & Benefits Total, FY 22 Actual to FY 25 Budgeted

Salaries & Benefits	2022 Actual	2023 Actual	2024 Actual	2025 Budget
FT Salaries/Wages	1,193,303	1,459,913	1,467,109	1,836,010
Overtime	98,972	94,004	90,005	120,000
FICA	21,181	25,386	24,707	30,766
Retirement	190,044	234,731	235,862	290,834
Workers Comp	14,471	37,047	28,214	30,111
Employee Insurance	203,499	230,948	259,888	340,689
Plan-A Contributions	-	86,275	86,275	86,275
TOTAL SALARIES & BENEFITS	**1,721,471**	**2,168,303**	**2,192,060**	**2,734,685**

The Salaries/Wages line item comprises 67.1% of the total personnel costs, while benefits, including Plan A contributions, equate to 32.9%. Salaries & Wages have an average of 16.0%, equating to about 5.3% year over year. Workers Compensation accounts for the largest average for the period being analyzed at 46.3% or about 15.4% annually. Total Salaries & Benefits average 17.3% or 5.8% year over year.

The following figure compares Salaries/Wages against the individual benefits provided for personnel services.

Figure 13: Salaries & Wages vs Benefits, FY 22-25 Budget



The total salaries and benefits for FY 25's budget includes the once vacant Fire Marshal position. This position was recently filled.

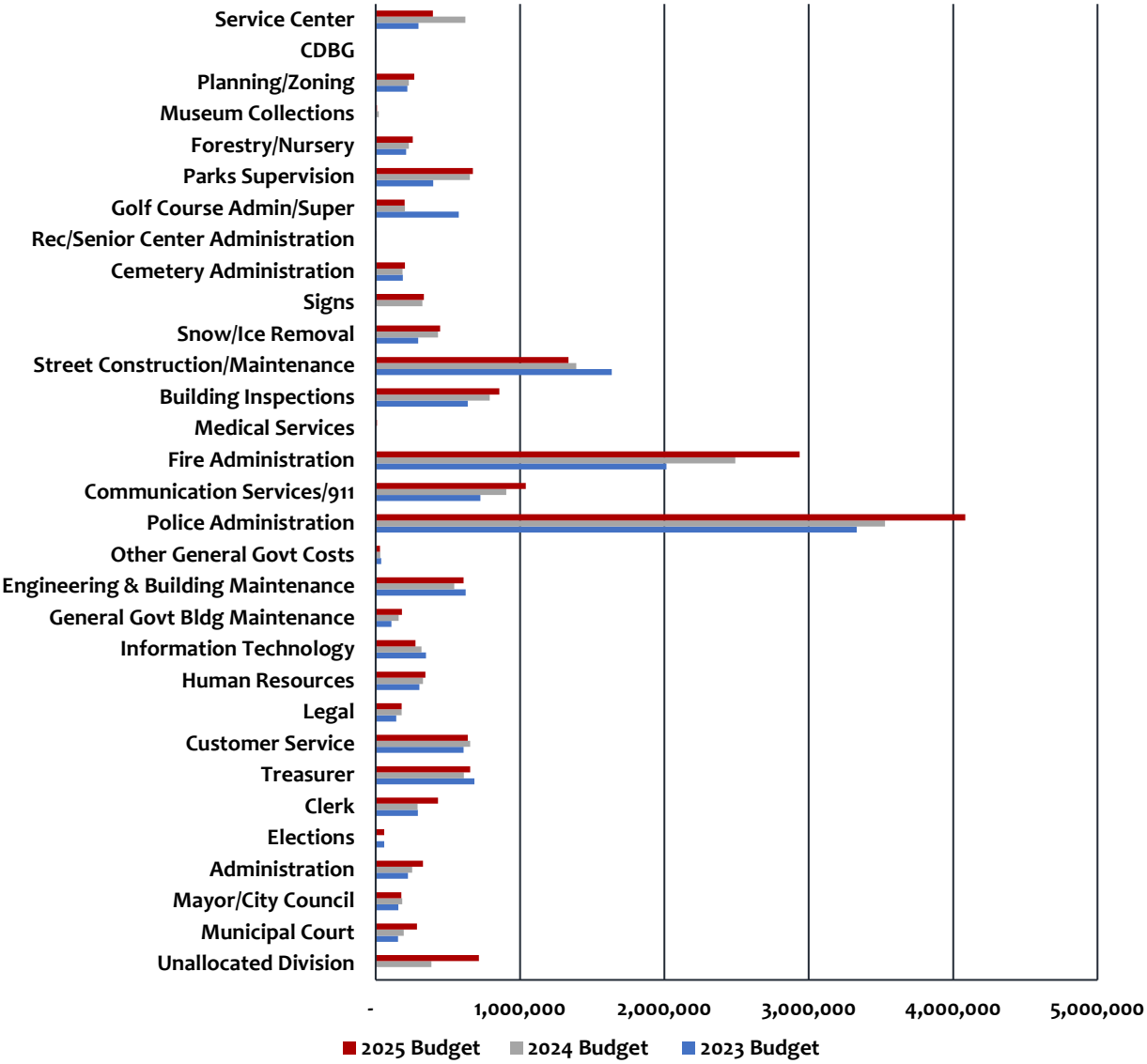
Since the majority of the budget is out of the General Fund, the following figure breaks down the allocations for each division, along with the percentage of the budget.

Figure 14: General Fund Allocations by Departments, FY 23 to 25 Budgeted

Expenditures	2023 Budget	% of Total	2024 Budget	% of Total	2025 Budget	% of Total
Unallocated Division	33	0.00%	385,898	2.39%	714,809	3.98%
Municipal Court	154,410	1.08%	195,110	1.21%	285,090	1.59%
Mayor/City Council	156,600	1.10%	183,411	1.14%	178,564	0.99%
Administration	224,550	1.57%	253,427	1.57%	328,057	1.83%
Elections	60,000	0.42%	-	0.00%	60,000	0.33%
Clerk	291,500	2.04%	289,644	1.79%	431,830	2.40%
Treasurer	684,800	4.80%	610,048	3.78%	654,658	3.64%
Customer Service	608,950	4.26%	655,668	4.06%	637,434	3.55%
Legal	142,000	0.99%	180,000	1.12%	180,000	1.00%
Human Resources	303,750	2.13%	328,560	2.04%	345,202	1.92%
Information Technology	347,600	2.43%	317,656	1.97%	275,971	1.54%
General Govt Bldg. Maint.	109,400	0.77%	158,140	0.98%	182,656	1.02%
Engineering & Bldg. Maintenance	623,300	4.37%	544,966	3.38%	608,737	3.39%
Other General Govt Costs	37,600	0.26%	32,345	0.20%	30,027	0.17%
Police Administration	3,333,200	23.34%	3,527,337	21.85%	4,083,380	22.73%
Communication Services/911	725,400	5.08%	903,925	5.60%	1,039,811	5.79%
Fire Administration	**2,015,125**	**14.11%**	**2,492,103**	**15.44%**	**2,936,421**	**16.35%**
Medical Services	-	0.00%	-	0.00%	9,000	0.05%
Building Inspections	637,500	4.46%	789,418	4.89%	856,043	4.77%
Street Construction/ Maintenance	1,635,604	11.46%	1,389,522	8.61%	1,335,906	7.44%
Snow/Ice Removal	294,550	2.06%	432,498	2.68%	445,980	2.48%
Signs	-	0.00%	322,509	2.00%	333,151	1.85%
Cemetery Administration	187,950	1.32%	185,932	1.15%	203,230	1.13%
Rec/Senior Center Admin.	2,000	0.01%	2,090	0.01%	2,803	0.02%
Golf Course Admin/Super	575,628	4.03%	201,799	1.25%	200,000	1.11%
Parks Supervision	398,400	2.79%	653,387	4.05%	674,016	3.75%
Forestry/Nursery	210,850	1.48%	229,149	1.42%	257,778	1.43%
Museum Collections	2,900	0.02%	22,500	0.14%	8,600	0.05%
Planning/Zoning	219,000	1.53%	229,527	1.42%	267,470	1.49%
CDBG	-	0.00%	2,400	0.01%	600	0.00%
Service Center	295,500	2.07%	621,931	3.85%	396,867	2.21%
Total All GF Departments	**14,278,100**	**100%**	**16,140,900**	**100%**	**17,964,091**	**100%**

The following figure shows graphically how the departments are broken down in the General Fund allocations.

Figure 15: General Fund Cost Allocation by Department, FY 23 to 25 Budget



The fire department has 16.35% of the General Fund allocations, while Police Administration has 22.73% and the Communication Services/911 consists of 5.79%. It is typical to find about 30% to 40% of General Fund allocations devoted to public safety for the welfare of the residents of the City of Sheridan.

The following figure breaks down the number of full-time equivalent (FTEs) that are allocated to each of the departments that are funded by the General Fund.

Figure 16: General Fund FTE by Divisions, FY 23 to 25 Budget

Personnel	2023 Budget	% of Total	2024 Budget	% of Total	2025 Budget	% of Total
Municipal Court	1.00	0.75%	1.00	0.72%	1.50	1.04%
Mayor/City Council	7.50	5.66%	7.00	5.03%	7.00	4.86%
Administration	1.50	1.13%	2.00	1.44%	2.00	1.39%
Clerk	2.00	1.51%	2.00	1.44%	2.50	1.73%
Treasurer	5.00	3.77%	5.00	3.59%	5.50	3.82%
Customer Service	4.00	3.02%	4.00	2.87%	4.00	2.78%
Human Resources	2.00	1.51%	2.00	1.44%	2.00	1.39%
Information Technology	2.00	1.51%	2.00	1.44%	2.00	1.39%
Engineering & Building Maintenance	5.00	3.77%	5.00	3.59%	5.00	3.47%
Police Administration	36.00	27.15%	37.00	26.56%	37.00	25.68%
Communication Services/911	10.00	7.54%	10.00	7.18%	11.00	7.63%
Fire Administration	**21.00**	**15.84%**	**21.00**	**15.08%**	**22.00**	**15.27%**
Building Inspections	5.00	3.77%	7.00	5.03%	7.00	4.86%
Street Construction/Maintenance	12.35	9.31%	13.00	9.33%	12.50	8.67%
Snow/Ice Removal	3.35	2.53%	4.85	3.48%	4.45	3.09%
Signs	1.30	0.98%	2.85	2.05%	3.75	2.60%
Cemetery Administration	0.00	0.00%	0.00	0.00%	1.30	0.90%
Golf Course Admin/Super	2.25	1.70%	2.25	1.62%	2.25	1.56%
Parks Supervision	4.15	3.13%	4.15	2.98%	4.15	2.88%
Forestry/Nursery	1.90	1.43%	1.90	1.36%	1.90	1.32%
Planning/Zoning	2.00	1.51%	2.00	1.44%	2.00	1.39%
Service Center	3.30	2.49%	3.30	2.37%	3.30	2.29%
Total of All GF Departments	**132.60**	**100%**	**139.30**	**100%**	**144.10**	**100%**

The number of FTEs for public safety response totals 48.58% (fire, police and communication services). This is due to the departments that do not have personnel paid out of the fund; rather, they are for operational costs only.

Financial Forecast

The City of Sheridan passed Resolution 17-14 in April 2014 to provide reserves for the General Fund equal to six months of the annual General Fund expenditure budget. While the goal is to save 50% of the budget for "boom and bust economic conditions," it also indicates that there is more available in the General Fund for ongoing expenditures, such as personnel or one-time capital purchases.

It is normally an accounting standard to maintain 30 % of an operating budget as reserves as the most conservative amount; taxes are normally implemented for the residents of the city to be used with some immediacy in the current fiscal year.

Since the department is under the General Fund of the City of Sheridan, it is not considered an enterprise fund where there are individual revenue streams that can be used to determine sustainability as a department or fund alone. It is then essential to review and consider long-term needs based on the impact on the General Fund, under the assumption that there are also needs for other departments that are similarly funded. The review of the expenditures assumes that, all things being equal, the department will continue to maintain the sustainability of current operations (status quo) for short- and long-term plans. The key assumptions used in the forecast are presented below, followed by the recommendations and metrics to consider.

Revenue Assumptions

- The fire department is funded by the General Fund.
- The GPET helps to supplement a portion of the divisions within the department to offset the costs from the General Fund.
- For FY 25, the City of Sheridan's property taxes constitute 15.6% of the General Revenue fund.
- Property taxes have been projected to increase 5.5% over last year.

Expenditure Assumptions

- Having a capital improvement program and apparatus replacement plan will help to determine long-term costs for future planning.
- Professional Contractual Services account for 68.3 % of the maintenance costs of the budget. It is recommended to review the contracts to determine any cost savings in the agreement or if services can be brought in-house.
- Resolution 17-14 (April 2014) provides for six months of the General Fund expenditure budget for reserves.
- In FY 24, the General Fund expenditure budget was proposed at $16,148,900, with reserves totaling 37.15 %.
- Reserves total 33.4% of the General Fund budget in FY 25. The city has a goal of 50% for reserves.

Status Quo Forecast

The financial forecast for the department, referred to as the "Status Quo Forecast," projects the financial health by extrapolating current operational patterns into the future. This

forecast assumes that the jurisdiction maintains the current level of services and expenditure growth rates.

Expenditure Outlook

Normally, the forecast is built considering grouped expenditure totals, however, due to the detail of data that was provided, individual line-item data is projected so as to accommodate the costs that may require a larger increase than others. The projections include a 5.3% annual increase for Salaries & Benefits, combined. Salaries & Wages (that comprise 69.3% of the grouping) increased 5.3% year over year. Utilities were the grouping that decreased, due to a lower FY 24 actual number than previous fiscal years. This was affected by the data provided for Petroleum Products that could be billed differently or not needed as much for the current fiscal year, as it was not budgeted for FY 25.

Forecast projections, having only expenditures, will not provide fund balance analysis due to the grouping of multiple department budgets within the General Fund. Therefore, the projected amounts are for expenditures, without revenues, as would be treated differently if the department were an enterprise fund.

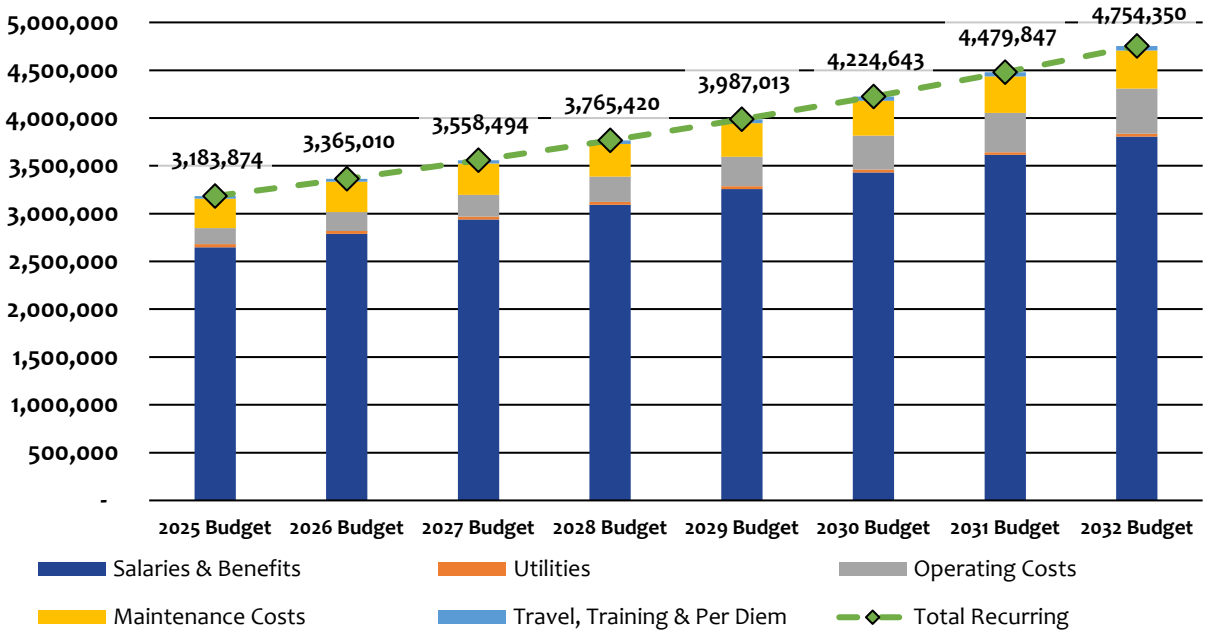
The total recurring costs for expenditures increased 5.4% year over year, with the market increases for services provided to the department. Operating Costs account for a projected 15.8% year-over-year increase. Supplies and services in the market have affected many of the costs associated with this grouping.

Figure 17: Expenditure Projections, FY 26-32

EXPENDITURES	2025 Budget	2026 Budget	2027 Budget	2028 Budget	2029 Budget	2030 Budget	2031 Budget	2032 Budget
Salaries & Benefits	2,648,410	2,789,229	2,937,536	3,093,728	3,258,225	3,431,469	3,613,924	3,806,080
Utilities	31,000	30,609	30,222	29,841	29,464	29,092	28,725	28,362
Operating Costs	170,113	196,918	227,947	263,866	305,444	353,574	409,288	473,780
Maintenance Costs	305,651	317,188	329,160	341,584	354,476	367,856	381,740	396,149
Travel, Training & Per Diem	28,700	31,067	33,629	36,402	39,404	42,653	46,170	49,978
Total Recurring	**3,183,874**	**3,365,010**	**3,558,494**	**3,765,420**	**3,987,013**	**4,224,643**	**4,479,847**	**4,754,350**

The following figure depicts the steady increase of costs for the status quo forecast that will affect the General Fund in the future.

Figure 18: Projected Expenditures, FY 26-32



Management Components

Effective fire and EMS organizational management is a complicated and expanding challenge for fire service leaders and planning alone will not suffice. With increasing complexity comes increased cost. Today's organization must address management complexities that include an effective organizational structure, setting and measuring levels of service, staying abreast of new technologies and methods, evaluation and maintenance of a qualified workforce, staff development for effective succession planning, and financial sustainability for the future. The establishment of department mission statements, vision statements, and guiding principles ensures the employees are aware of the expected behaviors and attitude required for the success of SFR. While this section will discuss the various components of personnel management, it should be noted that good management alone will not guarantee an efficient and effective organization.

Mission, Vision, Goals, and Objectives

To be an efficient and effective organization, management must be based on several components. These include a clearly stated *mission* (the fundamental purpose of an organization), a *vision* for the future (where is the organization going), and the *core values* or *guiding principles* (how will the organization treat its members as it navigates from its current state to its desired future). These fundamental elements allow organizations to evaluate the current environment in which they operate and establish strategic initiatives, goals, and objectives necessary to move forward progressively. SFR has established and communicated the following fundamental elements.

Mission Statement

Through the following mission statement, SFR hopes to meet the needs of the community it serves:

> *Sheridan Fire–Rescue exists to provide a professional level of fire, life safety and emergency medical services to protect the people and property within the area served and prevent the loss of life, pain, suffering, and property damage.*

This broad mission statement allows SFR the flexibility to utilize a wide range of tactics in responding to the needs of the citizens and visitors of Sheridan. The development of a mission statement is only one component of ensuring success. The mission statement must be communicated to internal and external stakeholders, which SFR accomplishes by placing the statement in the fire station and fire administration areas.

Vision Statement

Vision statements are commonly a declaration of an organization's objectives to achieve a state of continuous improvement. This is an important foundational component because it shows that an organization recognizes that they are not necessarily where they would like to be and are willing to set goals to reach their objectives. It should be noted that adopting a vision does not necessarily indicate that an organization is broken but rather a declaration that they could be better and refuse to settle for the status quo.

SFR has developed and adopted the following vision statement.

We will accomplish our mission through prevention, education, fire suppression, emergency medical services, rescue, mitigation, of hazardous materials incidents and other emergency and non-emergency activities.

Core Values

The core values of SFR are:

Trust – Honesty – Commitment – Accountability

The rationale for adopting organizational core values is to support the vision and shape the culture in a manner that accurately reflects what an organization values, which should be aligned with community values and expectations. SFR's core values are simple, easy to understand, and accomplish the overall objectives of the department. SFR takes this one step further and explains each of the identified values and the impacts that each one has on internal and external stakeholders.

Internal Assessment of Critical Issues and Future Challenges

Similar to the need for guiding documents in the rapidly changing environment of emergency services, analysis and understanding of critical issues and emerging challenges facing the department is critical for organizational leaders and their success. No single leader should address these issues and challenges alone and must engage and involve the numerous talented and capable members of their organization at all levels. SFR's Fire Chief has identified the five most critical issues that are currently faced by the organization. This is illustrated in the following figure.

Figure 19: Identified Critical Issues

Priority	Fire Chief's Perspective
First	Staffing Challenges and Increasing Call Volumes: Sheridan Fire-Rescue is facing growing pressure from rising call volumes. The reliance on off-duty personnel recall, occurring about six times per month, underscores the strain on a single engine company and its ability to meet increasing community demands.
Second	Comprehensive Response Capabilities vs. Training Limitations: Rising call volumes strain Sheridan Fire-Rescue's capacity for essential training and routine tasks. This year, only 50% of hydrant testing and maintenance was completed, impacting readiness, public education, and inspections. Addressing these demands is critical for sustaining effective community service.
Third	Declining Volunteer Fire District Support: Local volunteer fire districts, much like others nationwide, face declining membership, impacting their ability to meet local and mutual aid needs. As daytime staffing in bedroom communities continues to drop, Sheridan Fire-Rescue increasingly fills a crucial role as the primary provider for specialized operations and fire response.
Fourth	Recruitment, Retention, and Pay Disparities: While recent negotiations have brought starting pay to a competitive level within Wyoming, Sheridan's high cost of living remains a challenge for recruiting new personnel. Limited promotional opportunities also affect morale and retention. Without regular pay increases, Sheridan Fire-Rescue risks quickly falling behind market rates, further impacting its ability to attract and retain qualified staff.
Fifth	Ambulance Service Responsibilities and Resource Constraints: Sheridan Fire-Rescue currently serves as a backup for private ambulance services across a 2,800-square-mile area but lacks the resources and staffing to do so sustainably. While backup requests have lessened with a new ambulance provider, each call strains SFR's limited personnel, especially in a system attempting to ensure immediate ambulance availability without adding dedicated staffing. Additionally, maintaining an ambulance apparatus without billing capabilities burdens an already stretched budget, raising the question of whether Sheridan Fire-Rescue should remain in the ambulance service or if staffing should be adjusted to better support this role.

Internal and External Communication Processes

Communication within an organization and the external environment is a critical factor in achieving an effective and efficient organization. Organizations that lack effective communication can have difficulty in reaching their ultimate potential. The following describes both internal and external communications within SFR.

Internal Communications

SFR prioritizes internal communication through a variety of methods to ensure staff are well-informed and engaged. All department members have email addresses and access to a department intranet site, which can be utilized to disseminate information to all personnel in addition to the use of written memos. A monthly officers meeting, which

includes union representation, provides a platform for leadership updates and staff concerns, while nearly daily interactions with the duty crew allow for regular operational check-ins. Information is also distributed via email and daily text messages during large-scale incidents, such as the recent fire in the Big Horns, ensuring timely communication in urgent situations. Broader updates come through the city's monthly newsletter, twice-yearly all-hands meetings, and a city suggestion box that encourages anonymous feedback. Additionally, SFR participates in the City Employee Satisfaction Survey to gauge morale and identify areas for improvement. These combined approaches create a well-rounded internal communications framework that supports SFR's operational and organizational needs. There is a vertical communications path clearly identified through a chain-of-command.

External Communications

SFR also accomplishes external communications through multiple avenues. The primary source of external communication is provided by the department's website and social media accounts. The SFR Facebook® account and Instagram® account help to reach citizens and share information. A monthly newsletter from all city departments and the City Administrator is offered to citizens.

Planning For Fire Protection Services

Emergency services continually contend with a rapidly changing environment. Improved tools, technologies, increased regulation of activities, and changing risk profiles, are all challenges that, if not planned for, create reactionary management instead of proactive management. Departments can avoid service complications through continuous evaluations of the internal and external environment and aligning the organization around the needs of these environments. By analyzing data and trends and implementing course corrections, an organization will stay on the leading edge of service delivery.

Without effective planning, it is impossible for an organization to know when it is reaching milestones or providing exceptional services to its constituency. The National Fire Protection Association has established NFPA 1660, *Standard for Emergency, Continuity, and Crisis Management: Preparedness, Response, and Recovery* and NFPA 1201: *Standard for Providing Fire and Emergency Services to the Public,* as standards to assist fire and EMS departments in establishing and maintaining planning documents and conducting planning activities.

The Current Planning Process

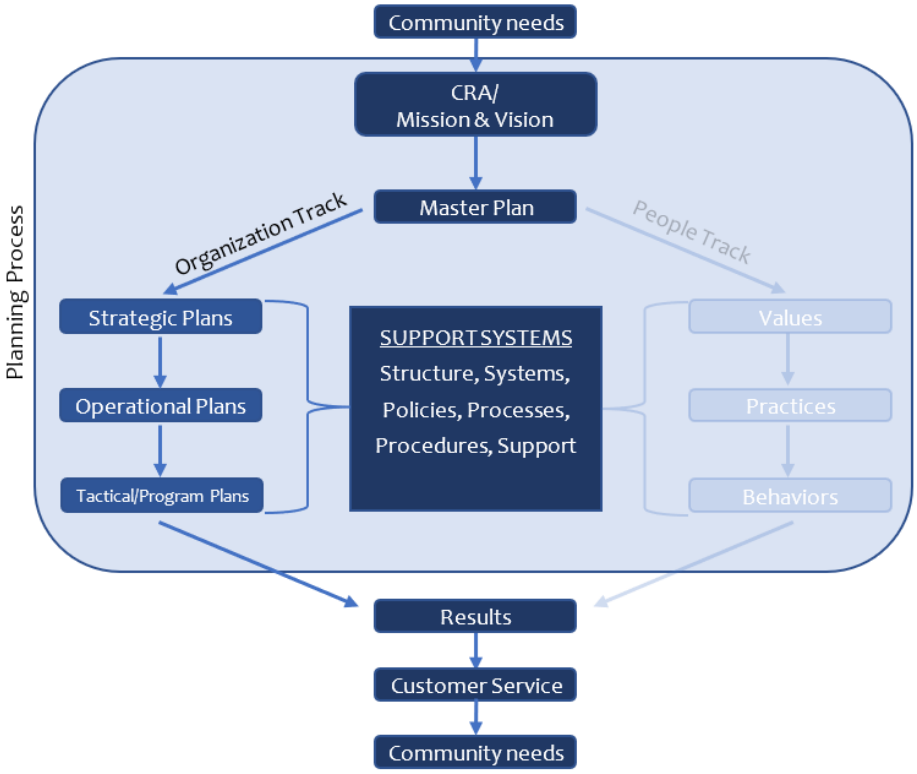
SFR recognizes the growing importance of fire department planning and has begun implementing processes to address the dynamic service demands of the community. While the organization is still in the early stages, it is focusing on identifying critical issues and understanding the challenges it faces. These efforts mark the first steps toward developing comprehensive plans that will guide operations and ensure the fire department is prepared for future needs. Through this evolving process, SFR aims to position itself for effective, data-informed decision-making to support long-term success.

Organizational Planning

In order to do the best job possible with available resources, organizations must focus on improving services while identifying programs or activities that may no longer serve their changing needs. Through planning, a fire and EMS department can establish a vision, create a framework within which decisions are made, and chart its course to the future. The quality and accuracy of the planning function determine the success of the organization. To be truly effective, an emergency services agency must consider planning on four distinct levels.

These planning levels are depicted in the following figure.

Figure 20: Organizational Alignment



To remain highly effective and improve service delivery, an organization must identify programs and activities that may no longer serve the community's changing needs. The process illustrated above is called organizational alignment, adapted from the Vector Group to meet the fire service's needs.[7] This process aligns the entire organization by examining the community needs and cascading those needs down through the community risk assessment (CRA), mission and vision. After the community risk assessment, a master plan is created outlining the service delivery needed to mitigate the vulnerabilities from the community risk assessment. There are separate processes that mirror each other for both the organization and the people planning.

The organizational track looks at strategic, operational, and tactical/program plans. The "people track" details the individuals' values, practices, and behaviors. Both pathways come back together to measure results. Keep in mind that these processes are not exclusive to each other, and many times come together into a single plan. Finally, we compare service delivery to the community needs to measure results. A fire department can stay true to its core mission and competencies through proper planning while sculpting its vision to serve

[7] *Group, Vector. MODEL: Strategic Alignment. PDF. Denver: Vector Group, 2016.*

the new environment. The quality and accuracy of the planning processes determine the organization's success.

To be truly effective, an emergency services agency must consider planning on many distinct levels:

- Master planning
- Strategic and values planning
- Operational and practices planning, including emergency preparedness
- Tactical/project and behavioral planning
- Infrastructure support for these plans

Master-level planning is the formulation of a long-term outlook bringing together the CRA, and the stated mission to create the organization’s vision establishing the organization’s long-term effectiveness as its operating environments change over time. Considering the current and future needs of the community and the organization is vital to a successful planning process. The master plan lays out a comprehensive roadmap that will take the organization to its desired future state from its current form.

Strategic and values level planning establish the direction for the organization, determining its operational objectives and cultural values and formulating the strategies required to achieve its mission and vision in the master plan. In addition, strategic planning involves creating guidelines for the department management to follow to accomplish the objectives of the organization formulated in the master plan.

On the other hand, operational and practices planning guide the organization in the routine undertaking and emergency preparedness to mitigate potentially damaging events that could compromise an organization's or constituents' ability to function. It involves short-term activities to be achieved by employees, integrates the agency into other local, regional, or national response networks, and lays out how the organization demonstrates its values. These activities directly accomplish the operational objectives and indirectly support the master plan vision.

Tactical/program and behavioral planning involve the development of strategies for potential emergency incident response and program projects like SCBA maintenance or facilities construction. Finally, the behavioral level takes the peoples’ practices and translates these practices into behaviors that demonstrate the identified values of the organization. All of which support the operational plans, strategic plan, master plan, and in turn, the organization’s mission.

SFR is undertaking efforts for planning by engaging ESCI to assist in its long-range planning efforts. Previous planning efforts have been limited apart from some tactical planning accomplished through special hazard plans and hazmat planning.

Master Planning

Master planning, also called long-range planning, is a process that seeks to answer several questions:

- Where is our organization today (mission)?
- Where will we need to be in the future (vision)?
- What service do we need to provide (service)?
- How do we affect the risks our community faces (CRA)?
- How do we get there (plan)?

SFR has recognized the need for a long-range planning effort by undertaking this master planning process. This study gives the department a clear understanding of where the organization is today based on evaluating current conditions. Then it contemplates the department's future requirements and builds strategies to meet them. These strategies are detailed in the report's Future System Recommendations sections. The design of this Master Plan study is to provide a view of the organization for a five to ten-year time frame.

Strategic Planning

A strategic plan considers a three-to-five-year planning horizon and establishes prioritized goals and objectives for the organization. The last SFR Strategic Plan was completed in 2015 and had four identified goals with supporting objectives. A strategic plan evaluates, prioritizes, and implements the recommendations of the master plan. Strategic planning involves creating guidelines for the department management to follow to accomplish the objectives of the organization formulated in the master plan. The following figure represents examples of different organizational inputs that might be considered when creating a strategic plan.

Figure 21: Strategic Planning Components



Strategic plans should ensure that the speed, strength, and depth of response by a department are adequate when deployed to an emergency. Additionally, this requires the creation of a standards of cover (SOC) document. SFR should consider this as a follow-on project to the master planning process. Creating this standard involves:

- Identification of potential risk types,
- Identifications of critical tasks for objectives for each risk type,
- Calculation of the number of resources needed to perform each essential task, and
- A methodology assuring adequate resources are dispatched to an incident via 911 center protocols.

Operational plans stemming from the strategic planning process need to address the timely implementation of mutual and automatic aid to meet the requirements of the SOC. In addition, mutual aid agreements should incorporate resource needs and responsibilities. One of the most critical aspects is integrating these agreements into the 911 center's Computer Aided Dispatch (CAD) systems for the seamless automatic activation of mutual aid deployment.

Establishing a customer-oriented strategic plan accomplishes the following:

- Identification of the strengths, weaknesses, opportunities, and challenges of the agency
- Determination of the community's service priorities

- Understanding the community's expectations of the agency
- Establishment of realistic goals and objectives for the future
- Definition of service outcomes in the form of measurable performance objectives and targets

SFR has recognized the value of department planning, this has led to the commissioning of a master plan. SFR should continue the strategic planning process by completing a strategic plan to help implement the recommendations from the master plan. This strategic plan should also include a three- to five-year financial plan.

Operational Planning

Operational planning includes establishing guides for the organization of routine undertakings such as divisional plans, response plans, staffing policies, mutual and automatic aid (locally and regionally), and specialty resource identification.

The following figure represents the organization's primary divisions that should be considered when an organization is in the planning process.

Figure 22: Operational Planning Components



Divisional plans such as training, EMS, support services, administration, etc., should have operational plans instituted. These divisional plans outline responsibilities, staffing, schedules, goals, objectives, and other needs specific to the division. Many of these plans are broken down into smaller groups that require specialized needs, i.e., special teams,

apparatus maintenance, etc. The following figure demonstrates how a divisional plan like wildland operations can be separated to build more detail.

These plans allow the organization to understand the duties of each division and how the divisions support the master plan, mission and vision, and the fire department's strategic plan.

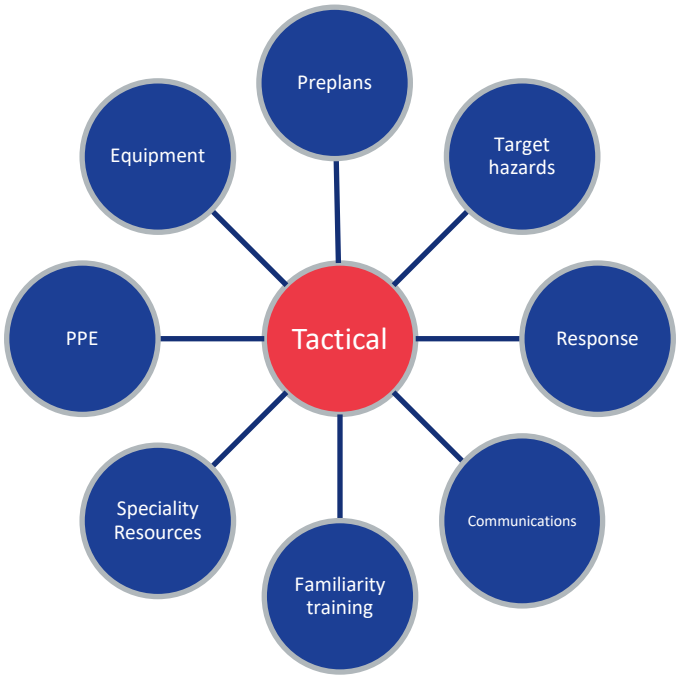
Tactical /Program Planning

This area of planning is where the rubber meets the road. These plans are detailed and task-driven. This planning section has two main areas, tactical response and program areas. Tactical planning is pre-incident, target hazard, response, and emergency planning.

Tactical

When responding to a building or property during an emergency, there is limited time to sort out the special hazards, location, and treatment of critical components. A lack of familiarity with buildings and property can easily lead an emergency crew to use valuable time planning the incident, become disoriented, or, even worse, suffer an injury. The following figure shows the different parts of the tactical plans that need to be considered when formulating them.

Figure 23: Tactical Planning Components



It is critical that firefighters and command staff have information readily at hand to identify hazards, direct tactical operations, and use built-in fire-resistive features to their advantage. This situational awareness can only be accomplished by building familiarization

tours, developing pre-incident plans, conducting tactical exercises, and identifying needed specialty resources.

Currently, SFR preplanning is limited. It is important to note that the department has been without a Fire Marshal since 2014, so the maintenance and upkeep of the planning process fell to the already strained staffing on shift. Preplanning is conducted and maintained in the Mobileyes® software but on an informal schedule. This information is not integrated into response resources or dispatch protocols; therefore, the hazard information is unavailable nor communicated to responders during an incident. SFR is encouraged to develop and maintain effective pre-incident and special hazard plans and incorporate the plans routinely into dispatch communications following NFPA 1660. A defined list of "target hazards" should be developed, and focused effort should be given to ensure response personnel have ready access to pre-incident plans. FEMA defines target hazards as: "facilities in either the public or private sector that provide essential products and services to the general public, are otherwise necessary to preserve the welfare and quality of life in the community, or fulfill important public safety, emergency response, and disaster recovery functions." Many fire departments will define target hazards by:

- Facilities that can have a substantial economic impact on the community
- Buildings with large potential occupant loads
- Buildings with populations who are partially or entirely non-ambulatory
- Buildings of considerable size (greater than 12,000 square feet)
- Buildings that contain process hazards, such as hazardous materials or equipment

Pre-incident and target hazard planning should be regularly updated, easy to use, and quickly accessible for company officers and command staff. NFPA 1660 provides excellent information on the development and use of pre-incident plans and is a vital reference. Once a dedicated pre-plan schedule is established, training personnel who may respond to an incident at those locations is essential. In addition, copies of pre-incident plans and drawings should be available on each response vehicle and incorporated into dispatch procedures.

Emergency Management

Once a low priority, emergency management has increased importance in assisting emergency response, incident support, and recovery after the incident. By developing and maintaining emergency action plans and regularly exercising and updating the plans, local governments help limit and manage the consequences of a disaster. The common term for governmental disaster preparedness is emergency management.

The Superfund Amendment and Reauthorization Act, found in Title III of the Federal Code (SARA Title III), defines requirements for tracking hazardous materials used in fixed facilities

and establishes requirements for emergency response planning. Therefore, SFR is involved with the Local Emergency Planning Committee (LEPC) at the county level. The LEPC is responsible for identifying and collecting information on the use of hazardous materials by private and public entities. Information collected includes the type of material, quantity, and the location at each site. Additionally, the LEPC ensures adequate local response plans based on the potential risk.

SARA Title III requires industries that use over a threshold limit of certain highly hazardous materials (extremely hazardous substance facilities – EHS) to develop comprehensive emergency plans for their facility. In addition, the Act requires that local fire departments coordinate with the industries involved to ensure a quality response to the emergency.

SFR is a member of the Local Emergency Planning Committee and works in partnership with the Sheridan County Emergency Managers on a joint Hazard Mitigation Plan. It is paramount that SFR staff remain updated on plan content and understand the department's role in their execution.

People Planning

As part of the planning process, fire departments typically publish core values that set the foundation for culture. These core values support the mission and vision of the department and are vital to the planning for personnel management in the fire department. The core values are examined in an alternate section of the master plan.

Review & Evaluate the Adequacy of the Current Planning Process

The current planning process for SFR is still in the early stages, and while some initial steps have been taken, there are notable gaps that must be addressed to ensure the department can meet future needs effectively. Below is an evaluation of the adequacy of the current planning process, focusing on critical aspects such as long-range planning, strategic alignment, and operational readiness. The Fire Chief should be commended for being the driving force to complete these planning milestones.

Master Planning

SFR recognizes the importance of master planning by hiring ESCI to assist with long-range planning, a crucial step toward addressing future challenges. However, the absence of a completed Master Plan at present means that the department lacks a formal, structured approach to address long-term community needs. Key components such as a Community Risk Assessment (CRA) and a Standards of Cover (SOC) document are essential for identifying the current risks and the resources required to mitigate them, but these are currently not in place. Without these foundational planning tools, SFR risks being reactive rather than proactive in its service delivery.

Strategic Planning

SFR has not updated its Strategic Plan since 2015, and its last plan is now outdated. Strategic planning should establish clear, measurable goals over a three-to-five-year horizon, aligning them with the broader master plan. This gap leaves the department without prioritized goals, performance metrics, or clear direction for achieving the objectives identified in the Master Plan.

Furthermore, strategic planning also requires the development of a three- to five-year financial plan, which SFR currently lacks. As SFR faces resource constraints, particularly regarding apparatus replacement, staffing, and equipment, strategic financial planning will help ensure that the department can meet both operational and capital needs.

Operational Planning

Operational planning, which involves routine undertakings such as response plans, staffing policies, and mutual aid agreements, is crucial for ensuring day-to-day efficiency and preparedness. SFR has recognized that mutual aid is a growing challenge due to declining volunteer district support and staffing issues. Additionally, there is limited operational planning concerning the pre-incident plans and hazard identification.

SFR's efforts in hazard mitigation planning with Sheridan County are commendable, but more needs to be done at the departmental level to ensure seamless integration of all response elements, particularly for special hazard operations and ambulance services. The lack of a local training facility further hinders operational readiness, and the current reliance on external training facilities creates logistical challenges.

Tactical and Program Planning

Tactical planning, which includes pre-incident planning and emergency response strategies, is currently underdeveloped within SFR. The absence of formal pre-incident plans, particularly for target hazards, represents a significant gap in operational preparedness. NFPA 1660 outlines the importance of pre-incident planning, especially in communities like Sheridan that face a wide range of fire, EMS, and special operation's needs.

Without proper pre-incident plans or training integrated into response protocols, SFR may struggle to handle complex incidents efficiently, especially given the geographical challenges and declining volunteer support.

People Planning

SFR has identified recruitment, retention, and pay disparities as key challenges, which are directly linked to its ability to attract and retain personnel. The department also lacks promotional opportunities, leading to lower morale and retention challenges. People planning must integrate core values and personnel management strategies to ensure that staff are aligned with the department's mission and vision.

While SFR has taken initial steps to recognize the importance of planning, its current planning process is inadequate to meet the growing demands and challenges faced by the department. To effectively serve the community and ensure future success, SFR must expedite its planning efforts, focusing on completing a Master Plan (in progress), developing a new Strategic Plan, and addressing operational, tactical, and people planning needs. By aligning its operations with modern fire service standards like NFPA 1660 and 1201, SFR can improve its ability to respond proactively to the community's evolving needs.

Staffing

An organization's greatest asset is its people. Special attention must be paid to managing human resources in a manner that achieves maximum productivity while ensuring a high level of job satisfaction for the individual. Consistent management practices combined with a safe working environment, equitable treatment, the opportunity for input, and recognition of the workforce's commitment and sacrifice are key components impacting job satisfaction.

The size and structure of an organization's staffing are dependent upon the specific needs of the organization. These needs must directly correlate to the needs of the community, and a structure that works for one entity may not necessarily work for another agency. This section provides an overview of SFR's staffing configurations.

SFR staffing can be divided into two distinctly different groups. The first group is what the citizens typically recognize and is commonly known as the operations unit, which can be generally classified as the emergency response personnel. The second group typically works behind the scenes to provide the support needed by the operation's personnel to deliver an effective emergency response and is commonly known as the administrative section.

In this section, ESCI explores each of the SFR's current staffing levels and evaluates them against the mission, identifying potential gaps and efficiencies that might be gained with their current operations.

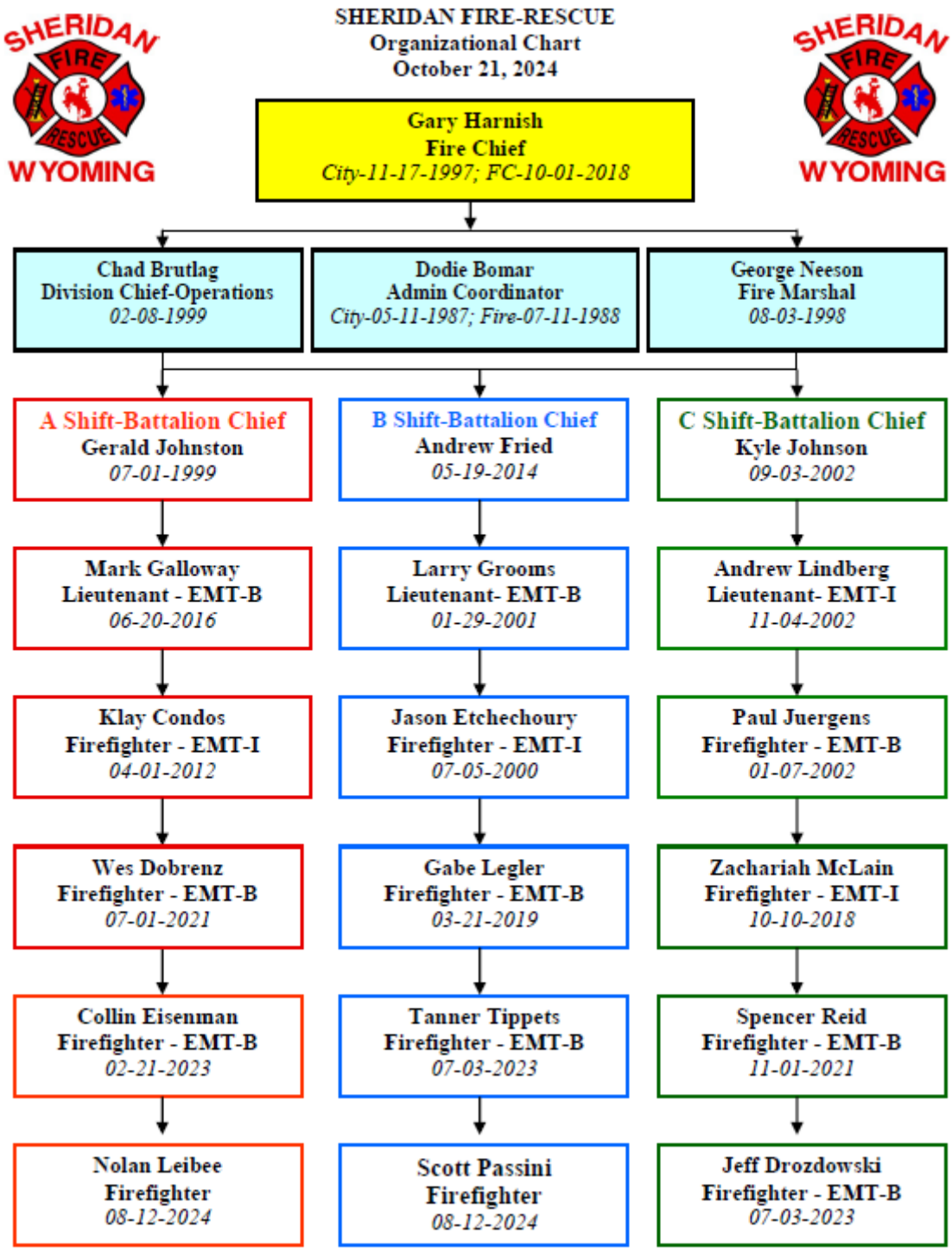
Organizational Structure

The structural design of an organization is important for successful service delivery. SFR mimics a paramilitary organization. This structure is similar to those found in many fire and EMS agencies across the country. The uniformed professionals filling the various operational positions within the SFR have the skills and equipment to respond to structure and vehicle fires; medical emergencies involving cardiac arrest, respiratory distress, and trauma; vehicle accidents requiring extrication; hazardous materials incidents; some technical rescue; natural disasters; and many other fire or emergency medical calls for service.

When not responding to 9-1-1 calls, SFR firefighters train for the worst-case scenarios; they perform other duties such as equipment maintenance and conduct pre-incident planning, conduct public education activities, and give back to the community by supporting charitable projects.

The SFR organization chart is reflected in the following figure.

Figure 24: SFR Organizational Chart



The chain of command is important as it provides a clear source of direction, lines of communication, and accountability. The organizational design does not have any conflicting pathways, and each operating unit has only one supervisor which provides for the unity of command for the organization.

Span of control is an important element in the effective and efficient mitigation of emergency incidents, and management of administrative responsibilities. While the effective span of control will vary based on administrative demands and operational complexity, it is widely accepted that a single person's span of control should not be greater than seven subordinates. The maximum administrative span of control in the current organizational structure is 1:3 under the station Lieutenant.

Historical Staffing Perspective

SFR has worked hard in recent years to prepare and provide staffing to support the mission of the agency. This comes after a significant reduction in staffing in 2012 when ambulance services were transferred to a third service ambulance provider. During the same period the Division Chief of Operations and Fire Marshal positions were left vacant for almost ten years. This direction significantly hindered the ability for SFR to plan and accomplish tasks beyond daily 911 services. The Division Chief of Operations was returned in 2021.

In 2022 the approval to add three-line firefighters was approved and in 2024 the department made an organizational change to improve supervision and command functions by adding a Station Lieutenant. This was further reflected in changing the station Captain to a Shift Battalion Chief. Prior to this change the station Captain ran the shift and was also the company officer, which greatly limits the ability to adequately provide oversight and direction. Furthermore, the return of a dedicated Fire Marshal was authorized.

Administrative and Support Staffing

One of the primary responsibilities of the response team's administration is to ensure that the operations segment of the organization has the ability and means to respond to and mitigate emergencies in a safe, efficient, and timely manner. An effective administration and support services system is critical to the success of SFR.

Like any other part of a fire protection jurisdiction, administration and support need appropriate resources to function properly. By analyzing the administrative and support positions within an organization, an agency can achieve a common understanding of the relative resources committed to this function compared to industry best practices and similar organizations. The appropriate balance of administration and support compared to operational resources and service levels is critical to the success of the department in accomplishing its mission and responsibilities.

Typical responsibilities of administration and support staff include planning, organizing, directing, coordinating, and evaluating the various programs within a jurisdiction. This list of functions is not exhaustive, and other functions may be added. It is also important to understand these functions do not occur linearly and, more often, coincide. For SFR, this requires the Fire Chief to focus on many different areas at the same time.

The following figure reviews the administration and organizational support structure of SFR.

Figure 25: SFR Administrative and Support Staff

Position Title	Number of Positions	Hours Worked/Week	Work Schedule
Career Admin/Support Staff (full-time & part-time)	*Individuals considered full-time or part-time staff primarily assigned to manage, plan, or support the activities of the agency and its programs.*		
Fire Chief	1	40	M–F
Division Chief	1	40	M–F
Fire Marshal	1	40	M–F
Administrative Manager	1	40	M–F
Total Administrative and Support Staff FTE's	**4**		
Total Department FTE's	**22**		
Admin/Support Percentage	**18%**		

ESCI notes that the current level of administrative and support staffing represents roughly 18 % of the overall department staffing. Currently staff assigned to operational shift functions are also given administrative tasks.

Administration

The main administrative function within SFR is established with the position of Fire Chief. Some of the typical responsibilities of the Fire Chief include planning, organizing, directing, and budgeting for all aspects of the department's operations. SFR has a Division Chief of Operations to assist the Fire Chief with performing these functions and to provide additional oversight into the operations of the department. In addition to these two uniformed administrative staff there is one civilian staff member who provides administrative functions. Further this year in 2024, the Fire Marshal position was reinstated to address the important function of fire prevention and life safety initiatives.

It is our experience that effective administrative staffing totals for a fire department operation typically range up to 12 to 15 % of agency totals. SFR operates at the high end of the expected and experienced normal threshold for effective administrative and support staff percentages. However, it should be noted that while the percentage is at the high end, SFR is minimally staffed and still only four Full Time Employees (FTEs) are budgeted to do the required work of managing and directing the fire department. Based on the limited staff members available to perform these functions, the ability to achieve national consensus standard processes and practices is sometimes limited and difficult.

Support Staffing

SFR does not have additional uniformed staff for organizational support staffing. SFR relies on city support staff for IT, fleet maintenance, Human Resources, and facility repair and maintenance. Some additional support functions are assigned to operational staff who perform double duty when they are available for training, Hazmat, technical rescue, and logistics.

Emergency Response Staffing

Every 23 seconds, a fire department in the United States responds to a fire somewhere in the nation.[8] It takes an adequate and properly trained staff of emergency responders to put the appropriate emergency apparatus and equipment to its best use in mitigating incidents. Overall, local fire departments across the nation responded to an estimated 1,388,500 fires in 2020, resulting in 3,500 civilian deaths, 15,200 civilian injuries and $21.9 billion in direct property damage.[9]

Insufficient staffing at an emergency scene decreases the effectiveness of the response and increases the risk of injury to all individuals involved. A fire occurs in a structure at the rate of one every 64 seconds, and a home fire occurs every 89 seconds.[10] Tasks that must be performed at a fire can also be broken down into three key components: life safety, incident stabilization, and property conservation. Responder's base life safety tasks on the number of building occupants and their location, status, and ability to take self-preservation action. Life safety-related tasks involve search, rescue, and evacuation of victims. The incident stabilization element involves delivering enough water to extinguish the fire and create an environment within the building that allows firefighters entry. Property conservation comes from efficient confinement and extinguishment.

NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program* was developed in 1987 due to the high number of line-of duty deaths being documented and

8 2021 National Fire Protection Agency, Fire Loss in the United States During 2020
9 Ibid.
10 Ibid.

reported and the growing concern with the number of firefighters who were suffering disabling injuries or developing occupational diseases. Several revisions to this consensus standard ensued over the years that continue to address changes in the fire industry regarding firefighter health and safety. Chapter 8 of this standard specifically addresses emergency operations as it pertains to all hazards that may be faced by firefighters. Section 6 of this chapter provides the following requirements:

- 8.6.1 The fire department shall provide an adequate number of personnel to safely conduct emergency scene operations.
- 8.6.1.3 Operations shall be limited to those that can be safely performed by the personnel available at the scene.
- 8.6.3 When inexperienced members are working at an incident, direct supervision shall be provided by more experienced officers or members.
- 8.6.4 Members operating in hazardous areas at emergency incidents shall operate in crews of two or more.

Furthermore, the annex (A.8.6.1.3) states "the limitation of emergency scene operations to those that can be safely conducted by the number of personnel on the scene is intended to reduce the risk of fire fighter death or injury due to understaffing" (NFPA, 2021, p. 48). In this statement, NFPA 1500 strongly recommends that:

"Interior fire-fighting operations are not conducted without an adequate number of qualified fire fighters operating in companies under the supervision of company officers. It is recommended that the minimum acceptable fire company staffing level should be four members responding on or arriving with each engine and each ladder company responding to any type of fire. The minimum acceptable staffing level for companies responding to high-risk areas should be five members responding or arriving with each engine company and six members responding or arriving with each ladder company. These recommendations are based on experience derived from actual fires and in-depth fire simulations and are the result of critical and objective evaluation of fire company effectiveness. These studies indicate significant reductions in performance and safety where crews have fewer members than the above recommendations. Overall, five member crews were found to provide a more coordinated approach for search and rescue and fire-suppression tasks. During actual emergencies, the effectiveness of companies can become critical to the safety and health of fire fighters. Potentially fatal work environments can be created very rapidly in many fire situations. The training and skills of companies can make

a difference in the need for additional personnel and in reducing the exposure to safety and health risks"[11]

The number and types of tasks needing simultaneous action will dictate the minimum number of firefighters required to combat different types and magnitudes of fire. In the absence of adequate personnel to perform concurrent action, the commanding officer must prioritize the tasks and complete some in sequential order, rather than concurrently. These tasks include:

- Command
- Scene safety
- Search and rescue
- Fire attack
- Water supply
- Pump operation
- Ventilation
- Backup/rapid intervention

The first 15 minutes are the most crucial period in the suppression of a fire. The timing of these 15 minutes does not start when the firefighters arrive at the scene but begin when the fire initially starts. How effectively and efficiently firefighters perform during this period has a significant impact on the overall outcome of the event. This general concept is applicable to fire, rescue, and medical situations. Responders must perform critical tasks promptly to control a fire or to treat a patient. SFR is responsible for assuring that responding companies are capable of performing all the tasks described in a prompt, efficient, and safe manner.

Considerable ongoing local, regional, and national discussion and debate draws a strong focus and attention to the matter of firefighter staffing. Frequently, this discussion is set in the context of firefighter safety. The 2020 edition of NFPA 1710: *Standard for Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* has updated the definition of career fire department to include departments that utilize full-time or full-time equivalent station-based personnel immediately available to comprise 50% of an initial full alarm assignment. SFR falls into this new definition and should model their response based on these new guidelines regarding response practices when possible.

The jurisdiction may choose to establish response demand zones and use criteria outlined in the National Fire Protection Association (NFPA) standards. NFPA 1720: *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments* establishes demand zones for use. A demand zone can be a single building or group of buildings. It is usually a

[11] *NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, Chapter 8.6.1.3, 2021*

geographical boundary called fire management area or fire management zone. SFR has significant geographical setbacks that limit the ability to assemble resources and the use of NFPA 1720 to establish demand zones allows the SFR an opportunity to establish performance metrics based on industry best practices.

The NFPA 1720 demand zone deployment model is listed in the following figure.

Figure 26: NFPA 1720 Deployment Model

Demand Zone	Demographics	Minimum Staff to Respond	Response Time (minutes)	Meets Objective (%)
Urban Area	> 1,000 people/mi^2	15	9	90
Suburban Area	500–1,000 people/mi^2	10	10	80
Rural Area	< 500 people/mi^2	6	14	80
Remote Area	Travel distance ≥ 8 miles	4	Directly dependent on travel distance	90
Special Risks	Determined by AHJ	Determined by AHJ based on risk	Determined by AHJ	90

* A jurisdiction can have more than one demand zone.
* Minimum staffing includes members responding from AHJ's department and automatic aid.
* Response time begins upon completion of the dispatch notification and ends at the time interval shown in the figure.

NFPA 1710: *Standard for Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* specifies the number of firefighters assigned to a particular response apparatus, often characterized as a "minimum of four personnel per engine company." ESCI notes that the more critical issue is the number of firefighters assembled at the scene of an incident in conjunction with the scope and magnitude of the job tasks expected of them, regardless of the type or number of vehicles upon which they arrive. The community should set staffing levels based on risk, capability, and citizen expectations. This ultimately becomes a policy decision set by the governing body. There is not a mandated requirement that fits all situations, although NFPA 1710 has objectives to meet regarding the number required for some typical scenarios.

Some terms are interchangeable, such as assembly of firefighters on an incident, which may also be referred to as "Initial Full Alarm Assignment," "Effective Firefighting Force" (EFF), or "Effective Response Force" (ERF). In the figures below, ESCI describes the NFPA

1710 level of staffing comprising this effective response force for three different scenarios[12].

Figure 27: Initial Full Alarm Assignment for Residential Structure Fire

Initial Full Alarm Assignment—2,000 SF Residential Structure Fire	
Incident Commander	1
Water Supply Operator	1
2 Application Hose Lines	4
1 Support Member per line	2
Victim Search and Rescue Team	2
Ground Ladder Deployment	2
Aerial Device Operator	1
Incident Rapid Intervention Crew (4 FF)	4
Total	**17**

Figure 27 shows the staffing needed to safely and effectively mitigate a single-family, 2,000-square-foot two-story residential structure without a basement and no exposures. The following figure describes an initial full alarm assignment for an open-air strip-type shopping center. Note that as the risk and difficulty become greater, the staffing levels needed for effective mitigation increase.

Figure 28: Initial Full Alarm Assignment for Strip Shopping Center

Initial Full Alarm Assignment Open Air Strip Shopping Center (13,000 SF to 196,000 SF)	
Incident Commander	2
Water Supply Operators	2
3 Application Hose Lines	6
1 Support Member per line	3
Victim Search and Rescue team	4
Ground Ladder Deployment	4
Aerial Device Operator	1
Rapid Intervention Crew (4 FF)	4
EMS Care	2
Total	**28**

12 NFPA 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (National Fire Protection Association 2020 ed.) Article 5.2.4 Deployment.

The following is an initial full alarm assignment for a three-story apartment building with a single 1,200-square-foot apartment fire.

Figure 29: Initial Full Alarm Assignment in a Three-Story Apartment Building

Initial Full Alarm Assignment 1,200 SF Apartment (3-story garden apartment)	
Incident Commander	2
Water Supply Operators	2
3 Application Hose Lines	6
1 Support Member per line	3
Victim Search and Rescue Team	4
Ground Ladder Deployment	4
Aerial Device Operator	1
Rapid Intervention Crew (4 FF)	4
EMS Care (1 crew)	2
Total	**28**

These are generalizations representative of different types of structures and their associated risks. Each authority may handle these types of fires with fewer or more personnel; however, this describes the work functions that must take place, generally concurrently and, for safe and effective fire handling, promptly.

Additional crews are necessary when a fire escalates beyond the capability of the initial assignment, or the fire has unusual characteristics such as a wind-driven fire, or when involving an accelerant with a highly flammable compound. There are also types of scenarios that may not be fires, but mass casualty incidents, explosions, tornadoes, and so forth that may need additional staffing. It is difficult or impossible to staff for these worst-case incidents. These incidents require a strong mutual aid or automatic aid plan for assistance and/or call-back policies.

Emergency Response Staff Allocation

SFR uses a three-platoon (shift) system working 24 hours per shift rotations that yields a 56-hour workweek for shift operations. Each shift is led by one Battalion Chief Shift Commander (3 total) that serves as the senior officer on the shift. These individuals are responsible for all aspects of the shift operations and serve as the Fire Chief's representative at significant incidents.

The following figure depicts the career emergency staff employed by SFR.

Figure 30: SFR Emergency Response Staffing

Position Title	Number of Positions	Hours Worked/Week	Work Schedule
Career Operational Staff (full-time & part-time)	*Individuals considered full-time or part-time employees primarily assigned to provide emergency services at the operational level.*		
Battalion Chief	3	56	07:30-07:30
Lieutenant	3	56	07:30-07:30
Firefighter	12	56	07:30-07:30
Total Emergency Operations Staff	**18**		
Total Emergency Operations Staff per shift (max)	**6**		
Total Emergency Operations Staff per shift (min)	**3**		

A baseline overview of the staffing model, staffing levels, and relief factors provides an opportunity to review and analyze the current staffing patterns, shifts, and options to increase efficiency, effectiveness, and capabilities. The current SFR shift leadership roles of Battalion Chief (3 FTEs) and Lieutenants (3 FTEs) to firefighters (12 FTEs) ratio for full-time positions within SFR operations is at 50%. The organizational structure for span of control is appropriate and provides the necessary leadership for emergency responses.

SFR operates with a company officer assigned to the fire station daily. SFR uses firefighters to serve as the individual responsible for all aspects of maintaining and operating fire engines and aerial units. This position is filled as needed and is filled on a rotational basis of those qualified on shift for the day. The role of the driver engineer or fire apparatus operator, whether promoted or not, is a very important role in the safe delivery and accomplishment of fire ground activities and should be maintained to ensure accountability of these tasks.

Several career firefighters staff the fire station daily. When fully staffed, one Battalion Chief, one Lieutenant, and four firefighters staff the station daily. This staffing is rarely the case due to vacancies created by scheduled or unscheduled leave, and more likely, SFR can normally expect a mixture of four total staff for the day not including the Fire Chief and his administrative staff chiefs.

SFR guidelines direct the following first alarm assignment for structure fires.

Figure 31: SFR Initial 1st Alarm

Initial Full Alarm Assignment—2,000 ft² Residential Structure Fire	
Battalion Chief	1
1 Engine	3
Volunteer Companies	Varies
Total Minimum Personnel	**4**

The on-duty minimum staffing for a first alarm does not meet the need for a routine house fire in accordance with NFPA 1710. An initial 1st Alarm Assignment is not sufficient for a strip shopping mall or an apartment building unless there is fire protection built into these structures and even then, the available staff will be strained. This is a type of fire that is likely within the jurisdiction and represents a higher level of risk than the typical medium-size residential dwelling.

Because of the SFR staffing model, an initial full alarm force for this level of hazard would commit all on-duty staffing to one fire. Furthermore, due to the geographical size of the jurisdiction, it is not reasonable to expect or plan on this as a means of providing coverage for such an event and still provide required services to the remainder of the service area.

Staff Scheduling Methodology

SFR utilizes a traditional three platoon system operating on a 24-hour shift rotation per position to achieve the daily staffing of career personnel. The total number of positions required becomes a policy decision based on the needs of the jurisdiction. The jurisdiction also establishes the number of employees needed above the minimum to allow for vacancies due to vacation, sickness, and other types of leave. This staff requirement above the minimum means a total number of full-time employees required to ensure the necessary daily minimum staffing is achieved according to policy. The minimum staffing for SFR is four people. This overall staffing methodology is very common across the United States for firefighters working on a 24 to 48-hour period and proves effective for agencies with moderate workloads. Large agencies with heavy workloads have implemented different staffing models to avoid employee fatigue. Staffing for a 24-hour period reduces the number of crew changes that occur in a given period.

Deployment Methods and Staffing Performance for Incidents

Typical fire department responses across the nation include structure fires, vehicle fires, wildland fires, vehicle accidents, hazardous materials responses, technical rescue responses, general calls for service, and emergency medical calls. The latter is the most frequent reason for activating the 911 system.

The prompt initial arrival of at least four personnel is critical for structure fires. Federal Occupational Safety and Health Administration (OSHA) Safety regulations (CFR 1910.120) require that personnel entering a building involved in fire must do so in groups of two. Further, before personnel can enter a building to extinguish a fire, at least two personnel must be on the scene and assigned to conduct search and rescue in case the fire attack crew becomes trapped. This is referred to as the two-in, two-out rule.

Emergency Fire Incidents

The current daily operational staffing for SFR is 6 individuals per shift starting at 0730 hours. It is important to note that this staffing level is only realized when all personnel are on duty. Traditional vacation and sick leave regularly effect on-duty numbers. This number does not include the Fire Chief and his administrative chiefs. Fully staffed, this equates to a force barely capable of meeting the response needs of the community. Fire departments across the United States typically establish a "minimum staffing" level. This number reflects the minimum number of personnel a department will have on duty before beginning to hire overtime.

SFR has established 4 personnel as its bare minimum staffing level including the Battalion Chief. This current staffing provides the ability of the department to consistently and effectively respond with an appropriate number of personnel to mitigate small incidents without the assistance of mutual aid companies. Any larger incidents pose challenges for SFR to provide the necessary response force to mitigate. Because SFR uses minimum staffing of three on an engine there are times when the on-scene staff is not sufficient to begin interior firefighting operations in accordance with NFPA and OSHA. This is the case in many fire departments across the country. As indicated previously, these standards require a "two-in/two-out" rule for firefighter numbers prior to entering an immediately dangerous to life and health atmosphere (IDLH). The use of only 4 personnel for the size and occupancy hazard classifications of SFR jurisdiction is inadequate.

Emergency Medical Incidents

SFR provides ALS services to the community. This necessary and frequently required delivery of EMS places a drain on the fire department's current ability to handle additional calls for service when units are committed. Across the nation, the majority of emergency systems provide some first responder care until advanced life support resources can arrive if the agency does not provide those services. By design, most systems work together in tandem or a tiered response, SFR is no different. Wyoming Regional Emergency Medical Services provides ALS transport services and aid by providing three units staffed daily. These units are ALS and are single role paramedic/EMT.

Special Operations Incidents

NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* outlines special rescue situations that require additional training and education. These rescues are categorized as special operations and are those emergency incidents to which a fire department responds that require specific and advanced training and specialized tools and equipment. These are often known as hazardous materials and technical rescue incidents.

SFR does not have a separate dedicated hazardous materials team but is part of the Region 1 Hazardous Materials Team. All members of SFR are operations level trained and roughly 14 members of SFR are technician level trained. They provide an initial response and scene size-up to determine the need for assistance from their regional team. Hazardous materials incidents of their physical nature prove difficult to mitigate and even more difficult with limited staff. NFPA 472: *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents* describes these operations.

Technical Rescue incidents are equally challenging. SFR does not have a dedicated technical rescue team to handle these types of calls but has individuals trained in the various disciplines that comprise technical rescue. These types of rescues are so involved they require specific standards for operations, NFPA 1006: *Standard for Technical Rescuer Professional Qualifications* and NFPA 1670: *Standard for Operations and Training for Technical Search and Rescue Incidents*. These incidents would include vehicle machinery rescue, rope rescue, confined space rescue, trench and excavation rescues, water rescue, and ice rescue incidents. SFR has members with additional training to handle these types of rescues.

Responsibilities and Activity Levels of Personnel

In every fire department, there exist a number of activities accomplished that are outside of the “regular” duties of responding to emergency incidents. These typically involve general maintenance of self-contained breathing apparatus (SCBA), hose testing, air monitor calibration, EMS quality assurance, and various committees. SFR relies upon individuals who have a particular interest in these additional areas to accomplish the tasks along with the use of contractors to perform the specific testing or services. In addition to the benefit of completing these tasks, the additional responsibilities serve to develop further knowledge, skills, and abilities of participating individuals.

A continuing test for SFR will be making the most prudent staffing and facility placement decisions based on weighing multiple considerations, including risk exposure, response times, access challenges, deployment, community expectations, and response capacity. Those decisions are difficult with financial constraints and service demand increases.

Personnel Management

While delivering emergency services to the citizens and visitors of a community is essential, the effective management and organization of an emergency services agency are equally vital to its success. The personnel who provide these services are the backbone of the system, but without proper administrative and support staff to oversee supervision, command, and control, operational personnel may struggle to perform at their best.

Regulatory, Policy, and Guidance Documents

The rapidly changing environment and circumstances typically associated with emergency services require a standardized set of rules, regulations, and policies to guide appropriate behavior and accountability. These guiding documents are vital for success in all phases of fire department operations and are critical for effective and efficient organization.

SFR has established a set of regulatory documents, including Standard Operating Guidelines (SOGs). Once established, training should be provided for all personnel, which SFR incorporates into the annual fire and EMS training requirements. SFR updates and reviews SOGs for consistency and legal mandates but lacks a defined timetable to review and make changes. SFR should ensure that SOGs are fully reviewed and revised at least every three years, leading to a goal of one-third of the department's SOGs reviewed annually. SOGs are utilized during all training evolutions, with several specific examples referenced in other sections of this report.

The Employee Handbook provides guidance for personnel issues and requires council approval for changes. The policy manual should be updated periodically. This is a difficult task for most organizations to complete amongst the other daily tasks required by staff. SFR does not use a software program for managing the policies and procedures. The employee handbook is updated by HR yearly and employees are required to sign when they have received and reviewed then new information.

SFR does not have a standard process for review or periodic updates. ESCI recommends the development of a guideline that directs the process of periodic review and changes. A good way to ensure this review will occur is to have a committee of members review one-third of the guidelines each year and recommend changes. There should also be a process to trigger changes to a guideline that has been modified due to a new method or a technology change.

Job Descriptions

SFR employs several different positions with job descriptions that are not unlike other agencies of similar size and organization. SFR currently employs the uniformed positions of Administrative Assistant, Firefighter, Lieutenant, Battalion Chief, Fire Marshal, Division Chief, and Fire Chief. Job descriptions should receive periodic review and revision. Human

Resources (HR) reviews these job descriptions annually during the performance appraisal process. Requested changes are submitted to HR for review.

Reports & Recordkeeping

Documentation of activities is essential for ensuring effective and efficient management decisions at SFR. Quality data supports operational success, and SFR has established a detailed system for maintaining records. Personnel records, managed by the Human Resources (HR) department, currently remain in paper format and include critical information such as tax documents, performance appraisals, disciplinary actions, training records, and personal information, with medical files kept separately. Access to these records is manual, with documents physically retrieved and reviewed under supervision to ensure confidentiality. Plans are underway to transition to an electronic system for improved efficiency and accessibility.

SFR recently upgraded to ImageTrend® software for documenting fire and EMS incident response data. This software is accessible from computers in the fire station, and it also tracks personnel exposures. In addition, records related to SCBA, hose, ladder, and pump testing are maintained by the department, while vehicle maintenance records are handled by the maintenance division. Hazardous materials (HazMat) technicians internally calibrate gas monitors, and these records are similarly preserved.

To ensure proper documentation control, SFR maintains a secure process for public records access, with hard copy files stored in locked cabinets and digital files backed up on-site and off-site by the City of Sheridan's IT department.

Labor–Management

SFR enjoys a positive and collaborative working relationship between labor and management, fostering an environment of mutual respect and open communication. The department's leadership works closely with the local union, IAFF Local 276, to address issues affecting firefighters and to negotiate agreements that ensure fair compensation, working conditions, and safety standards. Regular dialogue between the two sides allows for constructive problem-solving and proactive approaches to challenges, enhancing overall department morale and performance. This strong partnership between labor and management is critical to maintaining a unified and effective team dedicated to delivering high-quality service to the community.

Both Labor and Management identified issues that were common in nature to include the following:

- Staffing a single engine is not sufficient or safe.
- Increased service demand makes it difficult to meet with one engine and limited staff.

- Training is difficult to achieve with limited staff.
- Recalls of staff to address staffing is creating a hardship for employees.
- Mutal Aid resources are unpredictable.
- The need for succession planning is critical.
- The need for a unified vision for the department with a commitment to follow through by elected officials.

Disciplinary Process

SFR follows a structured disciplinary process designed to address infractions at various levels within the organization, depending on the severity of the issue. The Fire Chief holds the authority to make recommendations regarding hiring, discharge, and promotions, ensuring that personnel-related decisions are made with careful consideration. Disciplinary actions do not have to follow a progressive discipline model, allowing flexibility in handling more serious infractions immediately.

The disciplinary process is outlined in both the Employee Handbook and the Collective Bargaining Agreement (CBA), with grievance procedures established for employees to appeal disciplinary actions. SFR operates under the civil service framework, ensuring discipline protections are met in accordance with legal requirements. Employees also have access to legal counsel through the city's resources and an external employment attorney from the Employer's Council, helping to mitigate liability and ensure fair, legally compliant procedures. These measures provide transparency and accountability, allowing for a well-managed and equitable disciplinary system.

Compensation

Compensation practices at SFR play a critical role in attracting, hiring, and retaining qualified personnel, directly impacting the department's ability to provide effective and efficient services. To ensure that compensation remains competitive and fair, SFR conducts periodic reviews of its compensation structures, examining both market competitiveness and the department's compensation philosophy. These reviews are typically carried out every 3-5 years, either in-house or through contracted services. However, for the fire department, compensation is evaluated annually during union negotiations, with Wyoming fire departments used for comparative analysis.

SFR compares compensation with five similarly sized departments in the region to ensure equity in positions and workloads. These internal and external comparisons help SFR maintain a competitive compensation package, allowing it to attract and retain an effective workforce. SFR operates under the current Collective Bargaining Agreement (CBA) with Local Union 276. The CBA is negotiated by the governing body and reviewed periodically to ensure it meets both the department's needs and the workforce's expectations.

In terms of compliance with the Fair Labor Standards Act (FLSA), SFR operates on a 28-day cycle with a 56-hour work week. Personnel work a modified Kelly shift schedule, consisting of 1 day on, 1 day off, 1 day on, 1 day off, 1 day on, followed by 4 consecutive days off. It's important to note that time off does not count as hours worked in the calculation of overtime or pay under the FLSA guidelines.

Counseling Services

Our nation's firefighters face emotional needs that are very different and unique to the occupation. The percentage of firefighters struggling with career-related stress is very high, with suicide rates climbing each year. These issues manifest themselves through higher divorce rates and addictions such as alcohol, drugs, or gambling. Frequently seen in recent studies, another major concern is Post-Traumatic Stress Disorder (PTSD). As these symptoms occur, employees need support systems that are readily accessible and provide access to someone who is qualified and genuinely understands the employee's circumstances.

Several programs can assist including critical incident stress management, employee assistance programs, Behavioral Health Access Programs, and intervention programs, to name a few. SFR offers an Employee Assistance Program, and a Critical Incident Stress Management team is requested when needed. A monthly letter regarding information is sent to all members to communicate and make each member aware of the availability of resources.

The development of a Behavioral Health Access Program (BHAP) would be a transformative asset for SHR, providing a comprehensive, structured approach to support employees facing mental health challenges. A BHAP outlines a robust network of programs and services designed to support the mental and emotional well-being of SFR employees, offering timely resources to address a range of mental health needs as they arise.

A single program cannot meet every employee's needs all the time. BHAP recognizes this by offering a variety of services, allowing individuals to choose resources best suited to their current situation. Just as physical health can fluctuate, so can mental health. With BHAP, SFR aims to create a safe, stigma-free environment, breaking down the silence often surrounding mental health issues and encouraging employees to seek help when needed.

BHAP is built on a foundation of established resources, including the Mental Wellness Standard Operating Guideline, developed through Chaplaincy and Peer Support Programs, and is part of a larger initiative led by the Health and Safety Committee (HSC). The HSC, under the guidance of the Health and Safety Officer, oversees all aspects of BHAP and other health initiatives, including cancer prevention, physical fitness, and overall wellness, with the primary goal of reducing risks for SFR employees.

The BHAP guide includes Standard Operating Guidelines for the Chaplain Program, Peer Support Team, Clinician Response Team (CRT), and the Health and Safety Committee's purpose and scope. It centralizes resources through a dedicated website, making it easy for employees to access Critical Incident Stress Management, Peer Support, Family Support, recovery centers, Chaplaincy, Behavioral Health Awareness education, and Employee Assistance Programs specifically designed for first responders.

BHAP's multidisciplinary team comprises SFR and healthcare professionals, trained and credentialed mental health experts, and clergy members trained in crisis interventions. By offering a continuum of care and resources, BHAP helps create a safer, more supportive environment for SFR employees, empowering them to address mental health challenges proactively and enhance their long-term wellness and resilience.

Application & Recruitment Processes

SFR has a comprehensive approach to its application, recruitment, and retention processes, utilizing multiple platforms to advertise open positions. Job openings are promoted through the National Testing Network (NTN), local newspapers, Indeed, the department's website, social media platforms (Instagram, Facebook, LinkedIn), the Chamber of Commerce, and the Veterans Affairs (VA) network. In addition, SFR ensures that local communities and affiliations are notified of job opportunities to reach a broad pool of potential candidates.

The department's HR team manages qualification, reference, and background checks for all candidates. Applicants are required to pass the Candidate Physical Ability Test (CPAT), ensuring that recruits meet the physical standards necessary for the job. SFR also conducts interviews as part of the selection process. Written knowledge testing, administered through the National Testing Network, is another requirement for new recruits.

Following a conditional job offer, candidates must undergo a medical examination, which is aligned with NFPA requirements. These medical exams are not only conducted upon hiring but also performed annually to ensure ongoing physical fitness and health standards are maintained within the department. Through these rigorous processes, SFR strives to attract, select, and retain highly qualified personnel who are prepared to serve the community effectively.

Testing, Measuring, & Promotion Processes

SFR maintains a structured approach to performance reviews, testing, measurement, and the promotion process to ensure that employees are meeting departmental standards and are prepared for career advancement. Annual performance reviews are conducted for all full-time employees, providing a comprehensive analysis of their performance, goals, and

objectives. These reviews are designed to assess individual accomplishments and areas for development, contributing to both personal growth and organizational improvement.

In addition to performance reviews, SFR requires annual physical fitness evaluations to ensure that personnel maintain the necessary physical conditioning for the demands of their roles. Periodic reviews of employees' knowledge, skills, and abilities are also conducted to ensure continuous competency and readiness for the challenges they may face in the field.

Promotional testing is conducted on an as-needed basis to fill open leadership positions such as Division Chief, Battalion Chief, and Lieutenant. This process ensures that qualified personnel are identified and promoted, maintaining a strong leadership structure within the department as well as satisfying civil service requirements. Civil service promotion and testing requirements are designed to ensure that the process of advancing personnel within an organization like SFR is fair, transparent, and merit based. Through these performance and promotional systems, SFR supports the development of its workforce while ensuring the highest standards of service delivery.

Health And Safety Program

Sheridan Fire Rescue (SFR) recognizes the importance of health and safety within the department and follows guidelines aligned with NFPA 1500: *Standard on Fire Department Occupational Safety and Health Program*. This standard serves as the foundation for the department's safety initiatives, including the development and administration of its safety program. One of the key components of SFR's safety efforts is the establishment of a safety committee, which collaborates with the city-wide safety committee to ensure a comprehensive approach to firefighter safety.

The safety committee is composed of the Division Chief of Operations and one representative from each shift, providing a diverse range of perspectives. While the committee should ideally meet more frequently, current meetings are held quarterly or as needed. The committee is responsible for reviewing all accidents, injuries, near-miss incidents, and workplace safety suggestions. Meetings are open to the department, and minutes are recorded and made available for review, ensuring transparency and communication across all levels of the organization.

To strengthen its safety culture, SFR is encouraged to align more closely with Chapter 4 of NFPA 1500, which outlines the best practices for effective safety committee operation. This includes a diverse representation from across the department, with a focus on raising awareness and modifying behaviors to promote a safe work environment. The committee is urged to proactively implement safety education programs and foster a climate of safety self-awareness among members rather than relying solely on new rules.

One emerging practice is the formation of sub-committees focused on specific areas such as peer support, fitness, health, and wellness. These sub-committees allow for more targeted efforts to address the unique health and wellness needs of firefighters. As SFR continues to enhance its safety program, empowering the safety committee and sub-committees to take a proactive role will be crucial in maintaining a safe and healthy work environment for all personnel.

Current Facilities & Apparatus

Regardless of an emergency service agency's financing, if appropriate capital equipment is not available for use by responders, it is impossible for a fire department to deliver services effectively. Two primary capital assets essential to the provision of emergency response are facilities and apparatus (response vehicles). In this section of the report, ESCI provides a review and analysis of Sheridan Fire Rescue's capital assets and infrastructure. SFR operates one fire station.

Based on the expense of these assets, planning must be developed to address replacement, refurbishment (when appropriate), and maintenance. The funding of these elements is difficult to absorb for most agencies in a single year; thus, a multi-year funding strategy or funding source must be identified. The replacement must be planned far enough ahead of the actual expense to allow an agency time to acquire the funds necessary to implement the plan and accommodate for the lead time between the order and the receipt of the final product.

Fire Station 1

Fire stations and their locations play an integral role in the delivery of emergency services for several reasons. A station's location will dictate, to a large degree, response times to emergencies. A poorly located station can mean the difference between confining a fire to a single room and losing the structure. Fire stations also need to be designed to adequately house equipment and apparatus, as well as meet the needs of the organization and its personnel. It is important to identify needs based on service-demand, response times, types of emergencies, and projected population growth prior to making a station placement commitment.

Consideration should be given to a fire station's ability to support the department's mission as it exists currently and in the future. The activities that take place within a fire station should be closely examined to ensure the structure is adequate in both size and function. Below are some typical functions provided in the fire station:

- The isolation of potential hazardous substances from living areas.
- The housing and cleaning of apparatus and equipment, including decontamination and disposal of biohazards.
- Residential living space and separate non-communal sleeping quarters for on-duty personnel (all genders).
- Kitchen facilities, appliances, and storage.
- Bathrooms and showers (all genders).

- Administrative and management offices; computer stations and office facilities for personnel.
- Training, classroom, and library areas.
- Firefighter fitness area.
- Public meeting space for community functions and public education events.
- Areas designed to provide an Emergency Operations Center.

Appropriately designed, maintained, and properly located facilities are critical to a fire department's ability to provide services in a timely manner. In gathering information from SFR, ESCI asked the department to rate the condition of its fire station using the criteria in the following figure.

Figure 32: Criteria Used to Determine Fire Station Condition

Excellent	• Like new condition. • No visible structural defects. • The facility is clean and well maintained. • Interior layout is conducive to function with no unnecessary impediments to the apparatus bays or offices. • No significant defect history. • Building design and construction match the building's purposes. Age is typically less than 10 years.
Good	• The exterior has a good appearance with minor or no defects. • Clean lines, good workflow design, and only minor wear of the building interior. • Roof and apparatus aprons are in good working order, absent any significant full-thickness cracks or crumbling of apron surface or visible roof patches or leaks. • Building design and construction match the building's purposes. • Age is typically less than 20 years.
Fair	• The building appears to be structurally sound with a weathered appearance and minor to moderate non-structural defects. • The interior condition shows normal wear and tear, but flows effectively to the apparatus bay or offices. • Mechanical systems are in working order. • Building design and construction may not match the building's purposes well. • Showing increasing age-related maintenance, but with no critical defects. • Age is typically 30 years or more.

Poor	• The building appears to be cosmetically weathered and worn with potentially structural defects, although not imminently dangerous or unsafe. • Large, multiple full-thickness cracks and crumbling of concrete on apron may exist. • The roof has evidence of leaking and/or multiple repairs. • The interior is poorly maintained or shows signs of advanced deterioration with moderate to significant non-structural defects. • Problematic age-related maintenance and/or major defects are evident. • May not be well suited to its intended purpose. Age is typically greater than 40 years.

ESCI toured Sheridan Fire Station 1. This visit, combined with the information provided, produced the observations listed in Appendix B.

Sheridan Fire-Rescue Station 1, constructed in 1982 and remodeled in 2023, spans 12,500 square feet over two stories and is classified as a Type II structure. While generally well-equipped for administration and operational needs, a detailed assessment highlights strengths and specific improvement areas for enhanced facility design and functionality.

Structural Condition

Station 1 is in fair to good structural condition. Core structural components, including foundations, load-bearing elements, and apparatus bays, are rated at 4 out of 5, confirming the station's robustness and effective maintenance. Emergency vehicle access, parking areas, and signage are well-organized, facilitating personnel and apparatus movement, though enhancements to pedestrian accessibility standards would improve overall access.

The roof, scoring 2 out of 5, requires attention due to potential leaks, ponding, or wear—critical factors in ensuring weather-resilient operations. Addressing this issue will bring Station 1 more in line with NFPA 1500 *Standards for Resilience* and FEMA's *Safety and Health Considerations for the Design of Fire and EMS Stations*, which emphasize robust construction for public safety facilities.

Safety and Fire Protection Systems

Station 1 is largely compliant with fire safety protocols, featuring a suite of fire detection and alarm systems, emergency lighting, and an automatic sprinkler system. However, it lacks an automatic cooking shut-off system, a key safety feature recommended by NFPA and FEMA guidelines for 24-hour occupancy stations.

Cancer Prevention Initiatives

Over the past few years, the fire service has had an increased awareness and resulting concern with the issue of firefighter cancer, and cancer-prevention practices. Specific to reducing exposure, there are (at least) three primary industry "best practices" to be

considered revolving around fire stations. One such practice is to limit firefighter exposure to products of combustion, as well as minimizing/eliminating exposure to diesel fumes/soot (from fire apparatus). Another preventative measure is to limit/reduce firefighter exposure to toxic products of combustion which occur after the fire (aka, off-gassing). PPE, especially turnout pants, must be prohibited in areas outside the apparatus floor (i.e., kitchen, sleeping areas, etc.) and should never be in the living quarters. The third best practice is gear separation and extractors to clean gear. Additionally, personal protective equipment (PPE) must also be stored in an environment protecting the gear from exposure to ultraviolet (UV) lighting. UV lighting can break down the fabric of firefighting protective ensembles. SFR has taken great strides to meet these standards. A recent grant-funded upgrade established a decontamination corridor, outfitted with shower and sauna capabilities, significantly improving contamination control and firefighter health. Adding doors to the bunker gear storage area would further isolate PPE from the apparatus bays, a best practice to prevent the spread of carcinogens.

Amenities and Operational Readiness

Core amenities, including kitchen facilities, showers, individual lockers, and a workout area, are in place, supporting personnel wellness and readiness. Living quarters provide 9 beds across 2 bedrooms, suitable for the station's maximum staffing capacity of 13 personnel. However, the training and meeting spaces scored 3 out of 5, suggesting an opportunity to create more versatile, multi-purpose areas to accommodate a broader range of training activities and operational functions.

System and Utility Resilience

Emergency power, supplied by natural gas, provides critical backup, but the station lacks seismic protection and a dedicated emergency operations center (EOC). Although Sheridan's seismic risk is low, FEMA's guidelines suggest reinforcing critical systems for long-term resilience. Additionally, an EOC would enhance the station's capacity to manage major incidents, improving operational readiness in line with FEMA and NFPA standards.

Overall Condition and Recommendations

Overall, Station 1 is functional and meets most operational needs, with some targeted improvements that would enhance its resilience, safety, and functionality. Immediate priorities include addressing the roof condition and installing an automatic cooking shut-off system. Adding doors to the bunker gear storage and implementing an EOC could further align Station 1 with national safety standards, ensuring its long-term effectiveness in supporting both current and future demands.

Administration Facilities

Administrative functions for the SFR are collocated within Fire Station 1 and are functional, providing the necessary workspace for day-to-day tasks, yet they would benefit from

targeted upgrades to improve both functionality and comfort. The existing office space supports essential operations, but updated furnishings, enhanced lighting, and additional storage solutions would streamline workflow and elevate the work environment. The conference room, while serviceable for meetings and planning sessions, could also be improved with more advanced technology for presentations and remote communication, along with upgraded seating and layout adjustments for optimal use. These enhancements would help ensure that both administrative staff and conference participants have a comfortable, efficient space to work and collaborate effectively.

Training Facilities

ESCI learned that SFR does not have a hands-on training facility located in their jurisdiction. Classroom instruction is an essential component of preparing emergency responders with knowledge and skills. SFR uses a small training classroom for new recruits and department didactic learning sessions. A training facility or drill ground is a second indispensable element. Training facilities provide a controlled and safe environment to use to simulate emergencies, by developing and testing the skills of emergency workers. SFR must use public sites in the jurisdiction to accomplish hands-on skills. As a result, most training must be completed using available buildings and parking lots. There is no option for regular live fire training. Live fire training is important to ensure firefighters understand fire behavior and are ready to encounter it when responding to calls for service. Consideration is recommended for the long-term development of a training site, when funding and space becomes available.

NFPA 1402: *Guide to Building Fire Service Training Centers*, is a standard that addresses the design and construction of facilities for fire training. The document covers the features that should be considered when planning a fire training facility. Absent the availability of suitable training facilities, some fire departments may forego essential training.

Proficient emergency responders have confidence in their own abilities to handle the emergencies they encounter. Best practices suggest that emergency workers have regular access to training grounds for repetitive drills and developing new skills. An effective and continuous training program results in safer, more efficient, and effective emergency operations.

Fire Station Apparatus/Vehicles

The size, age, and deployment of a fire department's fleet of vehicles (emergency response and support) has a significant impact upon the service capabilities of an organization. It is critical that a fire department establish an appropriate inventory level of its emergency and non-emergency vehicles that allows it to effectively serve its community and constituents well. Fire suppression apparatus, aerial apparatus, special operations and support units, and some command vehicles are unique and expensive pieces of equipment customized to

operate for a specific community and defined mission. Other than its firefighters, officers, and support staff, emergency apparatus and vehicles are the next most important resource in a fire department that has a direct impact on service delivery.

Apparatus Reviews

Apparatus must be in good condition, regularly maintained, and configured in a way that ensures reliable, safe, and effective deployment and operations at emergency incidents. As a result, most fire apparatus are very expensive to purchase and maintain and offer little flexibility in use and reassignment to other missions. Additionally, older vehicles tend to increase maintenance costs and can potentially have a negative impact on response reliability as units experience increased breakdowns and longer out-of-service times.

ESCI and SFR evaluated the condition of all the SFR apparatus and vehicles. The condition listed is a baseline for SFR to use and does not necessarily indicate a need for replacement. The criteria used are listed in the following figure.

Figure 33: Apparatus and Vehicle Evaluation for Replacement Criteria

Evaluation Components	Points Assignment Criteria
Age	One point for every year of chronological age, based on in-service date.
Miles/Hours	One point for each 10,000 miles or 1,000 hours of operation.
Service	1, 3, or 5 points are assigned based on the type of service unit. For instance, fire pumpers would be given a 5 because fire pumpers are classified as severe duty service.
Condition	This category takes into consideration body condition, rust, interior condition, accident history, anticipated repairs, etc. The better the condition, the lower the points assigned.
Reliability	Points are assigned as 1, 3, or 5 depending on the frequency that a vehicle is in the shop for repair. For example, a 5 would be assigned to a vehicle in the shop two or more times per month on average, while a 1 would be assigned to a vehicle in the shop an average of once every three months or less.

Point Ranges	Condition Rating	Condition Description
Under 18 points	Very Good	Excellent
18–22 points	Good	Good
23–27 points	Fair	Consider Replacement
28 points or higher	Poor	Immediate Replacement

SFR operates various types of response vehicles to carry out the mission of the Department. The first type of response vehicles are command vehicles. Within command vehicles are the staff vehicles assigned to chief level officers. These officers are often subject to being called back to work after normal business hours due to a large-scale emergency incident. Battalion 1 is utilized as the Department Shift Commander vehicle.

Shift Commanders provide direction on multi-unit incidents in a command function with a primary task of ensuring incident mitigation, personnel safety, and accountability.

The next figure lists SFR's current command vehicle inventory.

Figure 34: SFR Command Vehicles

Apparatus	Type	Manufacturer	Year	Condition	Assigned to:
Chief 1	Command	Dodge	2022	Very Good	Chief
Chief 2	Command	Ford	2008	Poor	Chief of Ops
Battalion 1	Command	Dodge	2019	Very Good	Command

Suppression units are the second type of apparatus utilized by SFR. Engines carry hoses and water to suppress the fire. Ladder companies, also known as trucks or aerials, have a hydraulically operated aerial ladder that allows firefighters to reach high floors of buildings. Most ground ladders cannot reach past the third floor of a building; therefore, ladder trucks will be needed to access higher floors. Additionally, the aerial ladder can be used as an elevated master stream for large building fires to flow large amounts of water to suppress the fire. Ladder trucks also carry specialized equipment for forcible entry, ventilation, search, and rescue.

The following figure lists the frontline fleet inventory of SFR's engines, aerials, and specialty units.

Figure 35: SFR Frontline and Reserve Fleet

Apparatus	Type	Manufacturer	Year	Condition	Features
Engine 1	Pumper	Rosenbauer	2009	Fair	1500 GPM
Engine 2	Pumper	Rosenbauer	2009	Poor	1500 GPM
Tower 1	Aerial	Pierce	2021	Very Good	100" Bucket
Ladder 1	Aerial	Sutphen	2001	Fair	75" Stick
Brush 1	Type 6	Ford	2002	Fair	Type 6 Engine
Hazmat 1	Specialty	Utilimaster	1994	Poor	Box Truck
MS 98	Ambulance	Ford	2002	Poor	Ambulance
MS 99	Ambulance	Ford	2022	Very Good	Ambulance
Utility 1	Support	Ford	2013	Good	Pick-up

ESCI observed the SFR vehicles to be well maintained and in good condition. From interviews with firefighters, the general impression of the fleet's condition is that it is good. ESCI was impressed with the appearance and general condition of the department's apparatus, which is indicative of the agency's culture of pride and ownership.

Various factors can have either a positive or negative impact on the life expectancy of an emergency response apparatus. Fire trucks and aerial ladder trucks located in "busy" portions of a jurisdiction can realize an even shorter life cycle as the units are exposed to more harsh operations. These units often experience increased breakdowns due to wear and tear, which reduces apparatus availability and increases maintenance costs.

Maintenance

As with any mechanical device, a fire apparatus possesses a finite life. Often, when a frontline apparatus reaches a certain threshold regarding age or wear and tear, or begins to require increasing maintenance costs, it is moved to reserve status or decommissioned. The decision to move an apparatus to reserve status or decommission is a local decision. Typically, apparatus replacement is based on multiple factors such as age, mileage, engine hours, increased need for maintenance, or financial considerations. Annex D of NFPA 1901: *Standard for Automotive Apparatus* (2016) suggests the following:

> *The safety improvements addressed in the most recent edition of NFPA 1901 are so significant that the standard suggests that apparatus more than 15 years old should be refurbished to meet current standards or removed from service; however, the standard acknowledges that apparatus can continue to be serviceable far beyond the 15-year threshold, depending on maintenance, wear and tear, service demands, and driver training programs. Finally, 1901 recommends that apparatus over 25 years of age should be replaced.*

Apparatus replacement within SFR is primarily based on the age of apparatus and budgetary constraints, with apparatus being moved to reserve status on a case-by-case basis and as budget allows.

Age, Condition, & Serviceability

Identifying and tracking the reliability and costs for maintaining expensive emergency apparatus are important aspects in ensuring prudent financial planning and emergency services delivery. Apparatus service-lives can be readily predicted based on factors including vehicle type, call volume, age, maintenance downtime, and maintenance costs.

NFPA 1901: *Standard for Automotive Fire Apparatus*, NFPA 1911: *Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles*, and NFPA 1912: *Standard for Fire Apparatus Refurbishing* are three specific standards that are used to inform and guide fire department leadership in the management and oversight of emergency services fleets through effective specification, purchase, refurbishment, maintenance, and retirement of fire apparatus.

For instance, as a general guideline, NFPA 1901: *Standard for Automotive Fire Apparatus* recommends placing fire apparatus 15 years of age or older into reserve status and replacing apparatus 25 years or older. However, as mentioned previously, an apparatus's usage can have a significant effect and impact on the resource role during its life expectancy. This standard identifies the following objective criteria in evaluating fire apparatus lifespan:

- Vehicle road mileage
- Engine operating hours
- The quality of the preventative maintenance program
- The quality of the driver-training program
- Whether the fire apparatus was used within its design parameters
- Whether the fire apparatus was manufactured on a custom or commercial chassis
- The quality of workmanship by the original manufacturer
- The quality of the components used in the manufacturing process
- The availability of replacement parts

Future Needs

ESCI supports Annex D of the NFPA 1901 standard as it relates to replacement schedules for heavy fire apparatus (engines, rescues, and trucks). SFR's apparatuses range in age from 2 to 30 years, with an average age of 15 years. This provides SFR with some insight into the degree of replacement costs looming in the near future.

Equipment

Support Equipment includes self-contained breathing apparatus (SCBA), radios, cardiac monitors, and other assorted high-value equipment. ESCI observed support equipment that was in service at the fire stations. The equipment was well-maintained and in good condition. SFR has a detailed plan for replacing equipment.

Support Programs

Fire department support programs can encompass a wide range of initiatives and resources aimed at assisting fire departments in carrying out their mission to protect life and property from fire and other hazards. Some examples of fire department support programs are training programs, communication services and dispatch, and life safety services.

Training

A comprehensive training program is one of the most critical factors to ensuring safe and effective delivery of emergency services. This is especially true of smaller departments where staffing is limited but the types of incidents they respond to can be the same as larger departments. Maintaining a sufficient initial and on-going fire, rescue, and hazardous materials training program as well as continuing medical education is essential to ensure maximum effectiveness and safety in the complex environment firefighters must work. Failure to provide necessary and effective training on a continual basis endangers firefighters and the citizens they serve, and at the same time exposes the fire department to liabilities that can have severe consequences.

In this section, ESCI reviews the department's training practices and compares them to national standards and best practices. Recommendations for strategic changes or opportunities for improvement are noted where appropriate.

General Training Competencies

Newly hired firefighters must participate in probationary firefighting recruit training. The National Fire Protection Association (NFPA)—in its standard NFPA 1001 (Firefighter I and II)—identifies the minimum training requirements that can serve as the basis for entry-level firefighters. The NFPA recommends other standards that address initial and ongoing training for firefighters and officers in a variety of specific topics.

In its *Fire & Emergency Service Self-Assessment Manual*, the Commission on Fire Accreditation International (CFAI) addresses "Training and Competency," and lists performance indicators under the headings of training and education program requirements, performance, and resources. Some of these competencies include the following:

- The organization has a process in place to identify training needs. The process identifies the tasks, activities, knowledge, skills, and abilities required to deal with anticipated emergency conditions.
- The agency's training program is consistent with the mission statement, goals and objectives and meets its needs.
- The training program is consistent with legal requirements for performing mandatory training.

- The agency identifies the minimum levels of training required for all positions in the organization.
- A command and staff development program is in place that encourages pursuit of professional credentialing.
- A process is in place to ensure that personnel are appropriately trained.
- The agency provides a training schedule that meets the organization's needs.
- The agency evaluates individual and crew performance through validated and documented performance-based measurements.
- The agency analyzes student evaluations to determine the reliability of training conducted.
- The agency maintains a training records management system that meets recognized standards.
- Facilities and apparatus are provided to support the agency's all hazards training needs. The agency has plans addressing any facilities and apparatus not available internally to complete training activities.
- The agency has instructional personnel with teaching qualifications and expertise to meet its needs.
- Instructional materials are current, support the training program, and are easily accessible.
- The agency has a process for purchasing, developing, or modifying existing curriculum to meet its needs.
- Equipment utilized for the training is properly maintained in accordance with the agency's operational procedures. The agency makes training equipment readily accessible to instructional personnel.
- The agency maintains a current inventory of all training equipment and resources.
- A selection process is in place for training and educational resource materials.
- Training materials are evaluated at least annually, to reflect current practices and meet the needs of the agency.

Furthermore, the Insurance Service Organization (ISO) requires detailed hours of specific training as part of their fire department ranking. Below is a summary of the annual ISO required training hours for each firefighter.

- Facilities Training: 18 Hours
- Company Training: 192 Hours
- Officer Development Training: 12 Hours
- New Driver Training: 60 Hours

- Driver Continuing Education: 12 Hours
- Hazardous Materials Training: 6 Hours
- New Recruit Training: 240 Hours
- Pre-fire Planning: Annual Review

Even though the Insurance Services Office (ISO) requires specific detailed training for department personnel, training programs must go beyond simply fulfilling mandatory hours. Emergency services training administrators and instructors must ensure that firefighters, EMS personnel, and officers are not only competent, but also self-confident in the variety of skills necessary to perform effectively in high-stress situations.

Training Administration and Delivery

An effective training program requires strong management, including clear program guidance through structured planning, defined goals, and specific objectives. SFR has established these foundational elements, and management actively supports training, as seen in the high volume and coordination of training sessions held throughout the year. The extensive service area adds complexity, making it challenging to schedule training outside of primary response territories. Staff interviews highlighted a need for additional support to ensure that operational units can consistently receive necessary training. This need was underscored in SFR's 2024 ISO review, where only 4.67 of the 9 possible credits were awarded for company training.

The Division Chief of Operations currently manages the training program. Given the broad scope and high demands of the training program, SFR could benefit from designating shift officers as training liaisons to support consistent training delivery across shifts. This model is widely adopted in departments nationwide when staff are limited. However, officers taking on these roles must balance the added responsibilities with their scheduled daily, weekly, and annual tasks, recognizing that emergency operations and responses may disrupt or delay these assignments.

Training Schedules

As with many fire departments, SFR is challenged with balancing on-duty training sessions and the necessity to maintain sufficient personnel and apparatus to ensure adequate emergency response. Competency-based training sessions occur frequently at the agency despite these challenges. In addition to ensuring personnel have the quality knowledge, skills, and abilities necessary to deliver effective and efficient emergency services, training programs have an added effect of improving employee morale. SFR utilizes a variety of on-duty and off-duty training schedules to try and accomplish the required training hours set by ISO.

The SFR training program should be balanced between three areas: statistically driven training evolutions and skills reflecting current call volume, special team training, and re-certification course requirements. The use of heat maps and actual service demand listed in the Service Delivery and Performance Section of the report can aid in tailoring the training program specifically to the types and frequency of incidents experienced by SFR. Furthermore, the required ISO training requirements can be broken down and scheduled across the entire year to ensure compliance.

Training Record Keeping

Training records are maintained utilizing the SFR's records management system, ImageTrend®. The system is working well and allows the department to easily track and achieve the required ISO training documentation.

Training Program Goals and Objectives

Every part of the department needs clear goals and objectives to support overall success, and the SFR training program is no exception. Without a dedicated, fully functional facility to conduct regular training drills—whether daily, monthly, or annually, and for both simulated and live fire training—SFR will face challenges in ensuring firefighters are proficient when working in Immediately Dangerous to Life and Health (IDLH) environments. NFPA 1403, *Standard on Live Fire Training Evolutions*, and NFPA 1402, *Standard on Facilities for Fire Training and Associated Props*, offer valuable guidance to help address these critical training needs.

Goals and objectives are the backbone of a strong training program, and a dedicated training committee committed to excellence in department training can help identify them. Analyzing SFR's ability to perform tasks and evolutions outlined in NFPA 1410, *Standard on Training for Emergency Scene Operations*, can pinpoint initial focus areas. Additionally, reviewing Post Incident Analyses (PIAs) can highlight weaknesses or gaps in service. These gaps, often related to high-risk, low-frequency events in the area, guide the training program's focus to improve preparedness.

With a goal of being able to easily unveil a plan each year and make sure training is provided for all the disciplines at a high level to address community needs, Assessing hazards and developing training for high-risk low frequency events, SFR will continue to face training challenges as long as staffing remains limited. Department-defined staffing levels play a significant role in determining the goals and objectives of the training program and meeting ISO-required training benchmarks.

Fire and Life Safety Services

Fire Prevention

In today's fire service, the many competing interests for limited funding make establishing priorities very difficult. Often the mission of fire prevention and public education becomes a combined effort between the department and their municipality. Outreach and education combined with identifying and emphasizing Community Risk Reduction (CRR) should become part of the everyday mission of the fire department.

It is far more effective to prevent fires and other emergencies than it is to respond to them. The financial impact of a fire or injury goes far beyond the cost of extinguishment or treatment. According to the Federal Emergency Management Agency (FEMA), 40% of businesses do not reopen following a disaster. Additionally, another 25% fail within one year. The United States Small Business Administration found that more than 90% of companies fail within two years of being struck by a disaster.

The fiscal impacts of injuries, while not as immediately evident, can be equally devastating. Individuals experiencing an injury may lose the ability to earn an income during the recovery time, and businesses lose productivity of that individual until they return to work. Beyond the fiscal impacts associated with lost work time, injured people and families often experience significant emotional trauma.

A strong fire prevention and life safety program, based on effective application of relevant codes and ordinances, reduces the loss of property, life, and the personal disruption that accompanies catastrophic fires and accidents.

The fundamental components of an effective fire prevention program are listed in the following figure, accompanied by the elements needed to address each component.

Figure 36: Fire Prevention Program Components

Fire Prevention Program	Elements Needed to Address Program
Fire Code Enforcement	Proposed construction and plans review New construction inspections Existing structure/occupancy inspections Internal protection systems design review Storage and handling of hazardous materials
Public Fire and Life Safety Education	Public education Specialized education Youth Firesetter intervention Prevention information dissemination
Fire Cause Investigation	Fire cause and origin determination Fire death investigation Arson investigation and prosecution

Fire Code Enforcement

The review of planned construction is a critical component of fire prevention. Working in conjunction with the local, county, city and/or regional building officials ensures that planned construction will be built to applicable fire codes and standards that make for a safe environment for those that will occupy/use it.

Plan Reviews and Inspection Activities

A comprehensive fire inspection and construction plan review program ensures that the business/occupancy continues to meet the codes and standards to which it was built and provides an opportunity for fire personnel to develop a plan of action (pre-plan) in the event of a fire or other emergency. The recommended frequency for business/occupancy inspection may vary based on the type of property and degree of hazard. NFPA 1730, *Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations* is the recommended standard for fire safety inspections by hazard class and is noted in the following figure.

Figure 37: Recommended Fire Inspection Frequencies per NFPA 1730

Hazard Classification	Example Facilities	Recommended Inspection Frequency
Low	Apartment common areas, small stores, and offices, medical offices, storage of other than flammable or hazardous materials.	Annual
Moderate	Gas stations, large (> 12,000 square feet) stores and offices, restaurants, schools, hospitals, manufacturing (moderate hazardous materials use), industrial (moderate hazardous materials use), auto repair shops, storage of large quantities of combustible or flammable material.	Semi-Annual
High	Nursing homes, large quantity users of hazardous materials, industrial facilities with high process hazards, bulk flammable liquid storage facilities, facilities classified as an "extremely hazardous substance" facility by federal regulations (SARA Title III).	Quarterly

SFR has not had a dedicated Fire Marshal in the past ten years and is beginning the process of rectifying and creating the appropriate fire and life safety programs now that the Fire Marshal position has been returned to their ranks.

Communications/Dispatch Services

Communications center operations represent one of the most critical support functions of any fire department; the system is relied upon as the first link in the emergency services process for a community. A dedicated dispatch center's performance directly impacts critical emergency response times, service level, overall service delivery, and customer satisfaction. Given the direct correlation between response times, survivability, mitigating property damage, and overall outcomes, a properly staffed and functioning dispatch center ensures fire department resources can respond promptly while providing pre-arrival information that enhances first responder safety and effectiveness.

The Sheridan Police Department serves as the primary Public Safety Answering Point (PSAP) for all emergency services (police, fire, and medical) in Sheridan. The Sheridan Communications Dispatch Center operates under a structured supervision system, with dispatchers directly overseen by a patrol Sergeant or, in the Sergeant's absence, a Corporal. The Sergeant on duty manages the dispatchers' schedules, supervises

performance, and conducts performance reviews. Additionally, a non-sworn Communication System Coordinator oversees the systems, equipment, and processes within the dispatch center, and both the Communication System Coordinator and the Sergeants report to the Patrol Operations Lieutenant.

The dispatch center serves multiple agencies, including the Sheridan Police Department, Sheridan County Sheriff's Office (including Search and Rescue), Ambulance Service, Sheridan Fire Department, and six volunteer county fire departments. While there is no dedicated fire dispatcher, dispatchers handle calls for both law enforcement and fire services.

Dispatchers work 12-hour shifts, with coverage times varying between 6:00 a.m. to 6:00 p.m., 12:00 p.m. to 12:00 a.m., and 6:00 p.m. to 6:00 a.m. Ideally, two dispatchers are on duty, with three present during peak times. However, staffing challenges mean that occasionally only one dispatcher may be on shift. Dispatchers use Spillman/Flex as the CAD system, with shared roles and responsibilities.

Training for dispatchers includes 3-4 months of field training, WLEA Dispatcher Basic, EMD certification, CPR/First Aid, and ongoing annual training for POST certification. The center's systems are equipped with battery and generator backup, and dispatchers utilize EMD (though not EFD) for handling and dispatching fire department calls.

Limited staffing requires call takers to both dispatch units and monitor the radio for calls or requests for resources. The National Fire Protection Association has established NFPA 1061: *Standard for Public Safety Telecommunications Personnel Professional Standards Qualifications* and NFPA 1225: *Standard for Emergency Services Communications* as a guiding document for agencies' operating communications centers relative to facilities, call processing times, staffing, testing, and data security. It is important to understand that NFPA 1225 is not a standard specific to fire department operations but applies to all emergency communications centers. NFPA 1710: *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* also identifies emergency communication performance standards.

SFR should review and explore the establishment of a dedicated dispatcher for fire department services. There are several reasons why a dedicated fire department dispatching component is beneficial:

- Efficient Communication: A dedicated dispatching component allows for efficient communication between firefighters and the dispatcher, ensuring that emergency calls are responded to quickly and accurately. This can help reduce response times and improve the overall effectiveness of emergency response efforts as outlined in NFPA 1225 standards.

- Specialized Staff: A dedicated dispatching component can employ specialized staff who are trained to handle emergency calls and dispatch resources in a timely and effective manner. These dispatchers have specialized knowledge of fire department operations and can help ensure that the appropriate resources are dispatched to the right location.
- Advanced Technology: A dedicated dispatcher using state-of-the-art CAD resources can help identify the closest available resources, track response times, and provide real-time updates to firefighters in the field.
- Centralized Management: A dedicated dispatcher can provide centralized management of fire department operations, allowing for better coordination and communication between different units and departments. This can help ensure that emergency response efforts are carried out in a cohesive and efficient manner.
- Improved Safety: A dedicated dispatcher can help improve the safety of firefighters and the public by providing real-time information about the location and status of emergency incidents. This can help ensure that firefighters have the information they need to respond to emergencies safely and effectively.

Hazardous Materials Response Capabilities

Hazardous materials incidents are a part of almost every fire department's call volume. While this type of emergency response does not occur as often as some other emergency incidents, they can pose a very high risk due to the challenges and dangers of this type of incident. SFR has the capability to respond to hazardous material incidents. Hazardous materials (Hazmat) are defined as any item or agent (biological, chemical, radiological, and/or physical), which has the potential to cause harm to people or the environment. In a location like SFR, hazardous materials may be present in various locations throughout the jurisdiction. Sheridan contains industrial and agricultural environments with significant hazardous materials release potential.

SFR responds to and mitigates hazardous materials incidents throughout the region. Department training and training with other in-and-out of county fire departments happens periodically during the year. Sheridan Fire and Rescue is part of the Regional Emergency Response Team (RERT) 1. The next closest RERT member is Campbell County Fire Department. Most organizations utilize the NFPA 472: *Standard for Competence of Hazardous Materials/Weapons of Mass Destruction Incidents* Job Performance Requirements (JPRs) that relate to hazardous materials to meet the continual education requirements for certification purposes. Because SFR is part of the RERT, this report refers to them as a team but, in reality, the entire department is tasked with these responsibilities and there is not an internal "team".

As part of the Emergency Response and Responder Safety Document Consolidation Plan (consolidation plan) as approved by the NFPA Standards Council, this Standard has been

combined into new consolidated NFPA 470: *Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders*. As a result of this action, the "current edition" of NFPA 472 is the last published edition of the standard's content as a stand-alone standard. SFR should begin by referring to the new consolidated standard moving forward. The 2022 edition of NFPA 470: *Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders* combines NFPS 472, NFPA 473, and NFPA 1072 into a single standard. SFR is slowly adopting new changes. They continue to expand awareness with others and what is changing. SFR utilizes the State Fire Marshals office for recertification.

After reviewing SFR's incident responses during the year, the number of hazardous material incidents SFR responds to is quite small compared to the total number of calls for service. However, these calls usually have a higher potential for civil disruption based on their nature. When a hazardous materials incident occurs either in the city or anywhere in the region, and the hazardous materials unit is requested, SFR is responsible for staffing the unit so it can respond to the scene. This negatively affects the department's internal staffing capabilities to respond to other incidents that occur within the jurisdiction.

Given the significant risk hazardous materials incidents pose, SFR has highly prioritized its response readiness to manage an incident of this nature. The volume of hazardous materials transiting the county and city via aircraft, rail, pipeline, and highway can be substantial. However, transportation routes are not the only risk the community faces. Industrial warehousing activities increase risk due to the handling of these raw materials. SFR operates a Special Operations response Hazmat Unit out of Fire Station 1. This is a "level A" resource, the highest level of Hazmat response capability.

To achieve level A capability, a combination of highly technical equipment is necessary, along with appropriately trained, technician-certified personnel and can take as long as an hour to assemble. The department has additional personnel throughout the rest of the city available on call-back. This are a total of approximately 4 personnel available on shift.

Hazmat certification levels are defined by NFPA 472: *Standard for Competence of Hazardous Materials/ Weapons of Mass Destruction Incidents* and the Occupational Safety and Health Administration (OSHA) in CFR 1920.120. The highest level of certification for responders is the "Technician" level according to NFPA. Of the personnel in SFR, 14 are certified at the Technician level. All other employees are trained at the Operations level resulting in minimal response capability. In addition, there are no personnel certified as Hazardous Materials Incident Commanders. Chapter 13 of NFPA 470: *Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders* outlines the professional qualifications required for performing the duties of the incident commander at hazardous materials incidents. SFR should look to provide this training and ensure these positions are filled if providing hazardous materials response capabilities.

The National Fire Protection Association (NFPA) defines a Hazardous Materials Safety Officer certification level in Chapter 18 of NFPA 470: *Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders*. SFR should seek to add additional training to this certification level, which is an industry best practice. SFR currently does not have any members with Hazardous Materials Safety Officer certification.



ESCI staff performed a comprehensive assessment based on industry standard practice and consistent with the Occupational Safety and Health Administration (OSHA), NFPA 470: *Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders,* NFPA 472: *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*, NFPA 473: *Standard for Competencies for EMS Personnel Responding to Hazardous Materials/Weapons of Mass Destruction Incidents*, NFPA 1710: *Standard for Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*, the Wyoming State Emergency Response Commission for Hazardous Materials and the International Fire Service Training Association. The assessment was not a hazard-based risk analysis of the community, but instead, it is based on a minimum level of capability regardless of hazardous materials incident type. The assessment measured four major areas. These four areas were:

- Standard Operating Procedures, Policies, and Guidelines
- Human Resources
- Training
- Equipment

Standard Operating Procedures, Policies, and Guidelines

The first area of evaluation involves the established standard operating procedures, policies, and guidelines used to manage the team. SFR has a written Emergency Response Plan for Hazardous Materials incidents, but it needs review. The existence of SFR's Emergency Response Plan (ERP) is required and is related to the mandate from the Occupational Safety and Health Administration (OSHA) 29 CFR 1910.120 (q)(1), which requires that employers establish emergency procedures to be followed when responding to emergencies involving hazardous materials. This plan should be available online to all employees and reflect pre-planning and coordination with outside shareholders.

The Incident Command System is a standard on-site command and control system used to manage emergency incidents and planned events. SFR has adopted and uses the NIMS system to manage its incidents. This system defines the lines of authority, roles, and

responsibilities for managing large scale incidents. Furthermore, it designates a single incident commander as well as recognizes the “Unified Command” concept. Passing of command to senior officials is recognized and the safety officer is identified. SFR follows this practice.

During hazardous materials responses, SFR maintains available advanced life support services on-scene for responders during actual and potential immediately dangerous to life and health (IDLH) atmospheres inside the City. When responding outside the city to the adjacent region, the requesting or local jurisdiction will provide those services. These advanced life support personnel are not specifically trained in the medical aspects of hazardous materials through local protocols and are not part of SFR. SFR team leaders believe they need more personnel trained to perform these functions.

The procedures used by SFR address safe distances and areas of refuge for responders who may require it. They do not address or identify the required personal protective equipment to be employed along with emergency equipment. This is something the department should add when establishing the ERP. The standard operating procedures identify site security and control as well as establish the usage of a personal accountability system. The department procedures detail the use of emergency evacuation procedures and decontamination procedures to include collection and disposal of runoff. Finally, the response plan leads to an opportunity for after-action reports and critiques. SFR takes advantage of these practices and should continue to do so. SFR procedures and guidelines provide for deployment of resources outside of the jurisdiction for local, regional, and state assistance. These procedures should be incorporated into the formal ERP.

The SFR hazardous materials team has a formal personal protective equipment plan. The team follows manufacture’s guidelines to address hazard-based selection of protective ensembles, their use and limitations, work mission duration, maintenance and storage, decontamination and disposal, training, fitting, donning, and doffing, and inspection procedures. Occupational Safety and Health Administration (OSHA) in CFR 1910.120 requires the employer to implement safe work procedures for the use of personal protective equipment in the workplace as well as train workers in its use. The regulation continues to require the employer to ensure that employees are complying with the regulations. SFR has policies in place to ensure this happens. All personnel are required to use a minimum of positive pressure, self-contained breathing apparatus until the atmosphere has been quantified.

SFR has policies and procedures that reference the usage of air monitors during emergency responses. These policies include documented maintenance procedures and calibration of its air monitors. SFR’s procedures require the establishment of a site-specific safety plan. SFR does not have policies that reference a standardized methodology for assigning incident levels to hazardous materials emergencies. SFR does not outline the

specific procedures for various tasks that team members may be required to perform, such as spill or leak control.

Human Resources

The Occupational Safety and Health Administration (OSHA) in CFR 1910.120 requires that employers ensure that firefighters establish teams of two or more when working and that a rescue team suitably equipped is readily available. Listed specifically in the regulations are incidents involving hazardous materials. One accepted industry standard practice requires seven hazardous materials technicians to facilitate a minimal entry during a hazardous materials response. These seven people must be dispatched on the initial hazardous materials emergency response once it is determined that an emergency does exist. Of these seven, one should be the designated hazardous materials safety officer trained in accordance with NFPA 470: *Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders*, and another the incident commander. SFR has a minimum staffing requirement of 4, on a majority of the days this will yield 4 hazardous materials personnel assigned for the day. The rest of the staffing needed is achieved through the use of recalling off-duty staff back to duty. This is not an efficient way to handle these emergencies and can leave the department with a significant delay when addressing the emergency. Ensuring that the initial alarm assignment contains the industry best practice should continue to be a goal for the organization. Adding an additional engine could help achieve this requirement and best practice.

One concern from team leaders was the geographical size of the service area requiring protection. Currently one station is providing all special operations support for the city. If the Hazardous Materials members from Fire Station 1 are busy, then services are delayed. Furthermore, the geographical size of the response area can delay the arrival of units.

SFR has appropriate practices for medical surveillance of personnel assigned to the hazardous materials response team. SFR requires an opinion from a physician and provides for periodic examinations as determined by the physician. The practices provide for a medical assessment after exposure above the permissible exposure limit (PEL). SFR should ensure these practices are incorporated into policy decisions. All employees receive proper fitting for respiratory protective equipment.

Training

The SFR hazardous materials team certifies that its members have achieved technician level training in accordance with NFPA 470: *Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders.* SFR keeps records for documenting initial and refresher training and requires the completion of job tasks for all members. It certifies all members who are required to use respiratory protection. All members have been trained to a minimum level of EMT. The SFR hazardous materials team has a plan for annual

refresher training and measurement of continued competency of all team members. Team leaders have expressed that the ability to train more on these practices should be increased to increase efficiency and proficiency for rescuers in more complex rescue situations.

Equipment

An objective review of equipment available for hazardous materials response was conducted. SFR has an adequate supply of decontamination equipment. This equipment consists of the required containment and collection items as well as the necessary solutions for decontamination operations. Gross decontamination as well as technical decontamination operations were evaluated and found to be adequate for the type of operations the SFR may encounter.

The inherent ability of hazardous materials emergencies to progress into longer-term operations dictates the need for effective rehabilitative efforts. SFR has arrangements in place for the sheltering of personnel during the rehabilitation process in an area out of the heat, cold, and elements. The means by which this is accomplished can be varied. Ambulances, buses, ventilated tents, and shelters are all possible means to achieve the desired outcome. SFR has methods in place to obtain meals for responders during extended operations.

SFR has various methods for analysis and detection of hazardous materials. This includes PH paper, multi-gas monitoring equipment, radiological monitors, and chemical detection and analysis. SFR does not use colorimetric tubes for chemical detection and analysis due to the cost of operation. There are also sufficient supplies for gathering and collecting samples. SFR uses the MSA 4 and 5 Gas Monitors, Rad Monitors, Hazmat ID Elite, PH Paper, M8, M9 Paper to increase ability from simple detection to actual identification of specific compounds. These monitors are expensive and SFR should certify replacement plans are in place to ensure upgrades are made to keep up with technological changes.

Every member of the hazardous materials team operating on-scene should have radio communications with the safety officer and entry coordinator during entry operations. At a minimum, one portable radio must be available for every entry team member who is at any level of dress, (multiple entry teams and back up teams) as well as any team member who is coordinating a function (decontamination, research, safety, group leader, etc.) SFR has the communication capability to do this and has made it part of its standard operating procedures.

SFR has an assortment of equipment to handle LPG and NG leaks but does not have flaring capabilities. Further spill and leak capabilities are available for various other types of hazardous materials releases. SFR has a full array of chlorine leak kits at its disposal including rail car chlorine kits. They also include additional gaskets for use with these kits

for other toxic chemicals. Moving equipment for handling drums is also available. SFR stocks more than the appropriate amount of overpack drum capabilities.

SFR provides adequate fire protection capabilities with foam application, if required. SFR does not have the appropriate amount of foam on hand but does have the equipment to operate at 250 gallons per minute during application. SFR does not have the capability for Class D metal fire extinguisher usage.

SFR stocks the necessary medical equipment to monitor and provide treatment for team members during entry. As discussed previously in this report, SFR relies on other agencies to provide medical treatment providers available with hazardous materials toxicology training. Team leaders believe additional training is required to increase the number of personnel who can serve in this role.

SFR maintains an adequate number of reference materials and can provide internet capabilities for research. However, internet capabilities are limited by service connectivity. During times of inclement weather, the ability to access the internet is very limited, if not altogether impossible. Identifying hazardous materials is delayed when technicians must search textbooks for information instead of faster internet-based search engines which reduces time tremendously. Furthermore, the ability to communicate can be limited and could be increased through the use of satellite telephones. This is a common problem for rescuers to deal with. The addition of satellite internet and phone services could greatly enhance and prevent delays during weather-related events.

SFR carries a standard compliment of protective ensembles for rescuers. These include both 45-minute SCBA bottles with sufficient reserve bottles and a cascade system to support long-term operations. SFR should consider the addition of 60-minute SCBA bottles. SFR also requires responders to bring their issued turnout gear to ensure each rescuer has adequate NFPA compliant protective equipment that has been sized appropriately. This reduces the amount of equipment required to be stored for deployment. Industry best practices require each person operating as part of the team to be assigned NFPA compliant firefighting protective equipment.

Technical Rescue Response Capabilities

Much like fire and EMS incidents, SFR needs to be prepared for technical rescue emergencies. Technical rescue includes vehicle machinery extrication, high angle rope rescue, confined space rescue, water rescue, ice rescue, trench, and collapse rescue categories.

SFR includes a limited special operations component of technical rescue in place to respond to technical rescue incidents. These members are also cross trained as Hazardous Materials Technicians or Hazardous Materials Operations level members. The disciplines for which the agency is prepared include confined space rescue, rope (high angle) rescue, vehicle/machinery rescue, water rescue, ice rescue, trench rescue and limited structural collapse rescue. The technical rescue operations are well structured, and appropriate training is in place. SFR deploys assets that are trained in varies discipline of technical rescue inside the city as well as to the surrounding area as mutual aid.

ESCI staff performed a comprehensive assessment based on the current standard practices consistent with the Occupational Safety and Health Administration (OSHA) 29 CFR 1910.146, NFPA 1006: *Standard for Technical Rescuer Professional Qualifications*, NFPA 1670: *Standard on Operations and Training for Technical Search and Rescue Incidents*, NFPA 1710: *Standard for Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*, and the International Fire Service Training Association. The Division Chief of Operations was interviewed to identify strengths and weaknesses. The assessment was not a hazard-based risk analysis of the community, but instead, it is based on a minimum level of capability. These four areas were:

- Standard Operating Procedures, Policies, and Guidelines
- Human Resources
- Training
- Equipment

Standard Operating Procedures, Policies, and Guidelines

The first area of evaluation involves the established standard operating procedures, policies, and guidelines used to manage the members. SFR does not have a dedicated Emergency Response Plan (ERP) for technical rescue incidents per se. However, they use an all-hazards response plan and standard operating guidelines and procedures for incidents. This plan is available online to all employees.

The Incident Command System is a standard on-site command and control system used to manage emergency incidents and planned events. SFR has adopted and uses the National Incident Management System (NIMS) to manage its incidents. This system defines the lines

of authority, roles, and responsibilities. Furthermore, it designates a single incident commander as well as recognizes the "Unified Command" concept. Passing of command to senior officials is recognized. SFR identifies an incident safety officer for technical rescue incidents.

During technical rescue responses, SFR relies on outside agencies to provide available advanced life support services on-scene for responders during actual and potential immediately dangerous to life and health (IDLH) atmospheres. Not all advanced life support personnel are specifically trained in the medical aspects of technical rescue incidents. This training is designed for incidents involving technical rescue. The roles of the emergency medical support personnel are clearly defined. Medical treatment protocols are in place that specifically address handling medical emergencies involving crush syndrome. Often crush syndrome is associated with technical rescue incidents. Medical Treatment Protocols are a definite benefit to advanced life support personnel.

The standard operating guidelines used by SFR address the required personal protective equipment to be employed along with emergency equipment. The procedures identify site security and control. The standard operating guidelines and procedures establish the usage of a personal accountability system. The standard operating guidelines are thorough and detail the use of emergency evacuation procedures. Finally, the plan also details the procedures for after-action reports and critiques. SFR does not have specific SOGs and SOPs for each discipline to provide further direction for personnel.

The SFR has a personal protective equipment plan specific to technical rescue equipment. All personnel are required to use a minimum of positive pressure, self-contained breathing apparatus until the atmosphere has been quantified.

SFR has established policies and procedures that reference the usage of air monitors during emergency response. SFR has monitors for hazardous materials and should ensure a four-gas monitor that has O2, LEL, H2S, and CO sensors are assigned for confined space. Calibration tests are done at least every month. Furthermore, they maintain documented maintenance procedures and calibration of their air monitors. SFR does not have a policy for developing a site safety plan. This is another general recommendation.

Human Resources

The number and type of qualified rescuers is an important aspect for special operations type responses. Some states, like Florida, have established industry best practices and outline personnel qualifications as well as the number of rescuers required for these teams. This is commonly called resource typing. The Florida Association of Search and Rescue Resource Typing for light technical rescue teams mandates that six technical rescue technicians should be present for light technical rescue operations as an industry standard. NFPA 1710: *Standard for Organization and Deployment of Fire Suppression Operations,*

Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments, requires that employers ensure that firefighters establish teams when working and that a suitably equipped rescue team is readily available, when firefighters are required to engage in emergency responses that require specific and advanced training and specialized equipment. SFR staffs 4 personnel each day to handle technical rescue calls for service. This minimal staffing makes providing appropriate rescue personnel difficult at best. Not all members are trained in every technical rescue discipline. As with hazardous materials responses the geographical constraints of a large service area and limited numbers of specialized resources can delay services.

SFR has appropriate practices for medical surveillance of personnel assigned to the hazardous materials response team. SFR requires an opinion from a physician and provides for periodic examinations as determined by the physician. The practices provide for a medical assessment after exposure above the permissible exposure limit (PEL). SFR should ensure these practices are memorialized in policy. All employees receive proper fitting for respiratory protective equipment.

Training

The SFR certifies that its members have achieved Technician level training in accordance with NFPA 1006: *Standard for Technical Rescuer Professional Qualifications*. SFR keeps records for documenting initial and refresher training. The organization requires the completion of a task book for all members and certifies all members who are required to use respiratory protection. All members have been trained to a minimum level of an EMT. The SFR has a plan for annual refresher training or measurement of continued competency of all team members. Annual requirements for confined space entries are maintained. This is a general recommendation and required by OSHA 1910.146(k)(2)(iv) to ensure that affected employees practice making permit space rescues at least once every 12 months, by means of simulated rescue operations in which they remove dummies, manikins, or actual persons from the actual permit spaces or from representative permit spaces.

Training sessions currently focus on various technical rescue disciplines, but additional sessions would enhance proficiency and team cohesion. SFR members participate in weekly, monthly, and annual department training as part of their standard regimen.

While SFR has agreements with a towing company for large vehicle rescue, SFR leaders have identified a need for further training to handle large-scale automotive incidents involving buses, semi-tractor trailers, trains, and aircraft, which present unique hazards and complexities. These types of incidents require specialized training to ensure that rescuers are fully prepared to manage them effectively.

Equipment

The disciplines involved in technical rescue demand an extensive array of specialized equipment to effectively manage incident needs. SFR employs a well-coordinated mix of deployment strategies to ensure the necessary resources arrive on scene efficiently. Meeting these requirements is challenging due to the high costs associated with such specialized equipment. ESCI conducted an objective evaluation of SFR's equipment used for these types of emergencies.

For instance, SFR's extrication tools, including electric-powered extrication equipment, will eventually require replacement. Advances in automotive technology and materials, such as the use of high-strength structural steel with cutting strength requirements of up to 300,000 psi, exceed the capability of older extrication tools, which typically operate at around 60,000 psi. Upgrading to equipment designed to handle these demands ensures rescuers are equipped to perform effectively. While SFR has started to integrate these upgrades, this equipment's cost and wear over time necessitate a structured replacement schedule, similar to apparatus replacement, along with secure funding mechanisms.

Another costly replacement category includes lifting and moving airbags, a crucial component that enhances the extrication team's ability to respond to a wider range of rescue scenarios. These airbags have a limited-service life, which supports a scheduled replacement plan with associated budgetary considerations—akin to SFR's existing rope rescue replacement program but with higher individual replacement costs. SFR also provides ice rescue services, where equipment such as rescue suits must be replaced on a schedule due to aging.

SFR has the basics for technical rescue equipment inventory that can be further supported with increased staffing, enhanced training, and a capital expenditure plan dedicated to replacing items to maintain readiness and operational effectiveness.

Review of Historical System Performance

SFR leadership will need a comprehensive understanding of service delivery and performance within the community to achieve success in the long-range planning process. To assist in leadership attaining this understanding, the following components of service delivery and performance were evaluated.

- Service Demand
- Resource Distribution
- Resource Concentration
- Resource Reliability
- Response Performance

Service Demand Analysis

When the residents and visitors of Sheridan call 911, this creates service demand—response by the fire department to the request for service or incident. While SFR provides other services to the community, this is the primary purpose for which the agency exists.

Incident Type Analysis

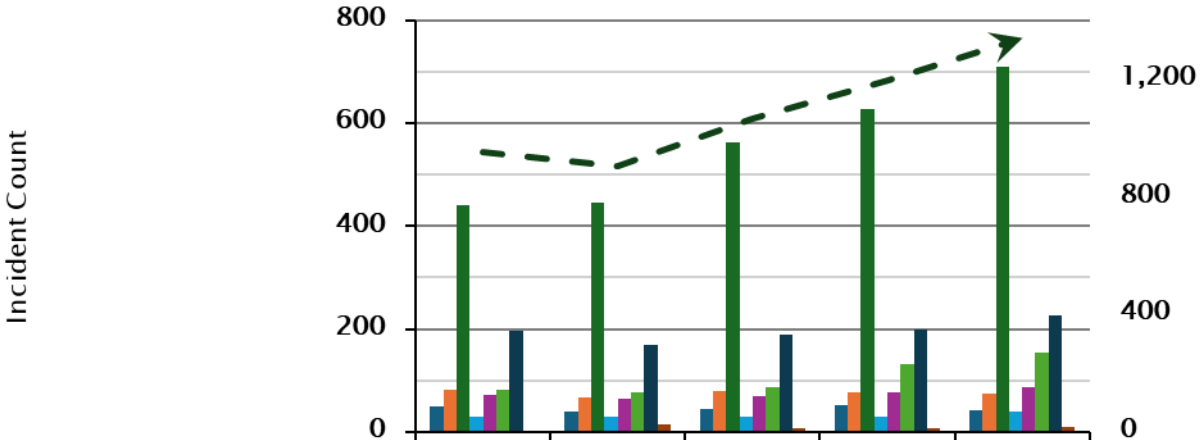
From response to fire incidents to response to specialized incidents, SFR provides services for a wide variety of incident types. Upon completion of the response, personnel enter documentation into a computer software system and include the incident type as defined by the National Fire Incident Reporting System (NFIRS). Within this system, each incident type is assigned a three-digit code which is then grouped into series by the first digit, as illustrated in the following figure.

Figure 38: NFIRS Incident Series

Incident Series	Incident Heading
100-Series	Fires
200-Series	Overpressure Rupture, Explosion, Overheat (No Fire)
300-Series	Rescue and Emergency Medical Service (EMS) Incidents
400-Series	Hazardous Condition (No Fire)
500-Series	Service Call
600-Series	Canceled, Good Intent
700-Series	False Alarm, False Call
800-Series	Severe Weather, Natural Disaster
900-Series	Special Incident Type

As illustrated in the following figure, SFR experienced an overall increase of 40.5% in service demand from 2019 to 2023. This included a decrease of 5% in 2020, followed by increases of 17.7% in 2021, 12.5% in 2022, and 11.8% in 2023—resulting in a compounded annual growth rate of 7%.

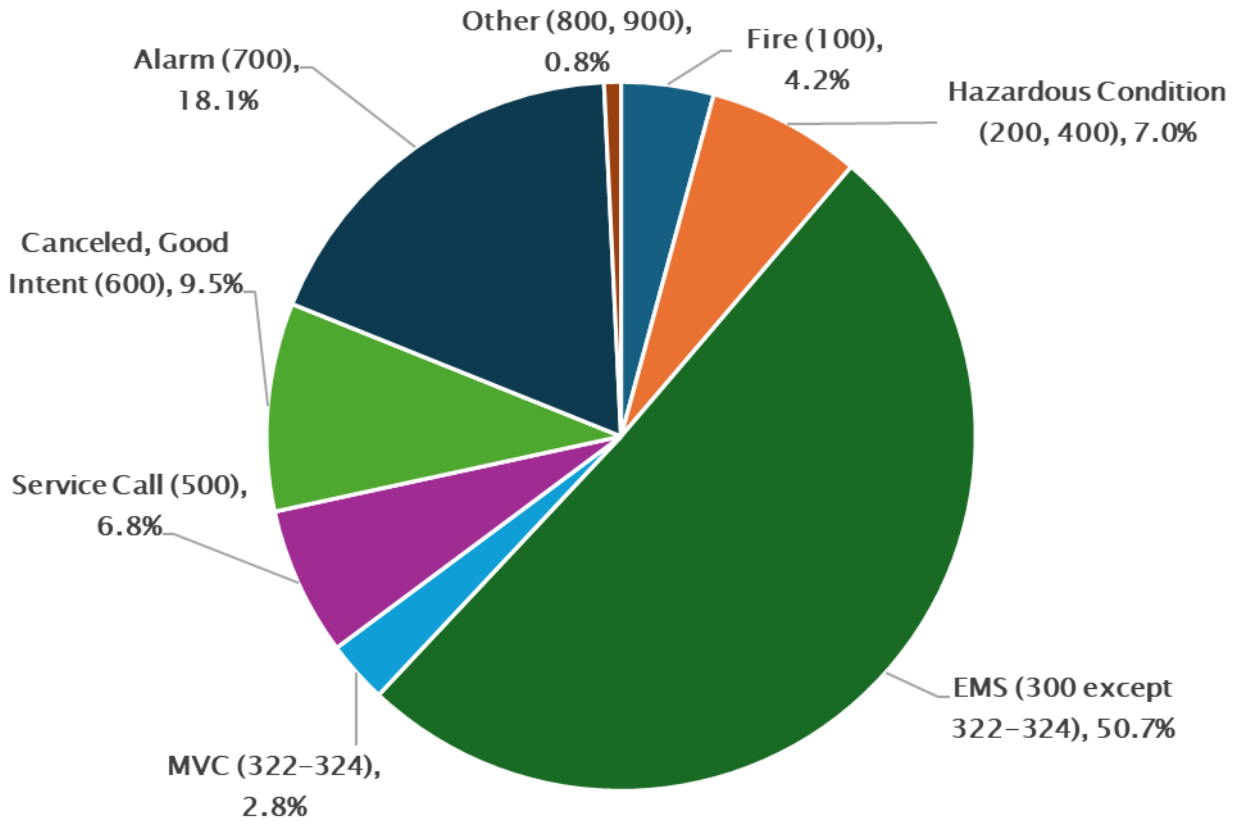
Figure 39: SFR Service Demand by NFIRS Series, 2019–2023



	2019	2020	2021	2022	2023
Fire (100)	49	40	44	52	41
Hazardous Condition (200, 400)	81	66	80	76	74
EMS (300 except 322–324)	442	446	563	627	711
MVC (322–324)	29	28	28	30	39
Service Call (500)	72	65	68	76	86
Canceled, Good Intent (600)	82	76	87	131	153
Alarm (700)	196	170	190	200	226
Other (800, 900)	3	15	6	7	10
Total	954	906	1,066	1,199	1,340

The same incident data can also be illustrated from the perspective of how each series compares to the total number of incidents, expressed as a percentage. As illustrated in the following figure, the greatest number of incidents fall within the emergency medical services (300-series) at 53.6%.

Figure 40: SFR Service Demand by NFIRS Series, 2019–2023

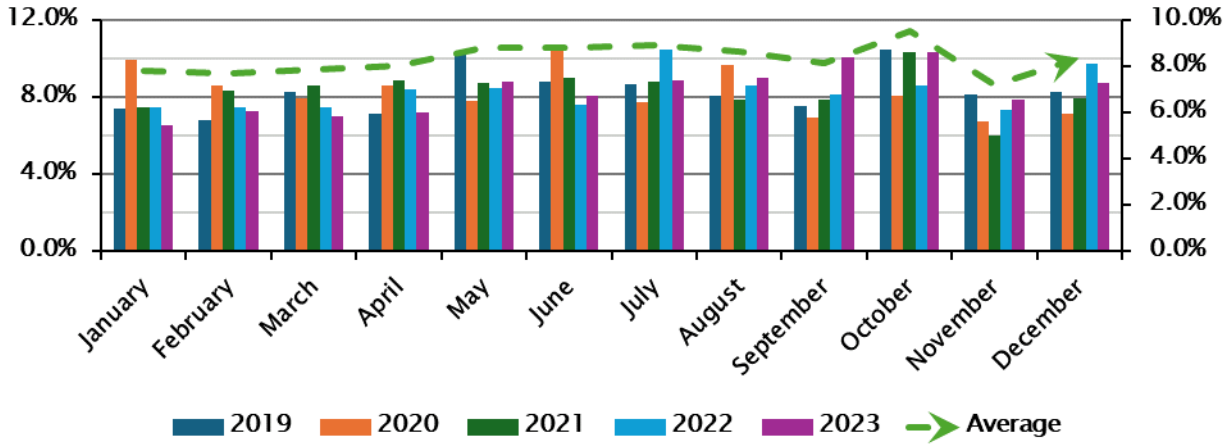


Temporal Analysis

The volume of service demand varies from month to month, day to day, and hour to hour. This is known as temporal variation and is a component used by leadership to determine appropriate staffing for response to incidents as well as scheduling of non-incident activities such as pre-incident planning, training, station maintenance, apparatus maintenance, fire hose testing, fire hydrant testing, public education, and more.

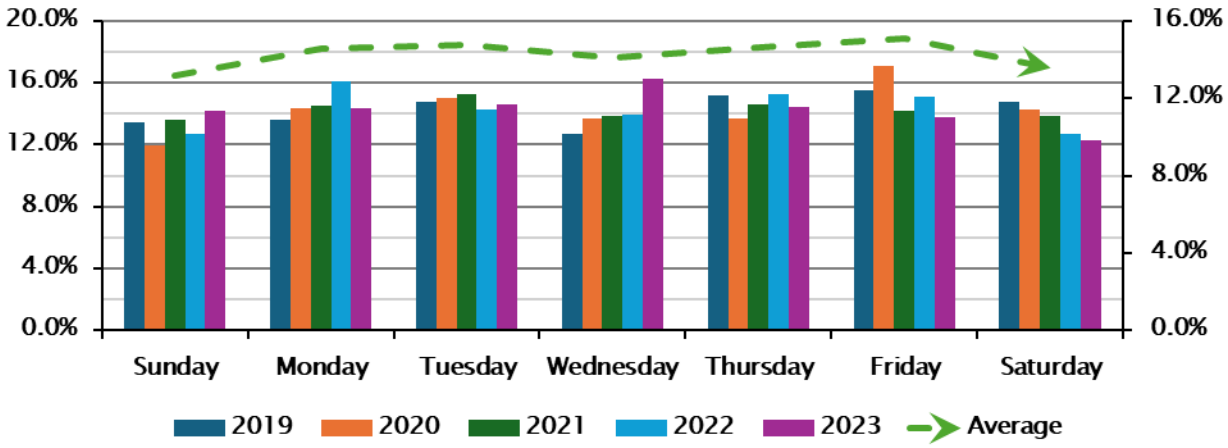
From the perspective of month to month, the greatest volume of service demand occurs in October at 9.6% and the lowest volume occurs in November at 7.2%, as illustrated in the following figure.

Figure 41: SFR Service Demand by Month, 2019–2023



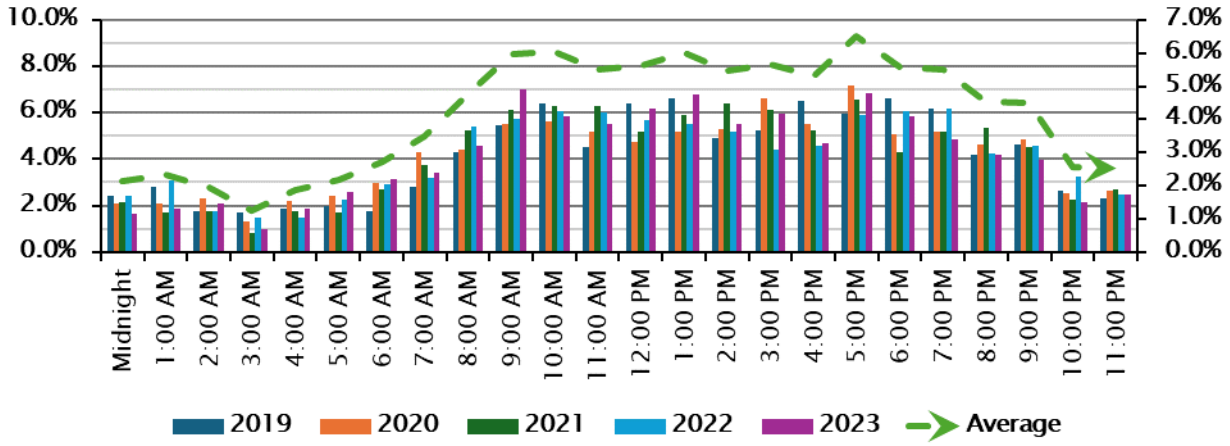
From the perspective of day to day, the greatest volume of service demand occurs on Friday at 15.1% and the lowest volume occurs on Sunday at 13.2%, as illustrated in the following figure.

Figure 42: SFR Service Demand by Day, 2019–2023.



As illustrated in the following figure, from the perspective of hour to hour, the lowest volume of service demand occurs at 3:00 AM and increases throughout the morning. It levels off at 9:00 AM and then fluctuates throughout the afternoon, reaching a peak of 6.5% at 5:00 PM before decreasing back to its lowest level. This pattern of low volume during nighttime hours, increasing in the morning, leveling throughout the day, and then decreasing is commonly found in most communities as it relates to the movement of the population throughout the day.

Figure 43: SFR Service Demand by Hour, 2019–2023



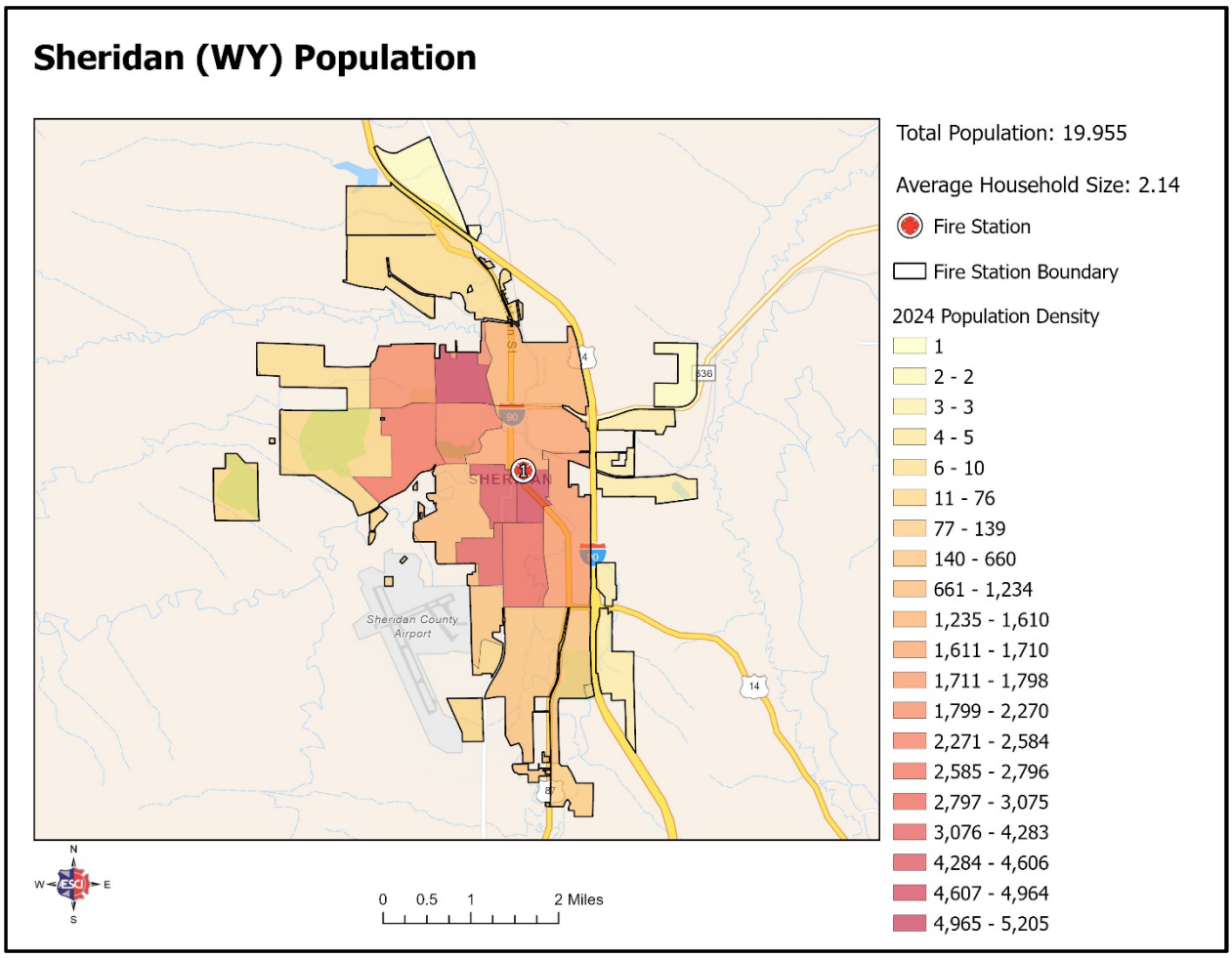
While the preceding figure illustrates that demand for service is at its lowest during the late night and early hours, leadership should ensure adequate staffing is still in place to quickly respond and mitigate structure fire incidents. Based on a national study recently published, from 2018 to 2020, the occurrence of residential structure fires with fatalities was highest between midnight and 1:00 AM. The 8-hour peak period (11:00 PM to 7:00 AM) accounted for 45% of residential fatal fires[13].

[13] *Fatal Fires in Residential Buildings (2018–2020), Topical Fire Report Series Volume 22, Issue 2 /June 2022, U.S. Department of Homeland Security, U.S. Fire Administration, National Fire Data Center.*

Geographic Analysis

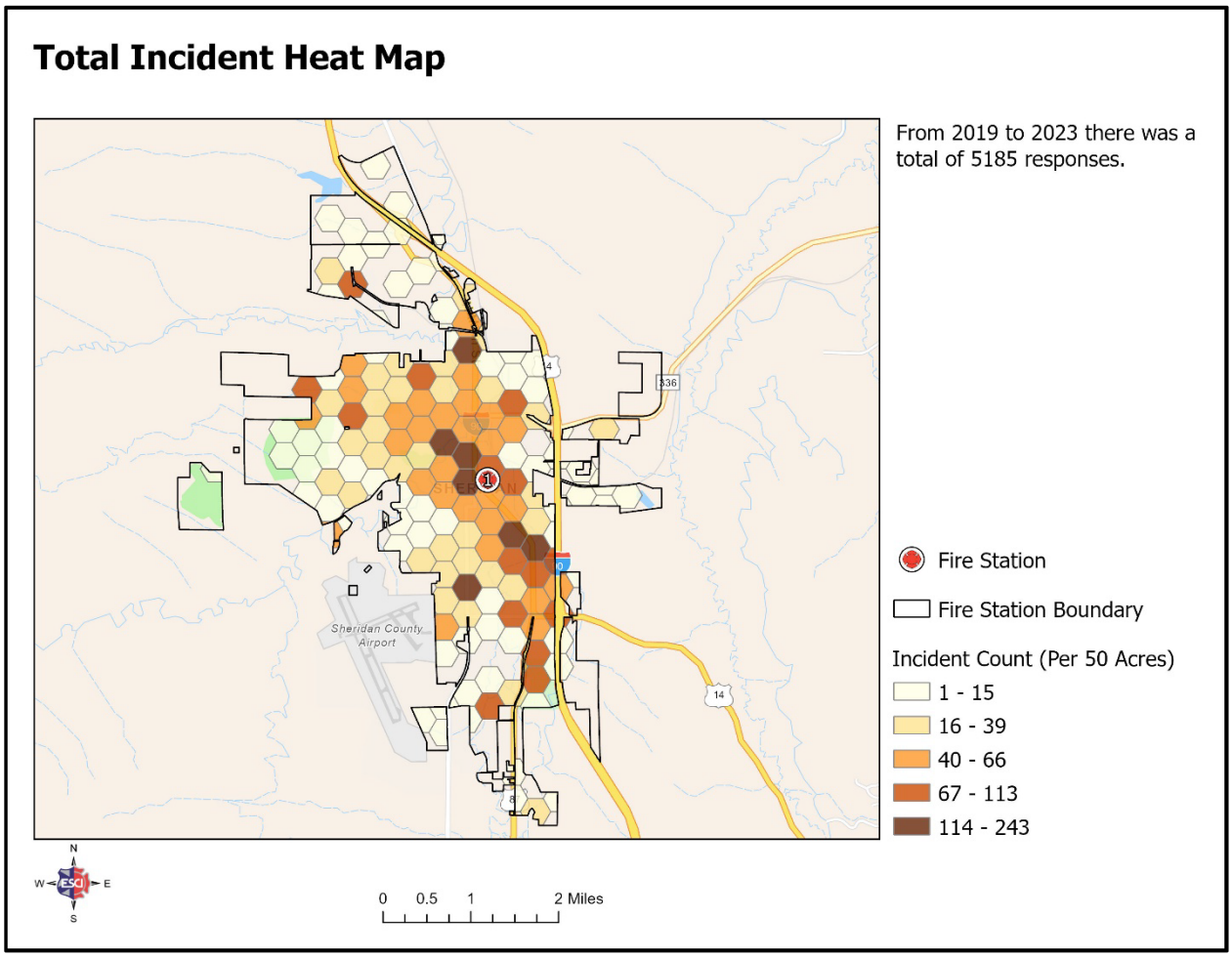
Another critical planning component is an understanding of where service demand occurs most within the community. Just as the temporal nature of service demand is affected by the population, so is the geographical location of service demand. To understand this correlation, analysis of population density is required. As illustrated in the following figure, the areas of the greatest density are located within the central portions of the city.

Figure 44: Sheridan Population Density, 2023



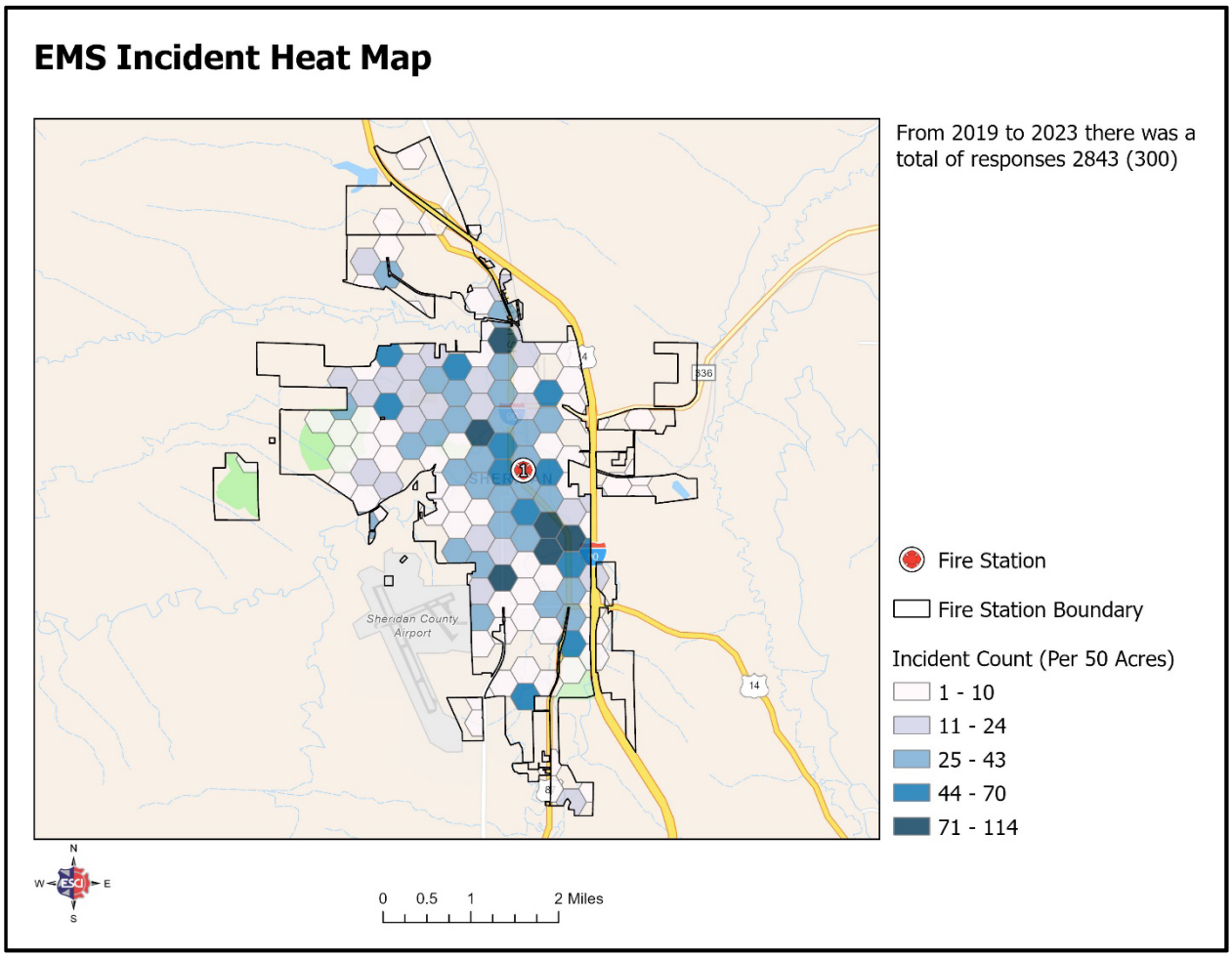
The first view of incident density includes all incidents within the service area. As illustrated in the following figure, the greater density of incidents occurs in the central portions of the city as well.

Figure 45: SFR Incident Density (All Incidents), 2019–2023



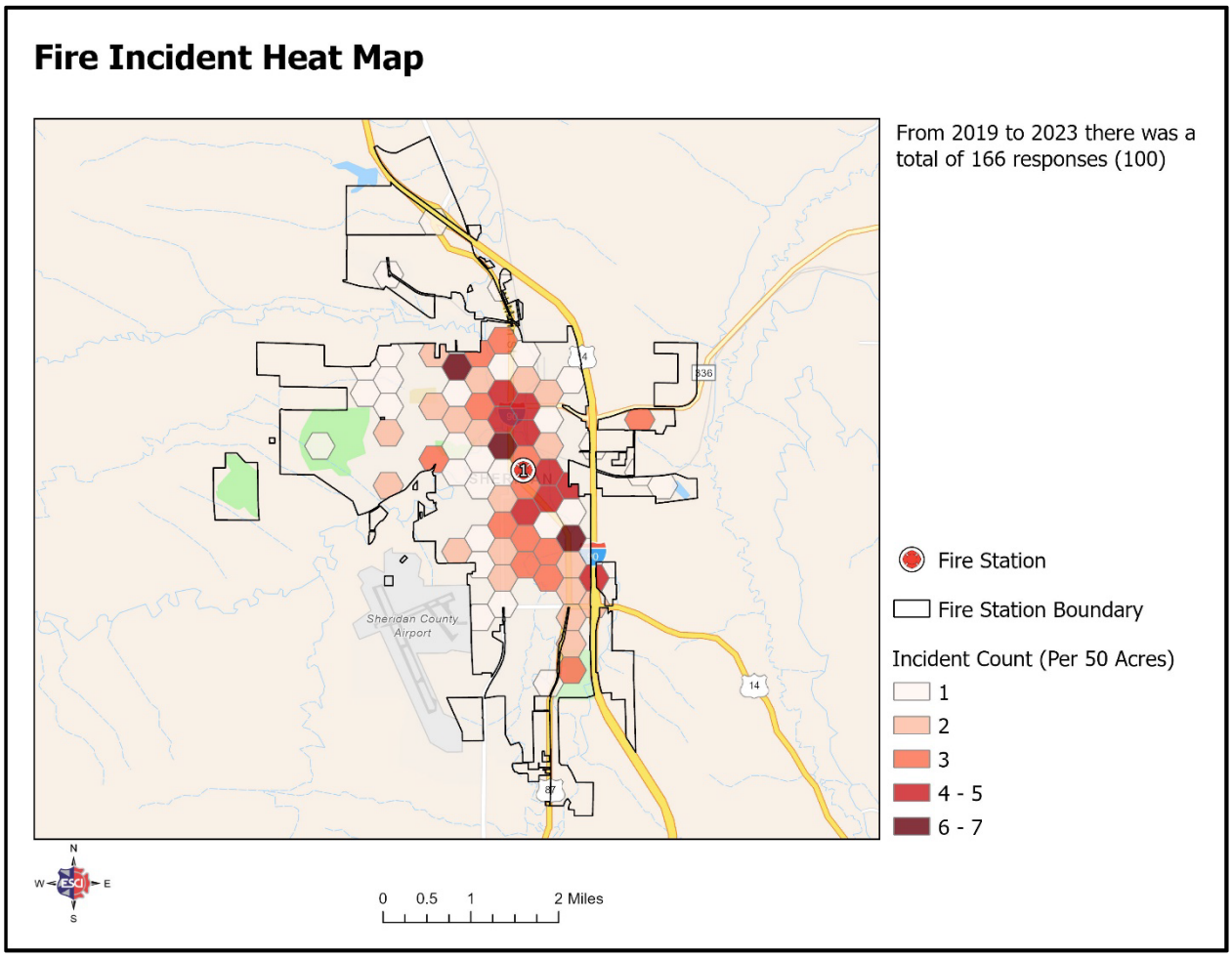
The second view of incident density includes all emergency medical service incidents (NFIRS 300-Series) within the service area. As illustrated in the following figure, the greater density of incidents occurs in the central portions of the city as well.

Figure 46: SFR Incident Density (EMS), 2019–2023



The final view of incident density includes all fire incidents (NFIRS 100-Series) within the service area. As illustrated in the following figure, the greater density of incidents occurs in the central portions of the city as well.

Figure 47: SFR Incident Density (Fire), 2019–2023



Resource Distribution Analysis

While the incident density analysis provides useful information towards location of resources within the community, it is important to also consider resource location as compared to industry standards and best practices.

ISO Distribution

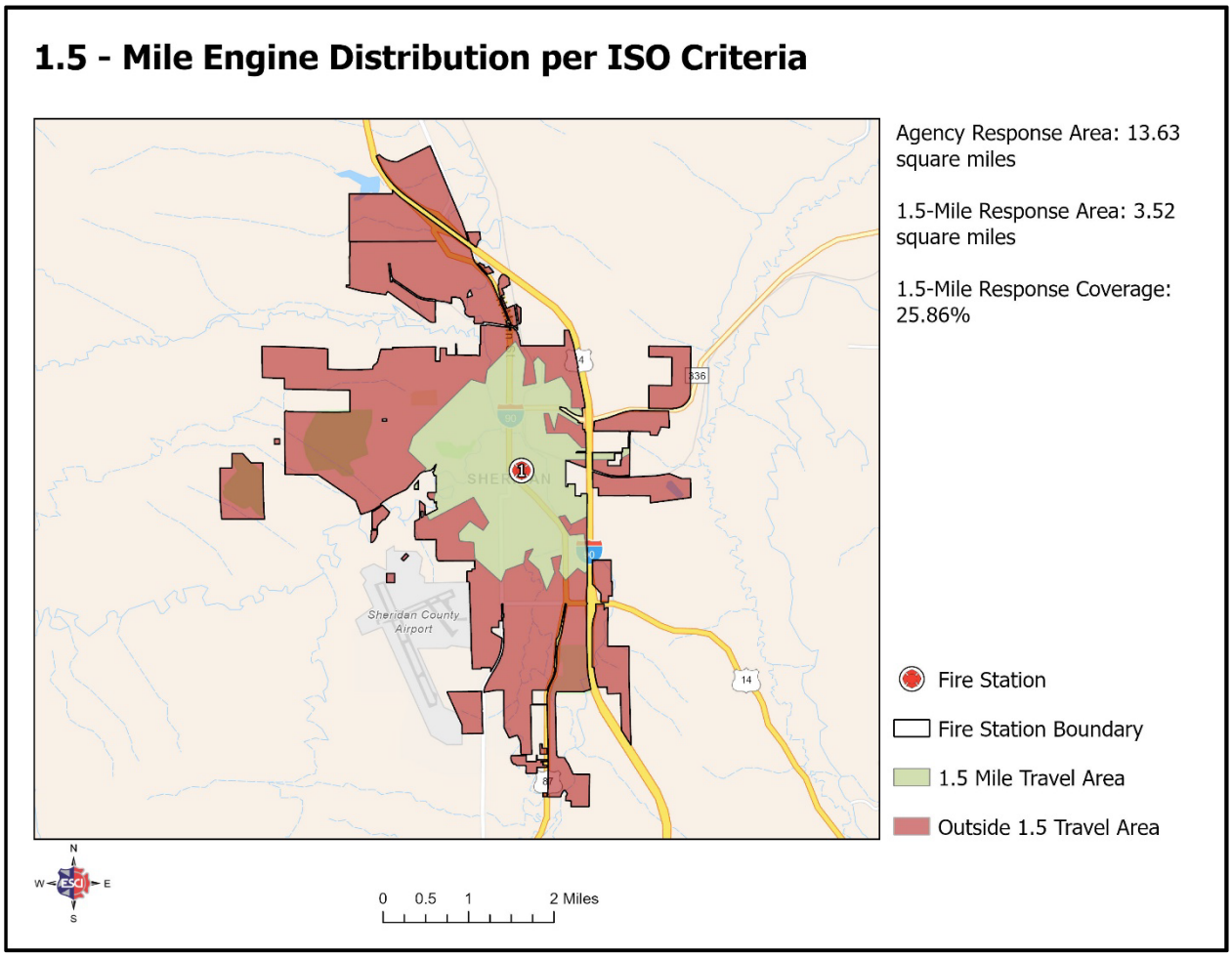
The Insurance Services Office, Inc. (ISO) is a national insurance industry organization that evaluates fire protection for communities across the country. ISO assesses all areas of fire protection as broken down into four major categories including emergency communications, fire department, water supply, and community risk reduction. Following an on-site evaluation, an ISO rating, or specifically, a Public Protection Classification (PPC®) number is assigned to the community ranging from 1 (best protection) to 10 (no protection). The PPC® score is developed using the Fire Suppression Rating Schedule (FSRS), which outlines sub-categories of each of the major four, detailing the specific requirements for each area of evaluation.

A community's ISO rating is a principal factor when considering fire station and apparatus concentration, distribution, and deployment due to its effect on the cost of fire insurance for the residents and businesses. To receive maximum credit for station and apparatus distribution, ISO evaluates the percentage of the community (contiguously built upon area) that is within specific distances of fire stations, central water supply access (fire hydrants), engine/pumper companies and aerial/ladder apparatus.

1.5-Mile Distribution

Within the process of evaluating a community, ISO determines the percentage of structures that fall within a 1.5-mile travel distance from a staffed fire engine. As illustrated in the following figure, 25.9% of the SFR service area is within 1.5 road miles of a staffed fire engine.

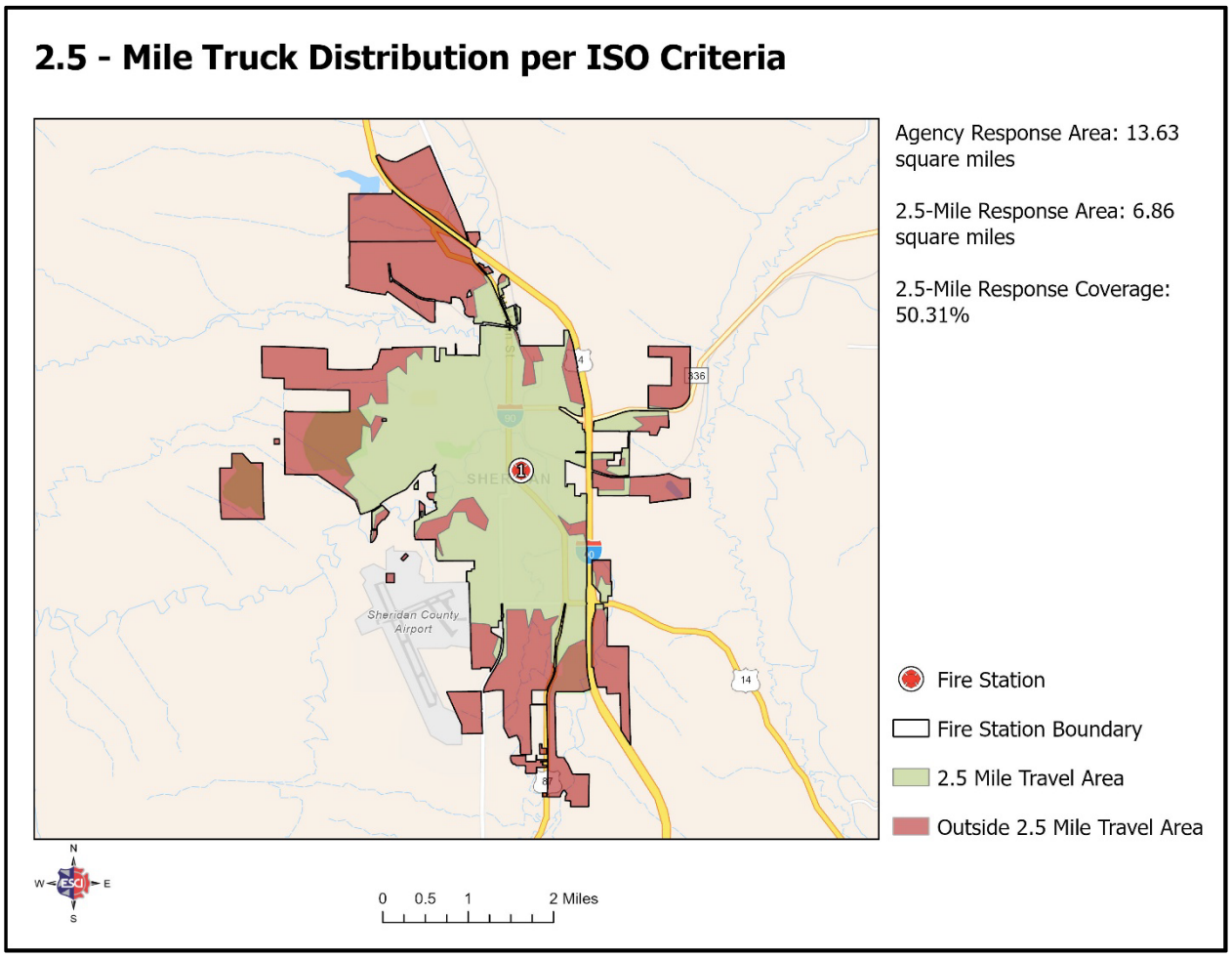
Figure 48: 1.5-Mile Engine Distribution per ISO Criteria



2.5-Mile Distribution

Within the process of evaluating a community, ISO determines the percentage of structures that fall within a 2.5-mile travel distance from a staffed aerial apparatus. The use of aerial apparatus is more specifically needed in areas of the community where there are five or more buildings of three stories (or 32-feet) or more in height, or with five or more buildings requiring a needed fire flow of greater than 3,500 gallons per minute, or five or more buildings meeting any combination of these requirements. As illustrated in the following figure, 50.3% of the SFR service area is within 2.5 road miles of a staffed aerial apparatus.

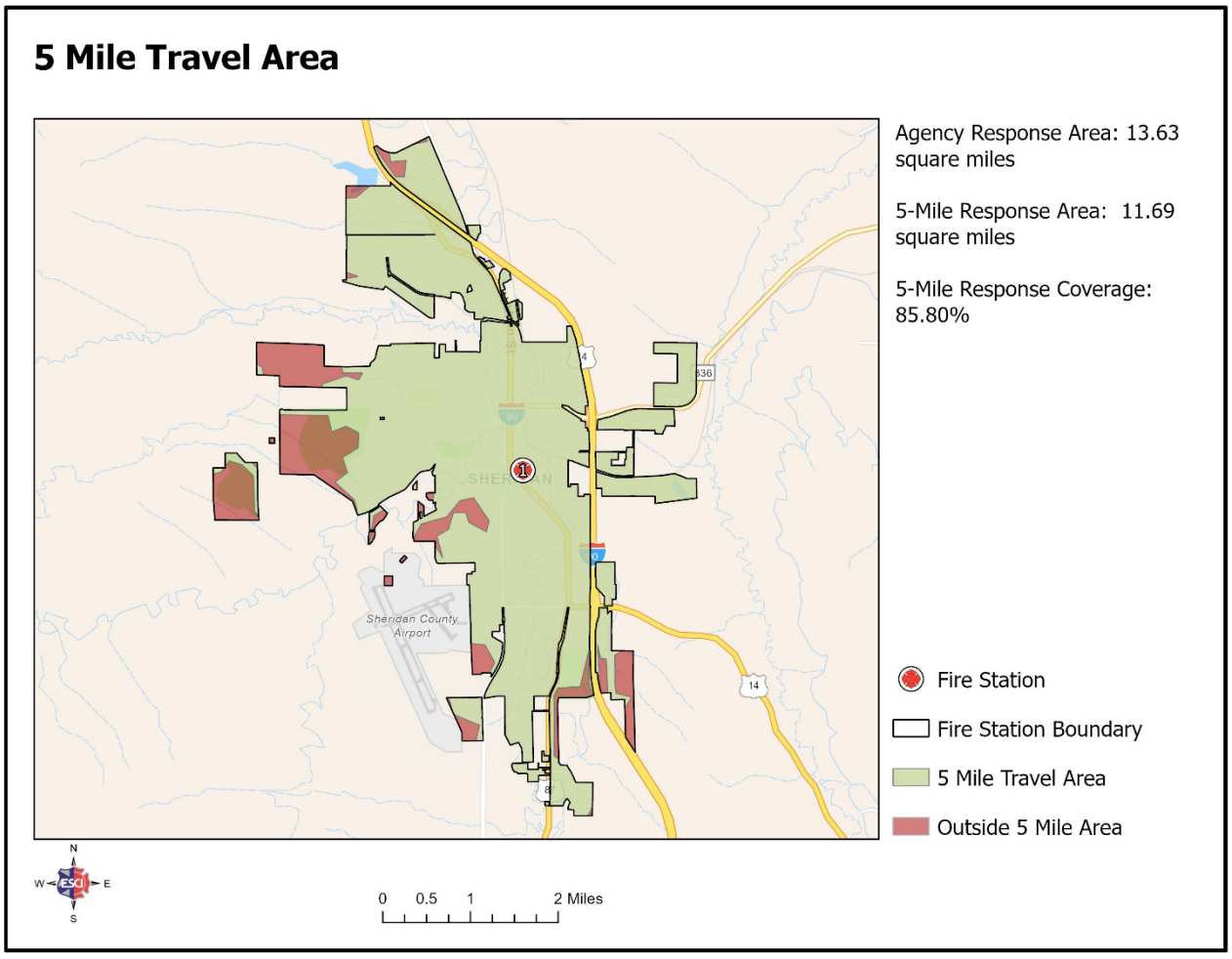
Figure 49: SFR 2.5-Mile Truck Distribution per ISO Criteria



5-Mile Distribution

Within the process of evaluating a community, ISO determines the percentage of structures that fall within a 5-mile travel distance from a fire station. Areas outside of 5 miles are subject to receiving a PPC® rating of 10 (no fire department protection available). As illustrated in the following figure, 85.8% of the SFR service area is within 5 road miles of a station.

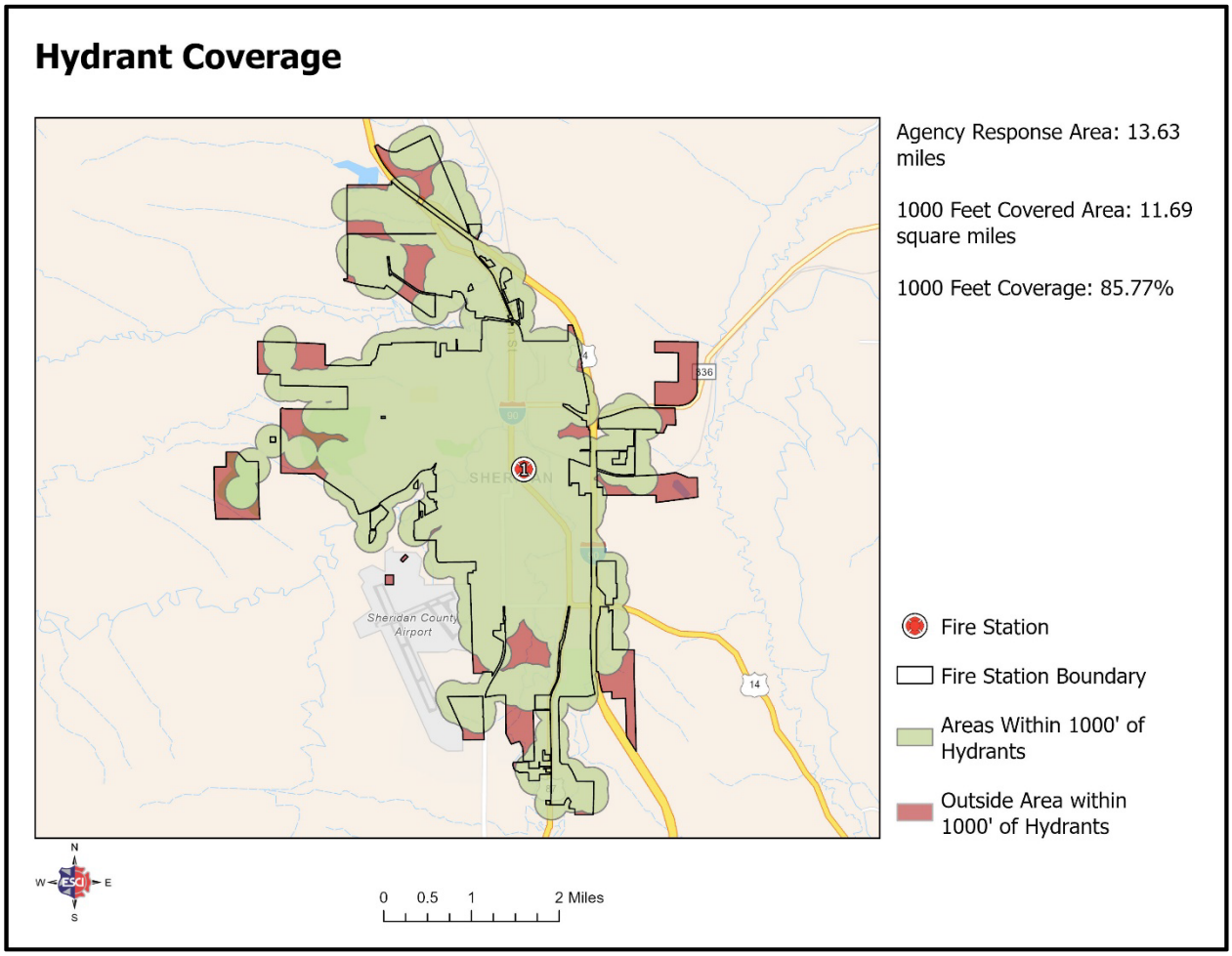
Figure 50: SFR 5-Mile Station Distribution per ISO Criteria



Water Supply

Within the process of evaluating a community, ISO determines the percentage of structures that fall within a 1,000-foot travel distance from a fire hydrant. Exceptions are made when a fire department can show that either a dry hydrant or a suitable water tanker operation is possible to provide the volume of water needed for fire suppression activities for a specific period. As illustrated in the following figure, 85.8% of the SFR service area is within 1,000 feet of a fire hydrant.

Figure 51: SFR Hydrant Distribution per ISO Criteria



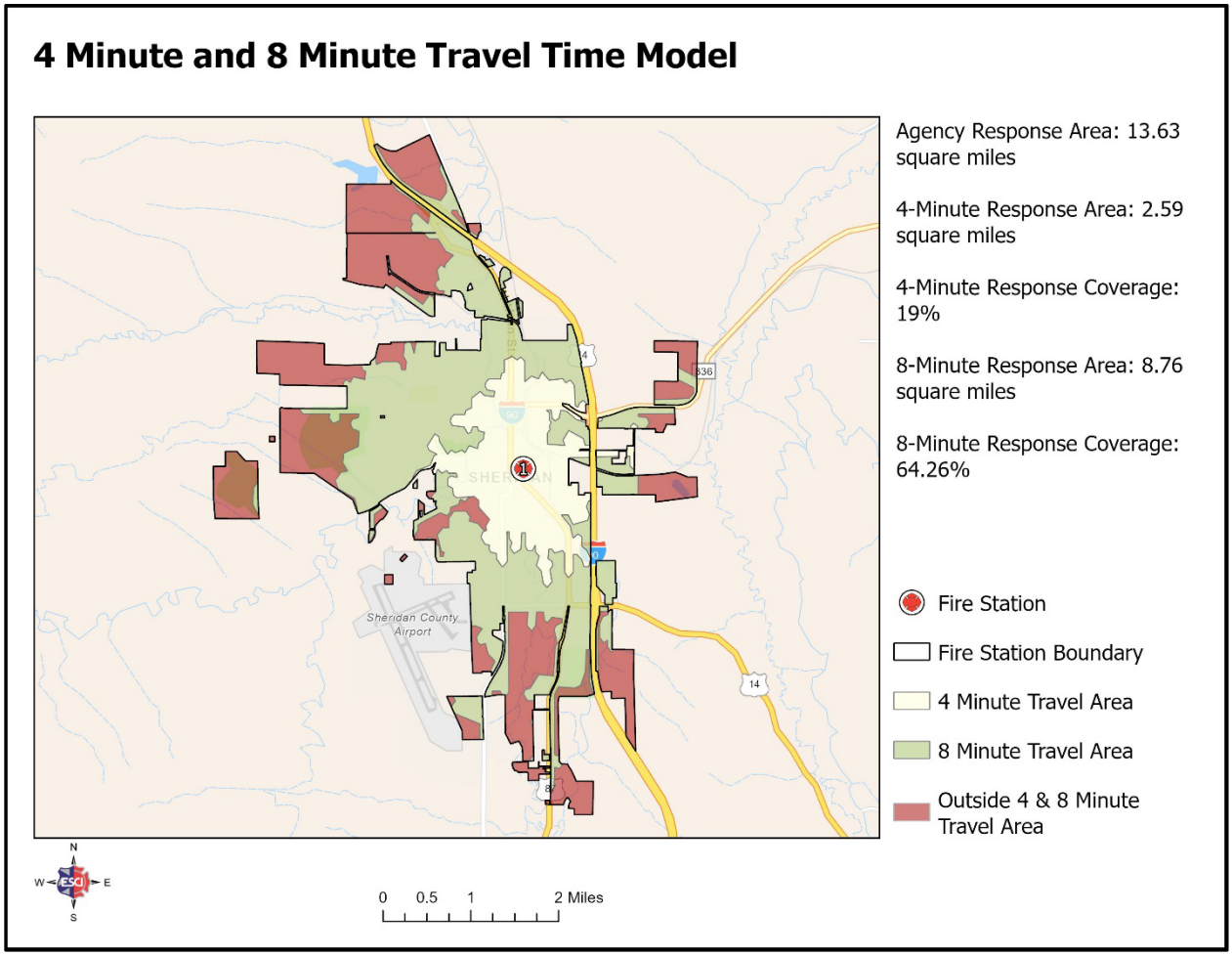
NFPA Distribution

The National Fire Protection Association (NFPA) is an industry trade association that develops and provides standards and codes for fire departments and emergency medical services for use by local governments. One of these standards, NFPA 1710: *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*, serves as a national consensus standard for career fire department performance, operations, and safety. Within this standard, a travel time of 240 seconds, or 4 minutes, is identified as the

benchmark for career departments to reach emergency incidents within their jurisdiction with the first arriving unit. Additionally, the balance of the response (called the effective response force or ERF) is required to arrive at the incident within 480 seconds, or 8 minutes.

When analyzing this measure, travel time is calculated using the posted speed limits and adjusted for negotiating turns, intersections, and one-way streets. Unshaded pockets indicate that the area falls outside of the model's maximum extension from the road network. Note that other impedance factors, such as traffic congestion, road closures, or weather conditions, are not factored into this analysis. Rarely are conditions perfect. As illustrated in the following figure, 19% of the SFR service area falls within the 4-minute travel time of a fire station and 64.3% falls within the 8-minute travel time of a fire station.

Figure 52: SFR 4/8-Minute Travel per NFPA Criteria

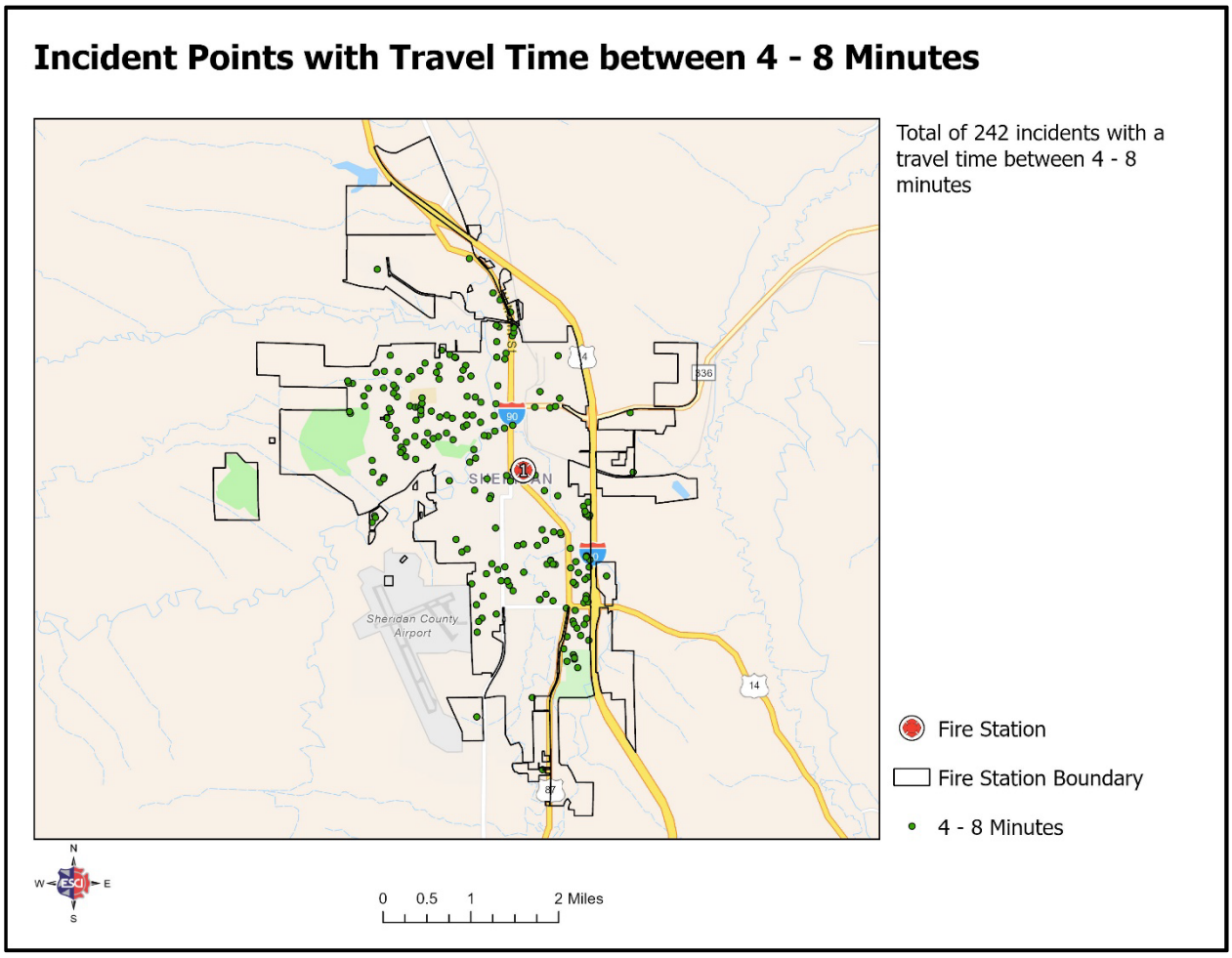


The preceding figure illustrates the theoretical travel time based on all units located at their station at the time of dispatch. However, this is not always the case, and units may be responding from other locations to incidents. SFR leadership and elected officials may

consider analysis of actual travel time to identify any gaps in service that may need to be addressed in the planning process. ESCI analyzed the actual travel time to incidents and found that during calendar year 2023, SFR responded to 43% of incidents within less than four minutes.

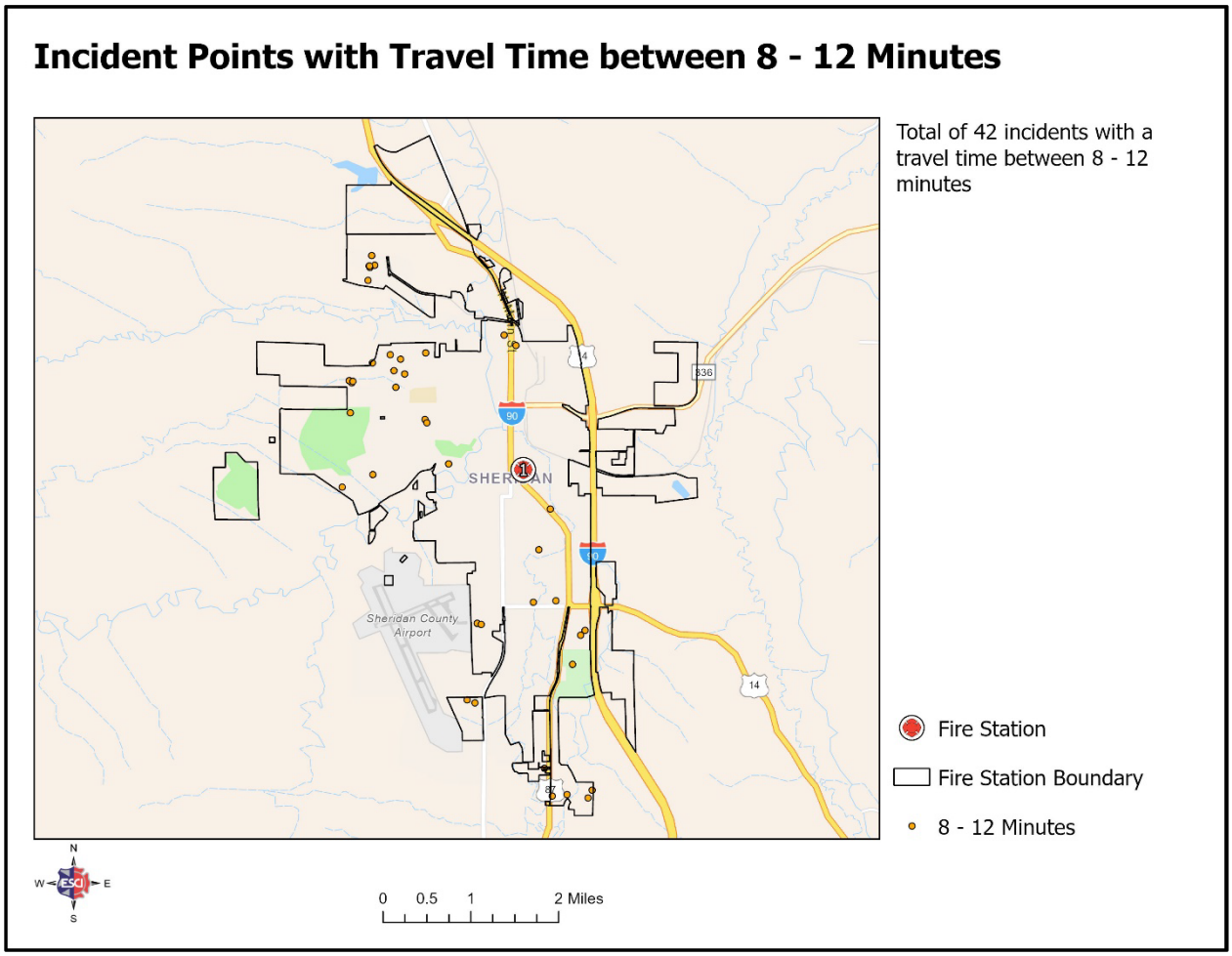
Using a logical division of time in four-minute increments beyond that, SFR responded to 47.8% of incidents within 4–8 minutes. The following figure illustrates the location of these incidents.

Figure 53: SFR Travel Time (4–8 Minutes), 2023



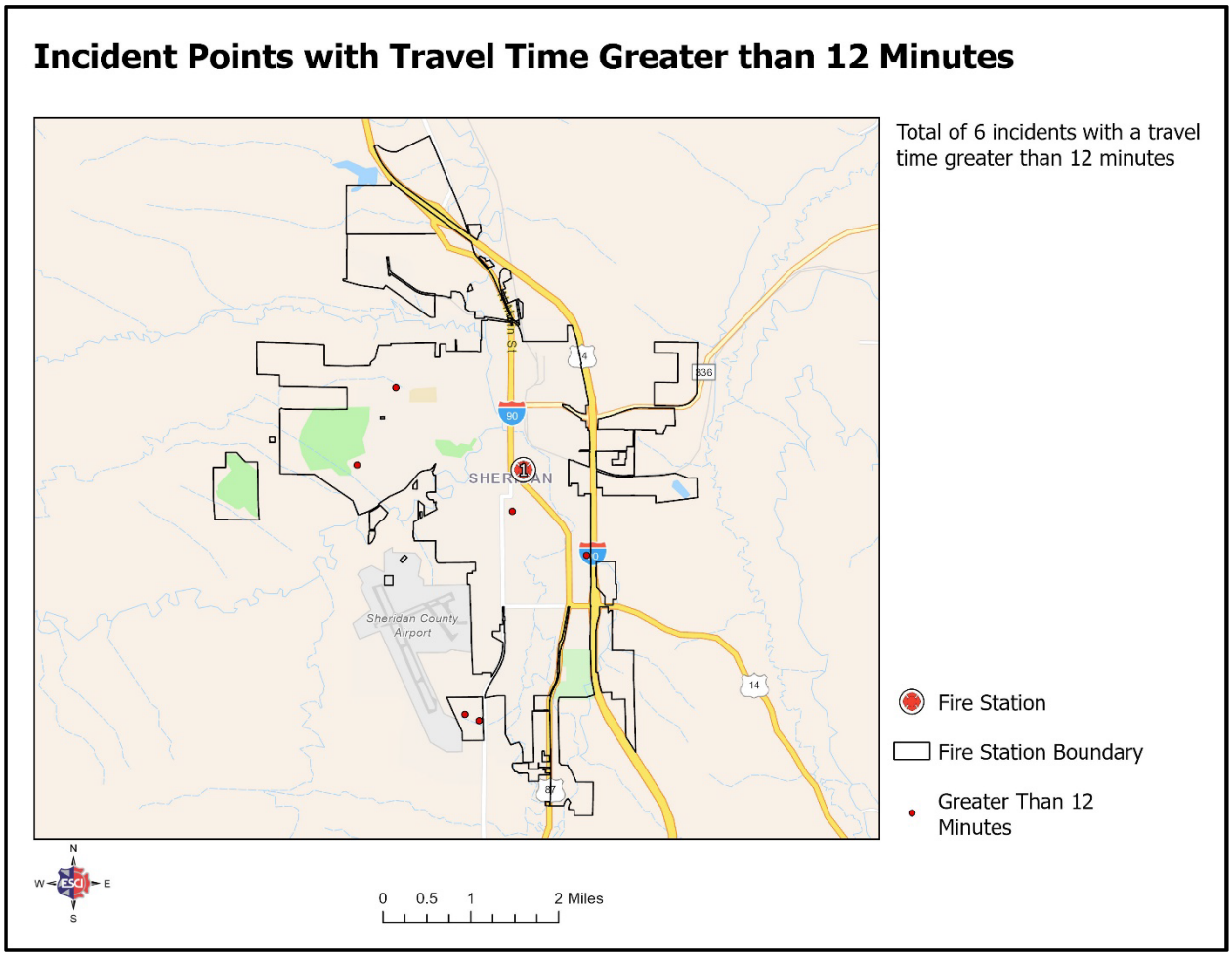
Continuing the four-minute increments, SFR responded to 8% of incidents within 8–12 minutes. The following figure illustrates the location of these incidents.

Figure 54: SFR Travel Time (8–12 Minutes), 2023



Finally, SFR responded to 1.2% of incidents in greater than 12 minutes. The following figure illustrates the location of these incidents.

Figure 55: SFR Travel Time (Greater than 12 Minutes), 2023



Resource Concentration Analysis

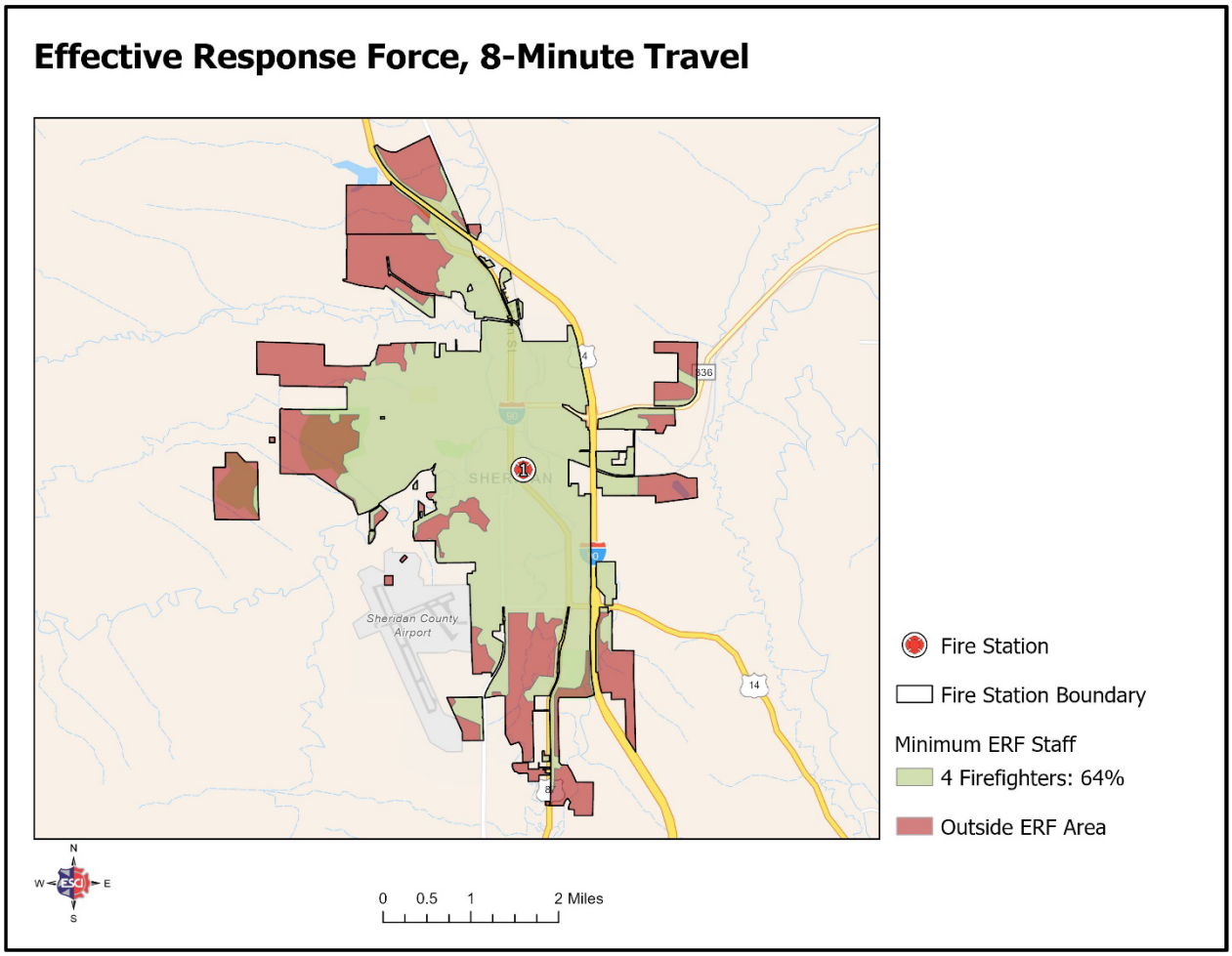
Each of the prior measures provided a view specifically associated with the arrival of the first unit to the incident scene. While arriving at an incident in a quick and safe manner is important, the ability to safely mitigate the incident is also impacted by the arrival of sufficient resources within an appropriate amount of time. The measure of this ability is referred to as ERF (Effective Response Force) and ensures that sufficient personnel and resources arrive on scene early enough to safely control a fire or mitigate other types of emergencies prior to substantial damage, injury or loss of life. ERF is also commonly referred to as the "full assignment" to the incident. The following figure illustrates the ERF recommended through standards such as NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* and the Commission on Fire Accreditation (CFAI) Standards of Cover.

Figure 56: NFPA 1710 ERF Recommendations Based on Risk

Function/Task	Single-Family Residence (2,000 ft²)	Open Air Strip Shopping Center (13,000–196,000 ft²)	3-Story Garden Apartment (1,200 ft²)
Command	1	2	2
Apparatus Operator	1	2	2
Handlines (2 members each)	4	6	6
Support Members	2	3	3
Victim Search and Rescue team	2	4	4
Ground Ladders/Ventilation	2	4	4
Aerial Ladder Operator (If ladder used)	(1)	(1)	(1)
Initial Rapid Intervention Team	4	4	4
Initial Medical Care Component	N/A	2	2
Total	**16 (17)**	**27 (28)**	**27 (28)**

With only four personnel on duty daily, SFR does not have the ability to meet the ERF recommendations without assistance from other agencies arriving on scene, often outside of the 8-minute travel time. The following figure illustrates SFR's effective response force.

Figure 57: SFR Effective Response Force



Resource Reliability Analysis

The ability of units to arrive on the scene of an incident in a timely manner is impacted by the incident location compared to the unit location at the time of dispatch. Additional factors that may impact the availability of that unit to respond include workload and incident concurrency.

Workload (Commitment Factor)

Workload is the first of these additional factors, and analysis provides an evaluation of commitment (assigned to incidents) for each unit within the department. While there are limited formal performance measures to use as a target measure, in May 2016, Henrico County (VA) Division of Fire published an article after studying their department's EMS

workload.[14] As a result of the study, Henrico County Division of Fire developed a general commitment factor scale for their department. The next figure is a summary of the findings as it relates to commitment factors and may be utilized by SFR leadership as a base for developing internal workload measures. These internal workload measures may vary based on the type of apparatus (i.e., fire engine versus transport ambulance).

Figure 58: Commitment Factors as Developed by Henrico County (VA) Division, 2016

Factor	Indication	Description
16%-24%	Ideal Commitment Range	Personnel can maintain training requirements and physical fitness and can consistently achieve response time benchmarks. Units are available to the community more than 75% of the time.
25%	System Stress	Community availability and unit sustainability are not questioned. First-due units are responding to their assigned community 75% of the time, and response benchmarks are rarely missed.
26%-29%	Evaluation Range	The community served will experience delayed incident responses. Just under 30% of the day, first-due ambulances are unavailable; thus, neighboring responders will likely exceed goals.
30%	"Line in the Sand"	Not Sustainable: Commitment Threshold—community has less than a 70% chance of timely emergency service and immediate relief is vital. Personnel assigned to units at or exceeding 30% may show signs of fatigue and burnout and may be at increased risk of errors. Required training and physical fitness sessions are not consistently completed.

As illustrated in the following figure, all the SFR units are well below the concerning level of workload.

[14] *How Busy Is Busy?; Retrieved from https://www.fireengineering.com/articles/print/volume-169/issue-5/departments/fireems/how-busy-is-busy.html*

Figure 59: SFR Workload (Commitment Time), 2019–2023

Unit	2019	2020	2021	2022	2023	Change Over Study Period
2-17	0.2%	0.0%	0.0%	0.0%	0.0%	-0.2%
2-2	0.2%	0.0%	0.0%	0.0%	0.0%	-0.2%
BC 1	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%
BR-1	0.1%	0.0%	0.1%	0.0%	0.1%	0.0%
DC2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E-1	2.1%	1.2%	0.7%	0.7%	0.7%	-1.5%
E-2	2.1%	2.4%	3.4%	3.8%	4.4%	2.3%
FC1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
HM-1	0.3%	0.0%	0.0%	0.2%	0.0%	-0.3%
L-1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MS 99	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MS222	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%
MS-98	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
TOWER	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Incident Concurrency

Incident concurrency is an analysis of the number of incidents occurring simultaneously within the service area. This analysis assumes only one unit is assigned to each incident, but it should be noted that often more than one unit is assigned to each incident. Thus, as the occurrence of concurrent incidents increases, the number of available units to respond to additional requests for service decreases. With 98.3% of incidents occurring without any concurrency, as illustrated in the following figure, this is not at a concerning level but should be monitored by department leadership for any significant changes.

Figure 60: SFR Incident Concurrency, 2019–2023.

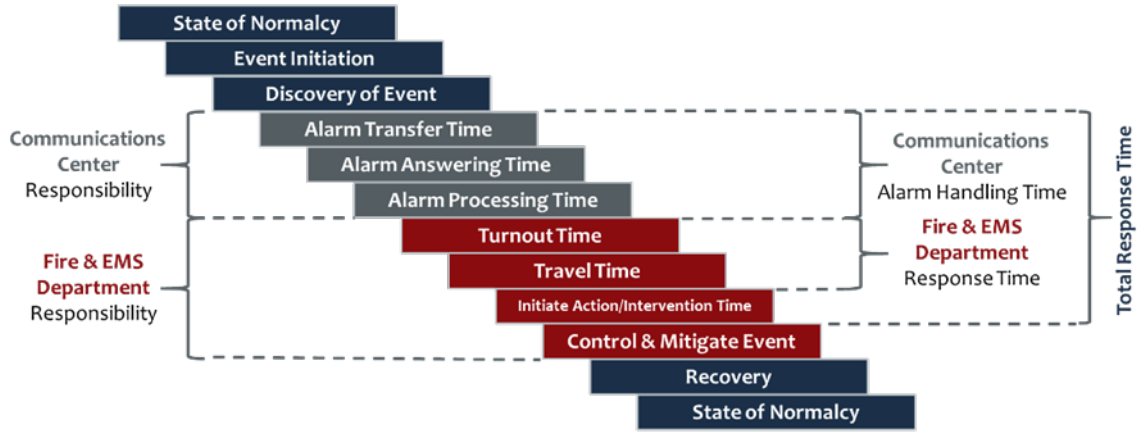
Concurrent Incidents	2019	2020	2021	2022	2023	Change Over Study Period
Single Incident	95.7%	95.7%	96.6%	97.7%	98.3%	2.6%
Two Incidents	3.7%	3.9%	3.2%	2.3%	1.7%	-2.0%
Three Incidents	0.2%	0.3%	0.2%	0.0%	0.0%	-0.2%
Four Incidents	0.1%	0.1%	0.0%	0.0%	0.0%	-0.1%
Five Incidents	0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%
More than Five Incidents	0.2%	0.0%	0.0%	0.0%	0.0%	-0.2%

Response Performance Analysis

Another component in the planning process is to understand SFR's response performance measures. The time between dispatch answering the 911 call and arrival of a unit at the scene is known as total response time (response time continuum), as illustrated by the following.

- Alarm Handling Time: The amount of time between when a call is answered by the 911 Primary Public Safety Answering Point (PSAP) or dispatch center, and when resources are dispatched.
- Turnout Time: The time interval between when response units are notified of the incident and when the apparatus begins to respond.
- Travel Time: The time the responding unit spends on the road traveling to the incident until arrival at the scene. This is a function of speed and distance.
- Response Time: The time from initial alerting of an incident until arrival on the scene. Response Time equals the sum of "Turnout Time" and "Travel Time."
- Total Response Time: This is the most apparent time for the caller requesting emergency services, as the time from when the emergency call is placed until units arrive on the scene.

Figure 61: Response Time Continuum



In analyzing response performance, ESCI generates percentile measurements of time performance. The use of percentile measurement using the components of response time follows the recommendations of industry best practices. The best practices are derived by the Center for Public Safety Excellence (CPSE), Standard of Cover document and the National Fire Protection Association (NFPA) 1710: *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*.

The "average" measure is a commonly used descriptive statistic also called the mean of a data set. The most important reason for not using the average for performance standards is that it may not accurately reflect the performance for the entire data set and may be skewed by outliers, especially in small data sets. One extremely good or bad value can skew the average for the entire data set.

The “median” measure is another acceptable method of analyzing performance. This method identifies the value at the middle of a data set and thus tends to not be as strongly influenced by data outliers.

Percentile measurements are a better measure of performance because they show that most of the data set has achieved a particular level of performance. The 90th percentile means that 10% of the values are greater than the value stated, and all other data are at or in the following figure this level. This can be compared to the desired performance objective to determine the degree of success in achieving the goal.

Tracking the individual components of response time can help SFR leadership identify impediments to timely response, and make operational adjustments to improve, including developing response time goals and standards that are both relevant and achievable. Fire service best practices recommend that fire service organizations monitor and report the components of total response time.

As this report progresses through the performance analysis, it is important to keep in mind that each component of response performance is not cumulative. Each is analyzed as an individual component, and the point at which the percentile is calculated exists in a set of data unto itself. Each of the following analyses only included those incidents where the response was coded as “emergency” priority. It is important to note that the data provided by SFR did not have separate timestamps for each unit—all units on each incident had identical timestamps. This impacts the accuracy of analysis as some units will have better times than others. To balance some of the poor-quality data, the following outlier policy was applied to the data prior to analysis.

- Alarm handling times greater than 30 minutes were deleted.
- Turnout times greater than 15 minutes were deleted.
- Travel times greater than 30 minutes were deleted.
- Response times greater than 45 minutes were deleted.
- Total response times greater than 45 minutes were deleted.

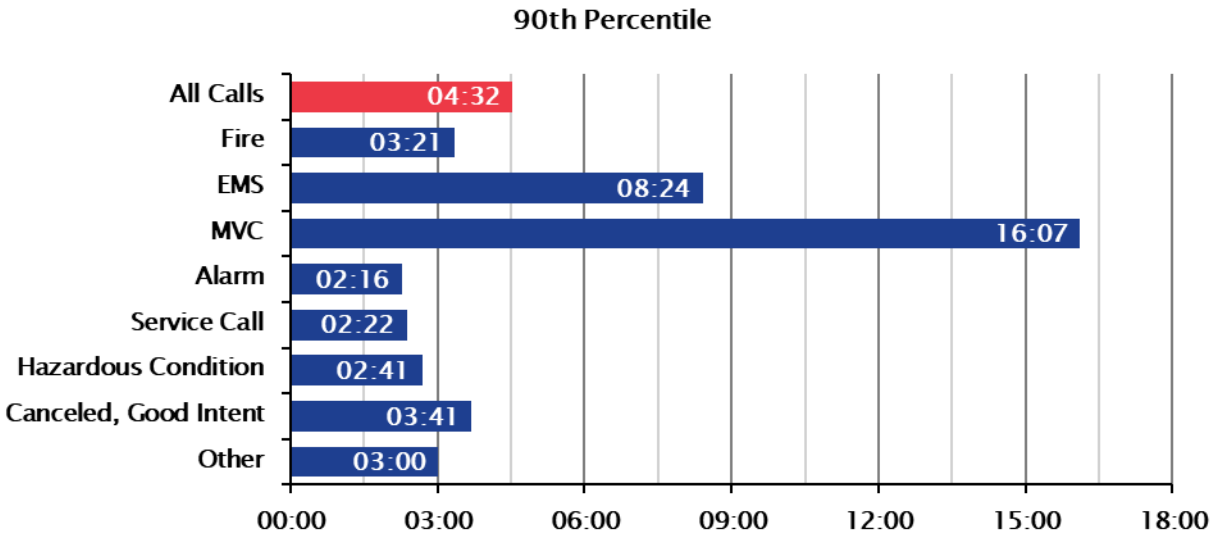
Alarm Handling Time

Alarm handling time is time between a dispatcher getting the call and the resources being dispatched. For this measure, there is one applicable standard as illustrated in the following figure.

Standard	Performance
NFPA 1225: *Standard for Emergency Services Communications* (2022 Edition)	60 seconds at the 90th percentile

As illustrated in the following figure SFR performance is 4 minutes, 32 seconds. When analyzed by NFIRS incident series, performance ranges from 2 minutes, 16 seconds for alarm incidents to 16 minutes, 7 seconds for motor vehicle collision incidents. While the fire department does not have direct control over this measure, SFR leadership should work with dispatch leadership to identify any areas for improvement.

Figure 62: SFR Alarm Handling Timer Performance, 2019–2023



During the on-site assessment, discussion revealed some of the following items as potentially contributing to a lengthened alarm handling time. This may be a starting point for discussion between leadership from both agencies.

- SFR does not respond to alpha level and bravo level emergency medical services incidents. Thus, SFR units may not be assigned until completion of the emergency medical dispatch questionnaire process.
- The data set provided did not include dispatch times for the units from Wyoming Regional Emergency Medical Services. As these units may be initially dispatched, then this measure may better be analyzed utilizing data from the computer aid dispatch (CAD) system to include all units assigned to the incident.

- In prior years, responding units advised the dispatcher of key points of response (responding, arrival, complete, etc.) through radio transmissions. With limited communications center staffing and potentially congested radio channels, timestamps recorded may not accurately reflect the correct time, impacting accurate analysis of time measures. In 2023, SFR units began the use of mobile data computers to notify dispatch of these key points, which provides automatic entry into the CAD without direct dispatcher action. In 2023, the overall alarm handling time performance was 5 minutes, 2 seconds which is an improvement of 29 seconds.

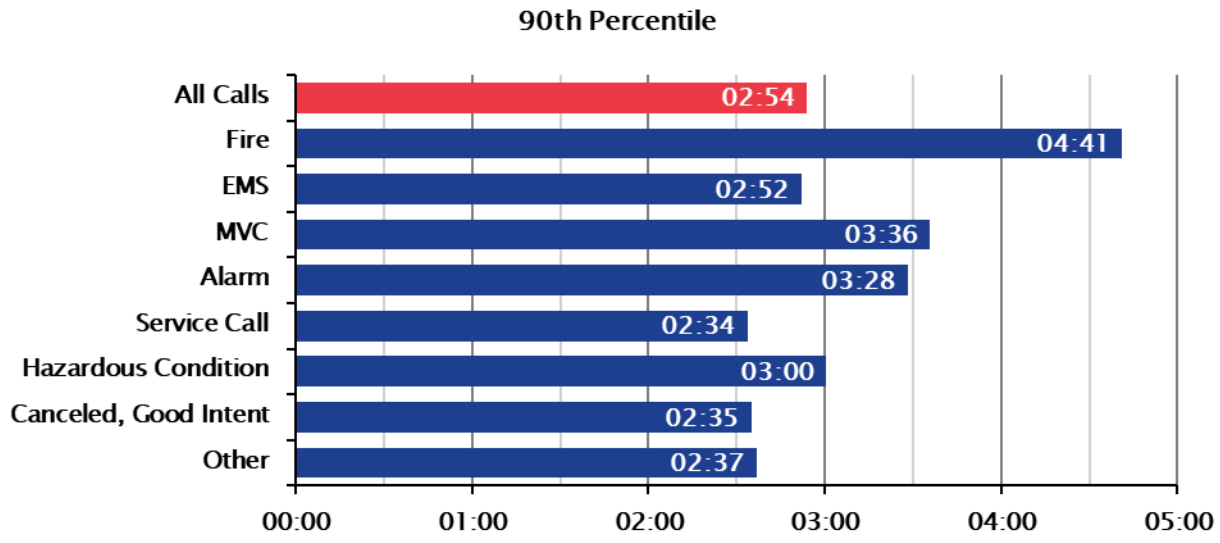
Turnout Time

Turnout performance is measured by turnout time, which is the length of time between dispatch time and when a unit begins responding to the call. For this measure, there is one applicable standard as illustrated in the following figure.

Standard	Performance
NFPA 1710: *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments recommends*	Fire and Special Operations Incidents 80 seconds at the 90th percentile All Other Incidents 60 seconds at the 90th percentile

As illustrated in the following figure SFR performance is 2 minutes, 54 seconds. When analyzed by NFIRS incident series, performance ranges from 2 minutes, 34 seconds for service call incidents to 4 minutes, 41 seconds for fire incidents. When evaluating just the 2023 data (use of the mobile data computer for notification to dispatch), the overall performance is 2 minutes, 50 seconds.

Figure 63: SFR Turnout Time Performance, 2019–2023



As this is the first measure under direct control of the fire department, SFR leadership may consider the various actions that occur within this measure and determine if there are areas where process changes could improve performance. These factors include:

- Systems used to notify personnel of an incident.
- Station design as it relates to the movement of personnel from living quarters to the apparatus bay.
- Personnel adherence to department policies and acting with appropriate speed towards the apparatus.
- Time required to don protective equipment prior to responding.
- Moving equipment between apparatus when units are cross staffed.
- Time from starting apparatus until radio system is capable of transmitting.

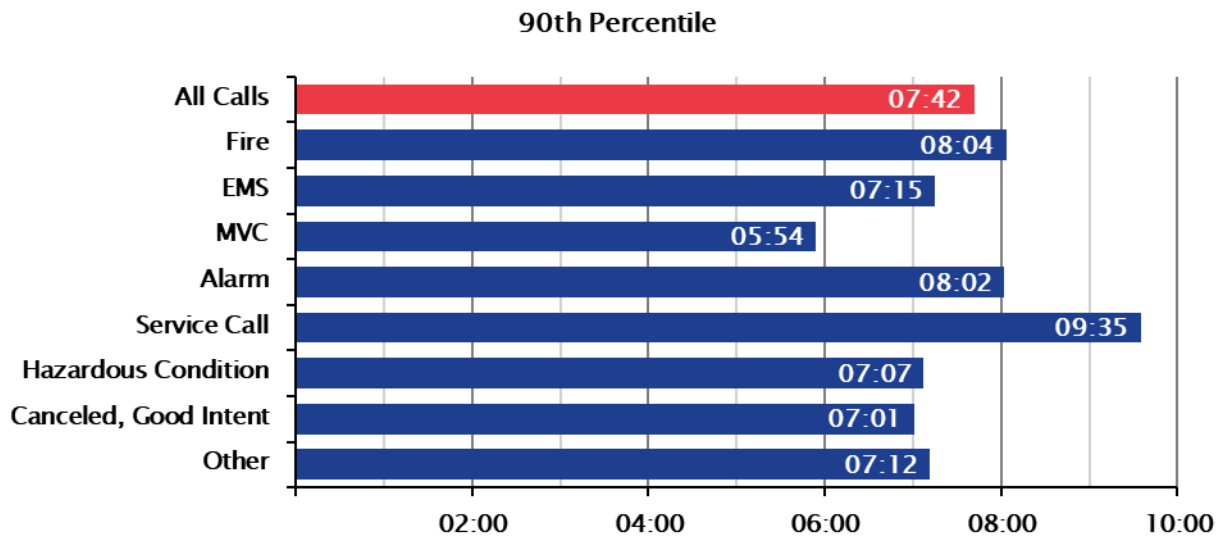
Travel Time

Travel performance is measured by travel time which is the length of time between when a unit begins to respond and arrival on scene. For this measure, there is one applicable standard as illustrated in the following figure.

Standard	Performance
NFPA 1710: *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*	4 minutes at the 90th percentile

As illustrated in the following figure SFR performance is 7 minutes, 42 seconds. When analyzed by NFIRS incident series, performance ranges from 5 minutes, 54 seconds for motor vehicle collision incidents to 9 minutes, 35 seconds for service call incidents. When evaluating just the 2023 data (use of the mobile data computer for notification to dispatch), the overall performance is 7 minutes, 52 seconds.

Figure 64: SFR Travel Time Performance, 2019–2023



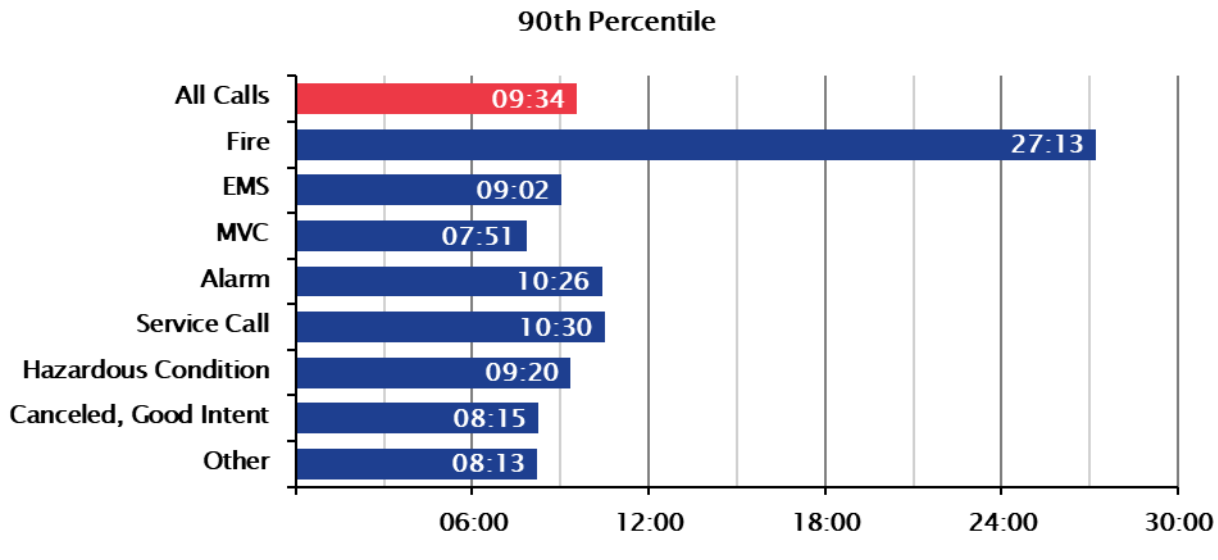
Response Time

Response time is defined as the length of time between dispatch time and arrival at scene time. For this measure, there is not a specific applicable standard. However, by combining the individual component standards, the following figure illustrates expected performance.

Standard	Performance
Turnout Time	Fire and Special Operations Incidents 80 seconds at the 90th percentile All Other Incidents 60 seconds at the 90th percentile
Travel Time	4 minutes at the 90th percentile
Combined	Fire and Special Operations Incidents 5 minutes, 20 seconds at the 90th percentile All Other Incidents 5 Minutes at the 90th percentile

As illustrated in the following figure SFR performance is 9 minutes, 34 seconds. When analyzed by NFIRS incident series, performance ranges from 7 minutes, 51 seconds for motor vehicle collision incidents to 27 minutes, 13 seconds for fire incidents. When evaluating just the 2023 data (use of the mobile data computer for notification to dispatch), the overall performance is 9 minutes, 50 seconds.

Figure 65: SFR Response Time Performance, 2019–2023



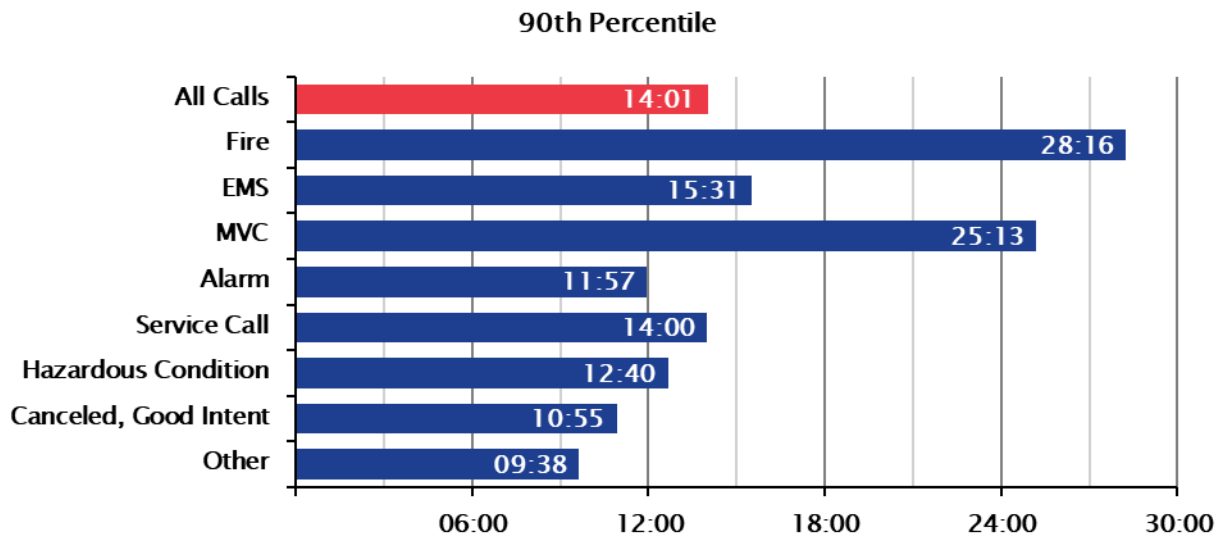
Total Response Time

Total response time is defined as the length of time between when the 911 call is answered until the dispatched unit arrives on the scene. For this measure, there is not a specific applicable standard. However, by combining the individual component standards, the following figure illustrates expected performance.

Component	Performance
Alarm Handling Time	60 seconds at the 90th percentile
Turnout Time	Fire and Special Operations Incidents 80 seconds at the 90th percentile All Other Incidents 60 seconds at the 90th percentile
Travel Time	4 minutes at the 90th percentile
Combined	Fire and Special Operations Incidents 6 minutes, 20 seconds at the 90th percentile All Other Incidents 6 Minutes at the 90th percentile

As illustrated in the following figure SFR performance is 14 minutes, 1 second. When analyzed by NFIRS incident series, performance ranges from 9 minutes, 38 seconds for other incidents to 28 minutes, 16 seconds for fire incidents. When evaluating just the 2023 data (use of the mobile data computer for notification to dispatch), the overall performance is 14 minutes, 5 seconds.

Figure 66: SFR Total Response Time Performance, 2019–2023



Mutual Aid and Automatic Aid

Agencies often enter into agreements that are of benefit to their community and the surrounding communities. These provide circumstances where units and personnel from other agencies respond into the jurisdiction to assist in providing needed resources to mitigate a given incident. The two types of agreements are mutual aid and automatic aid, both of which are an integral part of emergency operations. Mutual aid agreements include the provision of units and resources only when requested by the incident commander from the agency receiving mutual aid. In contrast, automatic aid agreements provide units and resources through a predefined matrix, and the aid agency units and personnel are included in the initial dispatch to the incident concurrently with the requesting agency units and personnel. The following figure illustrates the existing agreements between SFR and other agencies.

Figure 67: SFR Aid Agreements

Agency	Agreement Type
Big Horn Fire Department	Automatic/Mutual Aid
Clearmont Fire District	Automatic/Mutual Aid
Dayton Volunteer Fire and Rescue District	Automatic/Mutual Aid
Goose Valley Fire Department	Automatic/Mutual Aid
Story Fire Department	Automatic/Mutual Aid
Tongue River Fire Protection District	Automatic/Mutual Aid

The following figure illustrates the aid given/received during the study period.

Figure 68: SFR Aid Given/Received, 2019–2023

Description	2019	2020	2021	2022	2023
Aid Received	9	2	5	10	10
Big Horn Volunteer Fire Department	3	2	4	2	2
Clearmont Fire District	2	2	0	0	0
Dayton Fire Department	0	4	2	2	0
Sheridan Area Rural Fire Protection District	13	8	12	15	15
Story Volunteer Fire & Rescue	2	3	0	0	1
Tongue River Fire Protection District	2	3	2	3	2

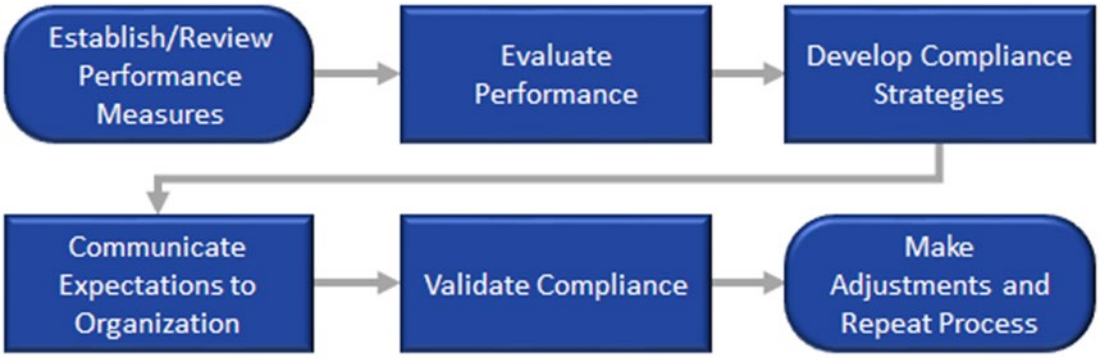
Overview of Compliance Methodology

The preceding sections of this report provide a detailed analysis of the historical performance of the SFR. For this analysis to prove beneficial to SFR and policymakers, the continued analysis should be carried out on a routine basis. The data provided to the project team for analysis proved to be easy to analyze from the standpoint of consistency and completeness.

Compliance Model

Compliance is best achieved through a systematic approach. ESCI has provided the following six-step compliance model.

Figure 69: Six-Step Compliance Model



Phase 1—Establish/Review Performance Measures

Complete an initial Standards of Cover process. Conduct a full review of the performance measures every five years:

- Identify services provided.
- Define levels of service.
- Categorize levels of risk.
- Develop performance objectives and measures:
  - By incident type
  - By geographic demand zone
  - Distribution (first on scene)
  - Concentration (arrival of full first alarm)

Phase 2—Evaluate Performance

Performance measures are applied to the actual services provided:

- System level
- First due area level

- Unit level
- Full effective response force (ERF)

Phase 3—Develop Compliance Strategies

Determine issues and opportunities:

- Determine what needs to be done to close the gaps.
- Determine if resources can/should be reallocated.
- Seek alternative methods to provide service at the desired level.
- Develop budget estimates as necessary.
- Seek additional funding commitment as necessary.

Phase 4—Communicate Expectations to Organization

Communicate expectations:

- Explain the method of measuring compliance to personnel who are expected to perform services.
- Provide feedback mechanisms.
- Define the consequences of noncompliance.

Train personnel:

- Provide appropriate levels of training/direction for all affected personnel.
- Communicate the consequences of noncompliance.
- Modify (remediate) business processes, business application systems, and technical infrastructure as necessary to comply.

Phase 5—Validate Compliance

Develop and deploy verification tools and/or techniques that can be used by subsections of the organization on an ongoing basis to verify that they are meeting the requirements:

- Monthly evaluation:
  - Performance by unit
  - Overall performance
  - Review of performance by division/section management
- Quarterly evaluation:
  - Performance by unit
  - Performance by first due
  - Overall performance

- Review of performance by executive management

Phase 6—Make Adjustments/Repeat Process

Review changes to ensure that service levels have been maintained or improved. Develop and implement a review program to ensure ongoing compliance:

- Annual review and evaluation:
  - Performance by unit
  - Performance by first due
  - Overall performance
  - Review of performance by governing body
  - Adjustment of performance standards by governing body as necessary
- Five-year update of Standards of Cover:
  - Performance by unit
  - Performance by first due
  - Full effective response force
  - Overall performance
  - Adoption of performance measures by the governing body
- Establish management processes to deal with future changes in the SFR service area.

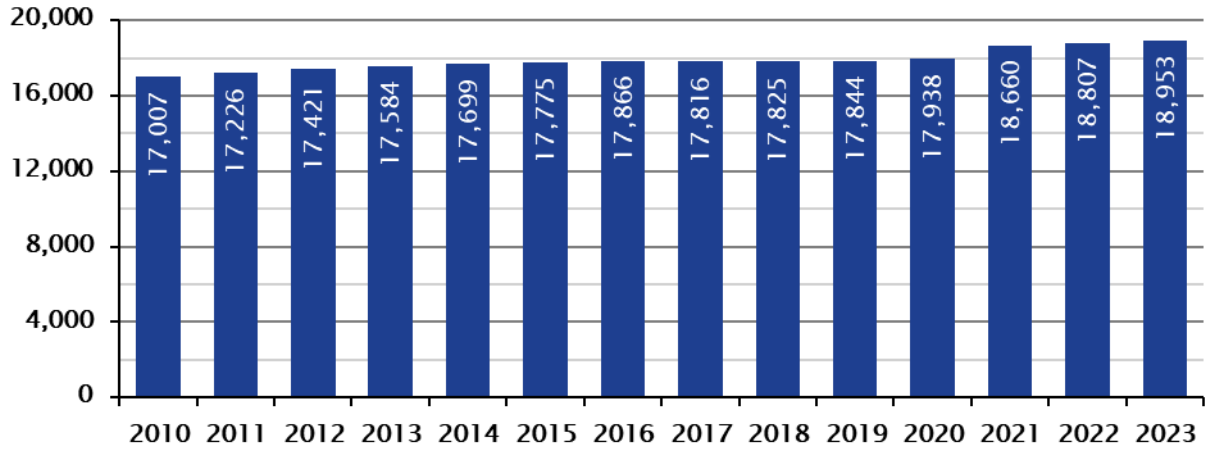
Future System Demand Forecasts

The study moves forward with an assessment of the future community conditions, service demand, and risks that the SFR can be expected to serve. ESCI conducted an analysis of community growth projections with particular emphasis on emergency service planning and delivery.

Population Growth Projections

Analysis of historical population estimates from the American Community Survey through the U. S. Census bureau shows an overall increase of 10.58% from 2010 to 2022, as illustrated in the following figure.

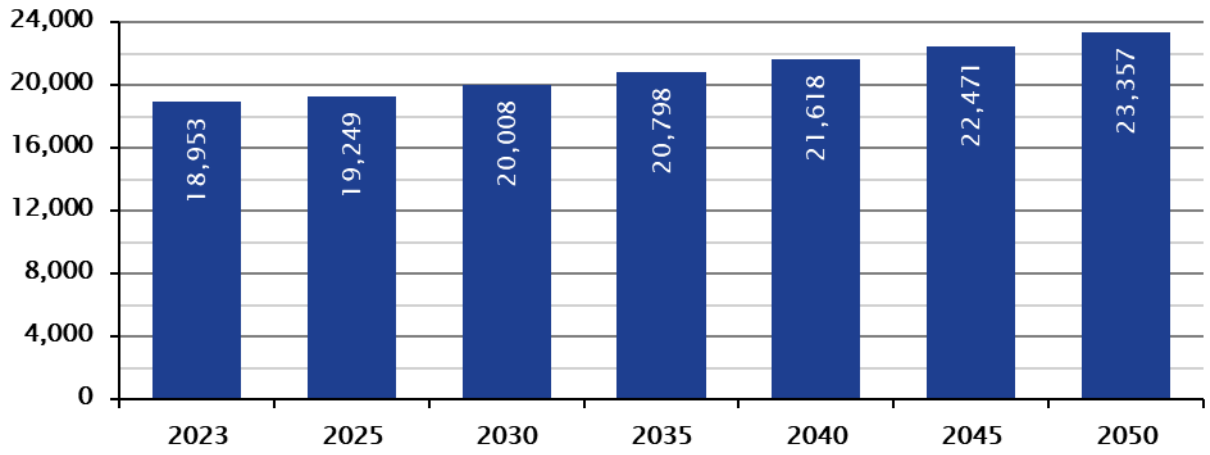
Figure 70: Sheridan Historical Population, 2019–2023



Population Growth Projection Analysis

The analysis also revealed a compounded annual growth rate of 0.78%. Using this compounded annual growth rate, the following figure illustrates the projected population change in Sheridan.

Figure 71: Sheridan Projected Population Growth, 2025–2050



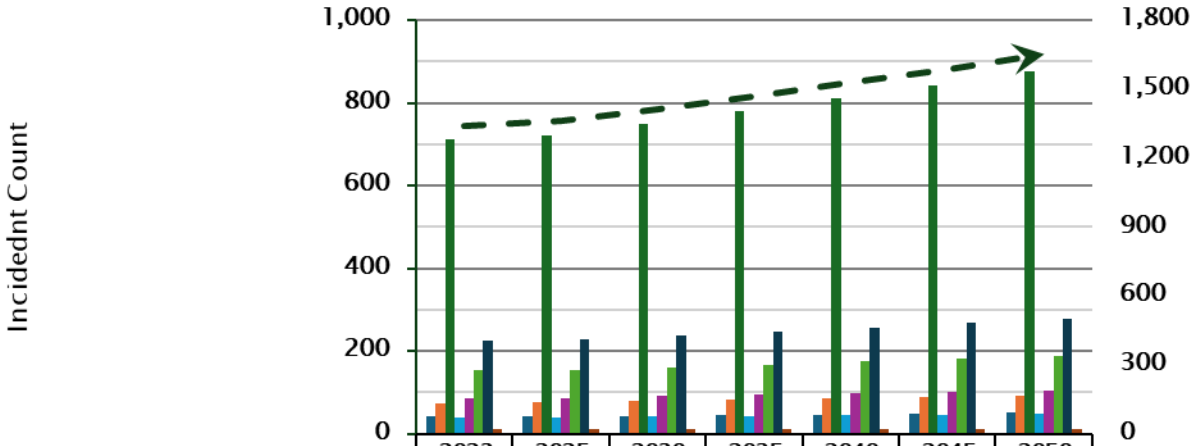
Future Service Demand

Two commonly used projections use the basis of changes in population or changes in historical service demand, providing a lower estimate and an upper estimate.

Future Service Demand by Population

This method of projecting future service demand analyzes the number of incidents per 1,000 population within the community. Then, through analysis of the historical population changes within the community obtained from the United States Census Bureau, a projection of future population is extrapolated based on the compounded annual growth rate, the incidents/1,000 population is applied to achieve the total number of incidents each year, which is then distributed based on the incident frequency percentages. The following figure illustrates the projected SFR service demand based on changes in population and provides a lower estimate.

Figure 72: SFR Projected Service Demand by Population Change, 2025–2050

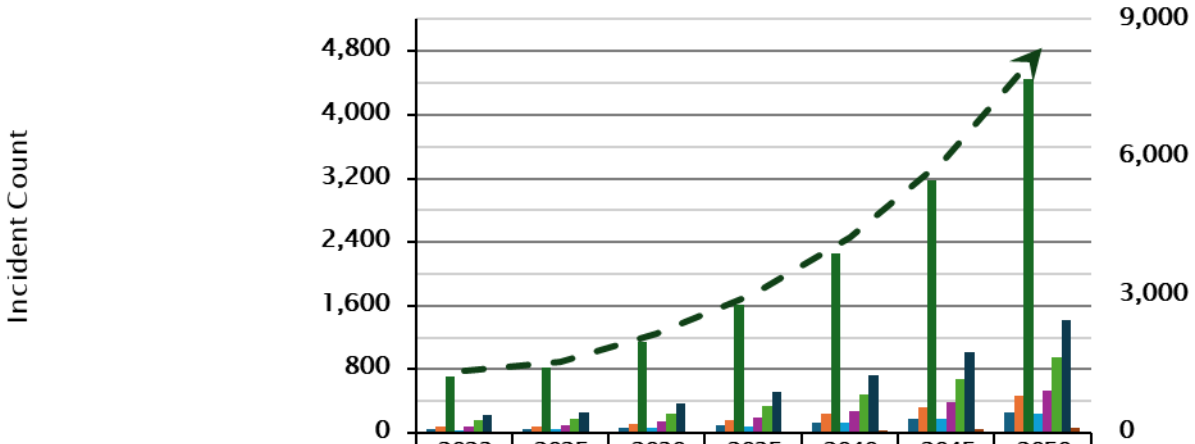


	2023	2025	2030	2035	2040	2045	2050
Fire (100)	41	42	43	45	47	49	51
Hazardous Condition (200, 400)	74	75	78	81	84	88	91
EMS (300 except 322–324)	711	722	751	780	811	843	876
MVC (322–324)	39	40	41	43	44	46	48
Service Call (500)	86	87	91	94	98	102	106
Canceled, Good Intent (600)	153	155	162	168	175	181	189
Alarm (700)	226	230	239	248	258	268	279
Other (800, 900)	10	10	11	11	11	12	12
Total	1,340	1,361	1,415	1,470	1,528	1,589	1,651

Future Service Demand by Historical Change

This method of projecting future service demand analyzes the historical percentage of change during the study period to determine the compounded annual growth rate. This figure is then extrapolated over time to provide the total number of incidents each year, which is then distributed based on the incident frequency percentages. The following figure illustrates the projected SFR service demand based on historical changes in service demand and provides the upper estimate.

Figure 73: SFR Projected Service Demand by Historical Change, 2025–2050



	2023	2025	2030	2035	2040	2045	2050
Fire (100)	41	47	66	93	130	183	257
Hazardous Condition (200, 400)	74	85	119	167	235	330	463
EMS (300 except 322–324)	711	815	1,144	1,607	2,257	3,170	4,453
MVC (322–324)	39	45	63	88	124	174	244
Service Call (500)	86	99	138	194	273	383	539
Canceled, Good Intent (600)	153	175	246	346	486	682	958
Alarm (700)	226	259	364	511	717	1,008	1,416
Other (800, 900)	10	11	16	23	32	45	63
Total	1,340	1,535	2,156	3,029	4,254	5,975	8,393

Overview of Community Risk Assessment

Every community is unique in the types of risks present that potentially threaten people and property. Risks are identified and evaluated for potential impacts to the City of Sheridan. In this section, community risks specific to SFR are presented based on the population and demographics, local land use and development, and the geography and natural hazards of the area. Mitigation of these risks affects the number of resources (personnel, equipment, and apparatus) necessary to improve the response, recovery, and resilience of the community. Not all hazards of individual occupancies can be considered; however, some risks are applicable within the entire jurisdiction.

Community Risk Assessment is defined by the National Fire Protection Association (NFPA) 1710: *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations and Special Operations to the Public by Career Fire Departments* as:

> *A systematic approach that identifies, assesses, categorizes, and classifies the probabilities and consequences of a community's fire and non-fire hazards and threats, considering all pertinent facts that increase or decrease risks in each first-due response zone.*

This section provides a basic "all-risks, all-hazards" perspective of community risks in the service area. It is intended to assist fire department officials to (1) identify hazards and risks within the community, and (2) prioritize hazards and risks based on impact to determine the appropriate resources necessary to reduce risk and attain positive desired outcomes. This analysis is intended to provide insight into what needs exist, where those needs exist, and how those needs are expected to change in the future. Physical, economic, and demographic data were utilized to assess the fire/EMS-related hazards and risks that threaten the community.

Risk Assessment Methodology

Using FEMA's prescribed methodology to assess a community's risk, standardized language becomes used for all emergency services. This standard language allows for seamless collaboration locally, regionally, and nationally. The National Preparedness System has six components. These components are tied together to guide community-wide preparedness actions to achieve the goal of a prepared community and work to fulfill the National Preparedness Goal. The community risk assessment section focuses on six components, identifying and assessing risk.



Risk can be defined as the potential for negative impacts due to threats and hazards, including natural, technological, and human-caused occurrences. Through the risk assessment process, organizations identify common risks that may challenge their capabilities and risks in which the organization is not as capable as it wishes.

These identified hazards that may challenge or exceed the organization's capabilities highlight capability gaps and barriers to a department's capability to prevent, protect against, mitigate, respond to, and recover from a threat or hazard.

Evaluating the risks that may occur helps the fire department to determine what level of preparedness they should plan to build and sustain. Although only some fire departments can budget, staff, and purchase the equipment needed to be prepared for all potential risks, these evaluations help to prioritize planning and help give insight into where to get the most impact and value.

Characterizing Risk

A community risk assessment aims to use interconnected processes that together evaluate a community's preparedness for threats and hazards that include natural, technological, and human-caused. Many define community risk assessment (CRA) as "identifying potential and likely risks within a particular community and prioritizing those risks." This concept is consistent with the FEMA concept of "whole community" and shared responsibility for emergency preparedness.[15] Thus, CRA is a critical component of the core capabilities, or

[15] *National Planning Frameworks, U.S. Department of Homeland Security, FEMA, 2018. Retrieved from: https://www.fema.gov/whole-community*

phases, of emergency management—prevent, prepare, respond, recover, and mitigate, as shown here.



- **Prevention** focuses on preventing human hazards, primarily from potential natural disasters or terrorist (both physical and biological) attacks.
- **Preparation** is a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective action.
- **Response** involves coordinating and managing resources in an all-hazards approach, with measures taken for life, property, and environmental safety.
- **Recovery** is the group of activities to restore critical community functions and begin to manage stabilization efforts.
- **Mitigation** reduces the loss of life and property by lessening the impact of disasters and emergencies.

Preparedness is the shared responsibility of an entire community, region, state, and nation. The community must contribute, beginning with individuals, communities, and emergency services. This collaboration works toward fulfilling the National Preparedness Goal. The National Preparedness Goal states what it means for the community to be prepared for all disasters and emergencies.

The Federal Emergency Management Agency (FEMA) states the National Preparedness Goal as "a secure and resilient nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk."[16]

In the following sections, ESCI will analyze community risks, growth projections, demographic information, and specific target hazard information to analyze and classify community fire protection risks by geography and type. ESCI uses local planning/zoning data combined with available Geographic Information System (GIS) data to evaluate the physical risks within the community.

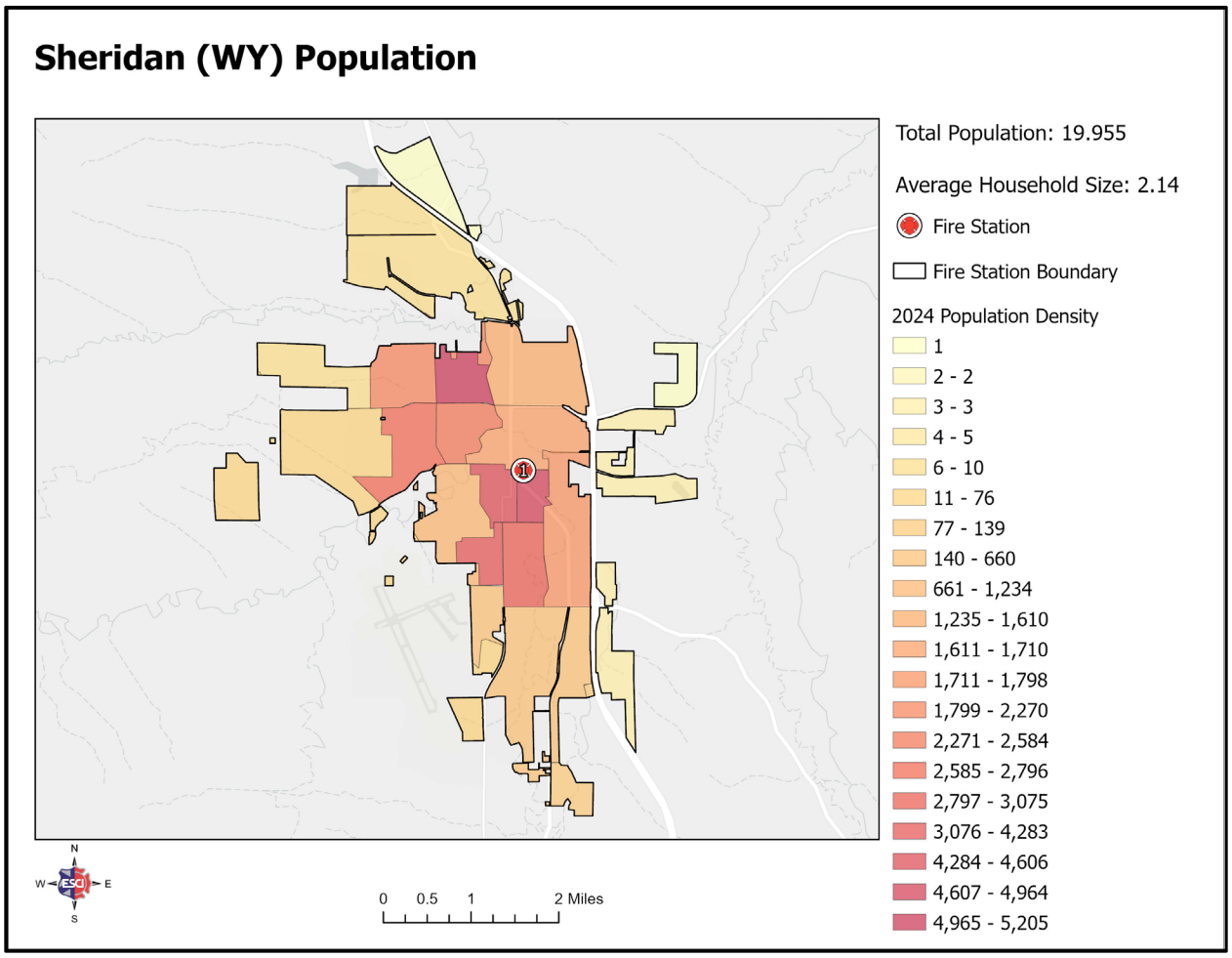
ESCI examined the population in the SFR service area. Understanding population density, distribution, and characteristics helps first responders and planners assess vulnerabilities

16 National Risk and Capability Assessment U.S. Department of Homeland Security, FEMA, 2018. Retrieved from: https://www.fema.gov/emergency-managers/risk-management/risk-capability-assessment#spr

and prioritize resources effectively. Sheridan's relatively small but concentrated population may influence the likelihood and types of emergencies encountered—such as residential fires, motor vehicle accidents, or medical emergencies—alongside seasonal weather risks typical of Wyoming. Moreover, factors such as age distribution, socioeconomic conditions, and housing structures impact the effectiveness of emergency response strategies, guiding departments on resource allocation, training, and collaboration needs with other local agencies. A community-based risk assessment helps align emergency response capabilities to the risks facing Sheridan, ensuring targeted and efficient service supporting prevention and emergency response efforts.

The following figure shows a population density map of SFR's service area.

Figure 74: CRA Population Density



Hazard Classification

ESCI performed a Community Risk Assessment to determine community characteristics, vulnerabilities, special hazards, and risks. The information utilized in this assessment was

gathered through interviews with SFR staff, the 2024 Sheridan County Hazard Mitigation Plan, the FEMA National Risk Index, and other sources.

The risk categories presented in this section are hazards the district may be vulnerable to. These risks can significantly impact the local economy, residents, or the district's service delivery capabilities. Therefore, hazards were assessed by their probability of occurrence, vulnerability, and likely impact on the community.

Risk management should also consider a community's fiscal and political environment, as policymakers must determine service priorities and funding levels to support these services.

SFR is vulnerable to a variety of hazards, which can be grouped into one of three categories:

- **Natural hazards:** Result from acts of nature.
- **Technological hazards:** Result from accidents or failures of systems and structures.
- **Human-caused hazards:** Result from people's actions, both accidental and intentional.

Figure 75: Examples of Hazard Risks by Category

Natural	Technological	Human-caused
Avalanche	Dam Inundation	Mass Casualty Incidents
Drought	Hazardous Materials	Terrorism
Earthquake	Transportation Accidents	Civil Unrest
Winter Storms	Utility Disruptions	Cyber-attacks

The following table shows the history of federally declared disasters in Sheridan County for the past 50 years. Reviewing this data can identify a pattern to validate common hazards within the SFR area. For example, wildfire accounts for 42% of federal disaster declarations in Sheridan County, while 28% are attributed to the COVID-19 pandemic and 28% are attributed to storms.

Figure 76: Federally Declared Disasters in Sheridan County

Disaster #	Declaration Date	Disaster Type
DR-557-WY	5/29/1978	Storms/Flooding/Mudslides/Landslides
DR-2512-WY	11/19/2003	Tongue River Fire
DR-2719-WY	8/12/2007	Little Goose Fire
DR-4007-WY	7/22/2011	Severe Storms, Flooding, and Landslides
DR-3479-WY	1/20/2020	COVID-19
DR-4535-WY	1/20/2020	COVID-19 Pandemic
DR-5539-WY	9/30/24	Elk Fire

SOURCE: *FEMA Declared Disasters History: https://www.fema.gov/disaster/declarations*

Natural Hazards

Natural hazards can be classified into three primary areas. Natural hazards are typically challenging to prevent

- **Meteorological:** Flooding, Dam Failure, Severe Thunderstorms (Wind, Rain, Lightning, Hail), Tornado, Windstorms, and Winter Storms (Snow/Ice)
- **Geological**: Earthquake, Landslide, Subsidence/Sinkhole
- **Biological:** Pandemic, Disease, Foodborne Illnesses

Most of the Federal Disaster declarations in Sheridan County fall within the natural hazards or result from acts of nature. Based on ESCI's assessment model, the following table shows the relative risk of these natural hazards.

Figure 77: Relative Risk Chart for The City of Sheridan

EVENT	PROBABILITY	COMMUNITY IMPACT			MITIGATION CAPACITY			RISK
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	*Relative threat*
Tornado	2	2	3	3	3	3	1	**31%**
Severe Thunderstorm	4	1	2	2	1	1	1	**33%**
Snow Fall	4	1	1	2	1	1	2	**33%**
Blizzard	3	2	1	3	3	2	2	**41%**
Ice Storm	1	1	3	3	3	2	2	**15%**
Earthquake	1	3	4	4	3	3	1	**19%**
Tidal Wave	0	0	0	0	0	0	0	**0%**
Temp Extremes	3	2	2	2	3	3	4	**50%**
Drought	3	3	2	2	2	3	4	**50%**
Flood, External	1	3	4	4	2	3	1	**18%**
Wildfire	3	3	4	4	2	2	1	**50%**
Landslide	1	2	2	2	2	2	2	**13%**
Dam Inundation	1	3	3	3	3	3	2	**18%**
Volcano	0	2	2	3	4	4	4	**0%**
Epidemic	1	3	1	3	3	1	2	**14%**

The risk analysis shows that meteorological events pose the highest risk to SFR of natural events. The top five risks are drought, wildfires, blizzards, temperature extremes, and severe storms. Even though these incidents are not preventable, a focused effort on education, planning, and response capabilities is the best way to mitigate the impact on the community.

The City of Sheridan has a relatively low-risk level for natural hazards[17]. The National Risk Index is a dataset tool illustrating risk for 18 natural hazards. FEMA designed and built it to assist with planning for natural hazards within a community—the City of Sheridan scores just under 27.4 out of 100.

Wildfire

Of the meteorological events, wildfires are among the most prevalent natural disasters in the area that require an SFR response. Despite low risk in the city limits of Sheridan, a specific risk becoming more predominant in suburban areas is an urban interface fire,

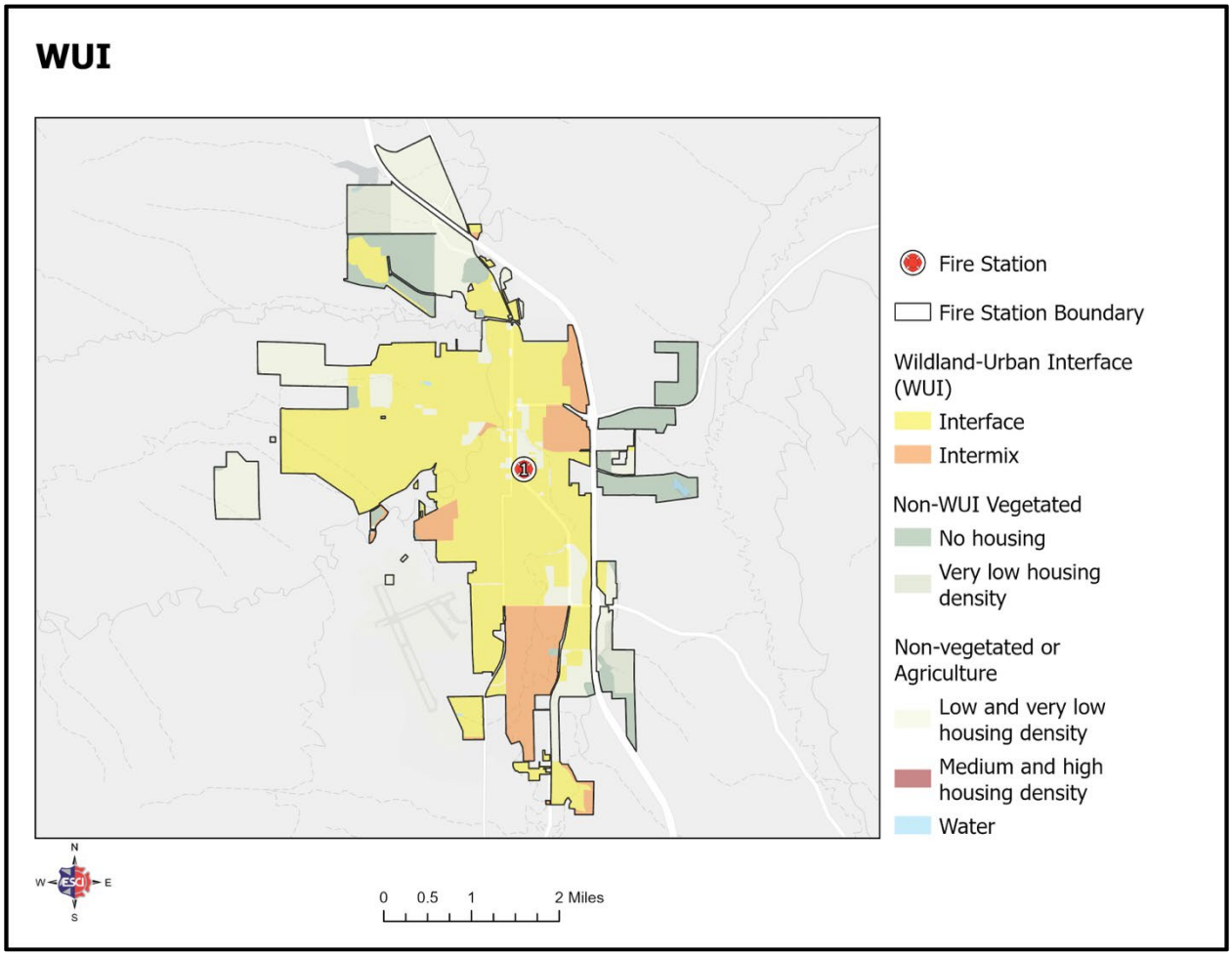
[17] *FEMA National Risk Index https://hazards.fema.gov/nri/map*

which worsens with summer's high heat and winds. Although the typical response is shared with Federal and mutual resources, planning for the response, notification, and evacuation is essential to maintain regularly, revise, and test.

According to the FEMA risk index, areas adjacent to SFR show a relatively high risk. The most significant concern for wildfire risk is the wildland-urban interface (WUI) areas. The wildland-urban interface (WUI) is an environment where structures or other human developments meet or intermingle with wildland vegetation or fuels. This interface area is where natural terrain and fuel are near development, with a high potential for wildland fires. This area is where the potential for wildfire to impact people directly and property exists. WUI areas can include both public and private land bordering developed communities.

The following figure shows the wildland-urban interface (WUI) risk around the highest-populated areas.

Figure 78: Wildland Urban Interface (WUI)



For example, SFR has significant WUI sections around the town. Even though fuel types are mostly grass and shrubs, this can cause seasonal curing and increased risk from drought, wind, and other natural hazards in the area. Wildland-urban interface fire is a concern in Sheridan and surrounding areas due to its proximity to forested areas and grasslands. The WUI zone, where human development meets undeveloped wildland, creates a higher risk of wildfire impacting homes, infrastructure, and the environment. Sheridan's natural surroundings and semi-arid climate, which experience dry summers, wind, and periods of low humidity, increase the likelihood and potential severity of wildfires. This hazard is especially relevant during drought when vegetation becomes highly flammable.

WUI fires can spread quickly, driven by dry vegetation, steep terrain, and high winds, making them difficult to contain. This rapid spread can be a concern for the community. Also, homes near forested or grassland areas are more susceptible to fire, especially if they lack defensible space or if buildings are not designed with fire-resistant materials. WUI fires can cause significant property loss and infrastructure damage.

These challenges and narrow or limited road access can complicate evacuation efforts and delay emergency response in WUI areas. This can be particularly dangerous if there are bottlenecks or limited routes out of at-risk areas.

To effectively prepare for and respond to WUI fires, SFR should implement a comprehensive approach that includes risk assessment, public education, and resource planning:

SFR should assess and map high-risk WUI areas, identifying zones with dense vegetation, steep slopes, and limited access. Mapping these zones enables responders to prioritize resources and develop targeted response plans for high-risk neighborhoods. Education in these neighborhoods is critical to encourage property owners to create defensible space around their homes and use fire-resistant building materials. SFR can offer resources and guidance to promote these mitigation measures, helping increase the community's resilience to wildfire.

Also, SFR should develop and regularly update evacuation plans for WUI fires with pre-designated evacuation routes, safe zones, and a reliable early warning system. This system should include text alerts, sirens, and other notification methods, allowing for timely evacuation and risk communication to residents. Real-time monitoring systems for weather and fire conditions should be included to track changing conditions that could increase fire risk.

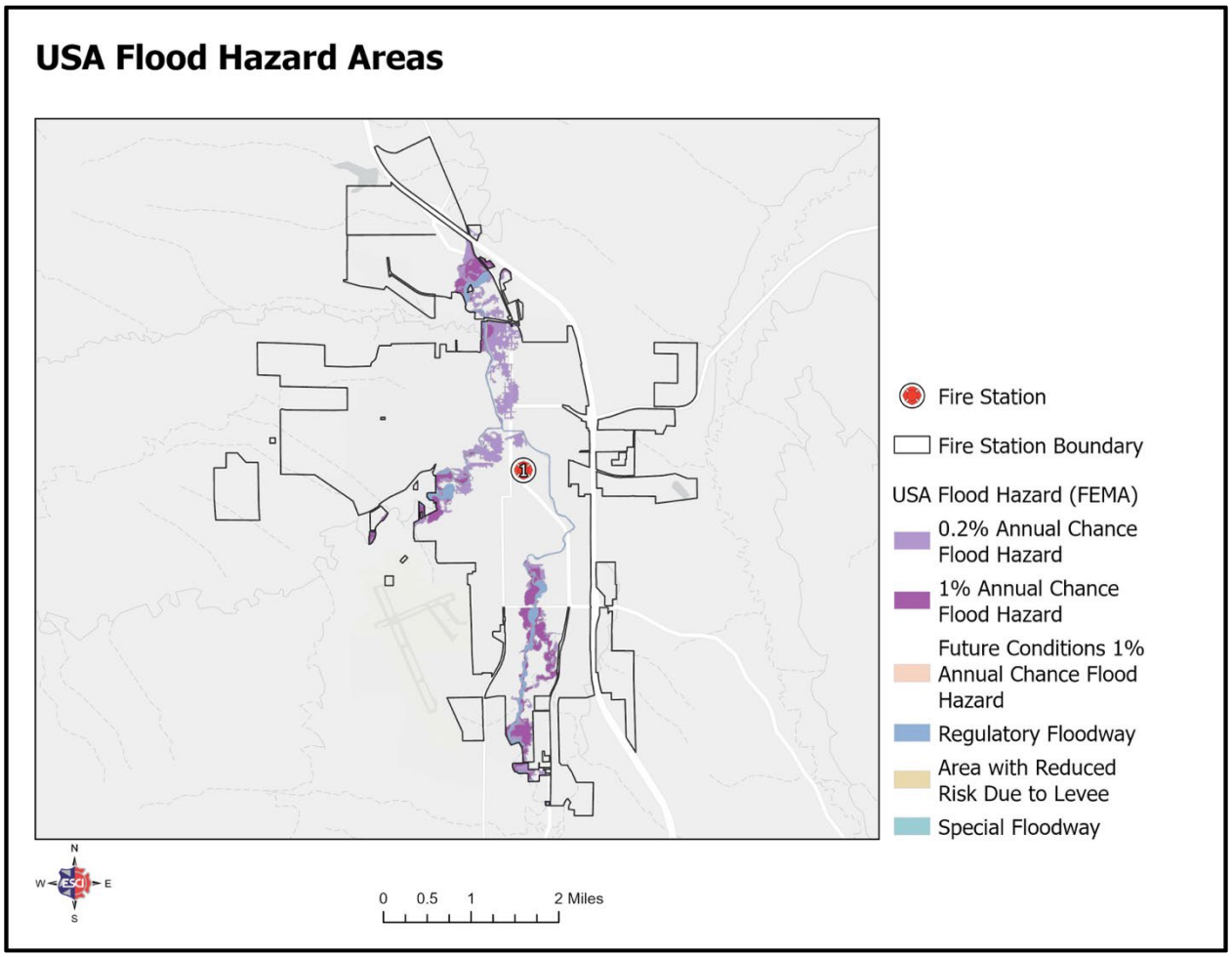
Other weather-related events

Other weather-related events, such as winter storms, droughts, and ice storms, may impact service demand and the district's ability to perform adequately. Although infrequent, these events should be planned for.

Flood

Flooding is a significant hazard in Sheridan, mainly due to its location near the Big Goose and Little Goose Creeks, which flow through the city and can overflow during heavy rains or rapid snowmelt. The risk of flash flooding can be exacerbated by Sheridan's mountainous surroundings, which direct water flow toward the lower elevations of the city. This flooding can impact residential, commercial, and rural areas, particularly in low-lying regions.

Figure 79: USA Flood Hazard Areas



Planning for flood hazards is essential for the safety of Sheridan's residents and the community's resilience. Effective flood preparedness involves updating floodplain maps, developing flood emergency response plans, and implementing community flood mitigation measures, such as stormwater management systems, flood barriers, and public awareness campaigns. Additionally, city planners must consider flood-resistant infrastructure and zoning regulations to reduce future risks to homes and businesses in vulnerable areas.

Flooding can significantly strain emergency response resources. During a flood event, first responders may face road closures, inaccessible areas, and hazardous conditions that slow

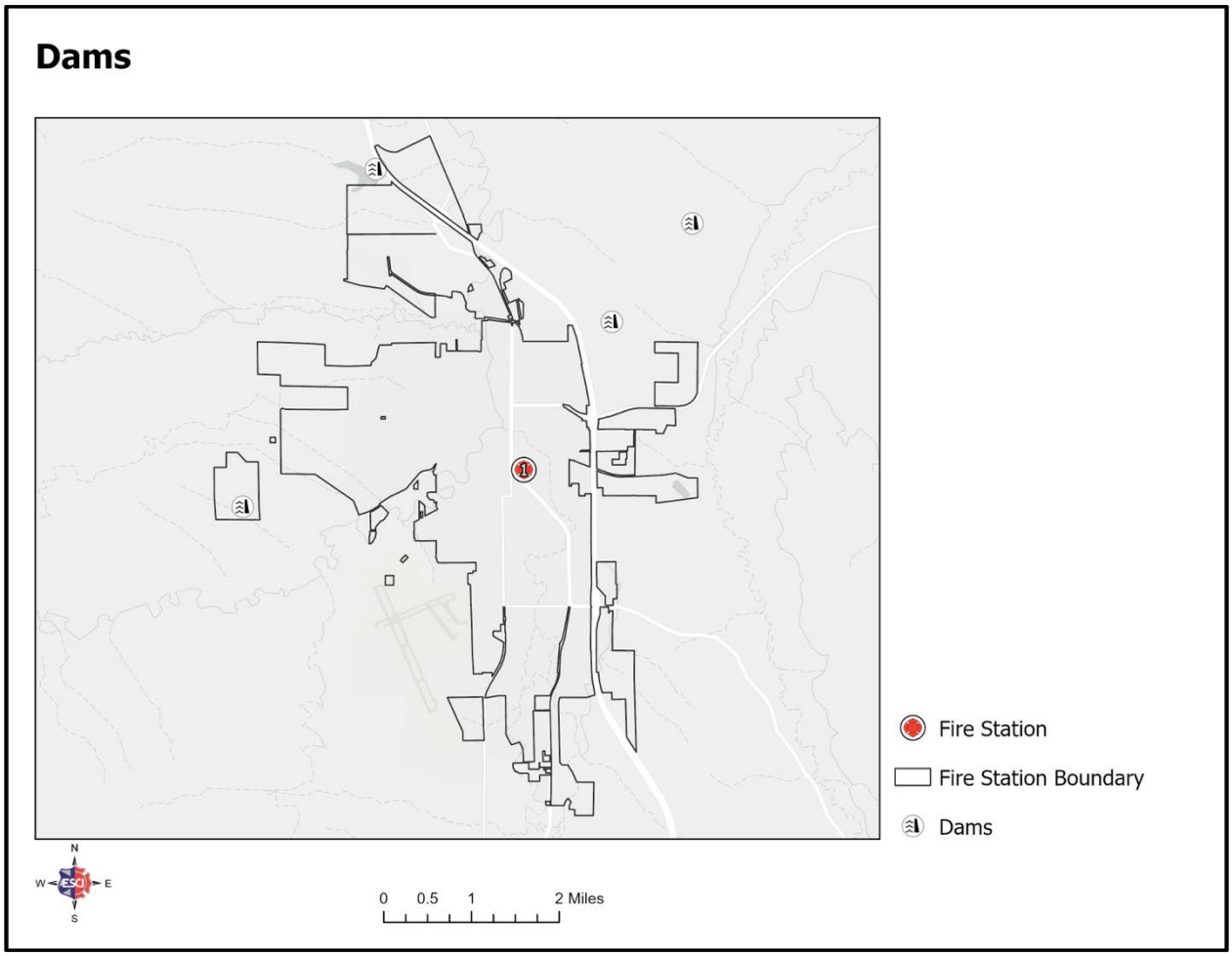
response times. Emergency services must prioritize water rescues, evacuation assistance, and protecting critical infrastructure, all requiring specialized equipment and training. The increased demand for emergency resources underscores the importance of a community risk assessment that anticipates flooding hazards and prepares response agencies with the resources and protocols to act quickly. Proactive flood planning can minimize damage, reduce the risk to residents, and enable a more efficient emergency response, ultimately enhancing Sheridan's resilience to flood hazards.

Dam Inundation

There are a few dams near Sheridan, such as the Big Goose Dam, which, in the unlikely event of a failure, could release a significant amount of water downstream, causing rapid flooding in low-lying areas of the city. Dam inundation could be especially dangerous due to the high velocity and volume of water released, creating a swift-moving flood capable of damaging infrastructure, homes, and critical facilities and endangering lives.

Unlike typical riverine or flash flooding, dam failure can cause a sudden and powerful flood wave. This rapid onset leaves little time for evacuation and makes it difficult for residents in the floodplain to reach safety. This rapid onset can cause extensive damage to homes, businesses, bridges, roads, and utilities. Compromised critical infrastructure, including power, gas, and water supplies, can lead to secondary emergencies.

Figure 80: Dam Inundation



SFR should work with state and federal agencies to prepare for dam inundation. Sheridan should develop detailed inundation maps that show potential flood zones in the event of a dam failure. This mapping will help identify high-risk areas and aid in evacuation planning. As part of this planning, educating the public on the risks associated with dam failure and how to respond is crucial. This includes informing residents about evacuation routes, emergency contact numbers, and safe zones outside the potential inundation area.

SFR should coordinate with dam operators to ensure that real-time monitoring and early warning systems are in place. This may involve automated alerts, sirens, or mobile notification systems to warn residents if a dam failure is imminent. Emergency services should establish and regularly update evacuation plans for dam inundation scenarios and monitoring.

By developing a comprehensive dam failure response plan that includes risk assessment, early warning, public education, and coordinated evacuation protocols, SFR can mitigate many of the potential impacts of a dam inundation event and improve community safety.

Technological Hazards

Many of the technological hazard risks can be classified as critical infrastructure. For the SFR, there are several infrastructure systems evaluated.

Highways and Railways

Highways and railways can pose risks to Sheridan and must be considered in emergency response planning. Sheridan is served by major highways, such as Interstate 90 (I-90), and is crossed by rail lines that transport freight, including potentially hazardous materials. These transportation routes bring specific risks, including accidents, hazardous material spills, and increased demand for emergency services.

Highways like I-90 see considerable traffic, including large trucks and commercial vehicles. Accidents on these roadways can be severe, especially in winter when icy conditions are common or during periods of high tourist traffic. Accidents involving hazardous materials substances could result in a hazardous material spill, creating risks for fires, explosions, toxic exposure, and environmental contamination. Major accidents can lead to road closures, injuries, fatalities, and significant delays that could disrupt the entire community, including residential areas, water sources, and wildlife habitats.

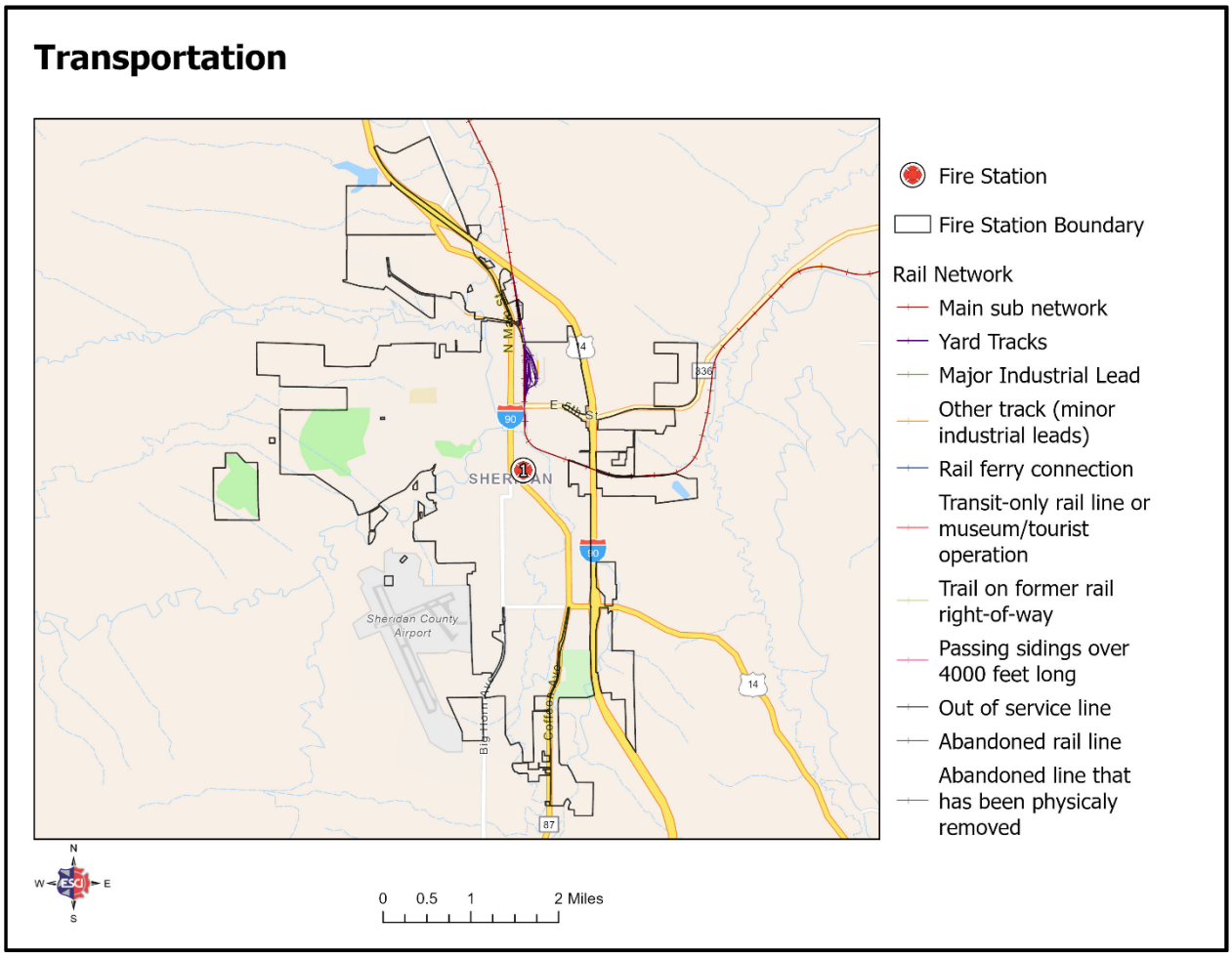
Pipelines

Pipelines present significant challenges for fire departments due to the transportation of hazardous materials such as natural gas, crude oil, and refined products. These risks include hazardous material incidents involving leaks, spills, and the release of toxic vapors, which can lead to fires, explosions, and health hazards. Pipelines near urban areas increase the potential impact on homes, businesses, and critical infrastructure, complicating evacuation efforts. Additionally, spills can cause environmental damage, such as waterway contamination and wildland fires.

Responding to these incidents requires specialized training, effective pre-incident planning, and strong coordination with pipeline operators to manage remote access challenges and ensure accurate information on materials and shut-off mechanisms. Aging infrastructure compounds the risks by increasing the likelihood of failure due to corrosion or outdated construction methods.

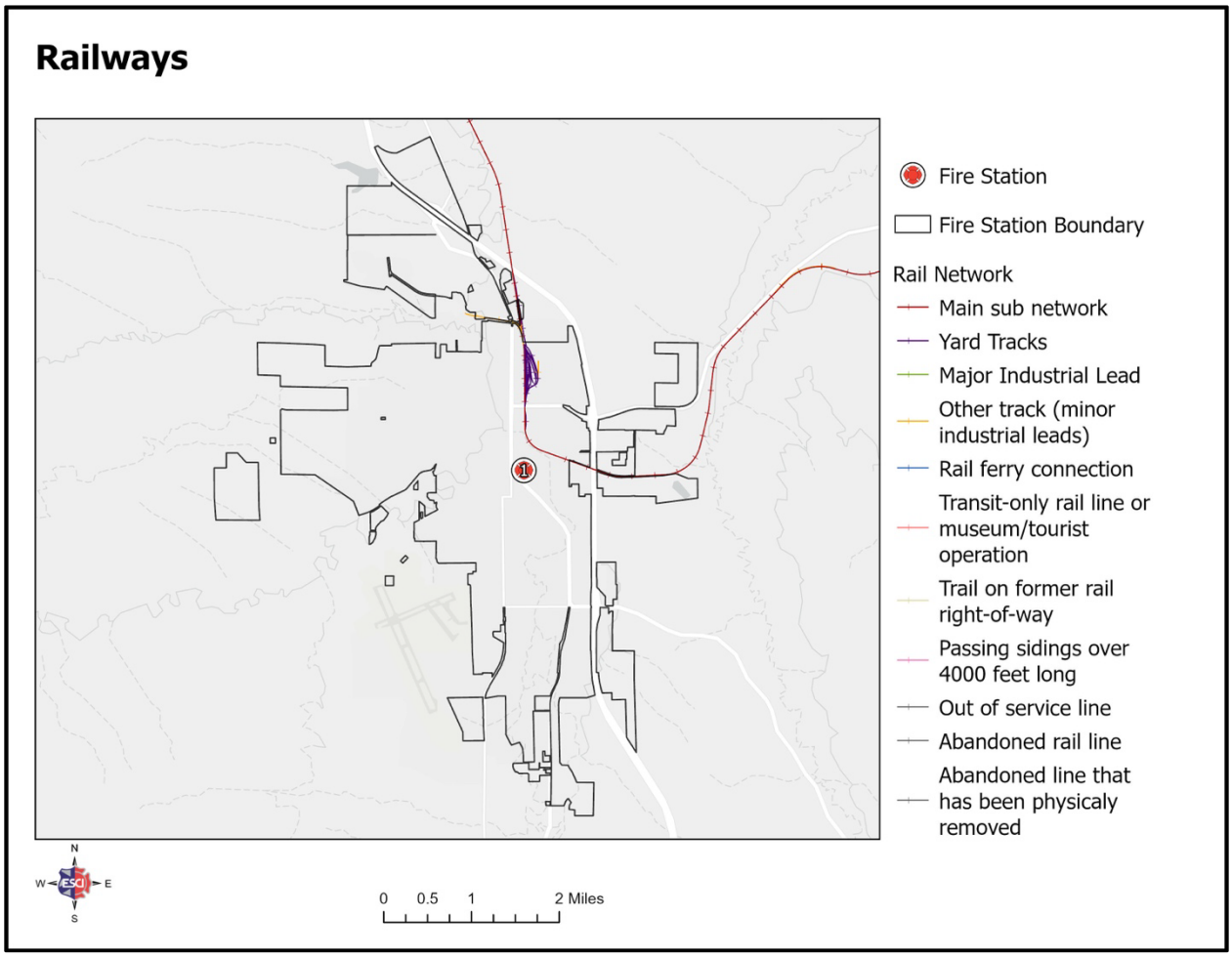
To mitigate these risks, SFR can adopt strategies such as regular hazardous materials training, collaboration with pipeline operators for pre-incident planning, public education on recognizing pipeline issues, and leveraging GIS technology to map pipeline locations for enhanced response planning.

Figure 81: City of Sheridan Transportation Network



Working closely with railway operators and the Department of Transportation helps ensure that emergency services have up-to-date information on the types of materials being transported, maintenance schedules, and any upcoming changes in railway or highway usage. While collaborating with these agencies, SFR should assess high-risk areas along the highways and railways within Sheridan and map locations where accidents are most likely to occur or where hazardous materials are frequently transported. These maps can inform response strategies and resource allocation. This collaboration enables responders to be better prepared for potential incidents.

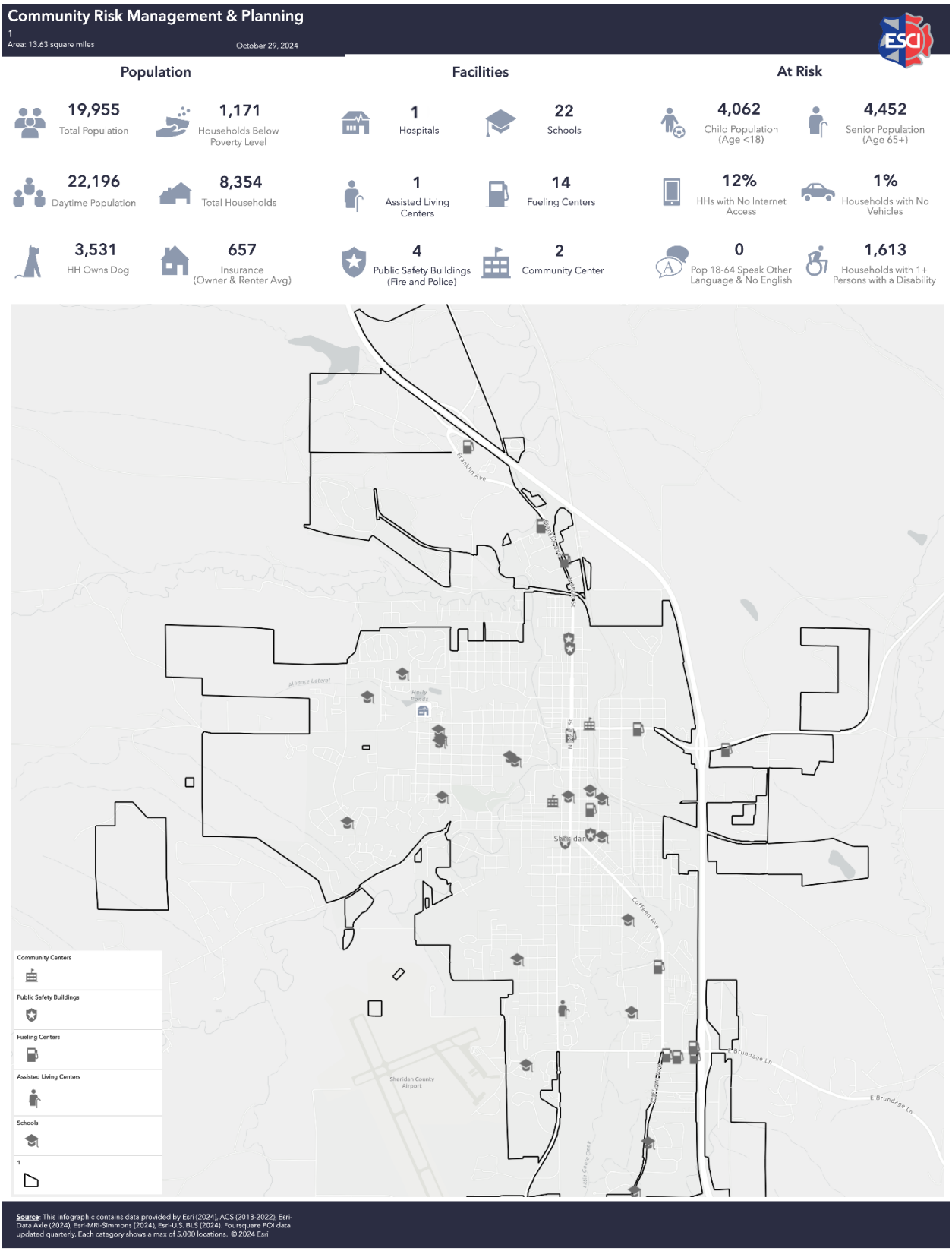
Figure 82: City of Sheridan Rail Network



Educating residents on the risks associated with highways and railways and the appropriate actions to take in case of an accident is essential. This might include guidance on shelter-in-place procedures during a hazardous material spill, how to respond to evacuation alerts and general road safety. In the event of a significant railway or highway accident, especially one involving hazardous materials, it is critical to have a public notification system in place. This system should include warning methods, as discussed in the wildfire section above. This system should inform residents of potential risks and evacuation orders. Establishing clear evacuation routes and designated shelter locations can help residents evacuate safely.

Sheridan should plan for alternative routes and transportation options if highways or rail lines are blocked. This planning ensures that responders can reach affected areas quickly and that there are alternate evacuation routes for residents.

Figure 83: Community Risk Management and Planning Map



Fixed Facilities

Assessing the risk of fixed facilities is vital because emergencies can occur anytime and without warning. Therefore, preplanned emergency responses are crucial to ensure the safety and well-being of patients, the workforce, and visitors. In addition, preplanning emergency responses in various settings is essential to ensure that emergency responders can respond quickly, effectively, and safely to any emergency. Locations such as hospitals, schools, churches, and other public places should have a well-planned response plan, rehearsed regularly and updated to ensure its effectiveness. Such measures can save lives, minimize injuries, and protect the safety of all involved in emergencies.

Hospitals/Care Facilities

Sheridan, Wyoming, is served primarily by Sheridan Memorial Hospital, which plays a central role in emergency response and healthcare services for the area. Therefore, having a preplanned response can help the hospital remain a resilient resource for the community. However, these facilities can also be a target for extremist attacks, and the SFR should be aware of the layout and critical infrastructure needed to keep the hospital operational.

Responding to fires or emergencies at hospitals can be particularly challenging for fire departments due to hospital buildings' unique features and functions and potential risks to patients and staff. This is in part due to complex building layouts. Hospitals are often large, complex buildings with multiple floors, wings, and specialized areas. This can make it difficult for firefighters to locate the source of the emergency and access it quickly.

Hospitals often have many patients dependent on equipment such as ventilators, oxygen tanks, and dialysis machines. These devices can be challenging to move, and their failure could put patients at risk. Couple this with patients with mobility issues, making evacuating quickly in a fire or emergency difficult. Adding to patient mobility issues, hospitals often have limited access points, making it difficult for fire department personnel and equipment to move about the building quickly and easily.

To overcome these challenges, fire departments typically work closely with hospital staff to develop emergency response plans that consider the unique features of the building and the needs of patients and staff. This should involve conducting regular training and fire drills, ensuring that all safety equipment is well-maintained, and establishing clear emergency plans between the hospital and the fire department.

Churches

Effective emergency response planning for churches should involve a comprehensive risk assessment to identify potential hazards, developing emergency response procedures and protocols, training staff and volunteers on those procedures, establishing communication channels to alert and inform those on the premises during an emergency, and practicing

emergency response scenarios regularly to ensure preparedness. By prioritizing emergency response planning, churches can better protect their congregants and minimize the potential impact of emergencies on their communities.

Responding to church emergencies often presents unique challenges for fire departments due to the nature of church buildings and the potential risks to congregants and staff.

Churches often have unique architectural features and designs, making it difficult for firefighters to navigate the building and locate the source of an emergency. With these unique layouts come restricted access points or narrow staircases, making it difficult for fire department vehicles and personnel to reach areas of the building quickly and easily.

Churches may have large congregations or visitors attending services, making evacuations more complex and requiring additional resources. While allowing larger groups of people to gather, older churches may not have modern fire protection systems installed, such as fire sprinklers or smoke alarms, which can increase the fire risk and make it more difficult to contain.

Some churches may have significant historical or cultural value, which can complicate fire response efforts due to the need to balance preservation with emergency response.

To address these challenges, fire departments may work closely with church staff to develop emergency response plans that consider the unique features of the building and the needs of congregants and staff. This may involve conducting regular fire inspections, ensuring all fire safety equipment is up-to-date and well-maintained, and establishing a clear communication plan between the church and the fire department.

Schools

Fire departments can face unique challenges when responding to school emergencies, which are often large, complex buildings that house many people, including students, staff, and visitors.

Schools may have a large number of children, some of whom may have mobility issues or special needs, which can make evacuation and rescue efforts more complex. Because of the large number of children, school safety concerns grow in communities, and schools may have limited access points, making it difficult for fire department vehicles, equipment, and personnel to reach portions of the building quickly.

Fire departments should work closely with school staff to develop emergency response plans that consider the unique features of the building and the needs of students and staff. This may involve conducting regular lock-down training and fire drills, ensuring regular fire inspections, and establishing emergency plans between the school and the fire department for fire and other emergencies. Additionally, some schools should have fire suppression systems, such as sprinklers or fire alarms, to help detect and mitigate fires.

Large Commercial Buildings

Responding to emergencies in large buildings, such as those that are 100,000 square feet or more, can pose unique challenges for fire departments. Even though this building size is limited in Sheridan, there is good potential for buildings in the tens of thousands of square feet to be built. These types of buildings can cause response challenges.

The sheer size of a 100,000-square-foot building can make it difficult for firefighters to quickly locate the source of an emergency, particularly if the building has multiple floors or sections. Large open spaces can increase the risk of spreading fire, making it more difficult for firefighters to contain the fire and prevent it from spreading to other parts of the building.

Responding to emergencies at large buildings may require many resources, including firefighters, equipment, and water. Fire departments may need additional resources from other areas to manage the emergency effectively.

Human-Caused Hazards

Human-caused hazards result from people's actions, either accidental or intentional. Intentional acts are always deliberate; however, the intent may differ (e.g., a deliberate action may be planned, careless, reckless, or intended to cause harm). Likewise, the outcome may have unintended consequences in negligent or reckless acts or poorly designed and executed.

Although rare, it is necessary to account for human-caused risks. The highest risk for SFR is a mass casualty incident. Due to the impact on life and the level of preparedness, this ranks highest on the human-caused hazard list. The risk of mass casualty is more common, either from trauma or medical. Both scenarios can impact a response system even for the most prepared organizations. The drawdown of resources and available capacity in treatment facilities creates a high risk for the district.

Hazard Risk Summary

ESCI's community-wide risk analysis contains eight (8) categories of emergency events, under which 86 individual characteristics are evaluated and ranked based on event frequency, community impact, and mitigation capacity. The following table summarizes the characteristics of emergency events and their relative threat index.

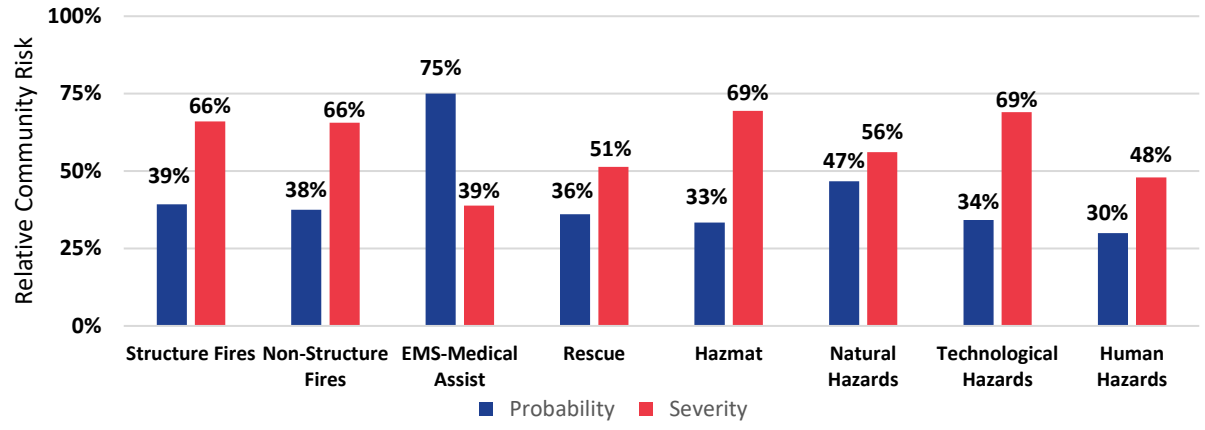
Figure 84: City of Sheridan Risk Summary

EVENT	PROBABILITY	COMMUNITY IMPACT			MITIGATION CAPACITY			RISK
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	*Relative threat*
Structure Fires	1.57	2.71	3.43	3.14	2.43	2.29	1.86	26%
Non-Structure Fires	1.50	1.75	2.00	1.25	4.00	4.00	2.75	25%
Natural Hazards	1.43	2.71	2.57	3.00	2.57	2.57	2.29	26%
Tech Hazards	1.29	3.14	2.57	3.29	3.14	3.14	3.14	24%
EMS-Medical Assist	1.29	1.43	0.00	0.00	0.43	0.86	1.29	29%
Hazardous Materials	1.71	2.00	1.57	2.29	3.00	4.00	3.00	23%
Tech Rescue	1.14	2.14	0.00	0.00	3.14	3.29	3.29	19%
Human Hazards	1.00	1.57	1.14	1.57	2.00	2.00	2.14	14%

EMS is ranked as the highest community risk because of two primary factors—first, the human impact, and second, the probability.

Risk is defined as probability compared to the impact of an event; the following figure illustrates the comparison of those two factors across the eight event categories.

Figure 85: Probability Comparted to Impact by Event



At-Risk Populations

Sheridan's population trends bring specific risks that impact emergency response and community planning. Here are some key trends and associated risks for Sheridan:

Aging Population: Sheridan's population includes a higher-than-average percentage of older adults, a trend that mirrors national shifts. An aging population raises risks associated with medical emergencies, falls, and residential fires, particularly in homes not outfitted with accessible safety features. This also indicates a need for additional EMS resources and training tailored to elderly care and community risk reduction efforts focused on fire safety and fall prevention for seniors.

Tourism and Seasonal Variation: Sheridan attracts seasonal tourism, especially during events like rodeos, arts festivals, and outdoor recreational seasons, which increases the transient population. This influx raises demands on emergency services, particularly during peak tourist seasons, as it heightens risks for vehicle accidents, injuries from outdoor activities, and the need for rapid emergency medical response. Seasonal planning and scalable emergency resources are necessary to address the surge during these periods.

Substance Use Trends: Like other parts of the country, Sheridan has seen trends in substance use, including opioid misuse, which affects emergency response through a higher incidence of overdose calls and related medical emergencies. Addressing this requires specific training for responders, community health partnerships, and preventive programs aimed at reducing the impact of substance use within the community.

Economic and Housing Changes: Economic shifts in Sheridan, including growth in specific sectors, impact housing availability and quality, potentially increasing population density in certain areas or leading to inadequate housing conditions. Low-income or substandard housing often correlates with higher fire risks and increased EMS calls due to health and safety issues. Monitoring housing trends helps fire and EMS services allocate resources efficiently, targeting areas with greater risk.

Addressing these trends effectively requires ongoing community risk assessment and risk reduction efforts based on NFPA's CRAIG CRA insights, allowing emergency response services to adapt and evolve with Sheridan's changing community needs.

Risk by Land Use Designation

Future infrastructure requirements to sustain the growth in the City of Sheridan will be critical to property owners and coincide with zoning, subdivision regulations, and higher property values. Infrastructure will include roads, bridges, sewers, water, and fire hydrants. When examining the zoning of a jurisdiction, additional considerations are the impacts that new development and changes to existing structures may have on emergency response capabilities.

The activities that occur within a building or on an undeveloped property can often be used to begin the process of risk classification. This is normally associated with the occupancy rating or classification for the intended use. The use of zoning maps can provide permitted use information for each parcel identified by land use designation. Vacant lots and open land are often identified as a much lower risk than commercial or industrial occupancies because open areas lack the people and processes associated with emergency incidents. Fires in commercial occupancies often lead to higher dollar loss than many residential properties, and the long-term income loss affects the people employed by the business when it is destroyed and usually generates higher risk classifications.

The following figure translates zoning to categories of relative fire and life risk.

Figure 86: Relative Fire and Life Risk Categories

Relative Risk Category	Zoning
Low Risk	Areas zoned and used for agricultural purposes, open space, and very-low-density residential use
Moderate Risk	Areas-zoned for medium-density single-family properties, small commercial and office uses, low-intensity retail sales, and equivalently sized business activities
High Risk	Areas zoned for higher-intensity business districts, mixed-use areas, high-density residential, industrial, warehousing, and large mercantile centers

Land use planning in Sheridan has evolved significantly over the years, with a series of targeted plans shaping both city and county growth. In 2011, an Executive Summary was developed to consolidate adopted city plans for use by officials and the public. Since then, additional initiatives like the Railroad Historic District Master Plan, East 5th Street Corridor Plan, and Sheridan Entryway Design Standards have been implemented.

Three core plans underscore Sheridan's approach to land use: *Vision 2020: Sheridan County Growth Management Plan* (2001), *Sheridan County Comprehensive Plan* (2008), and the *Sheridan Joint Planning Area Land Use Plan* (2009*). Vision 2020* focused on establishing

growth policies to guide future land use across the county. *The Sheridan County Comprehensive Plan* expanded on this, addressing critical issues such as utilities, property rights, workforce housing, agriculture, and historic preservation for the unincorporated county areas.

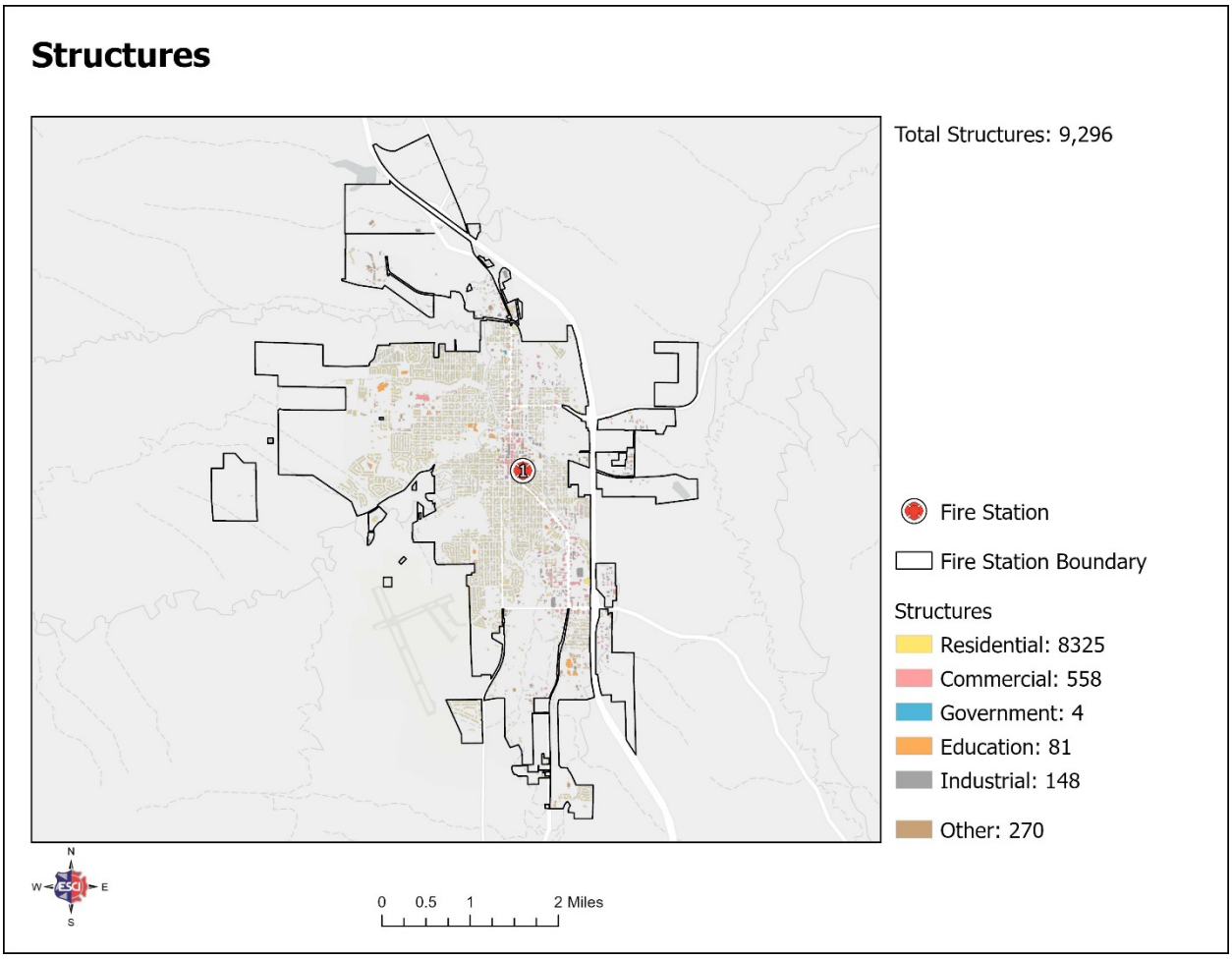
The Joint Planning Area Plan was developed to guide future land use in the area surrounding Sheridan that may develop into urban neighborhoods and potentially be annexed by the city. It promotes a compact urban neighborhood pattern with a strategic transition to county agricultural areas, encouraging a cooperative approach to planning and service provision. Together, these plans create a framework that aims to balance urban development with conservation, supporting Sheridan's growth in a sustainable and integrated way.

Occupancy by Land Use Designation

The details and specific planning for growth provide SFR with the added ability to examine and plan for risk ahead of time. Specifically, the ability to identify the need for additional resources in a predicable manner. This ability provides SFR an opportunity to plan and budget for appropriate resources before they are needed and avoid reactive efforts after significant community risk is present.

The following figure provides an illustration of the general classes of zoning found in and around the City of Sheridan including the number of structures in those areas.

Figure 87: Occupancy/Structures by Land Use Designation



Hazardous Substances and Processes

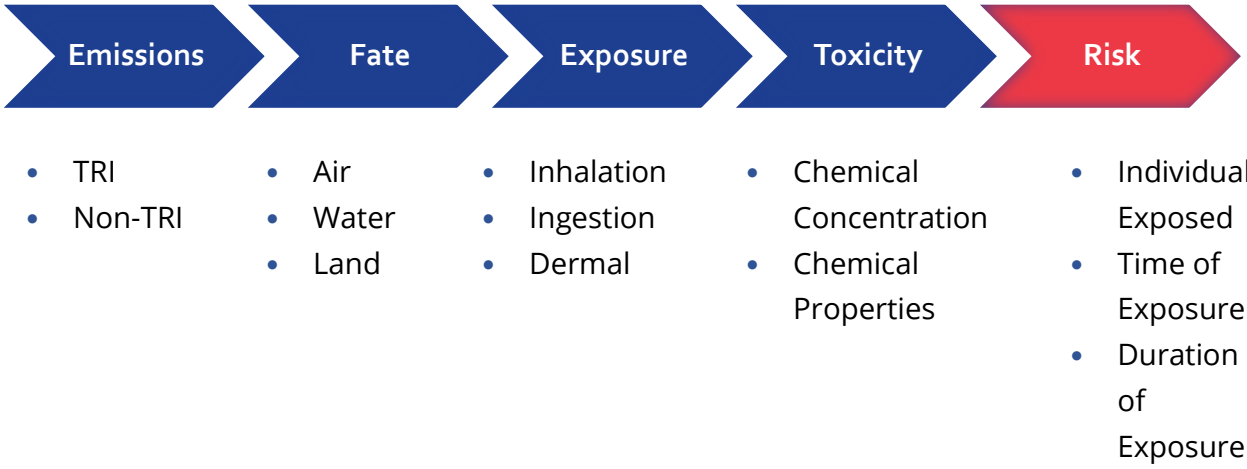
A federal law called the Emergency Planning and Community Right to Know Act (EPCRA) requires facilities in certain industries which manufacture, process, or use significant amounts of toxic chemicals, to report annually on their releases of these chemicals. The U.S. Environmental Protection Agency (EPA) maintains this information in a database called the Toxics Release Inventory (TRI). The toxic release files on the National Library of Medicine's® (NLM) Toxicology Data Network (TOXNET®) come from TRI.

These reports contain information about the types and amounts of toxic chemicals that are released each year to the air, water, land, and by underground injection, as well as information on the quantities of toxic chemicals sent to other facilities for further waste management. Facilities with ten or more full-time employees that process more than 25,000 pounds in aggregate or use greater than 10,000 pounds of any one TRI chemical, are required to report releases annually. Industries and businesses use chemicals to make products such as pharmaceuticals, computers, paints, clothing, and automobiles.

Most chemicals are included on the Toxic Release Inventory (TRI) chemical list managed by industrial facilities to minimize releases into the environment. Unfortunately, releases still occur as part of business operations. It is the right of citizens to know what TRI chemicals are being used in the City of Sheridan as well as the management of amounts released into the environment and whether such quantities are increasing or decreasing over time.

The following figure shows the many factors that determine the human health risks resulting from exposure to chemicals.

Figure 88: Overview of Factors that Influence Risk



Wyoming ranks 46th out of 56 states/territories nationwide for the number of total releases of TRI chemicals per square mile.[18] Of the 21,668 facilities in the United States only one facility is listed in the jurisdiction that requires reporting of TRI chemicals. These factors allow SFR to prepare and plan for the future.

[18] *Environmental Protection Agency TRI National Analysis; retrieved from https://enviro.epa.gov/triexplorer/tri_factsheet.factsheet_forstate?pstate=WY&pyear=2023&pParent=TRI&pDataSet=TRIQ1*

Measuring Response System Effectiveness

ESCI evaluated the entire system regarding current station location and system performance metrics gathered during the evaluation to determine if the current system is poised to be able to handle the future expected demands. As with any emergency services system, the ability to provide current service needs and prepare for future community needs becomes a delicate balancing act for government officials who ultimately are trusted with community funds generated for such purposes. These funds are all too often torn between competing priorities. Fire departments are faced with systems that often experience less fires than our previous generations but still require an appropriate level of preparedness "just in case" to prevent catastrophic results of potential emergencies.

It is imperative that nationally established standards are adhered to so that departments have the needed proof and backup to support their requests for the needed people, tools, and time to deliver these components of the system.

The key components of any system are listed in the following figure.

Figure 89: Measuring System Effectiveness



There is a direct relationship between available personnel and equipment and timing of their application in an emergency on fire department effectiveness. Increasing or decreasing one or more of these components can have a significant effect on the overall ability of the system to efficiently, safely and effectively mitigate an emergency incident. The following results of the previous analysis provide policymakers with both general

information on how this occurs and specific information regarding the potential system needs and/or improvements for SFR.

People

It takes an adequate and properly trained staff of emergency responders to put the appropriate emergency apparatus and equipment to its best use in mitigating incidents. Insufficient staffing at an emergency scene decreases the effectiveness of the response and increases the risk of injury to all individuals involved.

Critical Tasks, Risk, and Staffing Performance

The goal of any fire service organization is to provide adequate resources within a period of time to reasonably mitigate an emergency event. However, all emergency events inherently carry their own set of special circumstances and will require varying levels of staffing based upon factors surrounding the incident. Properties with high fire risk often require greater numbers of personnel and apparatus to mitigate fire emergencies effectively. SFR should make staffing and deployment decisions with consideration of the level of risk involved.

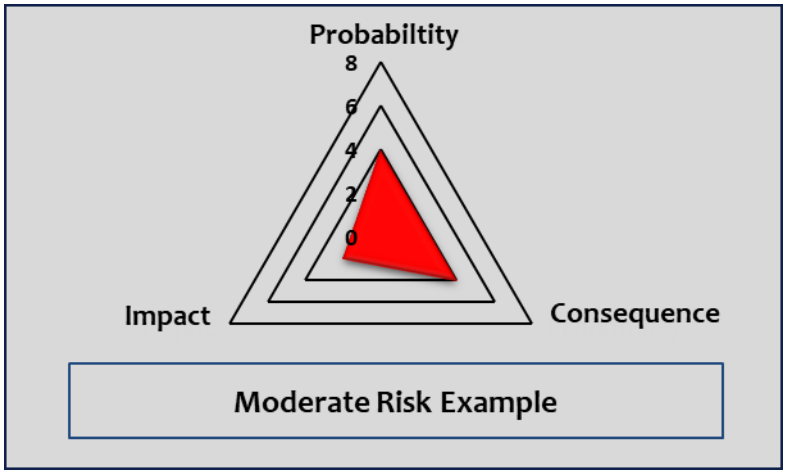
Risks are classified as low, moderate, high, or maximum where the department gages threats considering the probability of occurrence, and hazard, danger, or loss and measures it in consequence. The following definitions and discussion apply to the process for classifying risk which will lead to an illustration of the minimum emergency incident staffing recommendation.

- **Low Risk**—A risk category measurement at a low level where threats are measured considering the probability of occurrence, and hazard, danger, or loss is measured in consequence. Minor incidents involving small fires (fire flow less than 250 gallons per minute), single patient non-life-threatening medical incidents, minor rescues, small fuel spills, and small wildland fires without unusual weather or fire behavior.
- **Moderate Risk**—A risk category measurement at a moderate level where threats are measured considering the probability of occurrence, and hazard, danger, or loss is measured in consequence. Moderate-risk incidents involving fires in single-family dwellings and equivalently sized commercial office properties (fire flow between 250 gallons per minute to 1,000 gallons per minute), life-threatening medical emergencies, hazardous materials emergencies requiring specialized skills and equipment, rescues involving specialized skills and equipment, and larger wildland fires.
- **High Risk**—A risk category measurement at a high level where threats are measured considering the probability of occurrence, and hazard, danger, or loss is measured in consequence. High-risk incidents involving fires in larger commercial properties with a sustained attack (fire flows more than 1,000 gallons per minute), multiple patient medical incidents, major releases of hazardous materials, high-risk rescues, and wildland fires with extreme weather or fire behavior.

- **Maximum Risk**—A risk category measurement at a maximum level where threats are measured considering the probability of occurrence, and the hazard, danger, or loss is measured in consequence.

These risk categories are based on a three-axis risk calculation method. This method allows an agency to assign a numeric value to each axis, which represents Probability, Consequence, and Impact. The surface of the area of the triangle helps to determine the magnitude of the risk. The higher the surface area the greater the risk score. The next figure is an example of a medium risk score—moderate risk.

Figure 90: Three-Axis Calculation Method Example



A community assesses its risks based on the preceding model. Specifically, the three factors as defined below.

- **Probability:** What is the likelihood that an incident will occur at the location?
- **Community Consequence:** What is the level of impact on the community an incident would have if the property were destroyed or deemed unusable? The consequence to the community is based on the loss of life or debilitating injury, the financial loss to the community, and the effect on community infrastructure.
- **Agency Impact:** What would be the potential impact of an incident at this location against the available operational forces of the fire department based on the critical tasks associated with the incident? Specifically, would an incident require a greater number of resources because of the property's characteristics, use, or location, and would this affect the department's ability to fulfill its mission in other areas?

The next three figures provide examples of the recommended staffing needs based on the CPSE and NFPA recommendations for risk and their classification.

Figure 91: Example of Critical Staffing Analysis (Firefighters Needed) Based on Risk[19]

Task	Non-Structure Low Risk	Structure Moderate Risk	Structure High Risk	Structure Maximum Risk
Attack Line	2	2	4	4
Back-Up Line	(2)	2	2	
Support for Hose Lines/Water Supply		2#	3	
Ventilation		2	2	4
Search and Rescue		2	2	4
Forcible Entry/Support		2	2	
Standby/Rapid Intervention Team		2	2	4
Driver/Pump Operator	1	1	1	1
2nd Apparatus/Ladder Operator			1	
Command	1#	1	1	2
Communications/Safety		1	1	1
Accountability			1	
Rehabilitation				2
Building Fire Pump Monitor				(1)
Attack Line—Floor Above the Fire				2
Evacuation Management Teams				4
Elevator Operations Manager				1
Lobby Operations				1
Transport Equipment to Staging				2
EMS Crews				4
Division/Group Supervisors				4
Total	**3–6**	**16–17**	**22**	**40–41**

( ) indicates tasks may not be required at all incidents. # Indicates task may be completed concurrently with others.

As a comparison—The next figure is from NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* and illustrates the critical staffing for tasks associated with various types of structural fires as outlined in the standard.

[19] *Adapted from "Community Risk Assessment and Standards of Cover," 6th edition, Center for Public Safety Excellence*

Figure 92: Example of Tasks and Staff Required as Defined from NFPA 1710[20]

Task	Single-Family Dwelling[1]	Open-Air Strip Mall[2]	Apartments[3]	High-Rise[4]
Command	1	2	2	2
Apparatus Operator	1	2	2	1
Handlines (2 members on each)	4	6	6	4
Support Members	2	3	3	
Victim Search & Rescue Team	2	4	4	4
Ground Ladders/Ventilation	2	4	4	
Aerial Operator (if ladder used)	(1)	(1)	(1)	
Initial Rapid Intervention Team[5]	4	4	4	
Initial Medical Care Component		2	2	
Building Fire Pump Monitor (if equipped)				(1)
Hoseline—Floor Above Fire				2
Rapid Intervention Team				4
Accountability Officers (fire floor & floor above)				4
Evacuation Management Teams				4
Elevator Operations Manager				1
Incident Safety Officer				1
Interior Staging Manager				1
Member Rehabilitation				2
Vertical Ventilation Crew				4
Lobby Control				1
Transport Equipment				2
External Base Operations				1
EMS Crews with Transport[6]				4
Total Required:	**16 (17)**	**27 (28)**	**27 (28)**	**42 (43)**

1 Typical 2,000 ft., two-story single-family dwelling without a basement and no exposures.
2 Typical open-air strip mall/shopping center ranging from 13,000–196,000 feet.
3 Typical 1,200-foot apartment within a three-story, garden-style apartment building.
4 Building with the highest floor greater than 75 feet above the lowest level of fire department vehicle access.
5 At a minimum, an initial rapid intervention crew (IRIC) assembled from the initial attack crew and, as the initial alarm response arrives, a full and sustained rapid intervention crew (RIC) established.
6 For Single-Family Dwellings: When the incident escalates beyond an initial full alarm assignment, or when significant risk is present to the members due to the magnitude of the incident, the Incident Commander shall request an EMS crew consisting of a minimum of two members to provide treatment and transport for injured members and civilians.

[20] NFPA 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments, 2020.

When reviewing the charts above compared to the daily minimum staffing for SFR as listed in Figure 93, SFR will quickly become understaffed and unable to handle incidents of more complexity based on the tasks required to mitigate these events. These are events that are highly likely based on current completed projects and future land use approved projects under construction.

Figure 93: SFR Daily Minimum Staffing

SFR Daily Minimum Staffing	
Battalion Chief	1
1 Engine	3
Volunteer Companies	Varies
Total Minimum Personnel	**4**

Distribution Performance Criterion

A fire department's distribution is essentially the location of resources to ensure an initial intervention within the specific time frame identified in the community's performance goals. Tasks that must be performed at a fire can also be broken down into three key components: life safety, incident stabilization, and property conservation. Responder's base life safety tasks on the number of building occupants; and their location, status, and ability to take self-preservation action. Life safety-related tasks involve search, rescue, and evacuation of victims. The incident stabilization element involves delivering enough water to extinguish the fire and create an environment within the building that allows entry by firefighters. Property conservation comes from efficient confinement and extinguishment.

The number and types of tasks needing simultaneous action will dictate the minimum number of firefighters required to combat different types of fires. In the absence of adequate personnel to perform concurrent action, the commanding officer must prioritize the tasks and complete some in chronological order, rather than concurrently. These tasks include:

- Command
- Scene Safety
- Search and Rescue
- Fire Attack
- Salvage
- Water Supply
- Pump Operation
- Ventilation
- Backup/Rapid Intervention
- Environmental Protection

Critical Tasking

Critical tasks are those activities that must be conducted promptly by firefighters at emergency incidents to control the situation, to stop-loss, and to perform necessary tasks required for a medical emergency. SFR is responsible for ensuring those responding

companies are capable of performing all the described tasks in a prompt, efficient, and safe manner. Critical tasking defines the minimum number of personnel needed by incident type. More personnel will be needed for incidents of increased complexity or size.

The first 15 minutes are the most crucial period in the suppression of a fire. How effectively and efficiently firefighters perform during this period has a significant impact on the overall outcome of the event. The first 15 minutes are also applicable to rescue and medical situations.

Critical tasks must be conducted promptly to control a fire or to treat a patient. Three scenarios of commonly encountered emergencies are routinely utilized by fire departments when conducting field validation and critical tasking: a moderate risk structure fire, a traffic collision with a trapped victim, and a cardiac arrest. Each scenario is conducted using standard operating procedures and realistic response times based on actual system performance. Each scenario is normally run multiple times with a variety of fire companies to validate and verify observations and times.

To further validate the analysis process, results are compared with records from actual working fires and similar incidents from previous years. Overall results are reviewed to determine if the actions taken within the early minutes of an incident resulted in a stop-loss or not, and if additional resources were required. The critical task analysis process demonstrates the rate at which the current deployment plan results in stopping loss of a high percentage of time within initial critical time goals. Unfortunately, SFR only has a minimum of four firefighters regardless of the type of call and critical task at hand. Often SFR will be understaffed for the challenges they face.

Alarm Assignments

Normally a department would establish first alarm response assignments to ensure sufficient personnel and apparatus are dispatched to an emergency event. “Total Staffing Needed” is the number identified in the critical tasking analysis outlined above. It is important to remember that SFR is minimally staffed at four firefighters and during the critical tasking the number of personnel and apparatus required to mitigate an active and complex working incident will require additional resources above and beyond the numbers available.

Tools

Delivering people and equipment to the scene of an emergency is another key component to measuring delivery system efficiency. In most cases the people and equipment arrive via specialized apparatus and/or fire department vehicle. A great deal of discussion is spent determining the location of a fire station but the importance of reliable and adequate vehicles to travel the distance to the emergency must not be overlooked.

Apparatus Replacement Planning

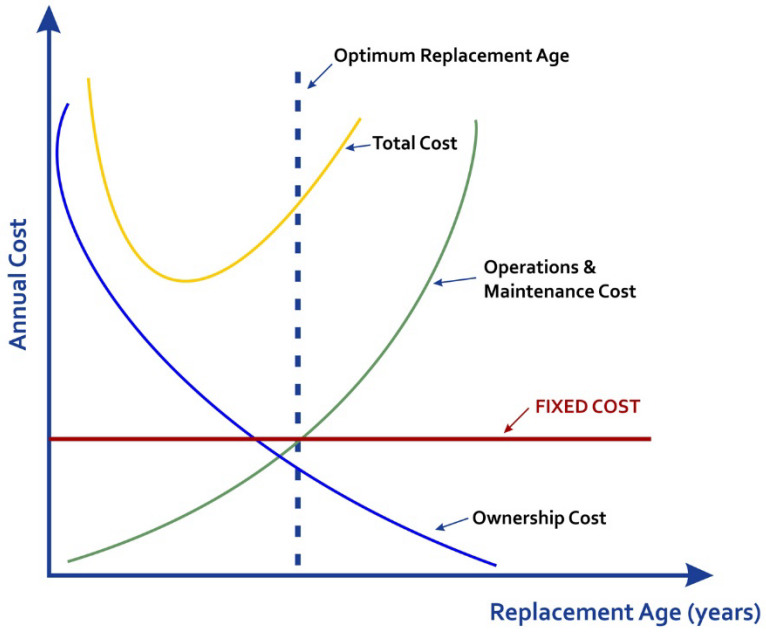
Clearly, no piece of mechanical equipment or vehicle can be expected to last indefinitely. As apparatus age, repairs tend to become more frequent and more complex. Parts may become more difficult to obtain, and downtime for repair and maintenance increases. Given that fire protection, EMS, and other emergencies are so critical to a community, downtime is one of the most frequently identified reasons for apparatus replacement.

Economic Theory of Apparatus Replacement

The Economic Theory of Vehicle Replacement is another conceptual model used to determine when a vehicle should be replaced. The theory states that, as a vehicle ages, the cost of capital diminishes and its operating cost increases. The combination of these two costs produces a total cost curve. The model suggests the optimal time to replace any piece of apparatus is when the operating cost begins to exceed the capital costs. This optimal time may not be a fixed point, but rather a time range.

The following figure is a graphic representation of the Economic Theory of Vehicle Replacement.

Figure 94: Economic Theory of Vehicle Replacement



Shortening the replacement cycle time window can result in optimal savings for the fire department. If an agency does not routinely replace equipment in a timely manner, the overall reduction in replacement spending can result in accelerated maintenance and repair expenditures. Fire officials, who assume that deferring replacement purchases is a good tactic for balancing the budget, need to understand two possible outcomes that may occur because of that decision:

- Costs are transferred from the capital budget to the operating budget.
- Such deferral may increase overall fleet costs.

Other potential impacts are delays in service delivery and lengthened response times because of a lack of apparatus to respond when experiencing mechanical issues or in need of repairs. Regardless of its net effect on current apparatus costs, the deferral of replacement purchases unquestionably increases future replacement spending needs. This may also impact operational capabilities and safe and efficient use of the apparatus. SFR has a significant unfunded apparatus replacement need regardless of which method for determining replacement is used. Having a reliable fleet is of the utmost importance when providing emergency services.

Fire Station Locations and Impacts of Modifications

When a community creates a fire department and builds its first fire station, a response time criterion is usually established. This response time anticipates that it applies throughout the area covered by the boundaries of that fire station. This is especially true when there is only one fire station and a small area to cover. Simply speaking, a central fire station is among the first public buildings created in most communities, no matter how small it is. As the community grows away from that fire station in incremental steps, the expectation is that the original fire station will still provide adequate coverage.

However, that expectation is problematic. The total area covered by a fire station may or may not be highly developed initially and is likely not even developed in a uniform manner. Even if a crew is available and capable of responding, it may not do so in a timely manner to some or any portions of its response area. Most fire departments begin as all volunteer departments, often for economic reasons. When the population and service area increase, there is often pressure to add career staff and to consider adding additional stations to provide sufficient and timely response.

There are many variations on this theme. Older, established cities tend to be densely developed and smaller in dimension, but often annex new areas that may be less densely developed. Newer communities may be created from much larger areas than an initial fire station can cover, and additional stations are needed. The bottom line for policymakers is determining when to add fire stations and at what cost is a desired level of service is to be achieved.

Response Failure

The contemporary method of measuring performance looks at incident response time as an indicator of levels of service. The way this is done is two-fold. The first is to measure the actual performance during emergencies; the second is to monitor the system to determine when the system fails to achieve its performance goals. This was done in the Service Delivery & Performance section of the report.

One point of caution – the response time criterion should only be applied to calls that are emergency calls. When incidents are analyzed, the data should be reviewed to ensure that non-emergency calls are not used when calculating performance. There are many calls for service that fire departments log as incidents that are non-threatening scenarios, and the responding companies will handle them on an as needed basis. To include these times in the analysis of emergency services tends to skew the outcome, leading to a false service indicator.

To understand when response failure occurs, we must first define what is being measured and how to measure the performance goal. For example, a basic question to be answered is whether a department is protecting the geographic location or mitigating the incident. Are we going to measure the percentage of performance by first-due company or department wide? Generally, fire protection practitioners try to position fire stations to cover 90% of the ground in each first-due area, to provide overlap for concentration, redundancy for multiple calls, and for equity of access for customer service. It is economically impossible to cover 100% of the ground.

SFR covers 25.86% of the total service area within 1.5 miles of a fire station. Based on actual calls for service, a jurisdiction could strive for 80 to 90% of the calls for service within first-due and achieving ERF concentration total reflex measures.

If the measure for either area or incidents is set at 80 to 90% effectiveness, how much deviation from the performance measure is acceptable? For example, if a historical incident measure is at the 85th percentile, but the other five percent is covered in the next 60 seconds, is that acceptable?

Maybe yes, maybe no. It is important to understand that the values at risk, the type of unmet calls, and the total number of calls can combine to create a need. If the deficiency is only five percent (say 25 calls out of 500), the significance of the gap depends largely on the size of the data sample and on the amount of geographic area represented.

For example, if the performance requirement was to arrive at the scene of an emergency within five minutes of travel time, 90% of the time, this criterion could be applied to one year of response data to see if the goal was achieved. It should be noted that this criterion allows for 10% of the calls to be beyond the five-minute travel time over a given reporting period. This provides flexibility in the assessment of coverage to cope with anomalies, such as extraordinary response conditions, responding from out of service area, or for delays caused by simultaneous alarms.

This raises an additional question: Of the 10% overage, how many of the incidents are covered within the next 30 to 60 seconds? For example, SFR travel time to incidents in 2023 was 47.8% of incidents within 4–8 minutes, 8% of incidents within 8–12 minutes, and 1.2% of incidents in greater than 12 minutes.

The first indication of the problem with providing service is when a significant number of alarms exceeding the performance standard are documented. This may or may not be a function of new growth. It could be the result of in-fill that causes a higher number of alarms than the department can service. This is especially true when alarms come in simultaneously.

Moreover, when areas are being developed that begin to extend travel times, they do not automatically become the source of new alarms. In fact, new construction often has a period of several years before adding to fire service demand. The same is not necessarily true from the perspective of emergency medical service since people drive EMS call demand.

Additional Fire Stations or Response Resources

The question that many communities must address is when to add a fire station, additional response resources, or alternative response programs to meet time goals? Obviously, this has been answered in any community that has more than one fire station or response unit. The problem comes in finding a quantifiable threshold to determine that point for each specific situation, because it varies from community to community and even within a specific jurisdiction. The overall answer is part financial and part professional judgment. In fact, in the literature of the fire service today, there is very little definitive guidance on how this should be accomplished. Once the need has been established there are several factors to take into consideration. They consist of:

- Identifying areas with minimum coverage
- Identifying feasible locations for a new facility or response resource
- Evaluating those locations using specific criterion

The description in this document is based upon a growing body of knowledge acquired by ESCI and aimed at quantifying this process. What is unfortunate is that there is no universally acceptable algorithm. The fire protection planning process allows for an evaluation of potential loss because of deteriorating response times. One form of measurement is to assess the road and transportation network to ascertain the percentage of road mileage that theoretically is covered by the time criteria. This is done using computer-based modeling that will create a polygon that describes the areas of coverage. In fact, this process will also identify gaps and deficiencies where response time is not adequate.

As growth and development extends beyond the range of travel time of one fire station, the percentage of calls that exceed the performance requirement should begin to increase. It should be noted that growth, in and of itself, does not create an instantaneous demand. New construction has the advantage of better codes, a higher level of owner interest, and limited deterioration of fire-breeding conditions. However, new growth can introduce

different types of occupancies with additional risks that were not considered or needed during initial fire station and resource planning.

A more subtle difference in today's fire service is the fact that community demand for medical services has increased almost from day one of occupancy. In short, this means that new construction may place more values and lives at risk, but the demand for service will be incremental. When demand for service begins, it will be based upon two factors – nature of the occupancy and hazards that are present.

Incident increases may first appear as a change in the performance of an existing fire station in the annual analysis of emergency calls. For example, if a fire station has 1,000 alarms and a 90% compliance rate with the response standard, there would be about 100 alarms per year that were beyond the goal. This would be the baseline for existing response performance. If the following year, the number of alarms was 1,200 and the percentage dropped to 85%, this would indicate that the department is losing ground on response performance.

If the change in the number of alarms had merely increased because of more calls in the same area, the response time percentage should have remained similar. One exception to this rule is when a single company has such a high call volume that it cannot handle all calls without call queuing. However, since the alarm rate went up and the performance went down, the failure threshold may be approaching.

Based upon actual response time analysis, one threshold that needs to be considered is the increase in alarms and the percentage of calls handled under the criteria adopted. Anything more than a 10% increase in calls and a 10% reduction in performance is a signal to evaluate the level of service being provided.

In larger departments, most practitioners factor out non-emergency calls for actual incident performance, only looking at core or true emergencies. The definition of core can be made locally based on risk and importance to the community, but they are usually structure fires and moderate to severe status EMS calls.

In general, if more than one measure must be slipping, an evaluation of all Standards of Coverage factors, along with the reason why the data is slipping, is required. A one-year snapshot may not be valid if the agency had a big storm event, a catastrophic weather event, major wildfire, and stacked a large volume of calls for just a month of the year or in the case of COVID-19 a decrease that can be explained and attributed to the event but is expected to return to normal or higher levels.

The incident analysis approach depends upon having emergencies, which does not address what is at risk. That is where the GIS mapping technology applies. As depicted throughout this report, incident and land use can be GIS mapped for determining risk and demand

usage. As structures and different types of fire problems are constructed on the ground, they may represent additional lives and property that are at risk that deserve equity in protection. One of the reasons for creating a governmental entity is to control land use and to create mechanisms for collecting taxes and determining ownership. Furthermore, these same individuals and properties are paying the taxes, fees, and permits for the level of services provided. In one sense, when growth occurs, the new properties are usually safer than the older part of the community because they are constructed to a higher standard.

What is clear to almost any community is that being slightly out of the response standard range does not trigger a new facility or additional response unit from an existing facility. One industry threshold for additional response capabilities should be to provide a new fire station or additional response unit into the appropriate zone in the jurisdiction outside the coverage area of current stations that has more than 35 to 50% of its parcels developed. Some of the secondary measures currently being used are 300 to 500 calls for service for any individual fire company or a service population of 10,000 to justify a full-time paid company or response unit.

The following criterion grid illustrates a series of measures that may be useful in deciding when a new fire station or additional response unit should be deployed within a jurisdiction.

Figure 95: Criterion for Fire Station and Resource Need Determination

Action Choices	Travel Distance	Criteria		
		Response Time Parameter	Out of Area Calls	Building/Risk Inventory
Maintain Status Quo	All risks within 1.5 miles	1st due company is within 5 minutes total response time, 90% of the time	100% in first due area	Existing inventory and infill
Temporary Facilities and Minimal Staffing	Risks 1.5 to 3.0 miles from existing fire station	1st due company Exceeds four-minutes travel time 10% of the time, but never exceeds 8 minutes	More than 10% of calls are in adjacent area	New area has 25% of same risk distribution as in initial area
Permanent Fire Station Needed	Risk locations exceeding 4.0 miles from the fire station	1st due company Exceeds four-minutes travel time 20–25% of the time; Some calls < 8 minutes	More than 20–25% of calls are in outlying area	New area has 35% of same risk distribution as in initial area of coverage
Permanent Fire Station Essential	Outlying risk locations exceeding 5.0 miles from the 1st fire station	1st due company Exceeds 4-minutes travel time 30% of the time; Some calls < 10 minutes	More than 30% of calls are in outlying area	New area has 50% of same risk distribution as in initial area

The decision-making process for the placement of a new fire station should consider staffing pattern decisions. It is not uncommon to construct a fire station and have the staffing model evolve over years from one system to another. For example, the station might initially be staffed with volunteers but then later have career staff added, either incrementally or all in one fiscal year. In the case of a fire station or alternative response resource under consideration, it should be anticipated that a policy decision needs to be made with respect to the staffing model to be used as soon as possible given the potential financial impacts. For example, a fully staffed paid company has a significant, associated price tag.

ESCI's experience has been that it takes multiple elements of the standards of coverage to be out-of-balance along with having additional economic resources to justify an additional paid company or staffing increase in one or more companies.

Capital Improvement Planning

Fire apparatus are typically unique pieces of equipment, often very customized to operate efficiently in a narrowly defined mission. A pumper may be engineered such that the compartments fit specific equipment and tools, with virtually every space on the truck designated in advance for functionality. This same vehicle, with its specialized design, cannot be expected to function in a completely different capacity, such as a hazardous materials unit or a rescue squad. For this reason, fire apparatuses are very expensive and offer little flexibility in use and reassignment. As a result, communities across the country have sought to achieve the longest life span possible for these vehicles.

Due to the large expense of fire apparatuses, most communities find the need to plan for the cost of replacement. To properly do so, agencies often turn to the long-accepted practice of establishing a life cycle for the apparatus that results in a replacement date anticipated well in advance. Forward-thinking organizations then set aside incremental funds during the life of the vehicle, so replacement dollars are ready when needed.

The same holds true for fire stations, training grounds, and other fixed facilities. As part of the site visit, ESCI surveyed capital replacement planning efforts. ESCI recommends that the department work with the Council to formally adopt a CIP to address replacement needs.

The SFR's capital replacement planning is summarized in the following figure.

Figure 96: Capital Assets and Capital Improvement Planning

Capital Planning	Sheridan Fire Rescue
Fire Station/Structures Replacement Plan	
Period of plan	None
Apparatus Replacement Plan	
Period of plan	Not Specified
Support Equipment Replacement Plan	
Period of plan	SCBA, radios, monitors, rope, and extrication equipment in place as needed

Time

The time for resources to deploy and reach the emergency can sometimes be the difference in life or death and the difference between incident stabilization and devastation. It is to this end that communities across the country struggle to balance the ever-growing need for resources and the financial constraints to fund them. The importance of establishing realistic and essential standards for deployment of adequate resources based on risk classifications is paramount.

Dynamics of Fire in Buildings

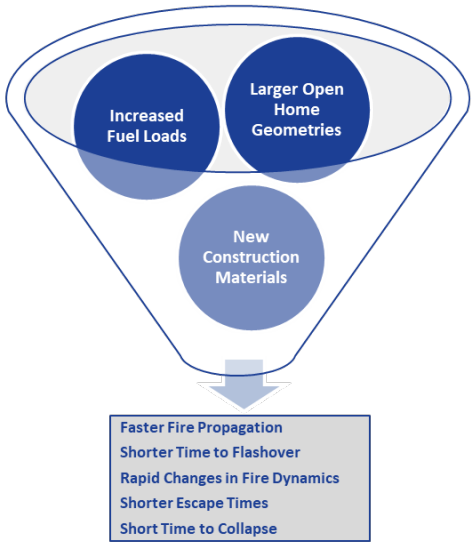
Most fires within buildings develop predictably unless influenced by highly flammable material. Ignition, or the beginning of a fire, starts the sequence of events. It may take several minutes or even hours from the time of ignition until a flame is visible. This smoldering stage is very dangerous, especially during times when people are sleeping, since large amounts of highly toxic smoke may be generated during this phase.

Once flames do appear, the sequence continues rapidly. Combustible material adjacent to the flame heat and ignite, which in turn heats and ignites other adjacent materials if sufficient oxygen is present. As the objects burn, heated gases accumulate at the ceiling of the room. Some of the gases are flammable and highly toxic.

The spread of the fire from this point continues quickly. Soon the flammable gases at the ceiling as well as other combustible material in the room of origin reach ignition temperature. At that point, an event termed "flashover" occurs; the gases and other material ignite, which in turn ignites everything in the room. Once flashover occurs, damage caused by the fire is significant, and the environment within the room can no longer support human life.

There have been changes in the residential fire environment over the past several decades. These changes include larger homes, different home geometries, increased synthetic fuel loads, and changing construction materials.[21]

Figure 97: Changes in the Fire Environment & Effects on Fire Dynamics



[21] *Stephen Kerber, Analysis of Changing Residential Fire Dynamics, and their Implications on Firefighter Operational Timeframes. Underwriters Laboratories.*

Since flashovers have such a dramatic influence on the outcome of a fire event, the goal of any fire agency is to apply water before flashover occurs.

Although modern codes tend to make fires in newer structures more infrequent, today's energy-efficient construction (designed to hold heat during the winter) also tends to confine the heat of a hostile fire. In addition, research has shown that modern furnishings generally ignite more quickly and burn hotter (due to synthetics).

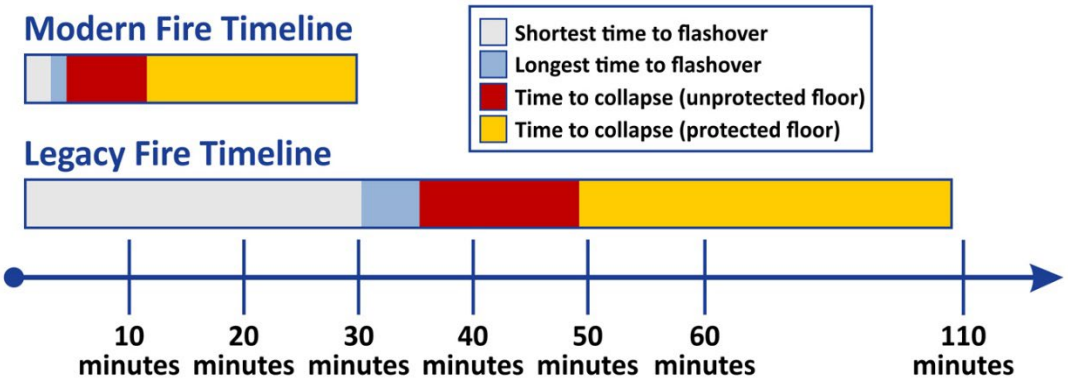
In the 1970s, scientists at the National Institute of Standards and Technology found that after a fire broke out, building occupants had about 17 minutes to escape before being overcome by heat and smoke. Today, that estimate is as short as three minutes in some cases based on materials and compartment configuration. The necessity of effective early warning (smoke alarms), early suppression (fire sprinklers), and firefighters arriving on the scene of a fire in the shortest span of time is more critical now than ever.

Perhaps as important as preventing flashover is the need to control a fire before it damages the structural framing of a building. Materials used to construct buildings today are often less fire-resistive than the heavy structural skeletons of older frame buildings. Roof trusses and floor joists are commonly made with lighter materials that are more easily weakened by the effects of fire. "Lightweight" roof trusses fail after five to seven minutes of direct flame impingement. Plywood I-beam joists can fail after as little as three minutes of flame contact. This creates a dangerous environment for firefighters.

Additionally, the contents of buildings today have a much greater potential for heat production than in the past. The widespread use of plastics in furnishings and other building contents rapidly accelerate fire spread and increase the amount of water needed to control a fire effectively. These factors make the need for early application of water essential to a successful fire outcome.

Several events must take place quickly to make it possible to achieve fire suppression before flashover. The next figure illustrates the sequence of events with a comparison of modern materials vs. legacy materials.

Figure 98: Fire Growth and Reflex Time[22]



As is apparent by this description of the sequence of events, the application of water in time to prevent flashover is a serious challenge for any fire department. It is critical, though, as studies of historical fire losses can demonstrate.

The importance of fire station locations with adequate staffing to perform the required tasks can be further evidenced by recommendations in national consensus standards. The National Fire Protection Association found that fires contained to the room of origin (typically extinguished prior to or immediately following flashover) had significantly lower rates of death, injury, and property loss when compared to fires that had an opportunity to spread beyond the room of origin (typically extinguished post-flashover).

As evidenced in the next figure, fire losses, casualties, and deaths rise significantly as the extent of fire damage increases.

Figure 99: Loss Rates by Fire Spread, Home Structure Fires (2012-2016)[23]

Flame Spread	Rate Per 1,000 Fires		Average Dollar Loss
	Civilian Deaths	Civilian Injuries	
Confined fire or spread confined to origin	0.4	11.1	$1,200
Confined to room of origin, including confined fire and fire confined to object	1.8	23.8	$4,000
Spread beyond the room of origin but confined to floor of origin	16.2	76.3	$35,000
Spread beyond the floor of origin	24.6	55.0	$65,900

[22] *Stephen Kerber, Analysis of Changing Residential Fire Dynamics, and their Implications on Firefighter Operational Timeframes. Underwriters Laboratories.*

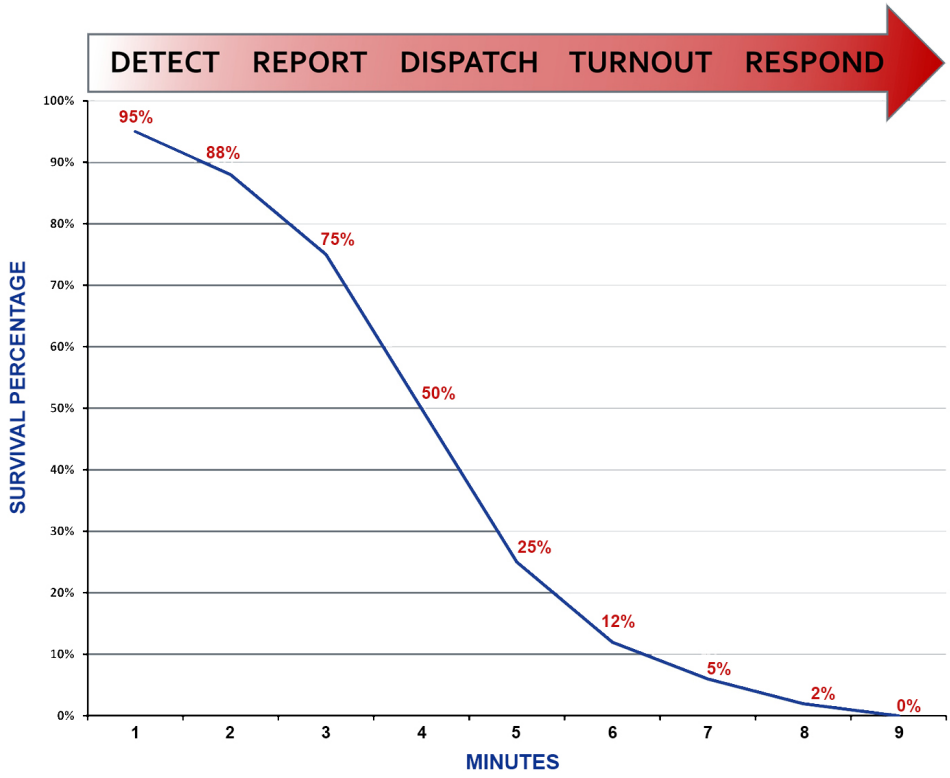
[23] *Term "home" includes one- & two-family homes, manufactured homes, & apartments or other multi-family housing, regardless of ownership. Source: National Fire Protection Association Standard 1710, 2020 Edition.*

Emergency Medical Event Sequence

Cardiac arrest is the most significant life-threatening medical event in emergency medicine today. A victim of cardiac arrest has mere minutes in which to receive lifesaving care if there is to be any hope for resuscitation. The American Heart Association (AHA) issued a set of cardiopulmonary resuscitation guidelines designed to streamline emergency procedures for heart attack victims and to increase the likelihood of survival. The AHA guidelines include goals for the application of cardiac defibrillation to cardiac arrest victims. Cardiac arrest survival chances fall by seven to ten percent for every minute between collapse and defibrillation. Consequently, the AHA recommends cardiac defibrillation within five minutes of cardiac arrest.

As with fires, the sequence of events that lead to emergency cardiac care can be graphically illustrated, as in the following figure.

Figure 100: Bystander Cardiac Arrest Event Sequence



The percentage of opportunities for recovery from cardiac arrest drops quickly as time progresses. By the time the citizen bystander recognizes the need for emergency care and notifies the 911 system three to five minutes may have passed. The stages of medical responses are very similar to the components described for fire responses. Research stresses the importance of immediate CPR, rapid cardiac defibrillation, and administration of certain medications as a means of improving the opportunity for successful resuscitation and survival.

Response Standards, Goals, and Targets

ESCI emphasizes the importance of establishing and regularly monitoring performance metrics for the deployment of resources. These metrics serve as the foundation for determining whether the organization is meeting the expectations of the community that it serves. Without regular and consistent performance evaluation, it is impossible to set and achieve goals established to meet community expectations.

Response standards established by the SFR must originate from the community served to create a balance between what it desires and what it can afford. Because of this, ESCI cannot impose baseline and benchmark performance metrics on the SFR, or any given organization for that matter. However, recommendations based upon the analysis conducted throughout this report may help serve as a starting point for these discussions with the community or may serve as a reevaluation tool for the organization's current standards.

Response standards are unique to each organization. Multiple factors such as staffing, financial constraints, size of the service area, and politics will influence each department's ability to set achievable goals and objectives for response. Because SFR is a career department, the agency must use NFPA 1710 performance metrics.

- When compared to NFPA 1710 criteria, the response time for all calls from the overall SFR performance is:
    - 14 minutes, 15 seconds for 2019-2023.
    - When evaluating just the 2023 data (use of the mobile data computer for notification to dispatch), the overall performance is 14 minutes, 5 seconds, which is 9 minutes, 15 seconds greater than the expected standard.

Recommendations for the process of setting performance goals for each of the response time components are presented later in this section.

For a fire department to plan effectively and make appropriate decisions regarding the deployment of resources, it needs to use clearly identified criteria, response performance objectives (targets), and quantifiable means of measuring actual response relative to targeted objectives.

To do so, ESCI advises that performance objectives and measures be developed using the "**SMART**" acronym, meaning that targets should be:

- ✓ **S**pecific
- ✓ **M**easurable
- ✓ **A**ttainable
- ✓ **R**elevant
- ✓ **T**imely

ESCI emphasizes the importance of the establishment of response performance metrics by every fire department. Once established, these standards result in measurable goals for service delivery, which then form the foundation upon which the organization will plan for the deployment of resources. Absent these processes, the organization is not able to determine where it needs to go, nor is it able to know when it is achieving its goals and meeting the community's expectations.

Response Standards for People, Tools, & Time

Time matters a great deal in the achievement of an effective outcome to an emergency event. Time, however, is not the only factor. Delivering sufficient properly trained, appropriately equipped personnel within the critical time period completes the equation.

For medical emergencies, this can vary based on the nature of the emergency. Many medical emergencies are not time-critical. However, for serious trauma, cardiac arrest, strokes, or conditions that may lead to cardiac arrest, a rapid response is essential.

Equally critical is delivering enough personnel to the emergency scene to perform all the concurrent tasks required to deliver quality emergency care. For a cardiac arrest, this can be up to six personnel; two to perform CPR, two to set up and operate advanced medical equipment, one to record the actions taken by emergency care workers, and one to direct patient care.

Thus, for a medical emergency, the real test of performance is the time it takes to provide the personnel and equipment needed to deal effectively with the patient's condition, not necessarily the time it takes for the first person to arrive. More importantly though are the patient outcomes that are experienced when sufficient resources arrive on the emergency scene in a timely manner.

Fire emergencies are even more resource critical. Again, the true test of performance is the time it takes to deliver sufficient personnel to search for lives and initiate the application of water to a fire. This is the only practical method to reverse the continuing internal temperature increases and ultimately prevent flashover. Positive outcomes are experienced when resources arrive and perform the necessary tasks to save lives and property, stabilize the incident, and conserve property. The arrival of one person with a portable radio does not provide fire intervention capability and should not be counted as "arrival" by the fire department.

Future System Recommendations and Improvements

This Long-Range Master Plan presents a series of recommendations and improvement goals derived from the observations and analysis outlined previously. These recommendations are intended to be addressed with a practical approach, and ESCI has organized them by recommended timelines. Implementing many of these improvements will require substantial commitment of time, financial resources, and strategic planning. The proposed timelines serve as a realistic "blueprint" for implementation, though changing conditions may necessitate adjusting timelines or priorities.

The recommendations for SFR improvement were derived from a review of current practices and conditions as compared to the Fire Chief's identified critical issues. The recommendations are categorized into three implementation phases: Short-Term (6 months–1 year), Mid-Term (1–3 years), and Long-Term (3–5 years). The ability to complete and implement these recommendations is directly reflective of the staff doing so. Because SFR is minimally staffed the implementation plan takes longer than recommended. Ultimately, these recommendations represent ESCI's guidance based on findings from the study period. The responsibility to adopt, adapt, or set aside these suggestions rests with city leaders and citizens, who hold the authority to shape the final direction.

Short–Term Recommendations

A considerable volume of observations was made relating to SFR current conditions in management and operations. The process of understanding, prioritizing, and implementing the recommended enhancements can be daunting, simply due to the amount of work that may be involved. The following recommendations should be considered for implementation in the short-term.

Personnel Management

- Regular Job Description Review: Ensure that job descriptions for all positions are reviewed annually as part of the performance appraisal process, with opportunities for input from personnel in those roles.
- Structured Annual Reviews: Continue conducting comprehensive annual performance reviews, incorporating specific metrics for operational performance, teamwork, and adherence to safety protocols.
- Regular Joint Meetings: Facilitate regular meetings between labor and management to address staffing, training, and operational challenges collaboratively. Establish a joint problem-solving process to enhance morale and trust.
- Succession Planning Initiatives: Develop and communicate a succession planning strategy that identifies potential future leaders within the department and provides them with opportunities for mentorship and training.

- Training for Supervisors: Provide training for all supervisors on the disciplinary process to ensure consistency and understanding of procedures, enhancing the transparency of actions taken.
- Regular Review of Disciplinary Actions: Periodically review disciplinary cases and outcomes to identify patterns or areas needing systemic improvement and to reinforce a culture of accountability
- Enhance Awareness of Resources: Increase awareness and accessibility of mental health resources and programs by integrating them into regular training sessions and staff communications.
- Peer Support Program: Establish a peer support program to provide informal counseling and support, making it easier for personnel to seek help from their colleagues who understand their experiences.
- Diversity in Recruitment: Ensure that recruitment efforts actively seek a diverse pool of candidates, reaching out to underrepresented communities to reflect the community served.

Enhancing Fire Protection Service Planning at SFR

- Divisional Planning: Create detailed divisional plans for key areas like training, EMS, support services, and administration, with specific goals, objectives, and responsibilities. Include a recruitment and staffing plan to address volunteer and mutual aid limitations, particularly in rural and high-incident areas.
- Mutual Aid Integration: Strengthen mutual and automatic aid agreements, ensuring alignment with regional departments. Focus on dispatch coordination to ensure the Computer-Aided Dispatch (CAD) system can automatically initiate mutual aid responses when necessary.
- Pre-Incident Plans and Hazard Identification: Prioritize the development of pre-incident and target hazard plans, especially for facilities with high-occupancy loads, critical functions, or hazardous materials. Use NFPA 1660 guidelines and ensure these plans are updated regularly, accessible on all response vehicles, and integrated into dispatch protocols.
- Training and Resource Allocation for Tactical Plans: Regularly train personnel on pre-incident plans, target hazard operations, and other tactical needs. Update resource inventories to identify and prepare specialized teams for high-risk incidents like hazardous materials or structural fires in high-density buildings.
- Enhance Partnership with LEPC: As a key member of the Local Emergency Planning Committee (LEPC), ensure SFR's role in hazardous materials tracking and emergency response planning is robust. Actively participate in Sheridan County's joint Hazard Mitigation Plan and strengthen coordination with local government for incident support and recovery resources.

- Establish a Timetable for SOG Reviews: Implement a defined timetable requiring SOGs to be reviewed and updated at least every three years. Create a committee responsible for reviewing one-third of the guidelines annually to ensure compliance with current practices and legal mandates.
- Trigger Mechanism for Updates: Develop a guideline that stipulates when a review or update is necessary, particularly in response to changes in methods or technologies used within the department.

Capital Assets

- Fleet Size Examination: Evaluate the current fleet size to identify opportunities for reducing the number of units, thereby controlling maintenance and replacement costs.
- Capital Improvement Plan (CIP) Adoption: Collaborate with the council to formally adopt a Capital Improvement Plan (CIP) that includes clearly defined schedules for vehicle replacement, equipment replacement, and facility improvements.

Facilities

- Office Improvements: Upgrade furnishings, enhance lighting, and increase storage solutions in administrative offices to streamline workflow and improve comfort.
- Conference Room Technology: Invest in advanced technology for the conference room, including better presentation equipment and remote communication tools, to facilitate effective meetings and planning sessions.
- Roof Repair and Maintenance: Address the roof condition immediately, focusing on repairs to prevent leaks and ensure weather resilience. This will align the facility with NFPA 1500 standards and ensure a safe operational environment.
- Automatic Cooking Shut-off System: Install an automatic cooking shut-off system in the kitchen to enhance safety protocols for 24-hour occupancy.
- Bunker Gear Storage: Add doors to the bunker gear storage area to isolate personal protective equipment (PPE) from the apparatus bays, reducing the risk of contamination and enhancing firefighter safety. Continue to take steps to reduce exposure to diesel soot and/or limit the potential for exposure of personnel and turnout gear to diesel fumes/soot.
- Training and Meeting Spaces: Upgrade training and meeting spaces to create multi-purpose areas that accommodate various training activities and operational functions. Consider flexible seating arrangements and technology upgrades for better presentations and collaboration.
- Continue efforts to properly decontaminate employees and their equipment in accordance with NFPA 1581: *Standard on Fire Department Infection Control Program*.

Special Operations

Hazardous Materials

- National Consensus Standards: SFR should begin referring to the new consolidated standard moving forward. The 2022 edition of NFPA 470: *Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders* combines NFPS 472, NFPA 473, and NFPA 1072 into a single standard.
- Emergency Response Plan (ERP): Review and update the written ERP for Hazardous Materials Response and make it accessible online for all members.
- Personal Protective Equipment (PPE): Review and update the plan identifying the necessary personal protective equipment and emergency gear for hazardous materials incidents.
- After-Action Reports: Include procedures for conducting after-action reports and critiques within the ERP.
- Incident Level Assignment: Develop policies that standardize methodologies for assigning incident levels to hazardous materials emergencies.
- Task Procedures: Outline specific procedures for various tasks team members may need to perform, such as spill or leak control.
- Training Plan Development: Implement a training plan addressing the handling of complex hazardous materials incidents.
- Flaring Gas Emergencies: SFR has an assortment of equipment to handle LPG and NG leaks but does not have flaring capabilities. SFR should invest in this capability.
- Firefighting Foam: Ensure adequate amounts of firefighting foam are on hand and available.
- Class D Fire Extinguisher Capability: Establish capabilities for using Class D metal fire extinguishers.
- Satellite Internet Connectivity: The ability to communicate can be limited. The addition of satellite internet and phone services could greatly enhance and prevent delays during weather-related events.
- SCBA Bottles: SFR should consider the addition of 60-minute SCBA bottles.
- Toxicology Training: Provide additional Hazardous Materials Toxicology training for personnel.
- Hazardous Materials Incident Commander: Chapter 13 of NFPA 470*: Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders* outlines the professional qualifications required for performing the duties of the incident commander at hazardous materials incidents. SFR should look to provide this training and ensure these positions are filled if providing hazardous materials response capabilities.

- Safety Officer Training: Chapter 18 of NFPA 470: *Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders* provides invaluable insight into these topics. SFR should seek to add additional training to this certification level, which is an industry best practice.
- Monitoring Equipment Replacement: Ensure plans are in place for the replacement and upgrade of costly hazardous materials monitoring equipment to keep pace with technological advancements.

Technical Rescue

- Medical Personnel Training: Provide additional training for medical personnel focused on technical rescue-specific emergencies and injuries.
- Personal Protective Equipment (PPE) Plan: Develop a comprehensive PPE plan tailored for technical rescue operations.
- Site Safety Plan Policy: Establish a policy for creating site safety plans for technical rescue incidents.
- Enhanced Training Sessions: While weekly, monthly, and annual training sessions are currently held on shift, increasing large scale training would improve proficiency and foster greater cohesion.
- Hazardous Environment Monitoring: SFR should ensure four-gas monitor that has O2, LEL, H2S, and CO sensors assigned for confined space rescues.
- Large Vehicle Machinery Extrication Training: Offer additional training specifically focused on large vehicle machinery extrication techniques.
- Equipment Replacement Schedule: Create a replacement schedule for expensive rescue equipment, ensuring appropriate funding similar to apparatus replacement plans.
- Ice Rescue Equipment Replacement: Develop a replacement schedule for ice rescue suits, considering their lifespan and wear over time.

Fire Prevention

- SFR should integrate *Vision 20/20's* tools and resources to strengthen its fire prevention and community risk reduction efforts. *Vision 20/20* provides data-driven strategies, educational resources, and best practices to help fire departments target risk reduction more effectively.
- Certify investigators in accordance with NFPA 1730, *Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations* and NFPA 921, *Guide for Fire and Explosion Investigations.*
- Create a Community Wildfire Protection Plan (CWPP) to identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment on Federal and non-Federal land that will protect one or more at-risk

communities and essential infrastructure and recommend measures to reduce structural ignitability throughout the at-risk community.

- It is recommended that the Fire Marshal's Office and the SFR leadership develop a monthly report to allow for the regular review of incident data and the response performance. The information contained within a common records management system provides valuable information that can assist the department in identifying areas of concern needing to be addressed through its fire prevention programs.

Public Education

- Develop fire safety education pamphlets in several languages and ensure that they are readily available.
- Establish a wildland interface educational program.

Staffing

- Periodic Compensation Reviews: Conduct regular reviews of current compensation structures, market competitiveness, and City compensation philosophies to ensure fairness and competitiveness.
- Safety Committee Alignment: Ensure all safety committee activities comply with Chapter 4 of NFPA 1500 and meet monthly to promote member safety education and self-awareness.
- Diverse Safety Committee Representation: Ensure the safety committee includes diverse representatives from across the department, including different shifts, ranks, functions, and interests, as well as non-uniformed staff members.
- Update Health and Safety Policies: Regularly update health and safety-related policies to align with the latest applicable NFPA standards, specifically NFPA 1581.
- EAP Resource Awareness: Ensure all department members understand how to access Employee Assistance Program (EAP) resources.
- Formal Recruitment Program Development: Develop and implement a comprehensive recruitment program to attract qualified candidates.
- Incorporate Cancer Screenings: Include cancer screenings as part of new hire and incumbent annual physicals to enhance health and safety measures.

Emergency Medical Services

- Establish a quality improvement (QI) program with a review of internal retrospective data.
- Establish an annual training calendar assigning specific monthly training to a particular purpose for EMS.

Training

- Designate a Training Officer/Committee: Appoint a dedicated individual or group to coordinate training schedules, evaluate needs, and ensure compliance with

standards, working closely with shift officers and the Division Chief of Operations. This could be tasked to a specific Battalion Chief.

- Utilize Data for Tailored Training: Leverage heat maps and service demand data to focus training on high-frequency incidents and distribute ISO-required training hours throughout the year.
- Broaden Training Curriculum: Expand training programs to include leadership development, diversity training, and mental health awareness to prepare personnel for diverse challenges.
- Conduct Post-Training Evaluations: Gather participant feedback to assess training effectiveness and adjust sessions accordingly. Ensure all officers complete NIMS ICS 300 and ICS 400 training.
- Designate Training Liaisons: Appoint shift officers as training liaisons to ensure consistent training delivery across shifts.
- Balance Training Focus Areas: Ensure the training program addresses three key areas: current call types, special operations, and re-certification requirements.
- Focus on Critical Incidents: Use data from Post Incident Analyses (PIAs) to address less common but critical incidents in the training curriculum, identifying gaps in high-risk, low-frequency events.
- Schedule ISO Training Requirements: Plan and schedule ISO-required training throughout the year to maintain compliance.
- Review Training Policies Annually: Conduct annual reviews of training policies and procedures, incorporating changes based on NFPA standards, ISO requirements, and lessons learned from incidents.
- Create a Training Committee: Form a committee of passionate individuals dedicated to enhancing the department's training programs.

Mid-Term Improvement Goals

Implementing mid-term improvement goals involves taking specific actions to achieve the objectives and goals set for a period of one to three years. General steps that can help in implementing mid-term strategies involve defining specific objectives and goals, assigning roles and responsibilities, developing action plans, allocating resources, monitoring progress, communicating, and engaging stakeholders in the implementation process, evaluating, and adjusting as necessary based on feedback. ESCI has identified several strategies to improve SFR over the next one to three years.

Personnel Management

- Documentation Management: Transition from paper-based personnel records to a secure electronic document management system to enhance accessibility and efficiency while maintaining confidentiality.

- Implementation of 360-Degree Feedback: Consider introducing a 360-degree feedback system to gather input from peers, subordinates, and supervisors to foster professional growth and accountability.
- Annual Compensation Review: Conduct annual reviews of compensation practices to ensure they remain competitive, considering market trends and the department's operational needs.
- Explore Incentives for Training: Consider providing financial incentives for personnel who pursue additional training or certifications relevant to their roles to foster a culture of continuous learning.
- Retention Focus: Develop retention strategies that emphasize career advancement opportunities, job satisfaction, and a positive workplace culture.

Finance

- Replacement Planning: Create a capital improvement and apparatus replacement plan for future planning to determine when the financial impact will occur.
- GPET Planning: Consider using more of the GPET to help the department with larger equipment and capital replacements on a phased multi-year approach.
- Operating Budget: Continue to utilize the operating budget for smaller equipment purchases.
- Capital Projects: Capital Projects and equipment should continue to be budgeted in the GPET and Capital Project Fund to show the long-term needs and phased approach for larger purchases or purchases that can be made over time.
- Capital Purchasing: Continue to stagger equipment purchases to reduce the one-time effect of capital needs.
- Contractual-Professional: Review agreements to determine any long-term cost savings that can arise from issuing bids or requests for proposals for more competitive pricing for items and services.
- Repairs/Maintenance of Buildings: Consider whether long-term maintenance plans will be needed in the future.

Enhancing Fire Protection Service Planning at SFR

- Community Risk Assessment (CRA): Finalize a comprehensive CRA to identify and prioritize community-specific risks, focusing on high-occupancy structures, critical infrastructure, and potential hazard zones. This will lay the foundation for a detailed Standards of Cover (SOC) document to align resource deployment with identified risks.
- SOC Document Development: Using CRA insights, create an SOC to identify response standards, resources, and time benchmarks for different incident types. This should

include protocol development for dispatch and CAD system integration to support automatic, seamless response and mutual aid.

- Update the Strategic Plan: Formulate a new three-to-five-year strategic plan with prioritized, measurable goals, developed in tandem with master plan objectives. Clearly outline objectives such as staffing improvements, technology upgrades, and community engagement initiatives.
- Financial Plan: Develop a three- to five-year financial plan addressing both operational and capital needs, including apparatus replacement schedules, equipment upgrades, and facility improvements. Collaborate with municipal leaders for sustainable funding options, especially for recruitment, retention, and training resources.
- Emergency Action Plan (EAP) Development: Develop comprehensive Emergency Action Plans for high-risk facilities within SFR's jurisdiction. This includes hospitals, churches, and schools. Conduct regular exercises and coordinate with stakeholders to reinforce preparedness and response efficiency.

Fire Prevention

- Establish a Fire and Life Safety Educator designation per NFPA 1035, *Standard on Fire and Life Safety Educator, Public Information Officer, Youth Firesetter Intervention Specialist, and Youth Firesetter Program Manager Professional Qualifications* to provide additional credibility to fire safety prevention and public education efforts and garner extra ISO points.

Emergency Medical Services

- Evaluate Ambulance Service Role and Funding: Assess the long-term feasibility of SFR's backup ambulance service role and consider funding options, including cost-sharing with private providers or billing for services, to address budget impacts (NFPA 1710).

Training

- Formalize Training Objectives and Resources: Increase focus on training, especially in high-risk, low-frequency scenarios, by adopting NFPA 1403 for live fire training and implementing NFPA 1402 standards for a future dedicated training facility.
- Strengthen Succession Planning and Leadership Development: Create a structured program for talent development, ensuring staff are prepared for future leadership roles and succession, per NFPA 1201 recommendations on organizational continuity.
- Expand Core Capabilities for Technical and Specialized Responses: Formalize training and equipment resources for technical rescue operations in alignment with NFPA 1006 and 1670 standards, ensuring comprehensive capabilities for hazardous and technical incidents.

- Integrate ISO Requirements in Regular Training: Incorporate NFPA 1402-compliant training props and scenarios that align with ISO requirements to improve SFR's overall ISO training scores and ensure skills proficiency across all shifts.
- Incorporate Wildland Operations Experience: Deploy members in wildland operations for practical training that can be shared with the department upon their return.
- Establish Professional Development Support: Create a formal program offering funding or support for attending relevant training courses and conferences.
- Implement NFPA 1410 Analysis: Analyze the ability to complete tasks and evolutions as outlined in NFPA 1410, *Standard on Training for Emergency Scene Operations*.
- Identify Funding Opportunities: Seek potential grants for training programs and collaborate with state fire service organizations for additional resources.
- Integrate PIAs into Training Reviews: Make Post Incident Analyses (PIAs) a regular part of the training program review process.

Establish Response Standards and Performance Goals

Previously in this report, ESCI emphasized the importance of response standards and targets. These standards establish measurable goals for service delivery, which then form the baseline for the deployment of resources. Without defined goals and targets, an organization is unable to appropriately identify how effective it is providing services that meet community expectations. Response performance goals must be tailored to match community expectations and conditions and balanced against the financial aspect of what a community is able and willing to afford.

The response time continuum, the time between when the caller dials 911 and when assistance arrives, is comprised of several components. The following are the individual components analyzed by ESCI.

- **Call Processing Time:** The amount of time between when a dispatcher answers the 911 call and resources are dispatched.
- **Turnout Time:** The time interval between when units are notified of the incident and when the apparatuses are responding.
- **Travel Time:** The amount of time the responding unit spends on the road to the incident.
- **Response Time:** A combination of turnout time and travel time. This is the most commonly utilized measure of fire department response performance.
- **Total Response Time:** The time interval from the receipt of the alarm at the dispatch center to when the first emergency response unit is initiating action or intervening to control the incident.

Total response time is the amount of time a resident or business waits for resources to arrive at the scene of an emergency beginning when they first call 911. This process begins for SFR once the communications center dispatches the appropriate unit. The NFPA standard for call processing is derived from NFPA 1225: *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*. Similarly, NFPA 1710 provides response time measurements for career fire departments and is considered an industry best practice. The next figure illustrates these standards.

Figure 101: NFPA 1710 Standard for Fire/EMS Response

Response Interval	NFPA Standard
Alarm Handling (NFPA 1225)	60 seconds or less at 90% for High Acuity Calls
Turnout Time	60 seconds or less at 90% for EMS 80 seconds or less at 90% for Fire and Special Operations
Travel Time	240 seconds or less at 90% for the First Arriving Unit

ESCI detailed the current SFR response standards (fire and EMS) previously in this report, addressing call processing times, turnout times, and response times for the first unit on scene.

To review, the next figure demonstrates the SFR emergency response performance for the first apparatus on the scene at an emergency incident. This information covers SFR baseline performance from 2019 to 2023:

Figure 102: SFR Current Response Time Performance Standards (All Calls) NFPA 1710

90TH PERCENTILE BASELINE PERFORMANCE AND BENCHMARK GOALS (FIRST APPARATUS ON SCENE)				
	Alarm Handling	Turnout	Travel	Response Time (Dispatched to First Apparatus on Scene)
SFR 90% Baseline	4:32	2:54	7:42	9:34
NFPA 1225 Standard	1:00			
NFPA 1710 Standard		1:20	4:00	5:20

Figure 103: SFR Current Response Time Performance Standards (Fire) NFPA 1710

90TH PERCENTILE BASELINE PERFORMANCE AND BENCHMARK GOALS (FIRST APPARATUS ON SCENE)				
	Alarm Handling	Turnout	Travel	Response Time (Dispatched to First Apparatus on Scene)
SFR 90% Baseline	3:21	4:41	8:04	27:13
NFPA 1225 Standard	1:00			
NFPA 1710 Standard		1:20	4:00	5:20

This includes the extended distances traveled for wildland fires to the far reaches of the jurisdiction. One option is to distinguish between wildland and structure fires and set performance metrics for each.

Figure 104: SFR Current Response Time Performance Standards (EMS) NFPA 1710

90TH PERCENTILE BASELINE PERFORMANCE AND BENCHMARK GOALS (FIRST APPARATUS ON SCENE)				
	Alarm Handling	Turnout	Travel	Response Time (Dispatched to First Apparatus on Scene)
SFR 90% Baseline	8:24	2:52	7:15	9:02
NFPA 1225 Standard	1:00			
NFPA 1710 Standard		1:00	4:00	5:00

In addition to the response performance standards displayed in the previous two figures, SFR has defined its respective full first alarm assignments (ERF) for a structure fire. Recommendations related to the assembly of an effective response force are provided later in this section.

In reviewing the performance by SFR, ESCI found that, in general, the responses are higher than NFPA 1710's best practices and difficult to meet at best. ESCI recommends that the SFR develop and formally adopt a single set of emergency response performance goals that work toward consistency with NFPA 1225 standards for alarm handling and NFPA 1710 standards for turnout times. These response performance goals should address the components of response performance (call processing time, turnout time, and travel time) as well as overall response performance goals for predominant risks present in the communities.

A well-defined, formally adopted set of response goals will accommodate more effective planning. Further, when considering the future deployment of resources decisions must be made using the same goals. In other words, it is much easier to strike a single target, rather than having different performance standards.

ESCI provides the following emergency response performance goals for the first unit on scene at any emergency incident, fire suppression emergencies, and EMS emergency incidents:

All Emergency Incidents—Response Performance Goal

- For 90% of all emergency incidents in urban areas, the first apparatus shall arrive within 5:00 minutes response time (Dispatch to first unit on-scene). The first apparatus on-scene shall be capable of establishing command, providing for scene safety, or initiating basic life support (BLS).

Fire Suppression Incident—Response Performance Goal

- For 90% of all emergency fire suppression incidents in urban areas, the first fire apparatus shall arrive within 5:20 minutes response time (Dispatch to first unit on-scene). The first fire apparatus on-scene shall be capable of establishing command, initiating scene size-up, and initiating a defensive fire attack operation.

All EMS Incidents—Response Performance Goal

- For 90% of all emergency EMS incidents in urban areas, the first on scene apparatus shall arrive within 5:00 minutes response time (Dispatch to first unit on-scene). The first on-scene unit shall be staffed with a minimum of two personnel capable of performing patient assessment, determining life-threatening conditions, and initiating patient care.

Improve Alarm Handling Times

Currently, the Sheridan Police Department (SPD) call-taking and dispatch times are in excess of NFPA standards. ESCI has identified several best practices and recommendations for review and consideration by the dispatch system to utilize as appropriate. SPD dispatch should monitor alarm handling performance on a monthly basis and strive to maintain or exceed adopted standards. Based on NFPA 1225 standards, alarm handling time—the time between when the call is answered and when the call is dispatched to responding units—should be less than 60 seconds, 90% of the time for high acuity incidents. Currently, the SPD has alarm handling performance of 4 minutes, 32 seconds at the 90th percentile. This is four and a half times the performance standard as recommended by NFPA 1225.

- Implement processes to reduce alarm handling times. The single most cause of delay in the SPD system has been identified as alarm handling time.
- Enter into a service level agreement with the SPD communications center outlining transfer of call performance standards.
- Consider a dedicated dispatcher for emergency services. A dedicated fire department dispatcher can help improve the efficiency, effectiveness, and safety of emergency response efforts.

Improve Turnout Time Performance

Turnout time is the one component of total response time over which the fire department has control and is not affected by outside influences. Turnout time, or the time from when the call is received by the response units (dispatched) to when the unit is enroute to the scene (responding), affects overall response times. Reducing this response time

component reduces total response time. The NFPA 1710 calls for turnout times of 60 seconds for EMS incidents and 80 seconds for fire incidents. Overall turnout time performance for SFR was 2 minutes, 54 seconds.

- SFR should adopt a turnout time goal of 60 seconds for EMS incidents and 80 seconds for fires and special operations incidents at the 90th percentile.
- SFR should conduct regular reporting of turnout times with on-going analyses of turnout time delays. Currently SFR includes turnout time as part of the performance measures. Significant delay was attributed to turnout times.

With good information, training, and properly designed facilities that allow for rapid and efficient movement, responders can improve turnout time and hence total response time performance.

Response Performance Reporting

Once response time performance measures are adopted, the ability to measure performance is greatly dependent on collection and reporting of the data. Several recommendations are offered to improve data collection and reporting. The recommendations are listed here:

- Collect accurate and complete response time data for all units assigned to an incident. These times should include alarm handling and turnout times.
- Expand the incident reporting capability to include geographical distribution working with the City GIS unit. Include graphical data in annual report.
- Develop a quality assurance process for the data collection and analysis processes.

Insurance Services Office Public Protection Classification

Areas of deficiency within Community Risk Reduction that would have the greatest impact on the ISO PPC classification are shown in the next figure. ESCI recommends that SFR confirm the overall potential impact on service delivery and implementation cost, its ISO rating, and potential discounts on property insurance premiums before investing in any improvements.

Figure 105: Areas of ISO Divergence

Factor	Score	Max Score	% Max Score	Impact
4.32 Credit for Dispatch Circuits	1.05	3	35%	**HIGH**
513. Credit for Engine Companies	4.0	6	66%	**HIGH**
561. Credit for Deployment Analysis	6.94	10	69%	**HIGH**
571. Credit for Company Personnel	6.00	15	40%	**HIGH**
581. Credit for Training	4.67	9	52%	**HIGH**
631. Credit for Inspection and Flow Testing	5.40	7	77%	**MODERATE**

SFR scored 73.98 points out of 105.5 total available points during the ISO PPC evaluation. Based on the above recommended divergence factors SFR is only within 6.02 points from the next lower PPC classification. Additional enhancements are listed below.

- Ensure Fire Station 1 has primary and secondary dispatch circuits with appropriate emergency power supply, in accordance with NFPA 1221: *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems.*
    - *NFPA 1221, 6.1 General: A primary and a secondary means of dispatch notification shall be provided at the ERF and comply with 6.1.1 and 6.1.2.*
- Increase staffing to improve response compliance with NFPA 1710: *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*.
- Evaluate the frequency and methodology used to inspect and test hydrants.

Develop a Formal Succession Planning and Mentoring Program

SFR will experience significant turnover in its leadership ranks as well as experience growth in these ranks from additional positions recently added. As fire service organizations navigate through the challenges of the 21st century, one key issue resonates to the forefront, "Who will lead our organizations in the future, and how will they do it successfully?" Many challenges facing organizations today, if not addressed, will lead to organizational turbulence and/or possible failure. Many organizations are not prepared for, nor have any real plans in place for this transition.

To achieve trusted leadership and organizational success beyond the 21st century, organizations must overcome the challenges of building a leadership succession plan through education and the generation of social capital as the means for addressing healthy

relationships, managing dissent, and recognizing the uses for evidence-based management in the fire service.

Key Challenges

Organizations today encounter a myriad of challenges that affect their ability to succeed. Many of these challenges can be anticipated and prepared for with proper identification, acknowledgment, and planning. Research yielded six main problems or concerns organizations will face and must address through succession planning: dealing with a retiring workforce, a loss of institutional knowledge, diminishing experience and practical wisdom, a resistance to organizational change, having four different generations in the workforce, and changing expectations and demands for emergency services. Through a vigilant effort to continuously improve the organization and develop a strategic plan to address these challenges, organizational leadership within SFR will meet these challenges with solutions for the future.

Retiring Workforce

For fire-rescue departments, the retiring workforce can have a particularly significant impact. The specialized skills and experience required for firefighting and emergency response often take many years to develop, and losing experienced personnel can lead to gaps in service delivery and reduced operational effectiveness. The increase in the number of retirees all at once or the addition of leadership positions becomes difficult for organizations to manage and likewise produces other challenging issues if plans are not in place to address these gaps.

Loss of Institutional Knowledge

As the workforce retires and leaves, they take with them valuable institutional knowledge gained during a career of serving the organization. Institutional knowledge is the mental history of learnings and teaching gained through employment with the organization. The history of the way things are done, or in some cases not done. Institutional knowledge collected and processed during the employee's day-to-day activities becomes valuable to the organization. The key to this institutional knowledge is time. Time served equates to lessons learned. These lessons, if not passed on through a formal and dedicated process to junior or successive employees, are lost.

Loss of Experience and Practical Wisdom

Along with institutional knowledge are the physical experiences of doing the organization's work. This is experience gained through training and actual accounts yields wisdom. These together provide the employee with the ability to make sound decisions that will benefit the organization. Each account or situation an employee experiences provides valuable insight for use in the next situation. As employees leave the organization, these stored experiences are lost. If not passed down to other employees or cataloged, the experience must be re-lived to regain the knowledge lost through attrition.

Resistance to Organizational Change

Further challenges for the organization rest on the status of change within the organization. As the organization grows, it is inevitable that change will occur. Often the need for change will bring with it the unwillingness of employees to accept change based on inherent beliefs that may differ from this new direction.

> *As the primary link between the organization's change strategy and the employees responsible for implementing that strategy, managers must be able to "unfreeze" employee beliefs that the status quo is acceptable and motivate employees to make the desired changes.*[24]

Generations in the Workforce

The type of employees that comprise the workforce is changing. Currently there are four different generations working side-by-side. These generational differences create difficulties and challenges for the organization as they navigate to appropriately address and communicate with each generation. Each of the four generations is vastly different in their approach and outlook on organizational methods for success. SFR must approach these generational differences with methods that ensure clear communication of department mission, vision, and guiding principles and that they are understood.

Changing Expectations and Demands

In recent years, fire service organizations experienced decreasing revenues and budget cuts while requests for service have steadily increased. Fire service organizations across the nation are challenged by decreasing budgets with rising requests for service.

> *Effectively managing these challenges requires a basic understanding of how changes in levels of fire department resources deployed affect outcomes from emergencies that occur daily. Failing to manage these challenges can leave individuals, a fire department, and a community vulnerable to undesirable events.*[25]

[24] *Furst, S. A. (2008). Employee resistance to organizational change: Managerial influence tactics and leader-member exchange. Journal of Applied Psychology, 93 , (2), 453-462. doi:10.1037/0021-9010.93.2.453.*

[25] *Metropolitan Fire Chiefs. (2011, October 25). Fire Service Deployment: Assessing Community Vulnerability. Retrieved from www.NFPA.org.*

In some areas, these challenges move at speeds that leave organizations very little time to adjust and address the changing needs of the communities they serve. These changing community needs, coupled with other challenges, make organizational succession planning important for new leadership. Succession planning and management is indeed critical in the fire-rescue service, as it ensures that a department is adequately staffed and prepared for leadership changes, retirements, or unexpected departures. The International Association of Fire Chiefs' (IAFC) guide to succession planning provides helpful information for departments looking to start their own succession management plan.

The guide is comprehensive and covers a range of topics, including why succession management is important, the benefits of having a plan, and how to develop and implement a plan. It also includes a history of succession management in the fire-rescue service and provides examples of successful plans from different departments.

Appendix 3 of the guide is a separate document that includes plans from three fire departments. These plans can serve as useful examples for other departments looking to develop their own succession management plans. It's always helpful to see how other departments have approached the process and what has worked for them.

Overall, the IAFC's guide and the plans included in Appendix 3 can be valuable resources for fire-rescue departments looking to improve their succession management practices. By taking the time to develop and implement a plan, SFR can ensure they have the leadership and personnel needed to continue providing critical services to their communities.

Having a well-thought-out succession management program can be highly beneficial for fire-rescue organizations. It can help ensure a smooth transition of leadership and personnel, maintain continuity in operations and service delivery, and enable the organization to adapt and respond to changing needs. Furthermore, a succession management program that is tailored to the needs of the organization can enhance the morale and job satisfaction of current employees, by providing opportunities for career growth and advancement within the organization. Overall, this guide can be a valuable resource for any fire-rescue department looking to develop a meaningful succession management program that meets the needs of both their citizens and members and prepares them for the future.

Long-Term Improvement Goals

The most significant improvement SFR can make in terms of service delivery is the addition of more staff to establish an additional fire company. To offer viable alternatives to the current model, the following recommendations outline several potential approaches for SFR’s service delivery over the next five to ten years. While not exhaustive, these recommendations provide SFR with an understanding of available models and their potential impact on service delivery.

Based on the analysis conducted, ESCI offers recommendations to enhance SFR's ability to meet rising service demands, whether utilizing current resources or incorporating additional support. These recommendations prioritize firefighter safety and operational effectiveness. This analysis provides SFR with essential information to select the most suitable, sustainable options and prioritize future funding decisions.

It is important to note that the options presented reflect data available at the time of this report, and certain external factors may not have been considered. Detailed financial modeling of these options falls outside the scope of this study, and SFR may find that adapting or customizing the suggested models better aligns with their needs.

Establish a Long-Term Staffing Strategy to Achieve a Minimum Effective Response Force (ERF) of 9 firefighters

A fire department's concentration is the spacing of multiple resources close enough together so that an initial "Effective Response Force" (ERF) for a given risk can be assembled on the scene of an emergency within the specific time frame identified in the community's performance goals for that risk type. An initial effective response force is defined as that which will be most likely to stop the escalation of the emergency. The ability for SFR to assemble an ERF is grossly understaffed throughout the service area due to a decreased concentration of resources. Because the SFR station is so well placed the ability to increase ERF can be achieved by simply increasing the current minimum staffing of suppression units at Fire Station 1.

Developing a phased plan to increase staffing levels to four per unit plus the Battalion Chief, reduces dependence on off-duty recalls and enhances response capacity to handle rising call volumes. Expanding the workforce to support an additional fire company with four personnel would enable SFR to staff either an engine or aerial ladder truck daily. This staffing configuration would substantially improve SFR's ability to address current risks and future response needs. An additional company would also allow for flexible deployment of apparatus based on the incident requirements, increasing operational readiness and response effectiveness.

The ability to deploy an aerial ladder company is critical for operations such as search, ventilation, high-angle rescue, heavy extrication, and aerial water applications. Given SFR's large housing stock, freeways, high-speed roads, multi-story buildings, and complex occupancies, a four-person aerial ladder truck with search, rescue, and ladder capabilities would be instrumental in achieving essential task assignments within the 8-minute Effective Response Force (ERF) target. This additional company will fulfill a vital role in reaching critical tasks in a timely manner.

A four-person crew on an aerial ladder truck enables the driver/operator to stay with the vehicle for safe positioning and operation of the ladder, while the remaining three

firefighters conduct key fireground activities such as ventilation and search-and-rescue. When companies are staffed with fewer than four personnel, it significantly reduces their ability to safely perform fire suppression and rescue tasks until additional help arrives, which delays operations and increases the risks involved.

Inadequate numbers of response units or insufficiently staffed crews increase risks to civilians and firefighters alike. This inadequacy strains limited department resources and overextends the response system, requiring additional apparatus to respond from farther locations. Delayed assembly of sufficient resources at fire scenes hampers efforts to contain fires, perform rescues, or evacuate trapped occupants, escalating risks for both firefighters and civilians. A phased staffing plan will improve response safety, speed, and effectiveness, ultimately supporting more positive incident outcomes.

NFPA 1500 and 1710 both recommend that a minimum acceptable fire company staffing level should be four members responding on, or arriving with, each engine and ladder company responding to any type of fire. However, local discretion is allowed to meet locally adopted standards and risk profiles.

The additional staff required to achieve this recommendation can be hired over a period of time to lessen the impact of the increased staffing costs associated with the recommendation. The following figure outlines the full-time employees (FTEs) needed to reach the recommended ERF.

These FTEs are displayed in a sample staffing schedule to achieve the ERF over time.

Figure 106: Sample Staffing Schedule of Additional FTEs

Plan	Year 1	Year 2	Year 3	Year 4	Year 5	Total
One Year	15 FTE					15 FTE
Two Year	7 FTE	8 FTE				15 FTE
Three Year	5 FTE	5 FTE	5 FTE			15 FTE
Four Year	4 FTE	4 FTE	4 FTE	4 FTE		15 FTE
Five Year	3 FTE	3 FTE	3 FTE	3 FTE	3 FTE	15 FTE

Impact on Fire Suppression

The increases in staffing would directly result in additional credit for the ISO categories evaluating deployment and staffing. One immediate benefit from this scenario, SFR would now have the proper staff to commence interior firefighting operations in conjunction with industry standards and OSHA 29 CFR 1910.134(g)(4)(i) guidelines in the city's service area upon immediate dispatch and arrival. These guidelines and industry standards require two firefighters to be on-scene and available outside the hazard area while two are inside (two-

in/two-out). Furthermore, this additional staff would provide the necessary members to meet industry standards for hazardous materials and technical rescue incidents.

Develop and Fund an Appropriate Apparatus Replacement Plan

SFR does not have a formal apparatus replacement plan that establishes a front-line and reserve life-expectancy for its engines and its aerial ladder trucks. Apparatus replacement within the SFR is primarily based on the age of apparatus, with apparatus being moved to reserve status on a case-by-case basis. Without an adopted replacement plan significant capital outlay costs can creep up and catch agencies off guard as equipment and apparatus age.

The following figure provides an estimate of replacement costs and replacement years for each of SFR's frontline engines and aerial ladder trucks. In this figure, ESCI utilized a 15-year life expectancy for frontline engines and 20 years for trucks. As mentioned previously, NFPA 1901 recommends that fire apparatus 15 years of age or older be placed into reserve and replaced after another 10 years of use.

The following figure illustrates the significant financial requirements for SFR apparatus.

Figure 107: Estimated SFR Major Apparatus Replacement Costs and Dates

Unit	Year	Base Replacement Cost	Replacement Cost w/ Inflation	Current Cash Requirements	Annual Cash Requirements	Current Age	Life Expectancy	Replacement Year
Engine 1	2009	$850,000	$850,000	$850,000	N/A	15	15	2024
Engine 2	2009	$850,000	$850,000	$850,000	N/A	15	15	2024
Tower 1	2021	$1,700,000	$3,311,431	$496,715	$165,572	3	20	2041
Ladder 1	2001	$1,700,000	$1,700,000	$1,700,000	N/A	23	20	OVERDUE
Brush 1	2002	$200,000	$200,000	$200,000	N/A	22	20	OVERDUE
HazMat 1	1994	$350,000	$350,000	$350,000	N/A	30	15	OVERDUE
MS 98	2002	$450,000	$450,000	$450,000	N/A	22	7	OVERDUE
MS 99	2022	$450,000	$547,494	$156,427	$78,213	2	7	2029
Utility 1	2013	$75,000	$75,000	$75,000	N/A	11	7	OVERDUE
Battalion 1	2019	$75,000	$81,120	$57,943	$11,589	5	7	2026
Chief 1	2022	$75,000	$91,249	$26,071	$13,036	2	7	2029
Chief 2	2008	$75,000	$75,000	$75,000	N/A	16	7	OVERDUE
Total/Average			**$8,581,294**	**$5,287,155**	**$268,409**			

Establish Funding to Construct a Training Facility

During interviews with the Public Works Director three plots of land were identified that would contain enough acreage to accommodate a training facility. ESCI recommends one of the identified sites be approved along with a funding strategy to design and construct a dedicated training facility as soon as possible. Constructing a modern training facility to comply with industry standards concerning classrooms, practice grounds, training tower, live-fire building, and training props is a significant investment of capital. However, the ability to provide training is not only necessary, but also required for ISO requirements. The requirements specifically require training at approved facilities.

SFR will be challenged to finance the full build-out of the training facility on its own while increasing staffing and replacing apparatus. However, the importance of these facilities

cannot be underestimated. These facilities allow for live fire training to be conducted with realistic training scenarios.

Examples of recently constructed basic fire training facilities in the following figure illustrate that these facilities need not be complicated or ornate to be quite functional.

Figure 108: Example Training Facilities



Optimization of Fire Station Location

SFR Fire Station 1 is strategically sited to effectively meet the department's current response needs, eliminating any immediate need for an additional station at the present moment. Located centrally within its service area, Fire Station 1 provides timely access to key response zones, minimizing travel times for emergency calls. This central positioning supports efficient coverage for Sheridan and aligns with the community's layout, allowing SFR to meet existing response time targets from this well-situated facility.

Currently, the most pressing requirement for SFR is not an additional station, but an increase in staffing at Fire Station 1. With call volumes rising and demands for service growing, additional personnel would significantly enhance SFR's operational capacity and response capabilities. Fortunately, Fire Station 1 is designed to accommodate increased staffing levels, as it was built to house up to 13 staff members. Historically, this facility has successfully supported more personnel, confirming that the current infrastructure is both spacious and adaptable enough to host additional staff without any need for structural expansion.

Increasing staffing at Fire Station 1 will directly address the department's resource needs, as it allows SFR to increase its readiness, deploy resources more effectively, and provide faster response times. By investing in the recruitment and training of additional personnel, SFR can fully leverage the capacity of its existing infrastructure, thereby maximizing both the utility of Station 1 and the overall effectiveness of its operations. This approach not only meets immediate operational needs but also provides a sustainable, cost-effective solution for scaling SFR's service capacity within its existing framework.

If the population growth moves to a specific area and beings to overwhelm the ability to meet newly established response time goals outlined in this study, then an additional station could be considered in that area. However, the current ability to house additional staff immediately in Fire Station 1 should be the priority.

Cost Projections for Improvement Goals

Financial Basis for Cost Projections

The financial analysis of historical expenditures helps to provide a more reasonable and accurate estimate of future projections. Major factors that affect all fire departments include salary/benefits as the majority of the services that are provided are based on human capital, operating costs for utilities and maintenance to determine the needs for future station construction and services, as well as apparatus and equipment costs. Cost projections help to indicate the need to provide additional resources to the budget and the impact on the fund, which would be based in the General Fund for the city's budget. Future impacts are projected based on inflation, annual wage increases, increasing benefit costs and other factors that can reasonably be estimated given the current year (FY 25 budgeted data).

Policy decisions will have to consider the cost-benefit of the necessary improvements to service level versus the demand from the needs of the residents for public safety. Any future improvements that are proposed will provide a decision unit, which can be considered the addition of a single firefighter, company officer, staffing for an engine, rescue or ladder company or an additional fire station with staffed apparatus. The decision units include personnel, initial and recurring costs, apparatus and facility acquisition costs. The following analysis considers FY 25 budgeted or actual costs, given the data that was provided by the department, to determine the various decision unit components to be projected. However, historical trends will help determine the minimum allowable increases for additional resources that will have a future impact on the budget, dependent upon the year or the phases in which a decision unit is determined to be needed. Should any of the factors prolong the need for the additional decision units, the costs will then differ depending on the historical trends provided. There can be local, market or worldwide factors that cause a large disruption in future cost projections that affect the cost and availability of tangibles that comprise operating costs.

Fiscal Year 25 Personnel Costs

Detailed salary and benefit information was provided by the department for all current and vacant positions in the FY 25 budget. The following figure provides the starting salary, benefits and total compensation for positions that will be used in the decision unit, including Firefighter and Lieutenant (company officer). It is anticipated that the additional staffing needs will require a combination of the positions.

Figure 109: Annual Salary/Estimated Benefits of Positions, FY 25

Position	Starting Annual Salary[1]	Average Benefits	Avg. Total Compensation	Benefits as % of Total
Firefighter	59,510	21,788	81,298	0.268
Lieutenant	79,713	29,185	108,898	0.268

[1]*Model assumes starting level salaries.*

The historical figures indicate that there have not been any increase in positions for the department from FY 23 to FY 25. However, the Fire Marshal was included as an additional position and requested for FY 25. Overtime costs have decreased from FY 22 actuals to FY 24 actuals, indicating there may not be many vacancies over the years being analyzed. This factor also indicates that there are tenured staff in the department as the historical trend analysis for the salaries and benefits line items can more accurately be projected, given the stability of staff in the department.

Salaries and Wages from FY 22 actuals to FY 25 budgeted numbers were used in a trend analysis that determined the average annual increase in the line item. Conservatism regarding trending is also used to provide the most reasonable computation of projected increases over time. While the historical figures indicate a 5.3% annual increase for Salaries and Wages only, a 5.0% amount was used in projected figures. Benefits were averaged at an increase of 4.0% annually.

The following figure provides the historical figures, along with the FY 25 budgeted amounts (that indicate the approved anticipated expenses) for the fiscal year.

Figure 110: Average Annual Increase from FY 22 to FY 25 Budget

Salaries & Benefits	2022 Actual	2023 Actual	2024 Actual	2025 Budget	Average Annual Increase
Salaries/Wages	1,193,303	1,459,913	1,467,109	1,836,010	5.33%
Overtime	98,972	94,004	90,005	120,000	2.67%
FICA	21,181	25,386	24,707	30,766	4.63%
Retirement	190,044	234,731	235,862	290,834	5.26%
Workers Comp	14,471	37,047	28,214	30,111	15.43%
Employee Insurance	203,499	230,948	259,888	340,689	6.35%
Plan-A Contributions	-	86,275	86,275	86,275	
TOTAL SALARIES & BENEFITS	**1,721,471**	**2,168,303**	**2,192,060**	**2,734,685**	**5.76%**

The increase in wages matches the proposed budgeted increases for each year for all of the departments that were in the General Fund. The benefits for FY 25 average 38.2% of

total compensation. The weighted average annual total compensation increase would be 4.6%. The data that was provided did not have available information regarding onboarding personnel, which includes one-time costs for physicals, training, uniforms, gear and other equipment essential to a new employee. These undetermined costs would be incurred at the time of the employee being hired and should be considered when the positions are requested to be added to the department for its proposed fiscal year budget request. There would also be long-term indirect costs that would be associated with adding significant personnel that would affect the administrative, human resources, risk management, legal, finance/budget, information technology and other supporting functions, which would need increases once their respective department thresholds were met at a maximum.

Fiscal Year 25 Facility Capital/Operating Costs

When demand levels and service levels require a new fire station. The costs associated with building and furnishings (including furniture, fixtures and equipment (FF&E)) also include the initial construction, land purchase and annual operating costs that are feasible based on the square footage of the station as it determines the number of staff and apparatus that can be housed. While land acquisition costs vary based on factors such as location, market conditions, environmental and structural remediation, it would not be included in the estimated costs for a new station.

The following information is included for demonstrative purposes to help provide a basis for estimating the capital improvement plan (CIP) regarding a total estimated project value to determine financing and purchase options. Station designs may be configured to house multiple companies or single ones, dependent upon the location and needs of the city when demand and needs warrant discussions. For decision modeling purposes, a 10,000 square foot station is provided as the base example. Local bids would be proposed to obtain architectural and construction firms, which provide the opportunity to obtain lower costs for future capital projects. As the study was written, the local construction rate per square foot for a commercial building ranged from $300 to $400 square foot. While the fluctuations are hard to predict given the increased demand from the post-pandemic market, conservative percentages for architectural and engineering (A&E) at 6.0%[26] and FF&E costs at 3.0% were used.

[26] *Based on the US General Services Administration (GSA2630 form) that allows a 6% fee for design.*

Figure 111: Estimated Fire Station Construction Costs, FY 25

FY 25 Estimated Fire Station Costs	
Category	**Cost**
Land	Varies
A&E Fees	210,000
Construction	3,500,000
FF&E	105,000
Total	**3,815,000**
Station Operating	24,456

After construction costs are considered, there is an annual operating cost for a new facility that will be comprised of multiple components. In this example, a percentage of the FY 24 actuals for insurance, gas/electric and telecom services costs were used. Since the actuals were used for a 12,000 square foot station, the percentage was reduced for the estimated 10,000 square foot station based on a reduction in staffing and apparatus that could be housed. Typical operating costs that will be needed include janitorial, office supplies, etc. However, most of the FF&E costs should cover the one-time need until replacements are warranted.

Fiscal Year 25 Decision Unit Staffing Costs

The department is being projected to staff a 4-person engine/ladder company for future units 24/7 with three shifts. The following figure shows the total number of personnel needed by rank and compensation level for future units. Typically, an engine is staffed with a minimum of three firefighters on each of three 24-hour shifts, while a ladder truck company is staffed with a minimum of four firefighters per shift. Each position requires 3 budgeted full-time equivalents (FTEs) to ensure minimum daily staffing. An additional 3 firefighters are required for relief to cover leave time. The FY 25 cost per rank needed for one FTE is shown along with the total cost for all personnel required in each rank for all three shifts to maintain the minimum necessary staffing.

Figure 112: Estimated Decision Unit Staffing Costs, FY 25

Single Resource			
Position	**FTEs**	**Unit Cost**	**Total Cost**
Firefighter	3.00	81,298	243,894
Lieutenant	3.00	108,898	326,693

4-Person Engine/Ladder Company			
Position	**FTEs**	**Unit Cost**	**Total Cost**
Firefighter	4.00	81,298	325,192
Firefighter	4.00	81,298	325,192
Firefighter	4.00	81,298	325,192
Lieutenant	3.00	108,898	326,693
Crew Total	**15.00**		**1,302,270**

Decision Unit Cost Projection

Using the estimated FY 25 decision unit staffing costs provided as a starting point and making assumptions about cost increases over time, decision unit costs are projected in the following figure. Salaries and Wages are projected to increase 5.0% year over year and Benefits at 4.0% combined. Annual operating costs have been projected to increase by 2.1% annually based on the Western Region CPI-U, as reported by the U.S. Bureau of Labor Statistics[27].

[27] *12-month percentage change, Consumer Price Index, by region and division, all items (bls.gov)*

Figure 113: Projected Decision Unit Costs, FY 25 to FY 30

Decision Unit	Personnel Recurring Costs[1]					
	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Firefighter	731,683	765,474	800,826	837,810	876,503	916,983
Lieutenant	980,080	1,025,343	1,072,697	1,122,237	1,174,065	1,228,287
4-Person Company	1,302,270	1,362,413	1,425,333	1,491,160	1,560,026	1,632,073

Decision Unit	Capital Facility (Initial and Recurring) Cost[2, 4]					
	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Station Construction	3,815,000	3,986,675	4,166,075	4,353,549	4,549,458	4,754,184
Station Operating	24,456	24,970	25,494	26,030	26,576	27,134

[1]Cost increase based on projected annual total compensation increase of 4.6%

[2]Cost increase based on 2024 Western Region CPI-U average of 2.1% as of September, 2024

[3]Cost increase based upon industry expert projected annual increase of 5%

[4]Cost increase based upon historical non-residential construction cost increase over last four years of 4-5%

The first table shows the total annual staff costs for single resources (i.e., one shift Firefighter at 3 FTEs), and a 4-person company, projected from FY 25 to FY 30.

The second figure shows the decision unit for the estimated capital costs for station construction projected for the various fiscal years in which it could be implemented (based on inflationary estimates), with the operating costs that would increase depending on when the station would become online (estimated for a full year of operation). Thus, the station would cost less to build in FY 25 than it would in FY 30, based on the increasing costs of the market. However, while the market fluctuates, these estimates are based on a stable economy that steadily increases.

Given the decision unit costs and the average annual increase, the following figure breaks down the estimated salaries for the various levels of staffing proposed in Figure 106, in conjunction with the average annual increase for salaries over the 5-year project with a 5% year over year increase. Total salary impact is determined by the decisions being made as to the funding plan and therefore not calculated.

Figure 114: Sample Staffing Schedule Projected Costs

Decision Unit	Personnel Recurring Costs						
	Per Year Cost	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Salaries & Wages		1,836,010	1,927,811	2,024,201	2,125,411	2,231,682	2,343,266
Staffing Plan			**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
One Year	1,302,270		1,302,270				
Two Year	651,886		651,886	765,778			
Three Year	489,289		489,289	920,224	1,372,747		
Four Year	407,991		407,991	753,583	1,116,455		
Five Year	326,693		326,693	586,922	860,163	1,147,065	1,448,312

Conclusion

We at ESCI extend our heartfelt appreciation for the opportunity to provide Sheridan Fire Rescue with this Long-Range Master Plan. This project began with our team collecting information on SFR in the winter of 2024, and from the outset, it was clear that the City of Sheridan embodies the forward-thinking mindset needed for true continuous improvement. A government and organization willing to question its current policies and processes are uniquely positioned to excel, and Sheridan exemplifies this in its commitment to enhancing public safety services.

The work that SFR performs is outstanding, and we recognize the commitment Sheridan City Council and SFR leadership show in addressing challenges that, while shared by many, require unique and often difficult discussions. Evaluating service effectiveness alongside cost efficiency is crucial, and the thoughtful approach Sheridan brings to policy decisions demonstrates their dedication to the community. ESCI is grateful for the chance to support this mission by contributing a data-driven document that aids these critical deliberations.

We would like to sincerely thank the Chief, leadership, staff, and employees who played essential roles in bringing this plan to completion, as well as the many individuals who offered input, opinions, and candid feedback. This report represents a collaborative effort, and we hope that its insights are fully utilized in supporting Sheridan Fire Rescue's future success. It is ESCI's sincere hope that, through this Master Plan, SFR continues to deliver exemplary emergency services to the citizens of Sheridan.

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Appendix B: Sheridan Fire Rescue Fire Station 1

Facility Information and Condition Worksheet

Complete facilities and apparatus information using these tables. Use one table for each facility.

Facility Name / Station Number:
Sheridan Fire-Rescue/Station 1

Address:
212 E. Works St.
Sheridan, WY 82801



Primary use (check all that apply)
☐ Administration ☐ Maintenance ■ Emergency Ops
■ Special Ops ■ Training ☐ Communications Center
☐ Other (specify):

Structure

Square Footage: 12,500	Construction Type: Type II	# of Stories: 2
Dates of Construction	Original: 1982	Last Remodel: 2023
General Condition	☐ Excellent ☐ Good ■ Fair ☐ Marginal ☐ Poor	
Applicable Fire Code & Edition		Code-compliant ■ Yes ☐ No
Special Considerations (ADA, etc.)	None	

Facilities and Building Services

Security System Type (check all that apply): ☐ Security Fence and Gate ☐ Sallyport ☐ CCTV ■ Keypad ☐ Key ☐ Other, specify:

Maximum Staffing Capacity: 13

24-hour Watch office	■ Yes ☐ No	Emergency Ops Center	☐ Yes ■ No
Kitchen Facilities	■ Yes ☐ No	Exercise/Workout Areas	■ Yes ☐ No
Training/Meeting Rooms	■ Yes ☐ No	Shower Facilities	■ Yes ☐ No
Individual Lockers	■ Yes ☐ No	Equipment Storage	■ Yes ☐ No
Living Quarters	■ Yes ☐ No	Apparatus Bays	■ Yes ☐ No
# of Beds: 9	# of Bedrooms: 2	# of Back-in: 8	# of Drive Through: 2
Cascade System/Compressor	■ Yes ☐ No	Helipad	☐ Yes ■ No
Emergency Power	■ Yes ☐ No	Automatic Sprinklers	■ Yes ☐ No
Smoke Detectors and Alarms	■ Yes ☐ No	Apparatus Exhaust System	■ Yes ☐ No
Automatic Cooking Shut-off	☐ Yes ■ No	Seismic Protection	☐ Yes ■ No
Washer/Dryer for station wear/linen	■ Yes ☐ No	Washer/Extractor for PPE	■ Yes ☐ No
Decontamination Area	■ Yes ☐ No	Biohazard Disposal	■ Yes ☐ No

Fuel: ■ None ☐ Diesel, gal ☐ MoGas, gal ☐ AvGas, gal ☐ Jet A, gal

Emergency Power: ☐ Gas ☐ Diesel, Day Tank Size: Natural Gas

Use the table below to rate the condition of each facility.				
5. Very Good	**4. Good**	**3. Fair**	**2. Poor**	**1. Critical**
As New, No Defects, Performing as intended	Minor defects Performing as intended	Moderate defect Functioning but worn	Minor or major defect Not functioning as desired	Major defect Not functioning **OR** Risk to safety and health
Preventive Maintenance	Conditional Repair	Repair	Repair **OR** Replace	**Immediate** Repair **OR** Replace

Item	Score	Item	Score
Site		**Interior**	
Site Utilities and fire hydrants	4	Security	3
Emergency vehicle access	3	Walls, ceilings, and interior finishes	3
Pedestrian access (ADA and safety)	3	Doors, windows, partitions, and hardware	3
Roadways/driveways and associated signage, markings	4	Floor condition and suitability	2
Parking lots and associated signage, markings	4	Stairs: Interior stairs, handrails, and landings	4
Pedestrian sidewalks and associated signage, markings	4	Technology	3
Fences, walls, and access gates	0	Cabinetry, Furniture	2
Stormwater drainage/storage	4	Multi-purpose training/meeting areas	3
Landscape vegetation and trees	4	Restroom facilities, showers, lockers	3
Irrigation system	NA	Kitchen/food service facilities, water fountains	3
Patio systems and furniture	NA	Dormitory facilities	4
Loading Dock	NA	Living facilities, breakrooms, workout facilities	4
Helipad / Fuel storage and dispensing system	NA	Apparatus bays	4
Miscellaneous utility, trash, and storage structures	NA	Storage and mechanical rooms	4
Substructure		**Utilities**	
Foundations: Walls, columns, beams, or pilings	4	Emergency Power System	3
Basement: Materials, insulation, slab, floor underpinnings	NA	Electrical service and distribution	4
Loading dock	NA	Lighting & branch wiring (interior and exterior)	4
Exterior		Communications and security system	4
Frame: columns, pillars, walls, covered walkways, balconies	4	Gas service and distribution	NA
Roof: Condition, gutters, eaves, openings, leakage, ponding	2	Water service, heating, and distribution	3
Exterior condition, finishes, and appearance	4	Sanitary Collection / Septic System / Grease traps	4
Exterior doors, windows, doors, and hardware	4	**Mechanical systems**	
Fire / Life Safety		Heat Generation and distribution systems	4
Open code violations or deficiencies	4	Cooling generation and distribution systems	4
Applied fireproofing	4	Testing, balancing, controls, and instrumentation	4
Fire doors, fire escapes	4	Chimneys, vents, and exhaust systems	4
Emergency lighting	4	Refrigeration systems, freezers, and ice machines/storage	4
Fire detection and alarm, auto shut-off (cooking)	4	Elevators, escalators, and lifts	NA
Automatic sprinklers, standpipes, and fire pumps	4	Cascade system / Breathing Air Compressor	5
Eyewash stations	5	Apparatus Bay Exhaust System	5
Decontamination Area, Biohazard Disposal	5	Washer/Dryer for station wear/linen	4
		Washer/Extractor for PPE	4

CITY OF SHERIDAN, WYOMING

55 Grinnell Street, P.O. Box 848, Sheridan Wyoming 82801
Ph (307) 674-6483 Fax (307) 674-2195

Fire Rescue

MEMORANDUM

RE: Discussion of Resolution 04-25 Authorizing Submission of a Mineral Royalty Grant (MRG) in the Amount of $500,000 for the Purchase of a New Fire Apparatus - Fire Chief Gary Harnish

From: Gary Harnish, Fire Chief

To: City Council

CC:

Date: 01/20/2025

Recommendation:

Staff recommends that the Mayor and City Council approve Resolution 04-25, authorizing the submission of a Federal Mineral Royalty Capital Construction Account Grant (MRG) Application in the amount of $500,000 for the purchase of a new fire apparatus for the Sheridan Fire-Rescue Department.

Staff requests that the Mayor and City Council authorize the Fire Chief, Gary Harnish, as the authorized representative of the City of Sheridan, to act on behalf of the Governing Body in all matters relating to this grant application.

Background:

The size, age, and deployment of a fire department's fleet of vehicles (emergency and support) have a significant impact on the service capabilities of an organization. Other than its firefighters, officers, and support staff, emergency apparatuses and vehicles are the next most important resource in a fire department that has a direct impact on the level of service that the department can provide to the community. It is imperative that the fleet is not only in good condition but also up to the codes and standards of the National Fire Protection Association (NFPA).

Sheridan Fire-Rescue has two engines, both currently 16 years old, and both conditionally rated as fair and poor in the recent evaluation from the Emergency Services Consulting International (ESCI) 2024 Long-Range Master Plan. Based on the Sheridan Fire-Rescue Fleet Replacement Timeline, the engines are due for replacement in 2025. The current procurement for engines is around a four-year lead time.

Discussion:

The City plans to submit an MRG Application asking for $500,000 towards the purchase of a new fire apparatus, which the City will need to match the grant funds at 100%. Obtaining a quote for a new fire apparatus is in process, and is estimated around $1.3M. Knowing this, the City will be able to meet the 100% match.

Funding:

General Funds will fund the match and the additional funds needed for the future fire apparatus purchase. $250K was approved for the purchase in the current FY25 budget.

Attachments

Resolution 04-25

CITY OF SHERIDAN
RESOLUTION 04-25

A RESOLUTION AUTHORIZING SUBMISSION OF A FEDERAL MINERAL ROYALTY CAPITAL CONSTRUCTION ACCOUNT GRANT APPLICATION TO THE STATE LOAN AND INVESTMENT BOARD ON BEHALF OF THE GOVERNING BODY FOR THE CITY OF SHERIDAN, WYOMING FOR THE PURPOSE OF: ***Purchasing a New Fire Apparatus.***

WHEREAS, the Governing Body for the City of Sheridan, Wyoming desires to participate in the FEDERAL MINERAL ROYALTY CAPITAL CONSTRUCTION ACCOUNT GRANT program to assist in financing the purchase of a new fire apparatus; and

WHEREAS, the Governing Body for the City of Sheridan, Wyoming recognized the need for the purchase; and

WHEREAS, the Federal Mineral Royalty Capital Construction Account Grant program requires that certain criteria be met, as described in the State Loan and Investment Board's Rules and Regulations governing the program, and to the best of our knowledge this application meets those criteria; and

WHEREAS, the Governing Body for the City of Sheridan, Wyoming plans to match the requested Federal Mineral Royalty Capital Construction Account Grant from the following source(s): General Fund and Reserves.

NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF SHERIDAN, WYOMING:

that a grant application in the amount of Five-Hundred Thousand and 00/100 Dollars ($500,000) be submitted to the State Loan and Investment Board for consideration at the June 20, 2025, State Loan and Investment Board meeting to assist in funding the purchase of a new fire apparatus.

BE IT FURTHER RESOLVED, that Gary Harnish, Fire Chief, is hereby designated as the authorized representative of the City of Sheridan, Wyoming to act on behalf of the Governing Body on all matters relating to this loan application.

PASSED, APPROVED AND ADOPTED this 3rd day of February, 2025.

City of Sheridan

_____
Richard Bridger, Mayor

ATTEST:

_____
Ashlee Foster, City Clerk

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CITY OF SHERIDAN, WYOMING

55 Grinnell Street, P.O. Box 848, Sheridan Wyoming 82801
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Planning

MEMORANDUM

RE:	M1/M2 Update - City Planner Kelly Schroeder
From:	Kelly Schroeder, Planning Director
To:	City Council
CC:	
Date:	01/13/2025

Background:

Proposed M1/M2 Zoning Code updates were tabled in November in order to allow more time for public involvement.

On December 10, 2024, the City hosted an M1/M2 Open House at the Ramada Inn for members of the community to come learn more about the history of the project and proposed changes. Approximately 40 people attended this meeting. Staff has also had numerous one-on-one conversations with affected property owners to date.

Based on the feedback received from the Open House and individual conversations, staff believes there are two options for Council to consider moving forward.

Option 1 would be to keep the proposed changes as originally presented, with room for minor changes as necessary. This option fully restricts one-family dwellings and heavy industrial uses in the M1 district and creates a new M2 district exclusively for light and heavy industrial uses.

Option 2 would be a simple update to the current M1 district to add heavy industrial uses to the list of uses requiring a Special Exemption by the Board of Adjustment. A new M2 district would also be created that allows for light and heavy industrial.

Attachments

Proposed Updates - Option 1

Proposed Updates - Option 2

Proposed M1/M2 Updates – Option 1

Appendix A Section 8A M-1 Mixed-Use Employment District

A. *Use Regulations.* Any use shall be permitted except the following:

1. One-family dwellings
2. Heavy Industrial uses
3. Any use that is in conflict with any ordinance of the City of Sheridan.

B. *Height Regulations.*

1. *Maximum Height.* No building shall exceed a height of seventy-five (75) feet.
2. *Exceptions.* Building elements such as elevator projections, steeples, spires, and architectural elements may be allowed to extend an additional twenty-five (25) feet above the maximum height upon review and approval by the Board of Adjustment. The Board of Adjustment shall make their determination based on whether such exceptions impact the public health, safety, or welfare.

C. *Area Regulations.* The following table includes the minimum criteria for lot area and setbacks within the M-1 district. Supplemental setback criteria are located below the table to reflect specific and unique development patterns.

	Lot Area	Front Yard	Rear Yard	Side Yard
Residential Uses				
One-family (detached)	No minimum	0’	10’	5’
Two-family (duplex)	No minimum	0’	10’ / 5’	5’ / 0’
Multiple (row house / townhome)	No minimum	0’	10’ / 5’	5’ / 0’
Multiple (apartment and stacked building style)	No minimum	10’ / 15’	10’ / 15’	10’ / 15’
Non-Residential Uses	n/a	0’	0’	0’

1. *Multiple Dwelling Uses.*

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a. For multiple dwelling uses that are configured into an apartment and/or stacked building style and directly abut another property, the minimum setback required on the abutting front, rear, or side yard shall be increased from ten (10) feet to fifteen (15) feet for any structure over forty (40) feet in height.

2. *Rear Yard.* For a residential dwelling unit (attached or detached) with an alley loaded garage design, the rear yard setback may be reduced to five (5) feet.

3. *Side Yard.* For residential dwelling units that share a wall (party wall) with another unit such as a duplex or townhome product type, the side yard setback on the party wall side of the unit will be zero (0) feet.

D. *Parking Regulations.*

1. *Number of Spaces Required.* All newly erected or constructed structures shall provide upon the same lot, or within three hundred feet thereof, the number of accessible off-street parking spaces required by the use and area parking schedule set forth in Appendix A, Section 10, Subsection 16.

2. *On-Street Parking Credit.* On-street parking spaces that are located adjacent to a project lot or parcel may be credited in a one for one manner, such that one adjacent on-street parking space may count towards one off-street parking space required by this code.

3. *Alternative Parking Plans.* An alternative parking plan may be submitted by an applicant for review and determination by the city as an alternative means to satisfying the minimum off-street parking requirements of these regulations. The alternative parking plan shall demonstrate the following criteria. In no instance shall an alternative parking plan reduce the total number of required parking spaces by more than twenty (20) percent, unless reviewed and approved by the city.

    a. The plan will minimize and mitigate adverse impacts to surrounding neighborhoods to the maximum extent possible.

    b. The plan maintains or improves traffic circulation patterns.

    c. The plan promotes quality design as well as or better than strict compliance with the parking requirements of these regulations.

4. Parking Restrictions.

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a. Parking spaces will not obstruct a required clear vision area or violate any law.

b. On-street parking credited for a specific use may not be used exclusively by that use but shall be available for general public use at all times. No signs or action limiting general public use of on-street spaces is permitted unless said use restriction is required by federal, state, or local law.

c. An On-street Parking Credit does not apply on designated snow routes or locations where long-term permanent parking is allowed.

Appendix A Section 9 M-2 Industrial District

A. *Use Regulations.*

1. Permitted Uses. The following uses shall be permitted:

    a. Light Industrial uses

    b. A single caretaker unit may be allowed in support of a permitted use.

2. Special Exemption Uses. The following uses shall require additional review and approval by the Board of Adjustment, as outlined in Municipal Code Appendix A, Section 14:

    a. Uses that require permit approval through the Department of Environmental Quality.

    b. Heavy Industrial uses

    c. Adult oriented business: no permit shall be issued unless and until the request conforms to the criteria of section 10, subsection 20 of these regulations.

B. *Height Regulations.*

1. *Maximum Height.* No building shall exceed a height of seventy-five (75) feet.

2. *Exceptions.* Building elements such as elevator projections, steeples, chimney stacks, spires, and architectural elements may be allowed to extend an additional twenty-five (25) feet above the maximum height upon review and approval by

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the Board of Adjustment. The Board of Adjustment shall make their determination based on whether such exceptions impact the public health, safety, or welfare.

C. *Area Regulations.*

1. When adjacent to or abutting other M-2 properties, there are no front, side, or rear yard setbacks required for any building.
2. When adjacent to or abutting any other non-residential zone district and developable property, there shall be a minimum of a fifteen (15) foot front, side, or rear yard setback, as applicable, to accommodate a buffer of landscaping, earthen berms, fencing, or similar such devices.
3. When adjacent to or abutting a residential zone district and developable property, there shall be a minimum of a twenty-five (25) foot front, side, or rear yard setback, as applicable, to accommodate a buffer of landscaping, earthen berms, fencing, or similar such devices, and as specified in Appendix B, Article 8, Section 821.
4. All buildings shall adhere to locally adopted building and fire code regulations.

D. *Parking Regulations.* All newly erected or constructed structures shall provide upon the same lot, or within three hundred feet thereof, the number of accessible off-street parking spaces required by the use and area parking schedule set forth in Appendix A, Section 10, Subsection 16.

1. *Parking Restrictions.*
    a. Parking spaces will not obstruct a required clear vision area or violate any law.

E. *Signage.* Signage is allowed within the M-2 district and shall conform to the requirements of Section 3-13 of Chapter 3, Article 3-II of the Code.

Appendix A Section 2 Definitions

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Heavy Industrial. Heavy Industrial uses are uses that are typically associated with noxious impacts that are not easily contained or mitigated. Such impacts may include excessive odor, noise, dust, smoke, vibration, and the potential for fire and explosive hazards. Heavy Industrial uses are generally not compatible with residential or commercial activity. Examples of Heavy Industrial uses may include, but are not limited to the following:

1. Heavy manufacturing
2. The storage, processing, refinement, or production of hazardous or toxic substances as a primary use
3. Raw material or mineral extraction and/or processing
4. Uses associated with very heavy truck traffic
5. Animal stockyards
6. Slaughterhouses
7. Incineration facilities
8. Salvage or junkyards
9. Energy or utility facilities, such as substations, where no office, repair, or storage facilities are maintained
10. Any use that requires special permitting through the Wyoming Department of Environmental Quality

Light Industrial. Light Industrial uses are uses related to consumer-focused goods and services that are not typically associated with significant land use impacts. There may be low levels of odor, noise, dust, smoke, and vibration that are easily mitigated or contained. Light Industrial uses are generally compatible with adjacent or nearby residential or commercial activity. Examples of Light Industrial uses include, but are not limited to the following:

1. Small-scale manufacturing
2. Machining
3. Construction and trade businesses, such as general contractors, electrical, plumbing, and HVAC contractors, and their accessory and incidental uses
4. Assembly and packaging facilities
5. Warehousing and storage

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6. Offices
7. Outdoor storage either as a primary use or in support of a primary use
8. Vehicle or equipment repair or detailing business
9. Painting or powder coating facilities
10. Welding facilities
11. Energy or utility facilities that include office, repair, or storage facilities

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Proposed M1/M2 Updates – Option 2

8A M-1 Industrial District

A. *Use Regulations*. Buildings and premises may be used for any purpose not in conflict with any ordinance of the city of Sheridan, provided, however, that no permit shall be issued for an Adult Oriented Business unless and until the request conforms to the criteria of Section 10, Subsection 20. Additionally, the following uses shall require additional review and approval by the Board of Adjustment, as outlined in Municipal Code Appendix A, Section 14:

1. Acid manufacture.
2. Cement, lime, gypsum or plaster of Paris manufacture.
3. Explosives manufacture or storage.
4. Fat rendering.
5. Fertilizer manufacture.
6. Garbage, offal or dead animals incineration, reduction or dumping.
7. Gas manufacture, drilling or production.
8. Glue manufacture.
9. Ore smelting.
10. Petroleum refining.
11. Slaughterhouse, not including poultry and rabbit dressing.
12. Stockyards.
13. Crematorium for human remains.
14. Heavy Industrial uses as defined by these regulations

B. *Height Regulations*. No building shall exceed a height of seventy-five (75) feet.

1. *Exceptions*ent. The Board of Adjustment shall make their

C. *Area Regulations*. No front yard is required for any building. No rear or side yards are required except for residential buildings, in which case the side and rear yard requirements shall be the same as in the B-2 Business District.

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Lot area per family. For one-family and two-family dwellings the lot area per family requirements for the R-3 Residence District shall apply.

D. *Parking Regulations*. All newly erected or constructed structures within the M-1 Industrial District shall provide upon the same lot, or within three hundred feet thereof, the number of accessible off-street parking spaces required by the use and area parking schedule set forth in subsection 16 of section 10 of this ordinance.

Appendix A Section 9 M-2 Heavy Industrial District

A. *Use Regulations*. The following uses shall be permitted:
    1. Light Industrial uses
    2. Heavy Industrial uses

B. *Height Regulations* No building shall exceed a height of seventy-five (75) feet.
    1. *Exceptions*, steeples, chimney stacks, spires, and architectural elements may be allowed to extend an additional twenty-five (25) feet above the maximum height upon review and approval by the Board of Adjustment. The Board of Adjustment shall make their determination based on whether such exceptions impact the public health, safety, or welfare.

C. *Area Regulations.*
    1. When adjacent to or abutting other M-2 properties, there are no front, side, or rear yard setbacks required for any building.
    2. When adjacent to or abutting any other non-residential zone district and developable property, there shall be a minimum of a fifteen (15) foot front, side, or rear yard setback, as applicable, to accommodate a buffer of landscaping, earthen berms, fencing, or similar such devices.
    3. When adjacent to or abutting a residential zone district and developable property, there shall be a minimum of a twenty-five (25) foot front, side, or
    4. All buildings shall adhere to locally adopted building and fire code regulations.

D. *Parking Regulations*

<u>Appendix A Section 2 Definitions</u>

Heavy Industrial.

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1. Heavy manufacturing
2. The storage, processing, refinement, or production of hazardous or toxic substances as a primary use
3. Raw material or mineral extraction and/or processing
4. Uses associated with very heavy truck traffic
5. Animal stockyards
6. Slaughterhouses
7. Incineration facilities
8. Salvage or junkyards
9. Energy or utility facilities, such as substations, where no office, repair, or storage facilities are maintained
10. Any use that requires special permitting through the Wyoming Department of Environmental Quality

Light Industrial

1. Small-scale manufacturing
2. Machining
3. Construction and trade businesses, such as general contractors, electrical, plumbing, and HVAC contractors, and their accessory and incidental uses
4. Assembly and packaging facilities
5. Warehousing and storage
6. Offices
7. Outdoor storage either as
8. Vehicle or equipment repair or detailing business
9. Painting or powder coating facilities
10. Welding facilities
11. Energy or utility facilities that include office, repair, or storage facilities

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