Anna Fire Rescue

Anna, Texas

Master Plan 2022/2023

Emergency Services Consulting International
Providing Expertise and Guidance that Enhances Community Safety


TRUCK
ANNA FIRE
TRUCK
ANNA
FIRE RESCUE

Acknowledgments

Emergency Services Consulting International (ESCI) would like to acknowledge that without the assistance and support of the administrative staff and personnel of Anna Fire Rescue, this project could not have been successfully completed.

Agency Staff

Ray Isom, Fire Chief/Fire Marshal/E.M.C.
Dan Wood, Assistant Chief of Operations
Tom Brown, Assistant Chief of EMS and Training

…and the rest of the members of Anna Fire Rescue who selflessly serve their citizens and visitors with compassion and professionalism.

SECTION I:
Current Conditions

DEPARTMENT HISTORY

The following fire department history was provided from the publication: *The Spark That Ignited the Town of Anna* – A collection of Historical Stories of the Anna Area by the Anna Area Historical Preservation Society.

Anna had citizens who joined together to fight fires since the city came into existence. The earliest known members of the Anna Volunteer Fire Department from 1939 were Lillard Caldwell, Roy Turner, Bill Haynes, Lewis (Nip) Roberts, Roscoe Ford, Wayne Sherley. The fire truck was stored in the north end of the Sherley Store, where the old hearses were also kept.

Jan Miller, daughter of Wayne Sherley, remembers the time she rode over the right headlight on the front of the truck and held a lantern to show the way to a rural barn fire because the truck lights were not working. She also tells that on the rare times her father was out of town, the firemen would break into the building to get the fire truck out when called to a fire.

After the John Deere house moved from their downtown location to its new green building on Highway 5 in 1949, the Anna Fire Department relocated to the former headquarters of the John Deere Company on the north side of Fourth Street. The building was leaky and it's interesting that the building later became a Pool Hall and Café. Unfortunately, the records of the department in the downtown area have not been located.

- From 1939-1959, Floyd Summers was Fire Chief.
- From 1960-1988, Rosie Ashmore was Fire Chief (William "Rosie" Ashmore).

In 1967, according to Wayne Tilley, a longtime member of the department, a new 1967 Ford Cab and Chassis for a Grass Truck was sent to GW Taylor Tank in Gunter to be outfitted with a 650-gallon tank and PTO pump to work as a Pump and Go Grass Truck. This truck eventually turned into Booster 1. Many firemen were businessmen who were in town during the day. Volunteers from the Bank, Post office, Lumber Yard, Grainery, and School were relied on during the normal working hours of the day. There seemed to be a separate crew at night from the many people who worked out of town. The firemen stayed in contact by "Fire Phone Party Lines" that several firemen had installed in their home as a first response to a call of 37.180 Band radios and CB's.

It was during the mid to late 60's that the Fire Chiefs for Collin County formed the first formal Association to provide Fire Protection outside the various city limits. Rosie Ashmore was a charter member of the Association. During this period, the Fire Department was only responsible for Fire Protection. It would be in the mid 70's that Fire Prevention would find a place within the roles of the Fire Department Personnel. It was also during the late 70's that medical responses and the first responders would become an integral part of the department.

In 1976, Rosie Ashmore was Fire Chief; Wayne Tilley, Asst. Fire Chief; Mike Ashley, Truck Captain; Jerry Rollins, Truck Captain; and J.D. Ranley, Truck Captain.
The following trucks and other vehicles were in service:

- 1967 Grass Truck (Booster)
- 1947 GMC Pumper (Pumper 1)
- Ford Ecocline side door Van (Equipment Truck)

Funding sources were from fundraisers and minor funds from Collin County due to recently organized Fire Departments for the rural portions of Collin County. Before the advent of "911", Anna residents called Chief Ashmore's phone # "3333" to report fires or emergencies.
Plans for a new station began when Bill Powell and his wife, Peggy, provided a "Gift from the Heart" by deeding the land for the station on Highway 5, between the Steel Mill and Grainery to the City of Anna. Fundraisers and loan agreement between the Fire Department, Bank and Bill Powell for the original building and services was secured. Several local firemen and firemen wives worked on the station.

The new station became a reality with the assistance of several firemen and other construction workers. The slab was poured, and we began the task of erecting our station from a Blueprint that was in Rosie's and Wayne's heads. The first addition was to add a training room, known as the Ashmore Room, followed by a second addition. This addition was originally designed to be a Community Center, however shortly after we finished the shell, the need to build housing quarters for an onsite ambulance crew was realized. Chief Mosier worked out the details with Collin County to place an ambulance in the city, thereby benefiting all of our citizens of not only Anna, but also the surrounding areas in Collin and Grayson County.

The first training began in 1977. Grayson County Fire School founder Pat McCaulif and several others began the Grayson Fire School, utilizing the abandoned hospital building at Perrin Air Force Base, SE of North Texas Regional Airport, as a local live fire training facility. We trained with the Sherman Fire Dept. That same year a new 1976 Ford F750 with a 750-gpm Boardman Pumper was purchased by the department and placed into service to retire the aged GMC pumper.

The next year, 1978, the department added Toys for Tots and Goods for Grown-ups community service projects. The need to help needy families came into focus and AFD jumped to the rescue. The first 2-3 years provided assistance to 8-10 families within the jurisdiction, by giving a giant box of food and toys and presents for all. The department made sure it was able to provide staple goods, canned items and fresh fruit, meat, and dairy products. These services were made possible by the local grocer, banker, and donations from the public. As this program continued, the department provided food and gifts to over 40 families during the Christmas Holidays. This program was finally replaced by the Food Pantries and Churches from the area and by the Community ANGEL TREE which provides toys and clothes at Christmas for area children.

A Fire Prevention Education Program was initiated at the Elementary School. During the late 60's, in an effort to reach some of young minds, the department began a Fire Prevention Program where several of us would visit the Elementary Schools each year and try to help the youth of our community understand the danger and cost associated with fires. Proudly, the department was able to make a difference by reducing our juvenile fire setter problem and reducing the occurrence of fires started by juveniles by over 20% the first few years and almost totally removing that cause from the

intentional set fires within the Department. This program continues today. During the 90's and further, the Fire Marshal for Anna took the lead in the program.

Richardson, Plano, and Sherman training facilities were used for training due to the participation of several AFD members used as instructors at these facilities. Although the department was volunteer, it raised the bar for both paid and volunteer Fire Department Personnel. The department also began local training through the controlled burning of local uninhabitable structures. This not only provided a valuable training exercise but also helped reduce the debris for the owner. AFD was the 4th Collin County Fire Department to have the asset of "Jaws of Life", a hydraulic set of cutters used to cut the metal of a vehicle away, so that injured persons could be removed from vehicles. These proved to be one of the most important pieces of on-board equipment that was carried.

In 1980, McKinney FD had a surplus deuce and a half from Civil Defense. McKinney Fire Chief Tinker Taylor agreed to transfer the truck to Anna for use as a Tanker. A tank built by Taylor Tank was installed on the truck at the Bartlett Ditching Company shop by volunteers of the department.
In 1982, medical calls were made a part of AFD. The Anna and Van Alstyne Fire Departments began to train to become ECA's, EMT's, and Special Skilled EMT's. This regional training took place at Flesher Funeral Home in Van Alstyne. Future classes were hosted at the AFD building and VAFD meeting hall. The required on-call training was held at McKinney Fire Dept, Sherman Fire Dept, Collin Memorial Hospital in McKinney, Wilson N. Jones Hospital in Sherman, and Parkland Hospital in Dallas. This new role for the Anna Fire Department increased the survivability for many medical calls within our Department. During the training to become licensed medical providers, Care Flite was also introduced for use by local fire departments and first responders to major trauma calls. As a perk for volunteering to provide this first response medical service, CareFlite® agreed to provide Air Ambulance Service at no charge to the volunteer firefighter or spouse.

By 1986 the Station needed more room due to added trucks to the fleet. The training room and rear truck bay behind the drive-through bay were added in order to help the growing pains for the department. As in the first section of the Station, the volunteers built this without the use of outside labor and at cost for the materials. Even the internal finish out work was provided by the members. The training room carries the namesake of Chief Rosie Ashmore.

An additional pumper arrived in 1986. A 1964 Mack Open Rear Cab with 1000-gpm pumper was put into service to help with growing service area. Our first line pumper (1976 Ford with a Boardman 750-gpm Pumper) was not to leave the City Limits pre-insurance requirements for the City. The additional Booster (B-3) was built and placed into service in 1988. Again, this unit was built in the Bartlett Ditching Company shop by several members of the department in order to conserve funds to help equip the truck once it was built. This unit was constructed with a 1000-gallon tank and 350-gpm pump installed, so that the department could not only provide fire suppression, but also act as a quick attack tanker for the all too often grass and crop fires that were called to extinguish.

- 1988-1989 James Randles was Fire Chief.
- 1989-1998 Lynn Moser was Fire Chief.

In 1990, Collin County Assistant Fire Chief Larry Bartlett, who also served as the Collin County Fire Marshal worked with County Commissioners to raise the budget for fire protection services within the unincorporated areas of the County. This funding, along with proceeds from BINGO night in Plano, kept the department funded while the City struggled to keep taxes low.

During 1991, Collin County agreed to provide communication services to local county FD's and provide a New Age Trunked Radio System for use. Hand-held communication countywide to be used by CCSO, CCFD's, PD's and County Public Works. This was a major step toward mutual agreements and the ability for one department to talk to a neighboring department when priceless minutes count.
In 1992, the Anna Community Service League were sponsors for the department in raising funds. The need for a community center for various organizations to meet was present and needed to be addressed. The women of Anna came to the rescue and donated the funds to once again, make additional room in the station to provide a community center for the area. The volunteers came to the call of duty once again to help erect and dry-in the final addition to the station. We had covered the entire lot dedicated for the use of the Fire Department from the gift from our mayor, Bill Powell.

- 1998-2001, Dale Tilley was Fire Chief.
- 2001-2007, David Hunt was Fire Chief.
- 2007-2010, Larry Bridges was the Fire Chief.

During this period the department hired their first paid employees. James "Doc" Dockray was named Fire Marshal and Kenneth Bridges were hired as the first paid firefighters. It was about this time that Anna had their first emergency responder program.

In 2010, the department became a part of the City of Anna and Danny Newton served as the first paid Fire Chief. Newton left in 2011 and James Dockray served as Interim Fire Chief until 2012 when Frank Roma was hired. Roma served as Fire Chief for several months but left to take a position in Maine. Tim Gothard was hired in 2012 and served as Chief until retiring in December 2018.

Ray Isom was hired in 2017 as Deputy Fire Chief and served as Interim Fire Chief from November 2018 through February 2019, when he was named Fire Chief. Full-time staffing increased dramatically, and the department transitioned from a combination agency to a completely full-time, professional fire department.

A new and modern Central Fire Station was also constructed, and the department relocated from the old station to the new one in 2021. The fire station that was constructed in 1976 was demolished, however, the new station retained the Ashmore Room namesake for its EOC and training area.[1]

Aerial view of downtown Anna, date unknown.

ORGANIZATION OVERVIEW

Emergency Services Consulting International (ESCI) was engaged by Anna Fire Rescue (AFR) in 2022 to provide a long-range plan for the delivery of fire and emergency services within the Department that will assist the agency in future efforts and planning. ESCI was then engaged for updating the report with current financial and service delivery conditions. This report serves as the culmination of the project and is configured as a long-range plan that evaluates current conditions, projects future growth, development, and service demands, and provides recommendations to enhance existing services or provide an equal level of service over the next 10 to 15 years.

Using organizational, operational, staffing, and geographic information system (GIS) models, this study phase provides recommendations for improvement in current services delivered to the Department. The evaluation and analysis of data and other information is based on Texas state laws and regulations, National Fire Protection Association (NFPA) standards, Commission on Fire Accreditation International (CFAI) self-assessment criteria, health and safety requirements, federal and state mandates relative to emergency services, and generally accepted best practices within the emergency services community.[1]

Each section in the following report provides the reader with updated general information about that element and observations and analyses of any significant issues or conditions. Observations are supported by data provided by the Department and collected as part of the data review and interview process. Finally, specific recommendations are included to address identified issues or to take advantage of opportunities that may exist.

Anna Fire Rescue retained Emergency Services Consulting International to conduct a Long-Range Master Plan for Anna Fire Rescue. The Long-Range Master Plan provides AFR with a detailed analysis of current resource deployment as it applies to fixed facilities, including apparatus and personnel assigned to a fire station. It is designed to assist communities with quantifying current service delivery, evaluating service delivery and response performance, and developing strategies to make facility location decisions that will meet anticipated needs and resultant future service demand. In brief, this planning process answers three questions:

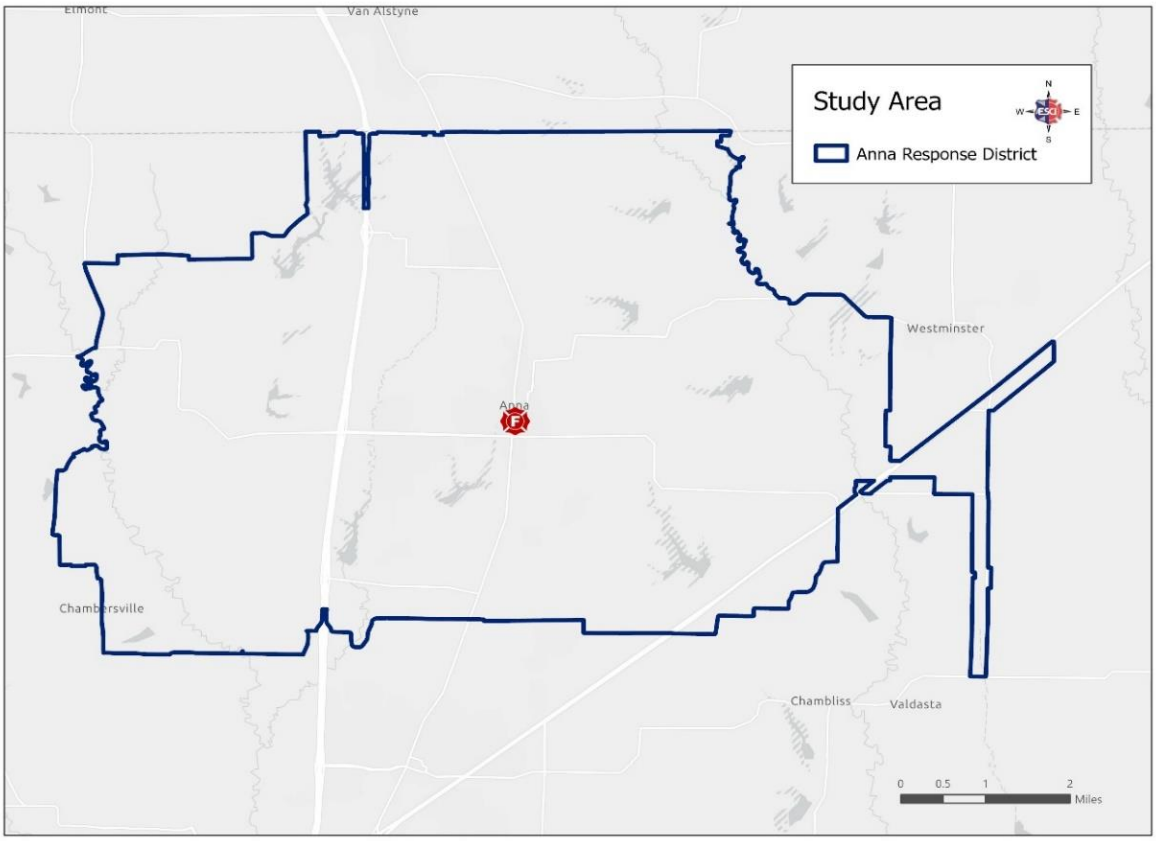
1. Where is our organization today? This is achieved via a detailed evaluation of AFR as it is currently configured, including an analysis of all other relevant master, strategic, and standards of cover reports provided by AFR.
2. Where will we need to be in the future? This is based on the status of AFR and ESCI's analysis of past and future population growth and forecast future service demand.
3. How will we get there? Providing short- and long-range future strategies designed to address long-term, future needs.

[1] The CFAI organization is now a subsection of the Center for Public Safety Excellence (CPSE) but maintains its prime function of accrediting fire agencies.

The project consists of three components, beginning with an Evaluation of Current Conditions. In this step, ESCI reviews existing facilities and conducts a detailed analysis of current service delivery and response performance. These observations and findings are compared with industry standards and best practices, accompanied by recommendations for changes where needed.

The next step is the development of Future Service Demand Forecasts. ESCI uses a combination of historical population data, census information, comprehensive plans, and past incident history to project anticipated future workload and identify community risk.

Finally, the report uses the information gathered to identify and evaluate Future Strategies to meet long-range needs. The approaches may include modification of existing facilities, relocation of current stations, and potential locations of future stations, if appropriate.



Current Service Area Population & Demographics

The community of Anna will experience notable growth from 2023 to 2028, with a projected increase in households from 8,402 to 10,344. As of 2023, Anna has a dense population, hosting approximately 26,366 people with a density of 558 residents per square mile. The community is relatively affluent, with a median household income of $88,660. The community's diversity index stands at 71.3, highlighting its relatively varied demographic.

From a risk perspective, there are several key elements worth noting. 13% of households have a person with a disability, pointing to potential needs for accessible facilities and services. The daily population shift is notably high, with a decrease of 8,353 individuals, suggesting a significant portion of the community might be commuting elsewhere for work or other activities. The percentage of households with public assistance is at 2%, while 7% of households live below the poverty level, indicating some level of socio-economic challenges within the community. Housing in Anna is predominantly owner-occupied, with 83% ownership rate compared to 17% renter occupancy.

Another risk factor to consider is the housing infrastructure. 7% of houses were built before 1980, hinting at possible needs for maintenance or refurbishment, especially given that the median year when structures were built is 2006. The crime index is at 117, but without a benchmark, it's challenging to determine its severity in context.

From an age demographic standpoint, the community contains 10% of its population within grades 1-8 and 5% in high school age. This indicates a considerable young population that might require additional educational facilities. In terms of utilities, 12% of homes use gas appliances and would therefore need carbon monoxide alarms. Surprisingly, there is a 0% representation for households without a vehicle, suggesting high vehicular mobility. Lastly, the educational profile of the community is quite commendable, with 25% of the population holding a college degree.

Comparison to Collin County and the Great State of Texas

Anna, as a community, demonstrates distinct features when considered in the backdrop of larger entities like Collin County, TX and the State of Texas. In terms of demographics and population dynamics, Anna enjoys an above-average median household income of $88,660, suggesting a relatively affluent community compared to the state's median. Its diversity index of 71.3, although lower than Texas's 83.8, is closely aligned with Collin County's 74.8. One of the notable attributes of Anna is its considerable daily population shift. This suggests that a significant portion of its residents likely commute for work, education, or other activities. In terms of housing, Anna leans heavily towards owner-occupancy, with 83% of its housing units being owner-occupied. Additionally, Anna has a notably younger built environment, with its median year of structure being 2006.

Based on the comparison with Collin County and the State of Texas, the following bulleted list captures Anna's unique characteristics:

- Median Household Income: $88,660 (Higher than Texas's average)

- Diversity Index: 71.3 (Lower than Texas but comparable to Collin County)
- Daily Population Shift: -8,353 (Significant decrease during the day)
- % Owner Occupied: 83% (Higher than both Texas and Collin County)
- % Renter Occupied: 17% (Lower than both Texas and Collin County)
- % Households with a Disability: 13% (Lower than Texas's 23% but comparable to Collin County)
- % School-aged Population (Grades 1-8): 10% (Lower than both Texas and Collin County)
- % High School Age Population: 5% (Lower than both Texas and Collin County)
- % Houses Built Before 1980: 7% (Significantly lower than Texas's 34%)
- Median Year Structure Built: 2006 (More recent compared to Texas)
- Crime Index: 117 (Comparable to both Texas and Collin County)
- % Vacant Housing Units: 5% (Comparable to Collin County but lower than Texas's 10%)

It's clear from the data that Anna offers a unique blend of features and stands out in specific areas, particularly in its housing landscape and demographic profile when juxtaposed with larger entities.

COMMUNITY PROFILE

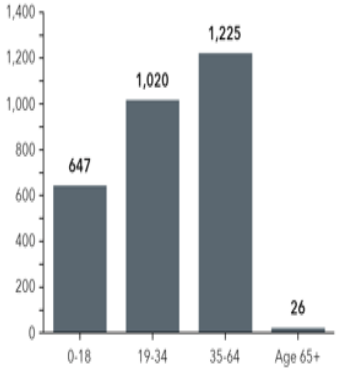
Area: 47.25 square miles

26,366 Population

8,402 Households

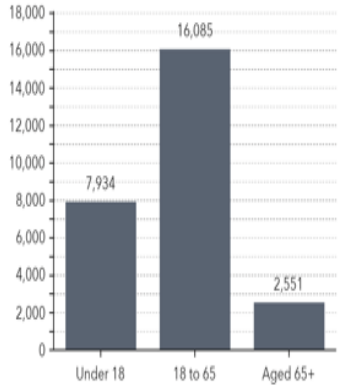
3.14 Avg Size Household

POPULATION NO HEALTH INSURANCE (ACS)



Language Spoken (ACS)	Age 5-17	18-64	Age 65+	Total
English Only	3,002	8,816	993	12,811
Spanish	956	2,566	268	3,790
Spanish & English Well	956	1,919	131	3,006
Spanish & English Not Well	0	644	3	647
Spanish & No English	0	3	133	136
Indo-European	89	374	0	463
Indo-European & English Well	89	374	0	463
Indo-European & English Not Well	0	0	0	0
Indo-European & No English	0	0	0	0
Asian-Pacific Island	21	125	1	147
Asian-Pacific Isl & English Well	21	125	1	147
Asian-Pacific Isl & English Not Well	0	0	0	0
Asian-Pacific Isl & No English	0	0	0	0
Other Language	1	76	0	77
Other Language & English Well	1	76	0	77
Other Language & English Not Well	0	0	0	0
Other Language & No English	0	0	0	0

POPULATION BY AGE



AT RISK POPULATION

1,102 Households With Disability

2,551 Population 65+

3 Households Without Vehicle

POVERTY AND LANGUAGE

10% Households Below the Poverty Level

607 Households Below the Poverty Level

133 Pop 65+ Speak Spanish & No English

HOUSING PROFILE

33.3 Median Age

$88,660 Median Household Income

$299,429 Median Home Value

WEALTH PROFILE

94 Wealth Index

105 Housing Affordability

71 Diversity Index

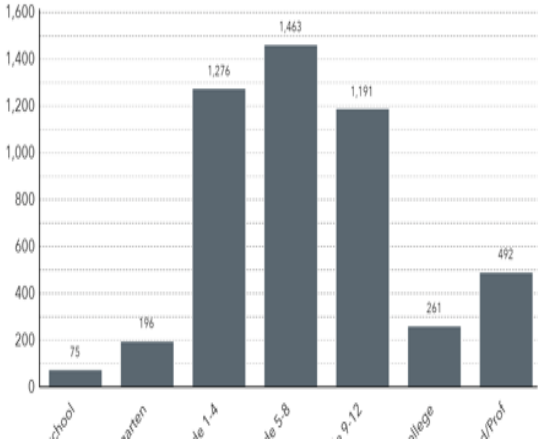
POPULATION AND BUSINESSES

18,013 Daytime Population

339 Total Businesses

3,158 Total Employees

SCHOOL ENROLLMENT (ACS)



Organizational Overview

Anna Fire Rescue is an emergency response agency located in Anna, Texas. The Department has a rich history of serving the community of Anna, Texas to ensure the safety and well-being of residents in the face of fire emergencies and other life-threatening incidents. Over the years, it has evolved and expanded its capabilities to meet the growing needs of the community.

Although there is no record of the exact founding date of the Anna Fire Department, it can be traced back to at least 1939 when a group of dedicated individuals recognized the need for a professional firefighting force. Initially, the department operated with limited resources and manpower, relying on the commitment and volunteerism of community members. The agency is now referred to as Anna Fire Rescue.

As Anna's population grew, so did the demand for emergency services. Recognizing the importance of providing efficient and effective response capabilities, the Department underwent significant developments. The department secured funding for advanced firefighting apparatus, equipment, and training programs, enabling them to enhance their response capabilities and improve the level of service provided to the community.

Throughout its recent history, Anna Fire Rescue has been dedicated to the continuous improvement of its operations and services. The current department has adopted modern firefighting techniques, implemented state-of-the-art equipment, and incorporated advanced technologies to enhance emergency response. This commitment to innovation and professionalism has positioned Anna Fire Rescue as a leading emergency response agency in the region.

Additionally, the department has fostered strong relationships with neighboring fire departments and emergency service providers. Collaborative efforts, such as mutual aid agreements and joint training exercises, have been established to ensure seamless coordination and efficient resource allocation during large-scale incidents or emergencies beyond Anna's jurisdiction.

Anna Fire Rescue has also placed a strong emphasis on community engagement and fire prevention initiatives. It has implemented educational programs, conducted safety demonstrations, and actively participated in community events to promote fire safety awareness and empower residents to prevent and respond effectively to emergencies.

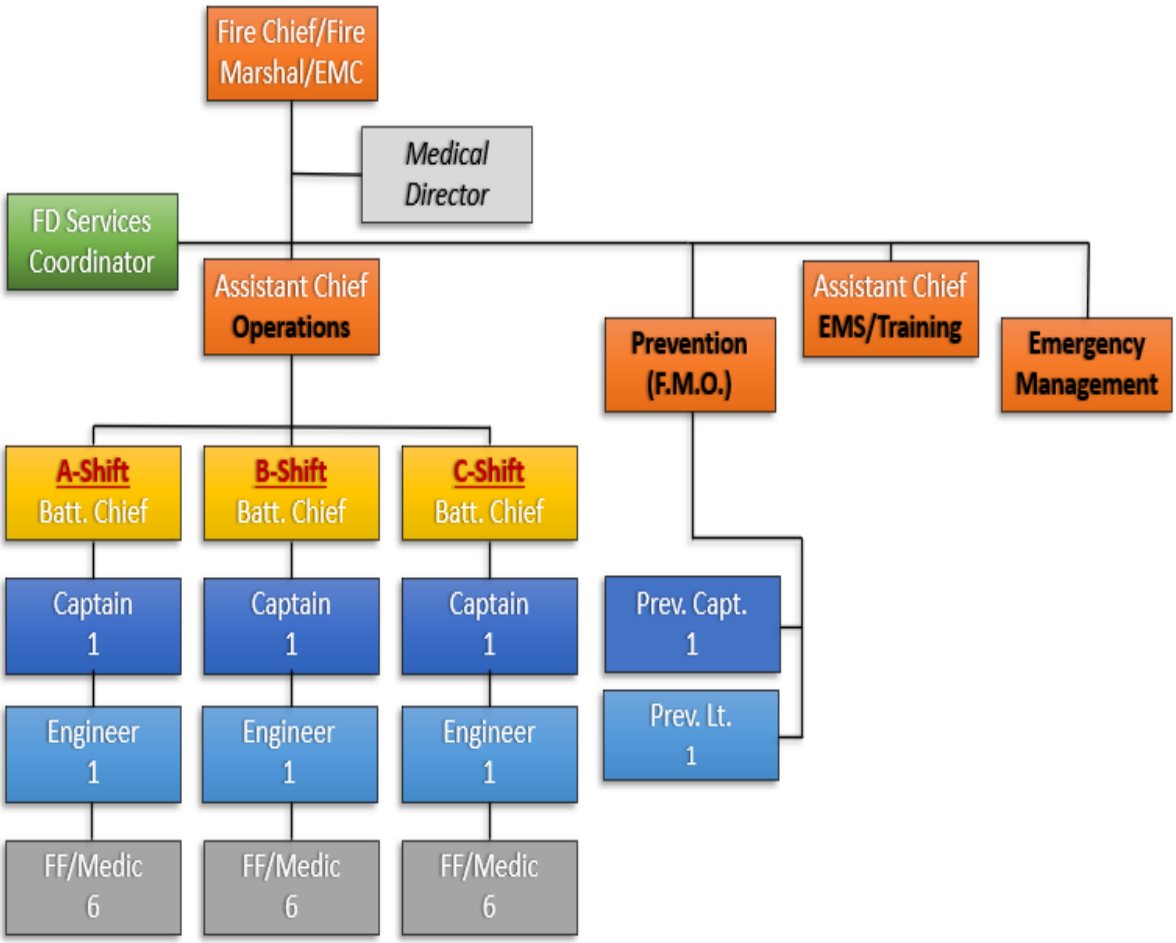
Today, Anna Fire Rescue is an integral part of the community, providing professional and reliable emergency response services. With a dedicated team of firefighters, paramedics, inspectors, investigators, and support staff, the department remains committed to safeguarding lives and property through prompt, efficient, and professional service.

The history of Anna Fire Rescue is a testament to the dedication, resilience, and ongoing commitment to public safety demonstrated by its current and previous members. Through their unwavering efforts, the department has built a strong foundation of trust and reliability within the community and remains prepared to face the challenges of the future.

Organizational Design

Anna Fire Rescue operates under a well-defined organizational design with a clear command structure. At the top of the command hierarchy is the Fire Chief, who serves as the department's highest-ranking officer. The Fire Chief is responsible for overall departmental management, strategic planning, and ensuring the efficient and effective operation of the fire department. Reporting directly to the Fire Chief are the Assistant Chiefs, who oversee specific divisions or areas within the department, such as operations, administration, training, or fire prevention. They assist the Fire Chief in implementing policies, managing personnel, and coordinating emergency response activities. Under the Assistant Chiefs, there are Battalion Chiefs who supervise fire companies or units within the department, leading teams of firefighters and paramedics. These company officers ensure the proper execution of ground firefighting, rescue, and medical operations. This command structure provides clear lines of authority, efficient communication, and effective coordination during emergency incidents, enabling Anna Fire Rescue to fulfill its mission of protecting lives and property in the community.

Organizational Chart



Span of Control

Common to emergency services providers across the United States, the Department operates in a traditional, top-down, paramilitary structure. This has allowed the Department to function with clear lines of authority and defined responsibilities. Spans of control fall within acceptable ranges. It is worth noting that the paramilitary structure works well during emergency incidents when operational objectives are clear and minimal time exists for supervisors to achieve consensus before the implementation of an action plan. However, it is during non-operational periods and activities that leaders should refrain from using formal, traditional fire service hierarchical, command and control communication techniques and allow for more informal communications to occur.

Job Descriptions

Along with a well-structured organizational chart, employees must understand what is expected of them and that those expectations be institutionalized in the form of job descriptions. The Department has adequate job descriptions in place for all positions. It is important that the process for regular review and updating of job descriptions be defined.

Governance and Lines of Authority

The City of Anna operates under a council-manager form of government. In this system, the city council, comprised of elected officials, serves as the legislative body responsible for setting policies, making decisions, and representing the community's interests. The council appoints a city manager responsible for overseeing day-to-day operations, implementing council policies, and managing city departments, including emergency services.

As for emergency services, Anna Fire Rescue operates as a municipal fire department. It is typically funded and governed by the City of Anna, which provides the necessary resources, equipment, and infrastructure to ensure the department's effective functioning. The department is led by a Fire Chief who oversees operations, manages personnel, and makes strategic decisions to enhance emergency response capabilities.

It is important to note that the specific organizational structure and management of emergency services may vary between different jurisdictions and can be influenced by local ordinances, agreements, or regional partnerships. However, in the case of the City of Anna, a council-manager form of government is commonly seen, with Anna Fire Rescue operating as a municipal emergency service provider under the city's governance.

Survey Components	Observations
Agency name	Anna Fire Department
Preferred acronym	Anna Fire Rescue or AFR
Governing body	City Council
Head of the governing body	Mayor
Key employee of governing body	City Manager
Meetings	
Elected official authority defined.	City of Anna
Fire Chief position	Ray Isom
Hired by contract	At will employee
Term of contract	N/A
Periodic performance evaluation	Annual evaluation performed by the City Manager
Policy and administrative roles defined.	Policies and Procedures
Policy, rules, guiding documents	Policies and Procedures, Department SOGs, and EMS Policies and Procedures
Legal counsel maintained	Yes
Labor counsel	N/A
Financial controls	
Financial control system	Finance Dept.
Financial review	Annual Review
Frequency of review	Annual
Governing body minutes maintained	City Secretary

Anna Fire Rescue is organized for the primary purpose of providing fire protection services to the residents of the City of Anna. As such, the agency is wholly responsible to the city manager, to whom the Fire Chief reports directly.

Governance and Decision-Making

From a governance and decision-making standpoint, the organizational chart represents a clearly defined reporting hierarchy with appropriate spans of control. An organizational chart by itself is of no significance if policies and procedures within the organization do not assure that members follow the defined chain of command. Too often, individuals are allowed to circumvent the organizational structure to pursue personal agendas. For this reason, it is essential that the organization implement and enforce practices that assure that the chain of command is properly adhered to.

Management Components

Effective fire department management is a significant challenge for fire service leaders. Today's fire department must address management complexities that include an effective organizational structure, adequacy of response, maintenance of competencies, a qualified workforce, and financial sustainability for the future.

To be effective, the management of a fire department must be based on a number of components. These initial elements have been accomplished by Anna Fire Rescue through a

strategic plan that has institutionalized the organization's mission, vision, and values. This process should be built upon to ensure that essential foundational elements such as policy and operational documents, development of internal and external communication practices, recordkeeping, and sustainable financial practices are maintained.

In the following report section, ESCI examines Anna Fire Rescue's current efforts to manage the organization and identifies measures and best practices ESCI recommends for the future.

Foundational Management Elements

The development of baseline management components in an organization enables it to move forward in an effective manner. Without foundational management elements, the organization will tend to operate in a random and generally ineffective manner. The following figure reviews the department's baseline management components.

Anna Fire Rescue Foundational Elements

Survey Components	Observations
Revised mission statement adopted	2023
Displayed	Policies & Procedures
Periodic review	Reviewed periodically
The vision established & communicated	2023
Values of staff established	2023
Strategic or master plan	Yes
Adopted by elected officials	City Council
Published and available	Available upon request
Staffing Periodic review	Annually
Goals & objectives established.	Yes, via the 2023 Strategic Plan
Date developed	May 2023
Periodic review	Will be Annually
Tied to performance statements/plans	Yes
Objectives linked to programs	Yes
A code of ethics established	In Policies & Procedures

Discussion

When core management elements are in place, they serve to align efforts and inform all members of the following:

- The purpose of the organization (mission).
- Where the organization is going (vision).
- How the members will treat each other and their customers (values or guiding principles).
- How the organization will achieve the desired future state (goals and objectives).
- Each person's role in accomplishing that future state (work assignments).
- The timelines and priorities for each component of the effort.

The Department describes both its mission and core values on the department website. Their mission statement begins with the following:

> *"Dedicated to Life Safety and Property Conservation Through Professional Commitment to our Community and Visitors."*

The statement continues to describe how it accomplishes its mission, how it supports other fire service organizations, and the responsibility of its members to express the organization's core values.

The Department's website also lists its core values:

- **Integrity:** Comprised of Belief in our Mission and Personal Discipline
- **Character:** Comprised of Integrity and Wisdom
- **Honor:** Comprised of Integrity, Character, Loyalty, Courage, Respect, and Formal Admiration/Recognition
- *Anna Firefighters are expected to Live Honorably, Lead Honorably, and Demonstrate Excellence at all times.*

The Mission and Core Values statements were developed as a part of a process of developing a Strategic Plan in 2023. The Strategic Plan is well done and identifies a wide variety of important goals and objectives for the department to use in moving forward. The objectives are well defined and include time frames for accomplishment.

Management Documents and Processes

Organizations should establish appropriate documentation, policies, and procedures and identification of internal and external issues that affect the agency. Processes must also be selected to address the flow of information and communication within AFR and its constituents.

The following figure lists and describes the various Department foundational documents.

Foundational Documents

Survey Components	Observations
Copies of rules provided	Baseline documents are the departmental policy, Standard Operating Policies (SOPs) manual & EMS protocol manual. These documents may be found using the department's Lexipol portal.
Copies of SOGs or guidelines available	These documents may be found using the department's Lexipol portal.
Regular updates	Yes
Process for development of new SOGs	See SOPs
SOPs used in training evolutions.	Yes
Policy manual available	Same as Policies and Procedures
Reviewed for consistency	Currently being developed and expanded via Lexipol

Survey Components	Observations
Reviewed for legal mandates	As developed via Lexipol
Training on policies provided	Lexipol system includes training components to be implemented upon completion of policies.

SOP Discussion

Anna Fire Rescue, by necessity and according to its mission, must function in a paramilitary manner. Consistent service delivery depends on standardized rules, regulations, and policies that guide appropriate behavior and accountability. These guiding documents are vital for success in training at all levels and increasing the expectations of the citizens served by the Department. As seen in the preceding figure, the Department's Standard Operating Policies and EMS procedure manual are available via web-based technology. The Department has taken the positive step of using the Lexipol® policy management software to develop training and other policies.

The Department appears to be taking positive steps to develop adequate policies and standard operating guidelines and ensure they are distributed among the stations electronically. The use of Lexipol® is a progressive strategy and should be continued.

The next figure describes the various critical issues and future challenges facing the Department.

Critical Issues and Future Challenges

Survey Components	Observations
Critical Issues	
Critical issues are identified	Yes
First critical issue	Staffing following NFPA 1710
Second critical issue	Station locations following NFPA 1710
Third critical issue	Response times
Internal evaluation of critical issues	Yes
Challenges of the Future	
Challenges are identified	Yes
First challenge	City funding
Second challenge	Lack of practical experience – new staff
Third challenge	Political challenges that are unique to the area – growing area

Critical Challenges Discussion

The Department considers operational staffing in accordance with the National Fire Protection Association's (NFPA) 1710 Standard as its first critical issue. One component of this standard recommends minimum staffing of career firefighters on fire apparatus. The Department has established a goal to meet this standard. The Department's reliance on cross-staffing apparatus

is cost effective but may contribute to a lower rating. In addition, the current staffing model may negatively impact their Insurance Services Office (ISO) rating.

The addition of EMS calls and advanced life support (ALS) using EMT-Paramedics may have compromised the Department's ability to staff adequately, as cross-staffing is done frequently. Finally, the Department believes that its third critical issue regards unacceptable response times. A part of this is to achieve acceptable response-time goals and a timely delivery of advanced life support.

As with many fire departments, the Department considers potential inadequate funding as a future challenge, in addition to political difficulties unique to the area. From an operational perspective, there are concerns regarding the lack of practical experience in fire suppression activities. For example, tenured firefighters in the organization may not have had the opportunity to participate in an interior fire attack.

Communications

The Department communicates internally by way of memos and emails along with quarterly officer meetings. Regular shift meetings are held with the intent of disseminating information from officer meetings to the line personnel. Minutes of staff meetings are not taken and distributed. Because information does not always get passed along consistently, and all personnel are not always present at meetings, the distribution of staff meeting minutes is an option to consider.

External outreach is limited to the Department website and social media. Connecting consistently with the community is important. ESCI recommends that the Department consider the development of periodic newsletters and enhanced social media outreach to stay connected with its citizens.

Communication Discussion

Effective communication is paramount for Anna Fire Rescue, ensuring seamless coordination and collaboration among its diverse team members. From the Chief to the staff, various communication channels are utilized to disseminate information and foster a culture of openness. Regular meetings serve as a platform for discussions, strategy planning, and the sharing of crucial updates. These gatherings facilitate a direct line of communication from leadership to the entire department, ensuring that everyone is well-informed about organizational goals, emergency response protocols, and any pertinent procedure changes. Additionally, email communication is crucial in conveying detailed information, making official announcements, and providing a written record for future reference.

In addition to meetings and emails, Anna Fire Rescue strongly emphasizes performance management processes. These processes not only assess individual and team performances but also serve as an avenue for constructive feedback and goal setting. By establishing clear performance expectations and providing regular feedback, the department ensures its members are aligned with organizational objectives. This approach not only enhances individual growth but also contributes to the overall efficiency and effectiveness of the department.

Moving forward, Anna Fire Rescue may consider several recommendations to further strengthen communication. First, the department could explore integrating technology solutions, such as a dedicated communication platform or app, to streamline information sharing and enhance real-time collaboration. Second, implementing training programs focused on effective communication skills for all staff members could contribute to a more cohesive and responsive team. Third, establishing a mentorship program within the department can facilitate knowledge transfer and create a supportive environment for professional development. Lastly, continuing a culture of continuous improvement by soliciting feedback from all levels of the organization may lead to innovative ideas and solutions, ensuring Anna Fire Rescue remains at the forefront of advancements in emergency response and community service.

Planning for Fire Protection and Emergency Medical Services

Emergency services exist in a rapidly changing environment. Along with improved tools and technologies used to provide service there is the increased regulation of activities, new risks to protect, and other challenges that can quickly catch the unwary off guard. Only through continuous internal and external environmental awareness and periodic course corrections can an organization stay on the leading edge.

In order to do a better job with available resources, the organization must focus on improving services while identifying programs or activities that may no longer serve its changing needs. Through planning, an agency 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 organization's true success. An emergency services agency must consider planning on four distinct levels:

- 1. Tactical planning
    - Tactical planning is the development of strategies for potential emergency incidents.
- 2. Operational planning
    - Operational planning is the organization of day-to-day activities—as primarily outlined by a Department's standard operating guidelines and procedures—and the integration of the agency into other local, regional, or national response networks.
- 3. Master planning
    - Master planning is preparation for the long-term effectiveness of the agency as the operating environment changes over time.
- 4. Strategic planning
    - Strategic planning is identifying an organization's mission, vision, and values and *prioritizing goals and objectives* for items that need to be accomplished in the near future.

The Department performs some fundamental, short-term planning in the form of the annual budget development process, which defines the activities and priorities identified for the upcoming year. However, establishing a long-term planning perspective for the city is essential

as well. Without a plan, an organization can't know when it is reaching milestones or providing exceptional services to its constituency. The following figure details the current planning efforts in place within the Department.

Planning for Fire and Emergency Medical Services

Survey Components	Observations
Adopted planning process	Not formally
Long-range planning	Completed in 2023
Strategic planning	3-year Strategic Plan completed in 2023
Capital improvement planning	8-year front-line service, 8-year reserve. Schedule is in place, but no dedicated funding mechanism exists.
Financial planning	Annual budget process only; no CIP process exists.
Operational planning	Hybrid
Response planning	Dispatch operations provided by the County.
Regional incident command	Yes
Mutual aid planning	The mutual aid system is in place.
Disaster planning	The Fire Chief is an active participant.
Tactical planning	Formal
Pre-fire planning	Completed on all commercial buildings and target hazards
Specific hazard plans	As needed
Hazardous materials planning	Follow up on SARA Title III reports; Completed via Local Emergency Planning Committee (LEPC) process.
Planning group established	Planning groups appointed as needed.
Mission statement developed	Yes
Strategies formulated (goals)	Included in the strategic plan
Benchmarks (performance objectives)	Included in the strategic plan
Preparedness and response (EOP[2], EAP[3], RMP[4], radiological preparedness)	Completed at the County level
Plans/Documents	Appropriate plans in place
Date developed	Multiple
Adopted by elected officials	By City Council
Periodic review	Ongoing

Discussion

The Department has not established a formally structured planning process, but instead, assembles planning committees on an as-needed basis which, in the past have included

[2] Emergency Operations Plan
[3] Emergency Action Plan
[4] Risk Management Plan

apparatus committees to specify new equipment. Others are appointed as needed. The following discussion focuses on the identified planning strategies.

Tactical Planning

It is critically important that firefighters and command staff have comprehensive, accurate information readily at hand to identify hazards and direct tactical operations while utilizing built-in fire suppression systems and fire resistive features. This is accomplished by building familiarization tours, developing pre-incident plans, and conducting tactical exercises, e.g., on-site or tabletop simulations. Pre-incident plans are easy to use, quick reference tools for company officers and command staff.

The department currently completes pre-incident plans on all commercial occupancies and targets hazards. Other special hazards may receive pre-incident plans as needed. In addition, the Department addresses the requirement of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) also commonly known as SARA Title III, related to emergency planning for the use and storage of hazardous substances. Their efforts are coordinated with the required "Local Emergency Planning Committee" (LEPC). The city's tactical planning initiatives are appropriately established.

Operational Planning

Operational planning includes the establishment of minimum staffing policies, standardized response plans or protocols, regional incident command planning, mutual and automatic aid planning (locally and regionally), resource identification and planning, and disaster planning. Maintaining a comprehensive and current emergency plan and resource list offers the best opportunity for the department to ensure adequate resources are readily available to control major events. Resource lists should be available to incident commanders and general staff in the field and in the emergency operations center.

The Department has entered into mutual/automatic aid agreements with other Collin County agencies. The agreements appropriately include an automatic aid component, based on geographic "box alarm" designations resulting in what is essentially the use or pre-programed dispatch of mutual aid resources, without the need to ask for them during an emergency.

Strategic Planning

The Department completed a strategic plan in 2023. The plan is well developed and provides a "road map" for the organization from a short-term planning perspective. A strategic plan involves a three to five-year planning window and establishes prioritized goals and objectives for the organization. The planning approach is particularly important when a Master Plan has been completed. The Master Plan identifies multiple recommendations and future strategies, which are then evaluated and prioritized via the Strategic Plan. The 2023 Strategic Plan remains current and applicable; however, it is advised that the plan be re-visited and updated upon completing this Master Plan. ESCI can assist with the process.

Emergency Management Planning

Emergency management, once a low priority in the mind of public officials, has risen to the conscious level of everyday life. Nonexistent before 2001, the DHS (Department of Homeland Security), terrorist threat warnings, the Transportation Safety Administration (TSA) screenings on public transportation, and security checks at sporting events and concerts are now common aspects of urban life.

Forward-thinking community governments prepare themselves, other institutions, businesses, and the public to survive disaster by mitigating hazards to eliminate or reduce risk. By developing and maintaining emergency action plans, and by exercising and updating the plans regularly, municipal governments help limit (or manage) the consequences of a disaster. The common term for governmental disaster preparedness is emergency management.

The Department has independently developed plans for responding to disasters and has also chosen to rely on the County-wide emergency management functions of the Collin County Emergency Management Office. The department has minor input to these plans. It is paramount that city staff be well informed of the emergency plan content and that the Department's role in their execution be clearly understood by responders, command staff, and elected officials. ESCI recommends that the department maintain an active role in developing emergency management planning within the city and county. ESCI further recommends that a dedicated FTE be budgeted to coordinate the Emergency Management Division within the Department.

Capital Assets and Assessment of Current Infrastructure

Regardless of an emergency service agency's financing, if appropriate 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).

The Department maintains a balance of three primary resources needed to carry out its emergency mission: People, Equipment, and Facilities. Because firefighting is a highly physical pursuit, the adequacy of personnel resources is a primary concern, but no matter how competent or numerous the firefighters are, the department will fail to execute its mission if it lacks sufficient fire apparatus distributed in an efficient manner.

The department maintains one fire station (with a second station under construction), and millions of dollars-worth of capital assets. These assets are necessary to provide service and must be maintained and replaced as needed.

As stated previously, the Department's major capital asset inventory currently falls in line with national medians for the region, which is partially due to the considerable geographic area served.

Facilities

Appropriately designed and maintained facilities are critical to a fire department's ability to provide timely services and appropriately deploy assets. ESCI observed and reviewed the fire station operated by the Department. The findings are summarized in the following pages and any areas of concern were identified.

Anna Fire Rescue – Central Station

Physical Address:

- **305 South Powell Parkway, Anna, Texas**

Construction Type:

- **Modern steel-frame construction**

Seismic Protection/Energy Audits:

- **Equipped with basic seismic protection measures.**
- **Regular energy audits are conducted for efficiency.**

Auxiliary Power:

- **A generator is present; *however, it is not dedicated to the building*.**

Condition:

- **Excellent maintenance; meets current standards.**

Special Considerations:

- **ADA Compliance: Yes**
- **Mixed Gender Appropriate: Yes**
- **Storage: *Adequate storage space for equipment and supplies is lacking*.**
- **Administration and Prevention: *Lacks expansion space and efficient reception area*.**

Square Footage:

- **Approximately 15,000 square feet**

Facilities Available:

- **Exercise/Workout: Dedicated space for firefighter workouts.**
- **Kitchen/Dormitory: Fully equipped kitchen and comfortable dormitory.**
- **Lockers/Showers: Individual lockers and modern shower facilities.**
- **Training/Meetings: Specialized rooms for training sessions and meetings.**
- **Washer/Dryer: Laundry facilities on-site.**

Safety and Security:

- **Sprinkler System: Installed throughout.**
- **Smoke Detection: Advanced smoke detection systems in place.**
- **Security: Security system in place *however, it is not monitored*.**
- **Apparatus Exhaust System: *In place but is it not NFPA recommended point-of-capture*.**

Units/Staffing Levels Assigned:

- **3 Firefighting Units (Plus 1 Battalion)**
- **Current Staffing Levels: 24 personnel**

Discussion

Anna Fire Rescue Station 1, located at 305 S. Powell Parkway, serves as a crucial hub in meeting the current needs of the city. With a fully equipped kitchen, dormitory, and dedicated spaces for exercise, training, and meetings, Station 1 provides the essential infrastructure for the department's daily operations and administrative functions. Its strategic location and excellent maintenance to date contribute to the efficient response to emergencies. Although the building is new, the final layout does not allow for proper expansion of Fire Administration and Fire Prevention staffing. This concern must be addressed in order to meet the growing needs of the department and the city.

Future Expansion with Station 2: Enhancing City Coverage: While Station 1 adequately covers the existing needs of the city, the forward-thinking approach of Anna Fire Rescue recognizes the value of opening Station 2. As the city grows, having a second station becomes increasingly valuable to enhance coverage, reduce response times, and ensure a swift response to emergencies across all areas. The addition of Station 2 will contribute to a more comprehensive and resilient firefighting network, improving the department's ability to address the evolving demands of a growing population and expanding urban landscape.

Importance of Updates and Forward Thinking: To sustain the effectiveness of the fire department's operations, the city must prioritize forward-thinking strategies. This involves not only the establishment of new facilities like Station 2, but also investing in cutting-edge

technology, apparatus, training programs, and community engagement initiatives. A proactive approach to anticipating and adapting to the city's changing needs will ensure that Anna Fire Rescue remains a pillar of safety and support for the community, both now and in the future. Regular assessments, strategic planning, and collaboration with city planners will be essential to staying ahead of the curve and providing the highest level of service to the residents of Anna.

Apparatus

The Department maintains a fleet of response vehicles that are largely newer and well-maintained. The overall condition of the fleet was found to be very good to excellent, generally.

Planned Service Life

The service life of a fire apparatus varies widely, depending on several factors such as type of apparatus, intended service, and amount of use. Any apparatus that does not meet safety standards should be considered for refurbishment or replacement. Typically, a fire engine is expected to last at least 10–15 years when proper maintenance is performed. Many departments will place an apparatus into reserve status use for another 5–8 years after it leaves front-line service to extend useful life and provide additional ISO credit at a relatively low cost. However, given the most important factor to consider in the replacement or retirement of emergency vehicles is safety, and given that the technological advances in apparatus design and construction (particularly where safety is concerned) a fire truck's age is only one factor to consider when developing an apparatus replacement plan.[5] According to one source, there are many important and "clearly identifiable" safety features found on today's apparatus that were not required or available before 1990.[6] According to the same source, "the purchase and replacement costs of fire apparatus should be a regular item of the fire department capital budget. In most cases, except for accidents, the requirements can be planned and funded on a long-range basis. Systematic apparatus replacement provides the fire department with reliable apparatus at all times. Improvements in fire apparatus design can be introduced, maintenance costs become more favorable, operating efficiency increases, and equipment remains reliable."[7] Typical life expectancies and replacement costs are shown in the following figure.

Apparatus Life Expectancies Based on Age and Condition

Type	Life Expectancy, years	Mileage or Condition	Replacement Cost
Staff vehicles	7–10	85,000 to 100,000	$85,000
Type I Engines, Commercial	Frontline: 10	Poor or fair	$875,000
Type I Engines, custom chassis	Frontline: 10	Poor or fair	$1,075,000

[5] NFPA 1911: Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles, 2017 Edition: National Fire Protection Association, Quincy MA, 2016; criteria 5.1.1.

[6] Fire Protection Handbook, Fire Department Apparatus and Equipment; by Robert Tutterow, National Fire Protection Association, Quincy MA, 2008; page 12–283.

[7] Ibid, page 12–281.

Type III engines (wildland)	20–25	Poor or fair	$300,000
Type VI engines (wildland)	10–25	Poor or fair	$120,000
Water tender, small	15–25	Poor or fair	$250,000
Water tender, large	15–25	Poor or fair	$800,000
Medic Units	Frontline: 6	Poor or fair	$330,000
Aerial	Frontline: 10–12	Poor or fair	$1,400,000
Aerial, platform	Frontline: 10–12	Poor or fair	$2,100,000
Specialty, Small/Light	15	Poor or fair	$300,000
Specialty, Large/Heavy	15	Poor or fair	$800,000
Vehicles are without equipment, instrumentation, and other necessary technology. *Specialty vehicles includes rescue, hazmat, and mobile command.*			

Vehicle Replacement Models

There are many apparatus replacement models from which to choose. Three commonly used models to be discussed in greater detail are the:

- Unit Workload model.
- Economic Model; and the
- Life Cycle Model.

ESCI recommends a blended approach that considers several factors (age, mileage, type of service, reliability, and the cost to maintain and repair the vehicle) and establishes both vehicle classes and conditional benchmarks to guide and support replacement decisions. ESCI also recommends using a life-cycle planning tool to determine the optimum time for replacement, ensure occupant safety, and achieve maximum cost efficiency. Shortening the replacement cycle may allow more savings over time; otherwise, increasing maintenance and repair costs are likely to outweigh capital savings, especially when inflationary factors are considered. Officials that favor deferring replacement purchases as a budget-balancing tactic should consider that these two costs transferred from the capital budget to the operating budget must be expensed instead of being amortized; this may lead to higher budget impact and total cost of ownership.

Life Cycle Theory of Vehicle Replacement

The *Life Cycle Theory of Vehicle Replacement* establishes vehicle classes and benchmarks based on practical, empirical information that is easy to observe and verify. This method is often used by fire departments due to its simplicity and ease of understanding. One example of vehicle classification is shown in Figure 21.[8]

[8] Adapted from "Fleet Replacement Challenges Equal Opportunities," by Brian Brown, Fire Apparatus magazine, 2013. Retrieved from: http://www.fireapparatusmagazine.com/articles/print/volume-18/issue-6/features/fleet-replacement-challenges-equal-opportunities.html.

Vehicle Classification Based on Condition

Condition	Characteristics	
Excellent	• < Five years old. • < 800 engine hours. • < 25,000 miles if not used in stationary applications. • No known mechanical defects.	• Very short downtime and very little operating expense. • Excellent parts availability. • Very good resale value. • Meets all NFPA 1911 safety standards.
Very Good	• > five but fewer than 10 years old. • > 800 but fewer than 1,600 engine hours. • > 25,000 but fewer than 50,000 miles if not used in stationary applications. • No known mechanical or suspension defects present.	• Short downtime and above average operating costs. • Good parts availability. • Good resale value. • Meets all NFPA 1911 safety standards.
Good	• > 10 years but less than 14 years old. • Some rust or damage to the body or cab. • > 1,600 but fewer than 2,400 engine hours. • Some existing mechanical or suspension repairs necessary.	• Downtime and operational costs are beginning to increase but not significantly above the average. • Parts are still available but becoming difficult to find. • Resale value decreasing. • Meets all NFPA 1911 safety standards.
Fair	• > 14 but fewer than 18 years old. • Rust, corrosion, or body damage apparent on body or cab. • > 2,400 engine hours. • > 75,000 but fewer than 100,000 miles if not used in stationary applications. • Existing mechanical or suspension repairs necessary.	• Downtime is increasing, and operational costs are above the historical average. • Parts are becoming harder to find and/or obsolete. • Very little resale value. • Does not meet all NFPA 1911 safety standards.
Poor	• > 18 years old. • Rust, corrosion, or damage to the body of cab impacting apparatus use. • > 2,400 engine hours or 100,000 miles. • Existing mechanical/suspension problems affecting apparatus operation.	• Downtime is exceeding in-service availability. • Operational costs exceed resale value of the apparatus. • Parts are obsolete.

Unit Workload Theory of Vehicle Replacement

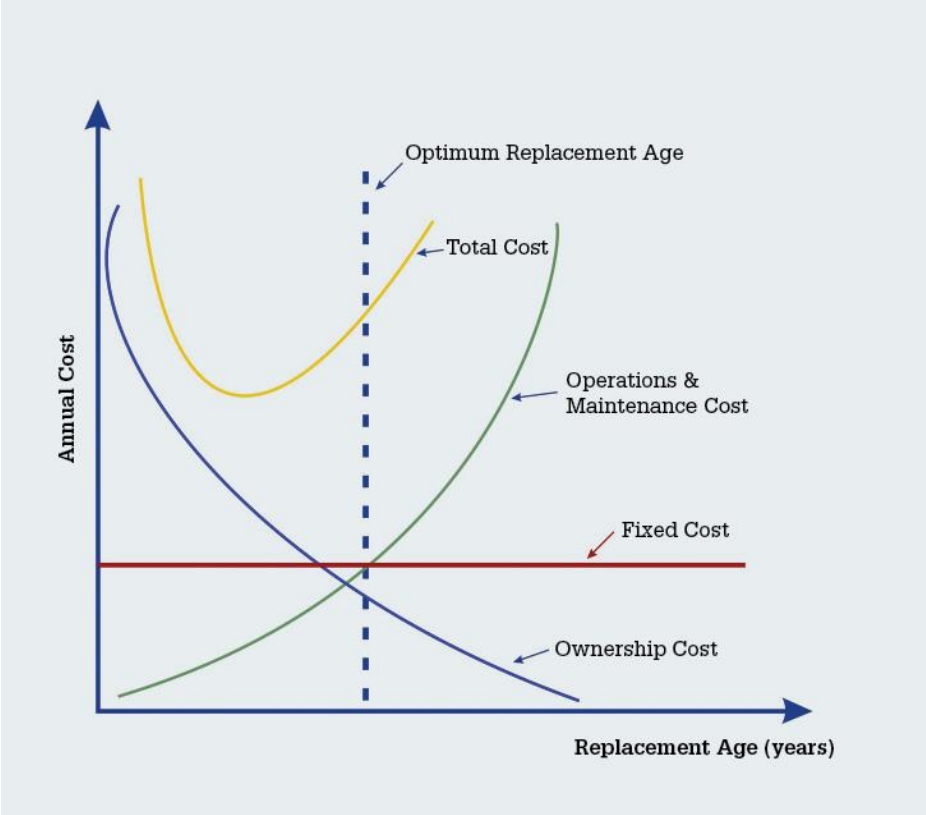
A review of workload by response unit can reveal much about response time performance. Although fire stations and response units may be distributed in a manner to provide quick response, that level of performance can only be obtained when the response unit is available in its primary service area. If a response unit is already on an incident and a concurrent request for service is received, a more distant response unit will need to be dispatched which will increase

response times. Based on the information provided by the Department, unit workload could be a factor in the current replacement plan.

Economic Model of Vehicle Replacement

The *Economic Theory of Vehicle Replacement* says 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-of-ownership curve. The model suggests the optimal time to replace any piece of apparatus is when the operating cost begins to exceed the capital cost. Thus, the optimal replacement time may not be a *fixed point*, but rather a *range over time*. As shown in the following illustration, the horizontal portion at the bottom of the total cost curve represents the optimal replacement window instead of at the lowest capital cost.

Economic Theory of Vehicle Replacement. (Figure courtesy John Stouffer.)



Shortening the replacement cycle to this window allows an apparatus to be replaced at optimal savings to the department. If an agency does not routinely replace equipment in a timely manner, the overall reduction in replacement spending can result in a quick increase of maintenance and repair expenditures. Officials who assume that deferring replacement purchases is a good tactic for balancing the budget need to understand two possible outcomes that may happen due to that decision:

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

Regardless of its net effect on current apparatus costs, the deferral of replacement purchases unquestionably increases future replacement spending need.

Apparatus Discussion

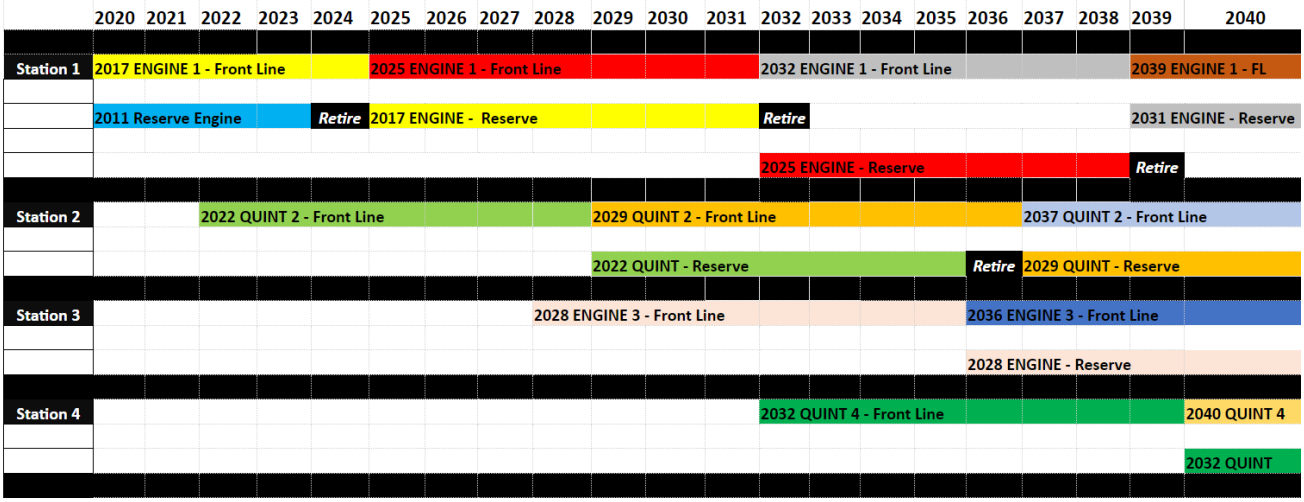
ESCI observed the department vehicles to be well maintained and generally in good to excellent condition. The Department is fortunate to have a fleet of generally newer central apparatus, and most of the engines and ambulances have been purchased as recently as the last five years. It is reminded that when multiple pieces of apparatus are purchased in approximately the same time frame, they will also become due for replacement at about the same time. For this reason, it is imperative that replacement planning be developed so that the Department can meet the considerable financial demand that will result. Long range capital replacement planning is always a challenge, and one that the department has proactively addressed by establishing an apparatus replacement schedule.

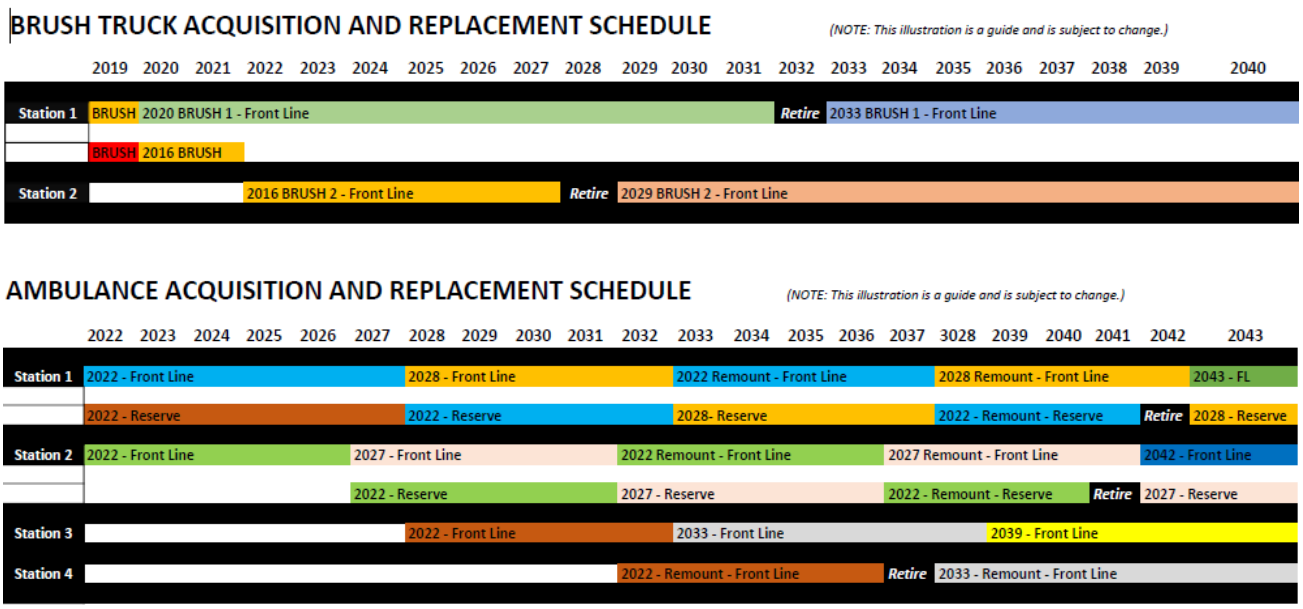
Apparatus Replacement Planning

Fire apparatus are typically unique pieces of equipment, often very customized to operate efficiently in a narrowly defined mission. A pumper may be designed 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 apparatus is very expensive and offers 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.

Unfortunately, no mechanical piece of equipment can be expected to last forever. As a vehicle ages, repairs tend to become more frequent, parts more difficult to obtain, and downtime for repair increases. Given the emergency mission that is so critical to the community, this factor of downtime is one of the most frequently identified reasons for apparatus replacement. Because of the significant expense of fire apparatus, 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 and responsible organizations then set aside incremental funds during the life of the vehicle, so replacement funds are available when needed.

MAJOR APPARATUS ACQUISITION AND REPLACEMENT SCHEDULE *(NOTE: This illustration is a guide and is subject to change.)*





Discussion

The department has previously established a replacement schedule that places all apparatus on a specified replacement cycle from the date of primary service. The schedule calls for front-line apparatus, including engines, aerials, and brush trucks, to be booked on a seven to eight-year cycle, serving an additional seven to eight years in reserve before being replaced at 15 years of service. The replacement schedule is appropriate, and ESCI commends the department for taking the initiative to address this critical need.

STAFFING

An organization's most asset is its people. Special attention must be paid to managing human resources to achieve maximum productivity while ensuring a high level of job satisfaction for the individual. Consistent management practices combined with a safe working environment, fair treatment, opportunity for input, and recognition of the workforce's commitment and sacrifice are vital components impacting job satisfaction. This section provides an overview of the department's staffing configuration and management practices.

Administrative and Support Staffing

One of the primary responsibilities of a fire department's administration is to ensure that the operational segment of the organization has the ability and means to respond to and mitigate emergencies safely and efficiently. An effective administration and support services system is critical to the success of a fire agency. Like any other part of a local government fire department or emergency services Department, administration and support need appropriate resources to function correctly. By analyzing the administrative and support positions within an organization, we can create a shared 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 department's success in accomplishing its mission and responsibilities.

The following table reviews the administration and support organizational structure of Collin County Emergency Service Department 1.

Administrative & Support Staffing

Positions	Staffing
Administration & Other Support Staff	
Fire Chief	1-Head of the Department
Assistant Chiefs	2-Second in Command
Medical Director	1
Administrative Assistant	1
Percent administrative & support to total department personnel	11.98%

Discussion

It is ESCI's experience that effective administrative staffing totals typically range from 15 to 20 percent of agency total staffing, with emergency service Departments tending toward the high side of the range due to the need to provide their own support system infrastructure. The administrative staff are currently working to meet the national standing on staffing. Comparing this measure to the Department, the number of FTEs assigned to administrative and support positions is lower than the typical range. The Department's ratio is calculated at less than 18 percent. As stated, the appropriate ratio is subject to many variables. ESCI recognizes organizational goals, regulatory environment, and workload are the drivers determining the

number of administrative personnel required to deliver support services. The 15 to 20 percent ratio is the range ESCI typically sees in professional, high-functioning fire service organizations and is used for comparison purposes. It is not necessarily intended to serve as a target. Instead, a detailed workload analysis is advised, during which the department identifies critical tasks, duty assignments, and existing gaps to determine future needs. A workload analysis falls beyond the scope of this study. However, ESCI observes that the department is administratively lightly staffed.

Emergency Response Staffing

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 operational scene decreases the effectiveness of the response and increases the risk of injury to all individuals involved.

Tasks that must be performed at a fire can be broken down into two key components—life safety and fire flow. Life safety tasks are based 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 fire flow component involves delivering sufficient water to extinguish the fire and create an environment within the building that allows entry by firefighters.

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 command 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
- Water supply
- Pump operation
- Ventilation
- Back-up/rapid intervention

In the following figure, ESCI reviews the Department's emergency response staffing.

Emergency Response Staffing

Survey Components	Anna Fire Rescue Observations
Emergency Service Staff	
Assistant Chiefs	2
Battalion Chiefs	3
Captains	3
Engineers/Apparatus Operators	3
Firefighter	15
Firefighter Trainees/Probationary	0
Total Emergency Response Staff	**26**
Use of Career & Volunteer Personnel	
Career scheduling methodology	
Length of normal duty period	24 hours on/48 hours off
FLSA period	112 hours per pay period
Residency requirements	None
Operational services provided	
Fire suppression	Yes
EMS/rescue, first response	Yes
EMS, advanced life support	Yes
Specialized rescue	No
Fire prevention inspections	Yes
Emergency management	Yes
Public Education	Yes
Hazardous materials response (level)	Operations level
Volunteer services	None
Chaplain	No

Staffing Discussion

While the Department has most of its personnel assigned to emergency operations (approx. 93%), the number of officers to firefighters, paramedics, and EMTs could be much higher. With approx. 32% percent of the emergency operations staff as officers—a ratio of 1:6—there are sufficient officers to command a multiple-unit response. In specific situations, certain emergency apparatus may respond and operate without an officer as a supervisor. The ideal

supervisor-to-subordinate ratio for emergency services is 1:3 or 1:4, depending on the emergency response vehicle.

Shift work can influence the quality of the services delivered. Department line personnel work a 24-48 shift schedule. This means that all shift personnel work twenty-four consecutive hours on duty, followed by forty-eight hours of time off.

With this shift schedule, the department increases productivity in areas that include building and apparatus maintenance, training, fire prevention, code enforcement, building familiarization, and community outreach activities. Overtime costs are also more manageable. Sleep deprivation is a well-documented occurrence in the fire service and a 24-hour schedule provides the community with well rested EMTs and Paramedics at each shift change.

Alternate work schedules are a controversial topic in the fire service, and there are numerous studies arguing the benefits or drawbacks, depending on the author. It is beyond the scope of this report to address this area in a deep and thorough manner. However, work shift conversions are at minimum a safety and liability consideration which should be raised.

STANDARD OF COVER AND RESPONSE PERFORMANCE

For any service organization, one of the most important and visible elements to the public is their ability to deliver services in a timely fashion. The study of service delivery and performance allows a department to identify multiple facets of their organization, such as when and where incidents are most likely to occur, how often incidents will happen in a given location, and areas where resources are unable to reach that location within a given period of time. In this section, data obtained from the Department was utilized to conduct an in-depth analysis of how multiple variables throughout the service delivery system affected the ability to deploy emergency resources and provide baseline performance metrics for the delivery of these services. The Service Delivery and Performance section is broken into several subsections, each exploring a specific topic related to the delivery of emergency services.

The citizens and visitors of Anna, Texas expect to receive top quality emergency services in a timely manner whenever an incident occurs. For department leadership and community leaders to understand current service delivery and performance and to plan for future service delivery, a system-wide analysis must be completed. With a thorough understanding achieved through this analysis, leaders are more knowledgeable and able to set goals for current and future service delivery. The analysis of service delivery and performance will include:

- Service demand
- Resource distribution
- Resource concentration
- Resource reliability
- Response performance

Service Demand Analysis

The first element of service delivery to be analyzed is service demand. This element has several components which include the types of incidents, when incidents occur, and where incidents occur.

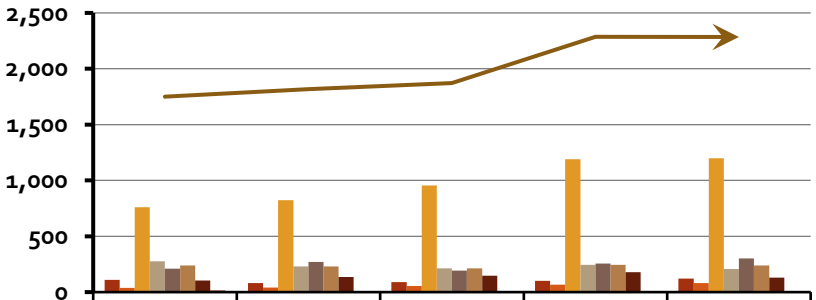
Incident Type Analysis

As an all-hazards fire department, AFR responds to a wide variety of incidents. To assist fire departments in documentation of incident response in both a quantitative and qualitative manner, the National Fire Incident Reporting System (NFIRS) was developed. Within this system, each of the incident types (currently 178), is assigned a three-digit code. These individual incident type codes are then grouped into series based on the first digit of each code, as illustrated in the following figure.

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	Cancelled, Good Intent
700-Series	False Alarm, False Call
800-Series	Severe Weather, Natural Disaster
900-Series	Special Incident Type

When firefighters complete their emergency tasks, they return to the station and submit an incident report within the records management system. This report includes many different data points, one of which is the incident type from the NFIRS code list. As illustrated in the following figure, AFR experienced an overall increase of 30.5% in calls for service from 2018 to 2022. This included an increase of 3.8% from 2018 to 2019, an increase of 3% from 2019 to 2020, an increase of 22.2% from 2020 to 2021, and a decrease of 0.1% from 2021 to 2022.

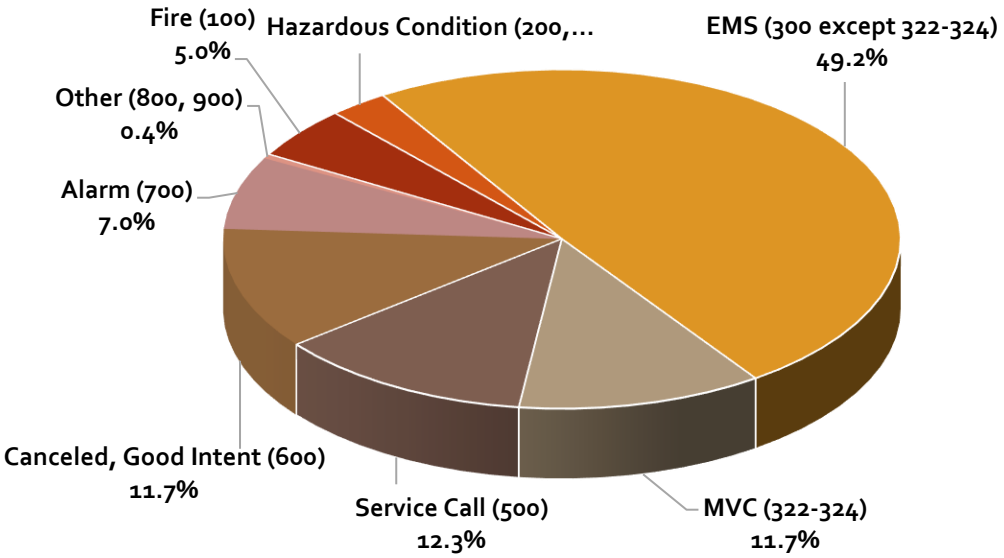
AFR Service Demand by NFIRS Incident Type, 2018–2022



	2018	2019	2020	2021	2022
Fire (100)	109	80	89	100	120
Hazardous Condition (200, 400)	39	40	54	67	81
EMS (300 except 322-324)	761	822	954	1,191	1,197
MVC (322-324)	275	231	214	244	207
Service Call (500)	209	270	192	257	301
Canceled, Good Intent (600)	239	231	214	243	239
Alarm (700)	104	135	148	179	130
Other (800, 900)	14	8	6	5	9
Total	1,750	1,817	1,871	2,286	2,284

The preceding figure provides AFR leadership with the view of the year-to-year progression of overall incident volume, as well as the year-to-year change within each NFIRS series. There is also value for leadership to view the same set of data from the perspective of how each NFIRS series compares to the whole, expressed as a percentage. As illustrated in the following figure, the greatest percentage of calls for service is for Emergency Medical Service (EMS) incidents at 49.2%. The lowest percentage of calls for service is for other incidents at 0.4%.

AFR Service Demand by NFIRS Incident Type, 2018–2022

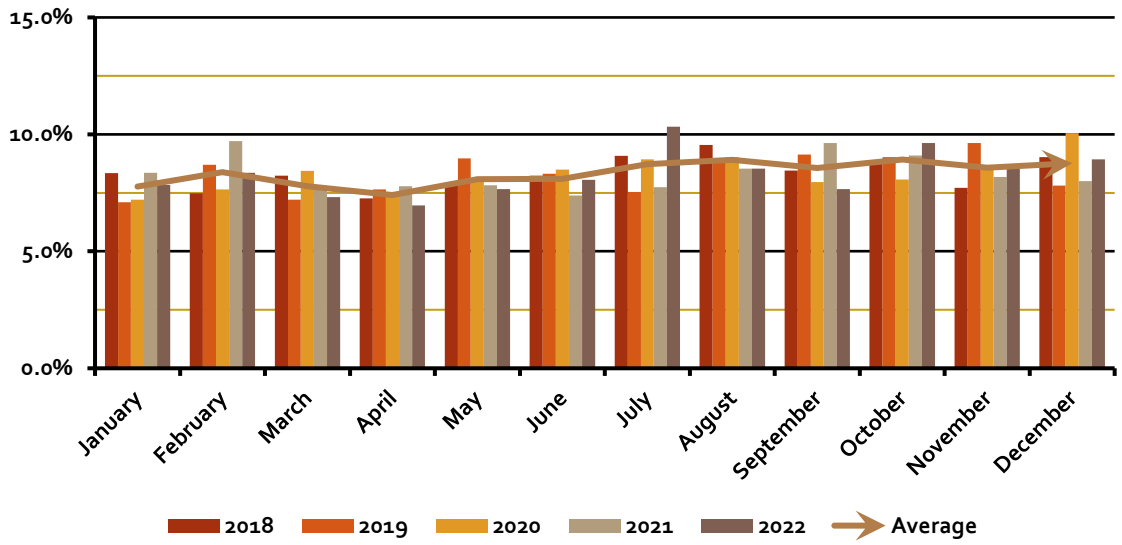


Temporal Analysis

An understanding of the temporal nature of calls for service—when incidents occur—is important when department leaders are considering the number of staffing, the schedule that personnel work, as well as scheduling of non-incident activities such as apparatus maintenance, training, hydrant testing, hose testing, pre-incident planning, public education, and more.

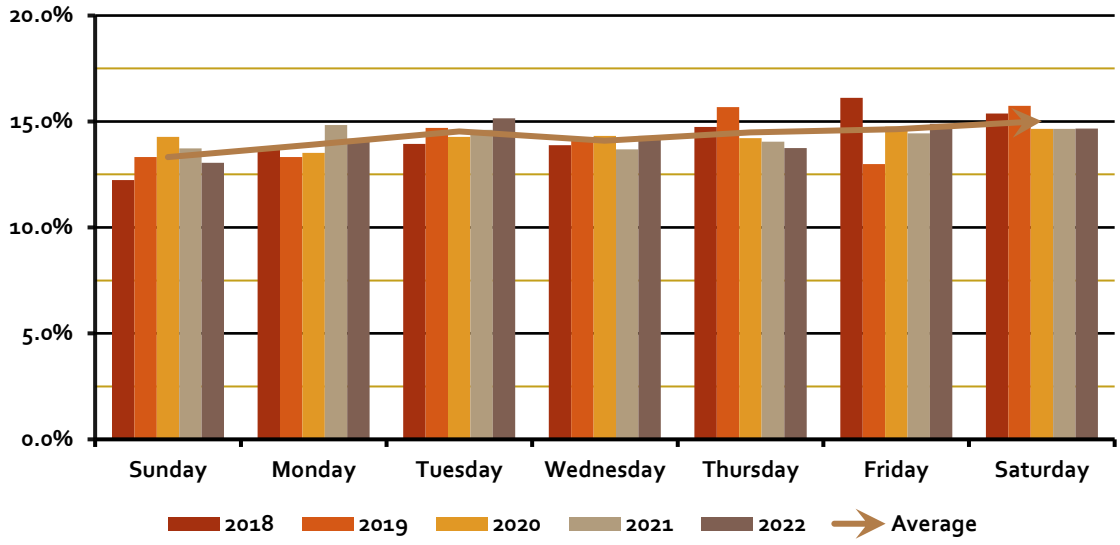
Service demand by month is the first portion of the temporal analysis. As illustrated in the following figure, the lowest demand for services occurs in April. Demand then increases over the following months, until reaching its highest level in August and October. Demand then fluctuates over the next several months until decreasing in March.

AFR Service Demand by Month, 2018–2022

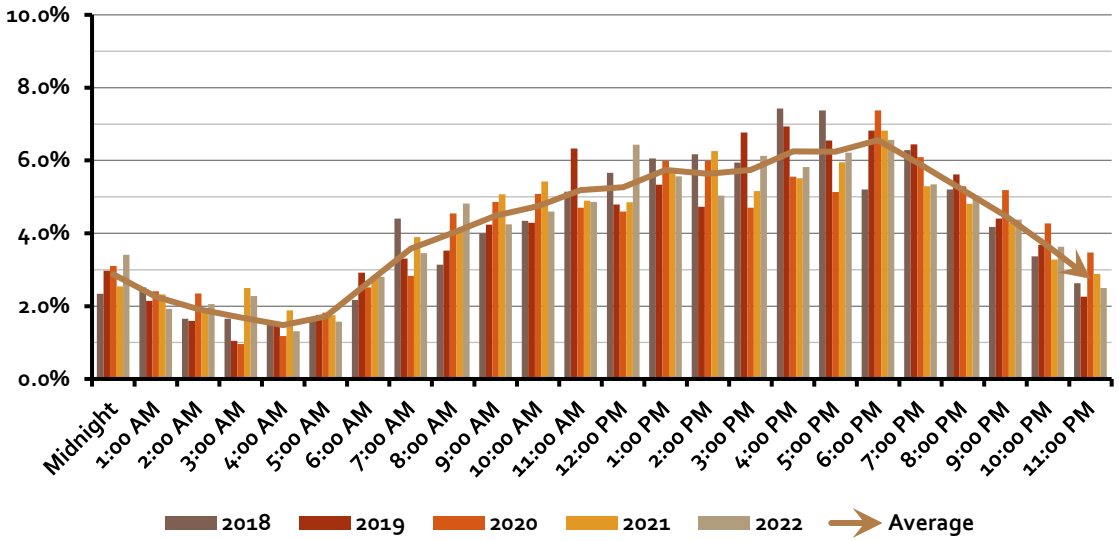


Service demand by day is the second part of the temporal analysis. As illustrated in the following figure, the lowest demand for service occurs on Sunday. With minor fluctuations, there is an overall increase throughout the week until reaching the highest demand on Saturday.

AFR Service Demand by Day, 2018–2022



Service demand by hour is the final part of the temporal analysis. As illustrated in the following figure, the lowest demand for service occurs at 4 AM. This is followed by increases throughout the morning as the population prepares for the day, leaves their home, and participates in their daily activities. This increase continues throughout the day, reaching the point of greatest service demand at 6 PM. There is then a steep decline in calls for service throughout the evening, coinciding with the movement of the population back to their homes and settling in for the night.



While service demand is lowest during those early morning hours, it should be noted that most fatal residential fires occur most frequently late at night or early in the morning. Based on findings from a national study, from 2014 to 2016, residential fatal fires were highest between 1 AM to 2 AM, and 4 AM to 5 AM. The 8-hour peak period (11 PM to 7 AM) accounted for 48 percent of fatal residential fires.[9]

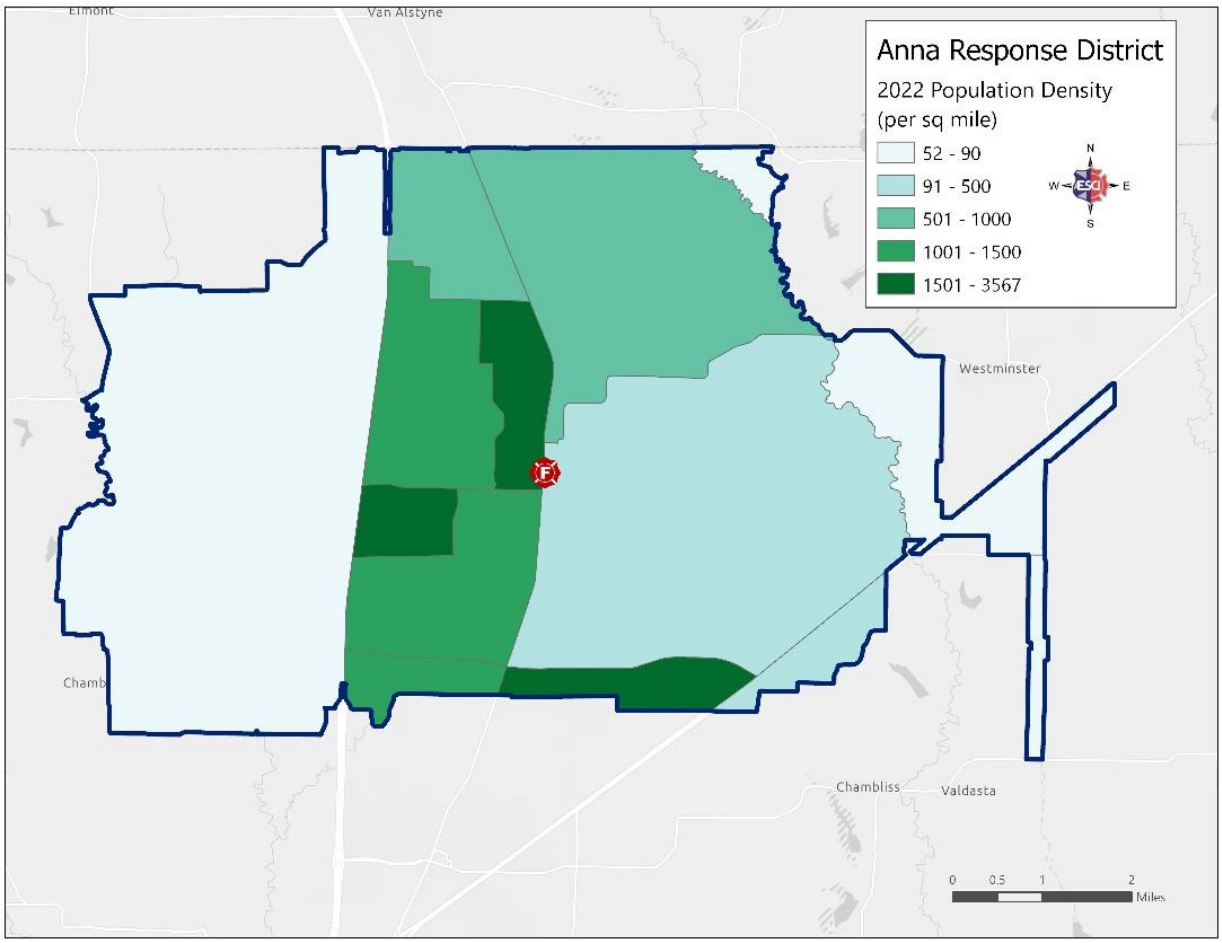
[9] Fatal Fires in Residential Buildings (2014-2016), Topical Fire Report Series Volume 19, Issue 1 /June 18, U.S. Department of Homeland Security, U.S. Fire Administration, National Fire Data Center.

Geographic Analysis

As leadership assesses the appropriate distribution of resources (existing and future), they should first have a thorough understanding of where incidents occur within the community. A geographical analysis is achieved through the use of geographical information system (GIS) software which plots the location of each individual incident. The software is then used to calculate the mathematical density of incidents within each square mile and then illustrates this information through use of a "heat map".

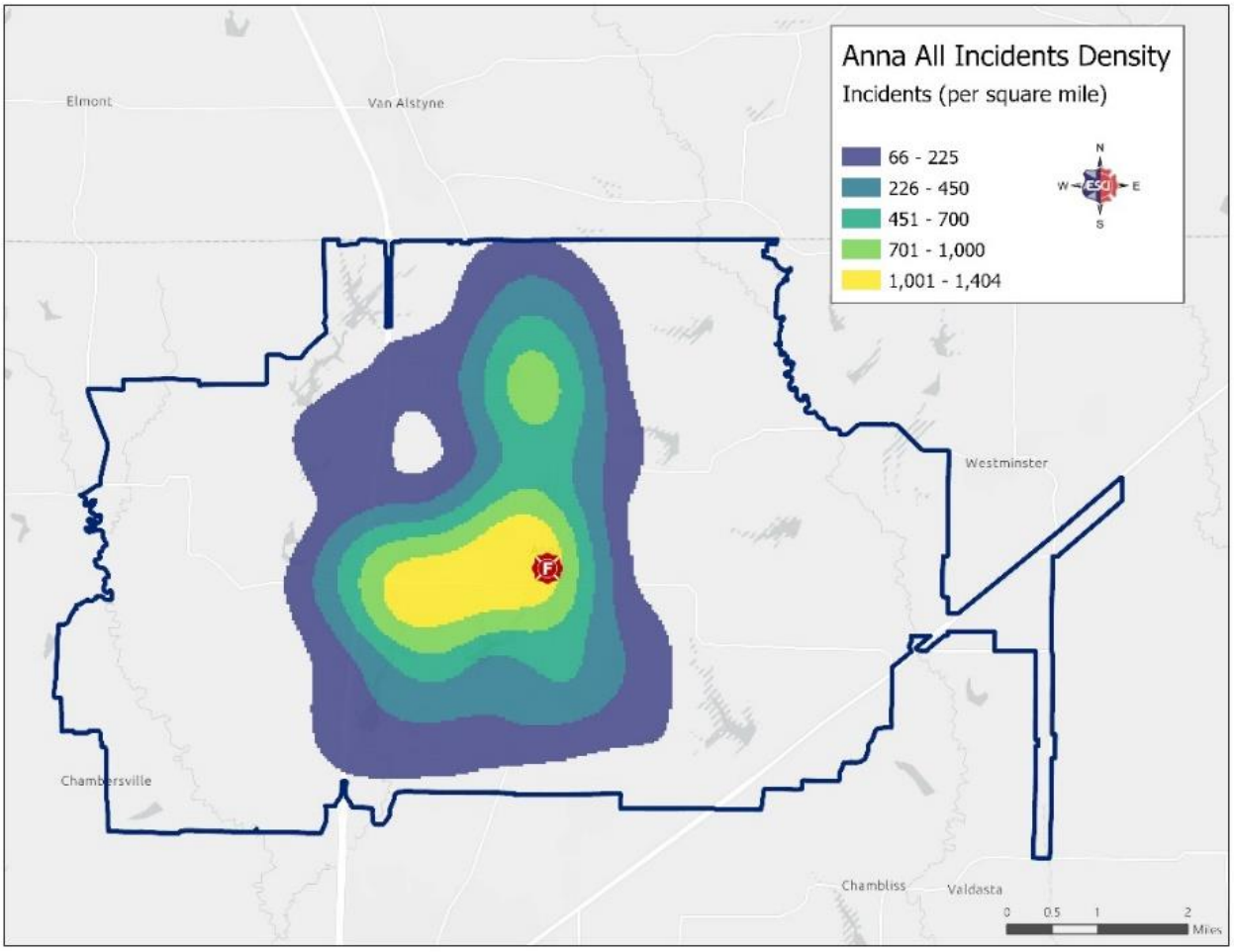
To fully understand the geographical relationship of service demand, it is first important to understand the population density within the community. This is of particular importance because for most communities, areas of greater incident density are found in areas of greater population density. With a larger portion of service demand resulting from calls for emergency medical services, the density of incidents is directly related to the people, rather than the properties. As illustrated in the following figure, the greatest density of population is closest to Central Fire Station, along with another area of higher density at the southern edge of the service area.

AFR Population Density



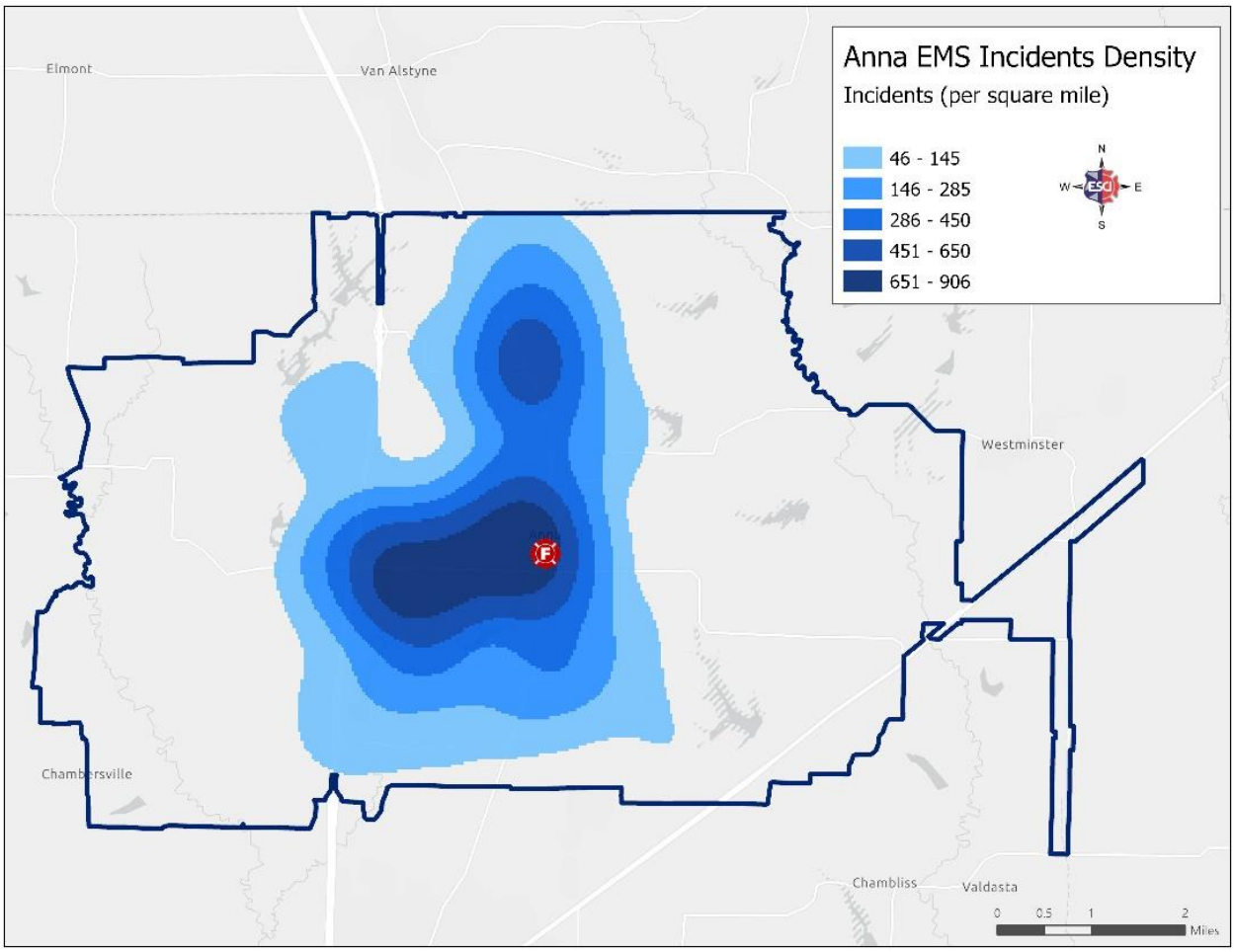
Overall service demand includes incidents of all NFIRS types. As illustrated in the following figure, the greatest demand for service occurs near Central Fire Station, near the areas of higher population density.

AFR Incident Density (All), 2018–2022



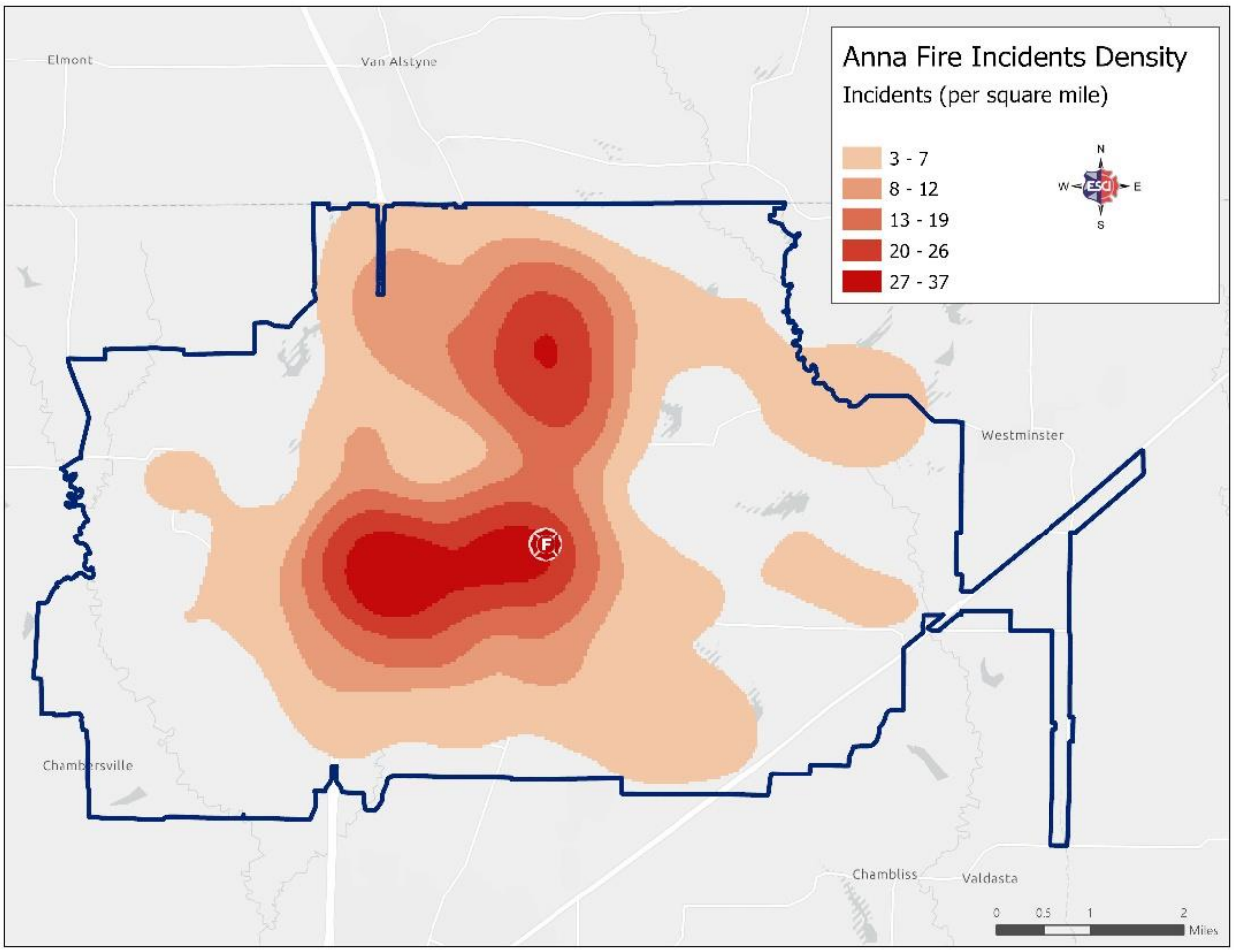
With EMS incidents comprising the greatest percentage of service demand, there is value in viewing the incident density specific to those incidents (NFIRS 300 Series). As illustrated in the following figure, the density of emergency medical service incidents follows a pattern similar to that of the entire data set.

AFR Incident Density (EMS), 2018–2022



Response to fire incidents often requires multiple units and a greater number of personnel. For this reason, understanding the density of fire incidents (NFIRS 100 Series) provides important information to AFR leadership. As illustrated in the following figure, fire incident density also follows a pattern similar to that of all incidents.

AFR Incident Density (Fire), 2018–2022



Resource Distribution Analysis

The second element of service delivery to be analyzed is resource distribution. With an understanding of where incidents occur, it is important to compare those locations to the locations of stations and resources within the community. Location of resources may also be compared to industry standards and best practices such as the Insurance Services Office (ISO) and the National Fire Protection Association (NFPA).

ISO Distribution

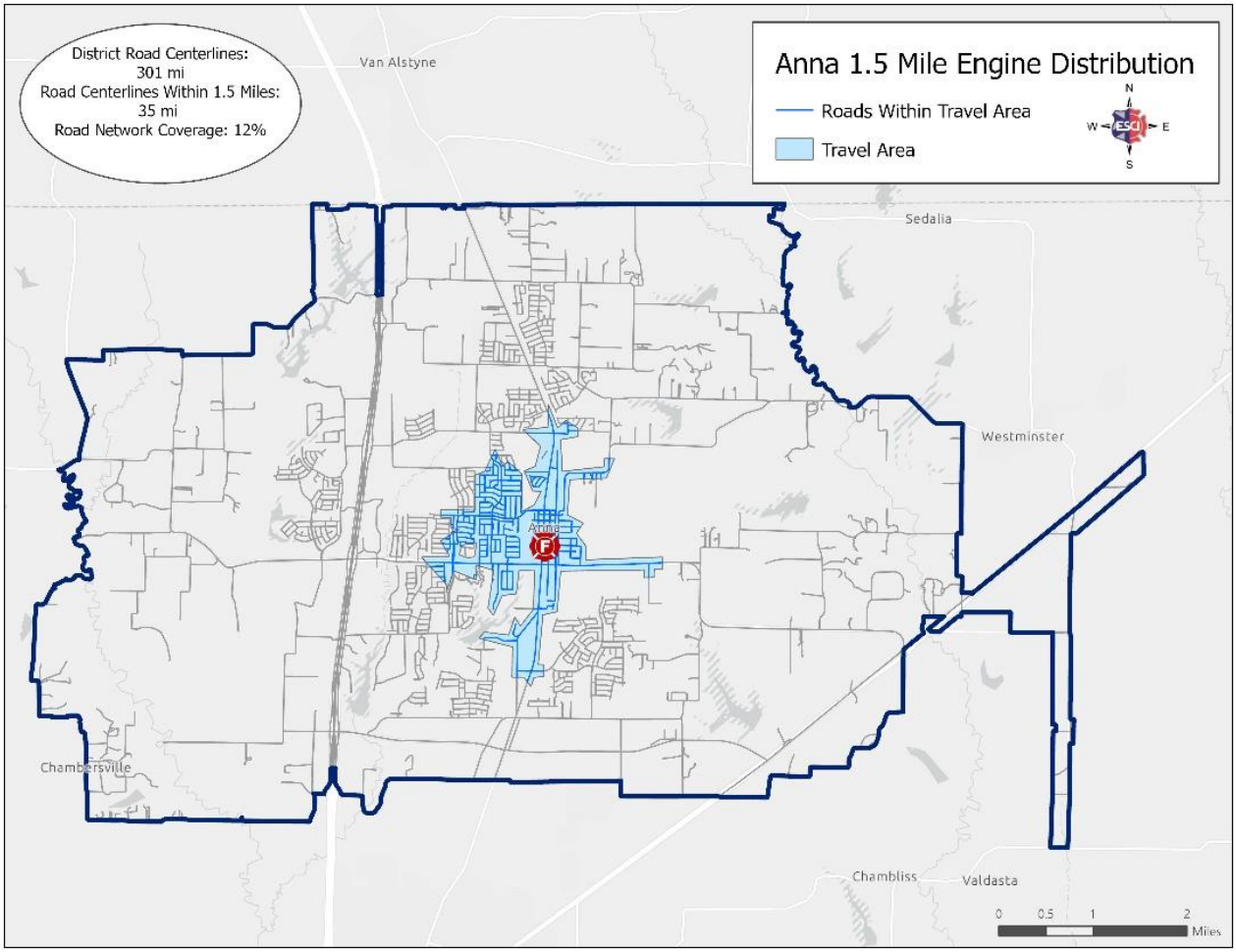
ISO is a national insurance industry organization that evaluates fire protection for communities across the country. ISO assesses all areas of fire protection as broken down into four major categories including Emergency Communications, Fire Department Staffing and Training, Water Supply, and Community 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 an important 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.

Engine Distribution

The evaluation of a department's PPC® score includes an evaluation of the number of structures that fall within a 1.5-mile travel distance of a staffed fire station. This 1.5-mile travel distance is equivalent to the 4-minute travel distance recommended by NFPA 1710 for arrival of the first unit. As illustrated in the following figure, only 12% of the AFR service area is within the 1.5-mile travel distance. This is often a difficult measure to meet unless the department is primarily urban/suburban and service demand justifies the expense of additional stations and resources.

AFR Engine Distribution per ISO Criteria



Aerial Apparatus Distribution

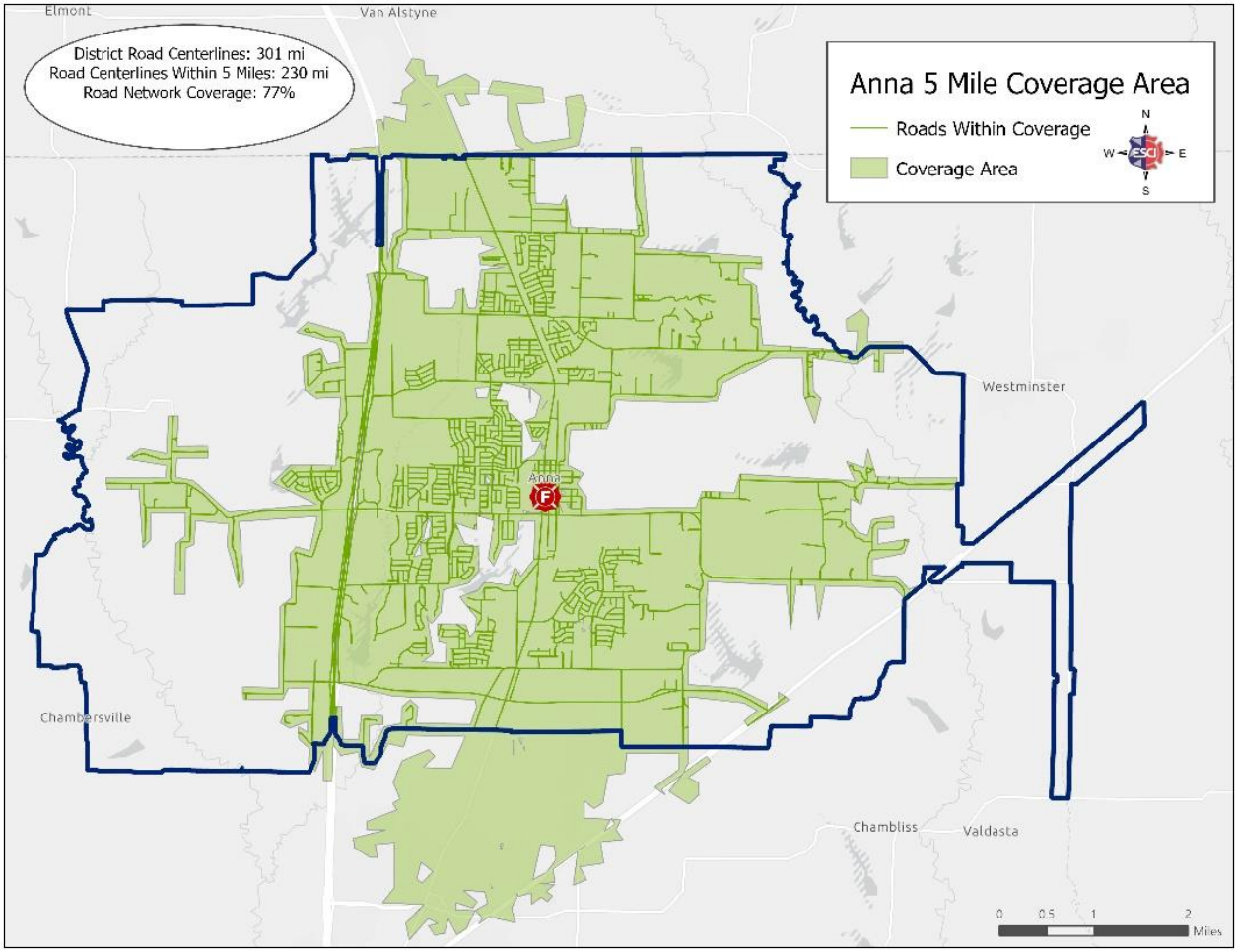
The evaluation of a department's PPC® score includes an evaluation of the number of structures that fall within a 2.5-mile travel distance of an aerial apparatus. This 2.5-mile travel distance is equivalent to the 8-minute travel distance recommended by NFPA 1710 for arrival of the full assignment. AFR does not currently operate an 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 meetings any combination of these requirements.

Fire Station Distribution

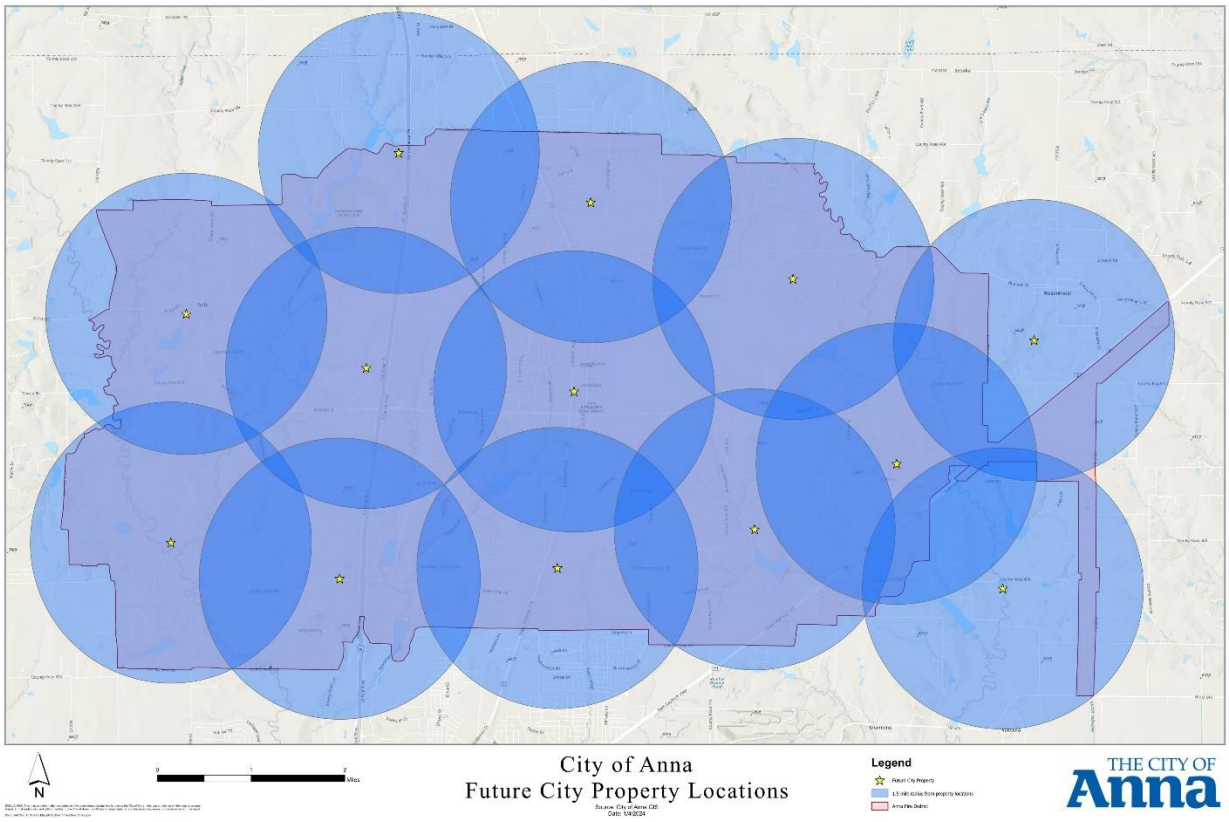
The evaluation of a department's PPC® score includes an evaluation of the number of structures that fall within a 5-mile travel distance of a fire station. Areas outside of 5-miles are subject to receiving a PPC® rating of 10 (no fire department protection available). As illustrated in the following figure, 77% of the AFR service area is within the 5-mile travel distance.

AFR Fire Station Distribution per ISO Criteria



Anna Fire Rescue employs a strategic grid system to ensure efficient coverage within a 1.5-mile radius of each station. This approach involves placing fire stations at key points on a grid, creating an optimal distribution that attempts to maximize response times and minimize gaps in coverage. The picture below illustrates a possible method in placement of stations, showcasing an arrangement that enables the department to promptly address emergencies across the designated area. This meticulous level of planning reflects the department's commitment to safeguarding the community by strategically stationing resources for swift and effective emergency response.

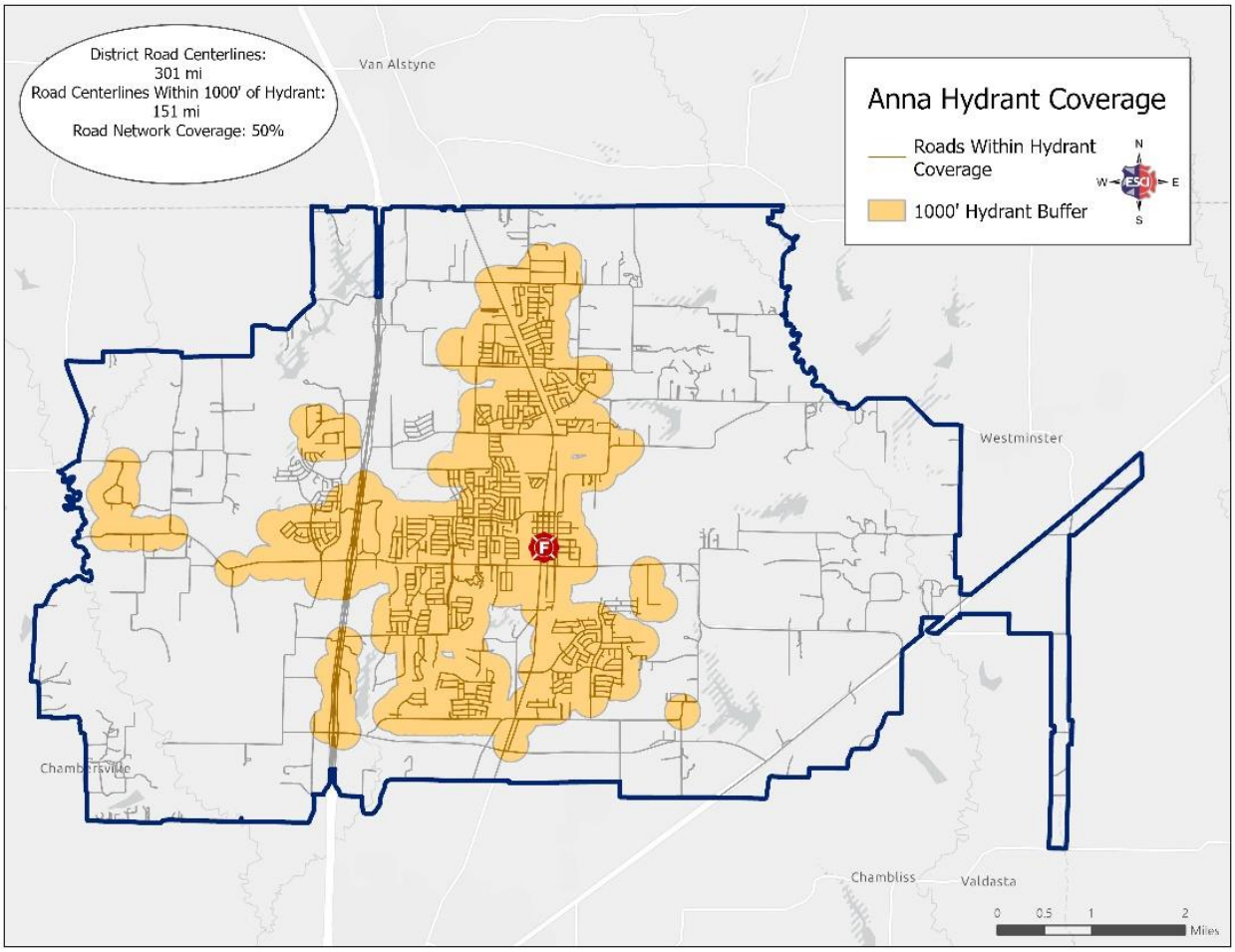
1.5-Mile Distribution



Water Supply

The evaluation of a department's PPC® score includes an evaluation as to the availability of a sufficient water supply, which is critical for the extinguishment of fires. Included in this evaluation is the geographic location and distribution of fire hydrants. Structures outside a 1,000-foot radius of a fire hydrant are subject to a lower Public Protection Classification® rating than areas with adequate hydrant coverage, thus signifying limited fire protection. 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 needed volume of water for fire suppression activities for a specific period. As illustrated in the following figure, 50% of the AFR service area is within 1,000 feet of a fire hydrant.

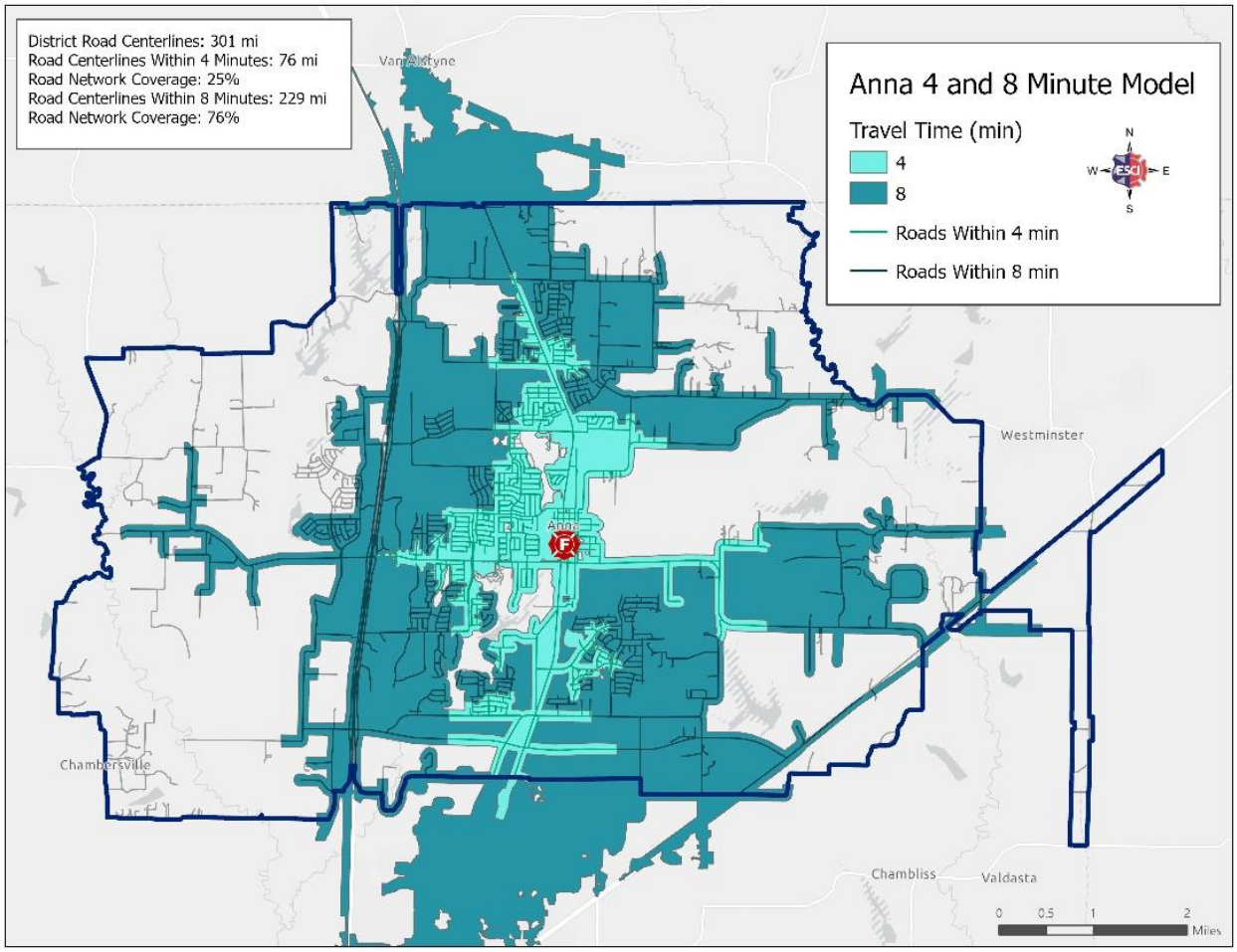
AFR Hydrant Distribution per ISO Criteria



NFPA Distribution

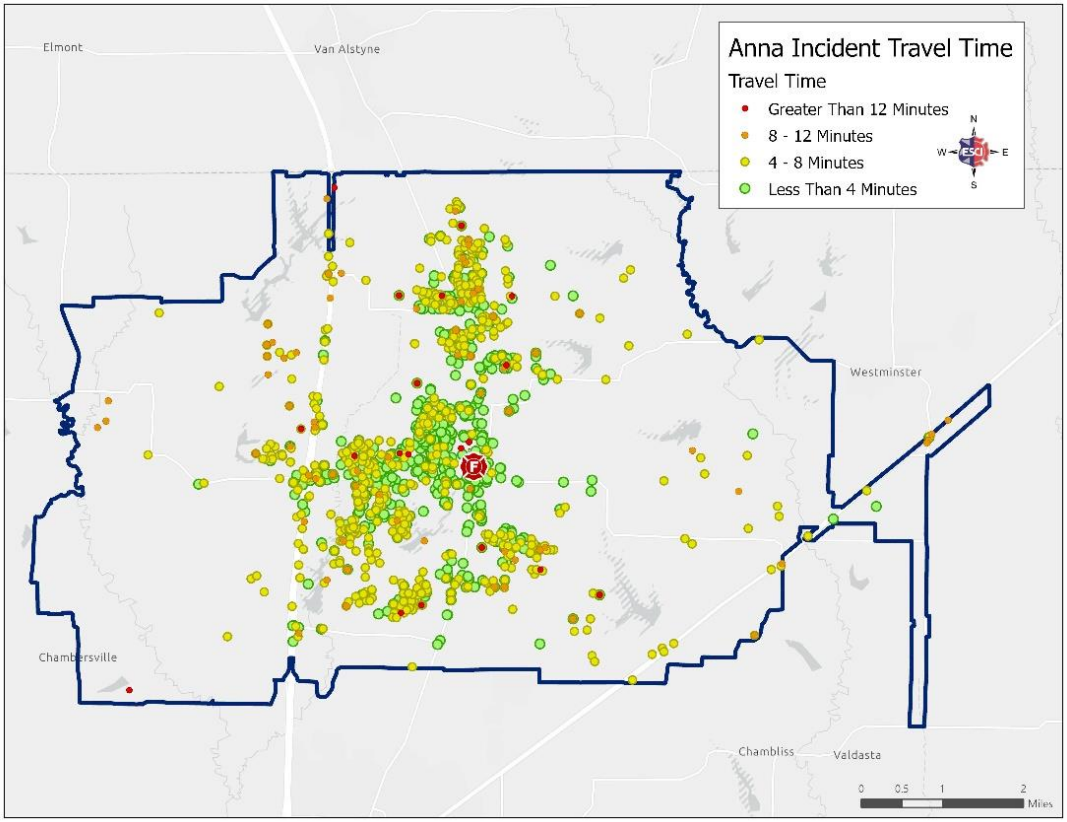
NFPA standards and the Center for Public Safety Excellence (CPSE) both evaluate travel time criteria for the purpose of evaluating resource distribution. Within these recommendations, the first unit should arrive within a 4-minute travel time and the full assignment of resources needed to mitigate the incident should arrive within an 8-minute travel time. Travel time is calculated using the existing road network provided by the department, which includes speed limits, one-way streets, and other permanent factors. As illustrated in the following figure, only 25% of the AFR service area is within a 4-minute travel time and 76% is within an 8-minute travel time.

AFR 4/8-Minute Travel per NFPA Criteria



The preceding figure is theoretical in that it is based on no additional impedance factors such as weather, time of day, traffic, etc. and assumes that all units are in station at time of dispatch. To assist leadership in obtaining a complete picture of travel time within the community, ESCI evaluated actual travel time to incidents for 2022. This evaluation only included those incidents to which units were responding emergency (lights and sirens). As illustrated in the following figure, AFR had a travel time of less than 4 minutes to 44.59% of incidents, 4–8 minutes to 45.11% of incidents, 8–12 minutes to 8.47% of incidents, and greater than 12 minutes to 1.83% of incidents.

AFR Actual Travel Time, 2022



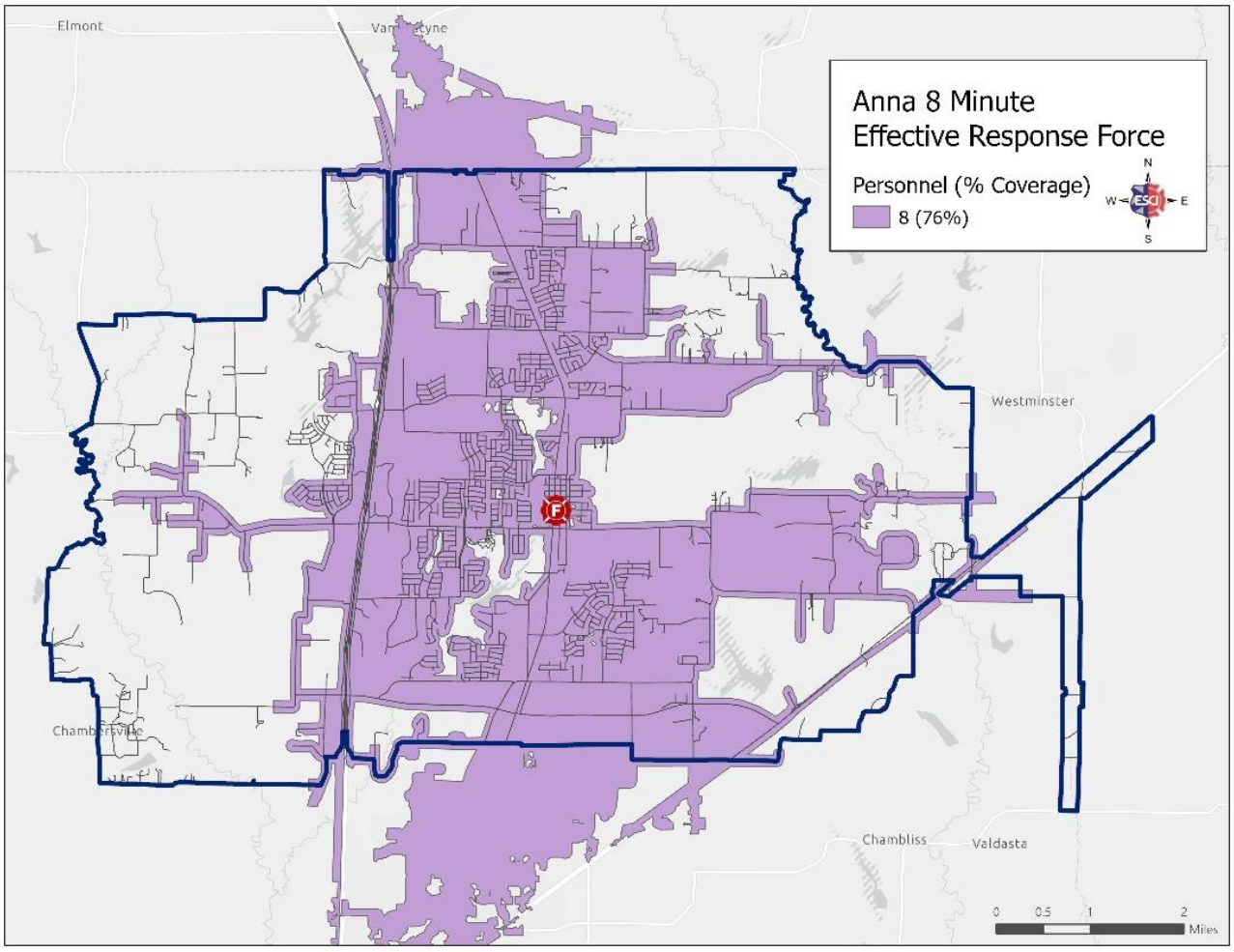
Resource Concentration Analysis

The third element of service delivery to be analyzed is resource concentration. While getting the first unit to the scene in a timely manner is a key component of quality service delivery, when responding to structure fires, multiple units and personnel are needed to safely handle all aspects of the emergency. The ability to assemble sufficient units and staffing is referred to as Effective Response Force (ERF). As recommended by 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 following chart illustrates the ERF that should arrive within an 8-minute travel time.

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 Device 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)**

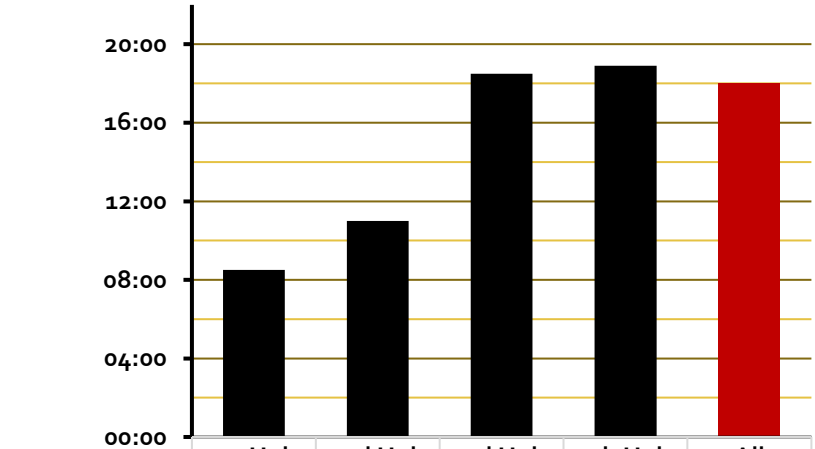
As illustrated in the following figure, AFR is only able to assemble 8 firefighters for a given incident (76% of the service area) without relying on automatic aid and mutual aid resources. The commander of an incident must weigh available resources with incident tasks and determine the tactics to accomplish mitigating the incident while maintaining firefighter safety. As a result, some tasks may be delayed until the arrival of additional resources.

AFR Effective Response Force per NFPA Criteria



The preceding illustration is based on all units at the station at the time of dispatch. To assist AFR leadership in evaluation of ERF to actual incidents, it is valuable to compare the order in which units arrive at structure fires (NFIRS Incident Types 111–112). The following figure illustrates the timing of units to these incidents.

AFR Structure Fire Order of Arrival, 2018–2022



	1st Unit	2nd Unit	3rd Unit	4th Unit	All
90th Percentile	08:30	11:00	18:30	18:54	18:00

Resource Reliability Analysis

The fourth element of service delivery to be analyzed is resource reliability. The reliability of a fire department to respond to incidents may be impacted by how busy that fire department is. Two specific measures for this include incident concurrency and workload. When either measure increases, the number of available resources to respond to additional calls for service decreases—which may result in extended response times as units respond from further distant stations or departments.

Incident Concurrency

Incident concurrency, or "overlap", refers to when more than one incident occurs simultaneously within a jurisdiction. The number of incidents occurring simultaneously is calculated and then displayed as a percentage to analyze incident concurrency. As illustrated in the following figure, the increase of call volumes that result in two or more callouts has increased since 2019. Simultaneous calls create system stress. This increase in calls reveals the need for updated response ERF and future planning for stations and apparatus.

AFR Incident Concurrency, 2018–2022

Concurrent Incidents	2018	2019	2020	2021	2022	Change Over Study Period
Single Incident	89.10%	92.09%	92.12%	86.65%	87.59%	-1.51%
Two Incidents	10.32%	7.67%	7.71%	12.78%	11.52%	1.20%
Three Incidents	0.58%	0.18%	0.18%	0.52%	0.89%	0.31%
Four Incidents	0.00%	0.06%	0.00%	0.05%	0.00%	0.00%

Workload

Workload refers to the amount of work performed by each unit within the department. However, as incident duration can vary widely from minutes to hours, this is a less realistic measure of workload. A more realistic measure of workload is to consider the total number of hours each unit is assigned to incidents as compared to the total number of hours the unit was in service; referred to as unit hour utilization. While it is more realistic than just an incident count, it still does not capture the significant number of additional hours spent performing non-incident activities such as apparatus maintenance, station duties, training, pre-incident planning, public education, hydrant testing, hose testing, etc.

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.[10] The next figure is a summary of the findings as it relates to commitment factors. ESCI presents this comparison as a starting point for department leadership to develop workload measures that best serve their department and their community.

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 percent of the day.
25%	System Stress	Community availability and unit sustainability are not questioned. First-due units are responding to their assigned community 75 percent of the time, and response benchmarks are rarely missed.
26%-29%	Evaluation Range	The community served will experience delayed incident responses. Just under 30 percent 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 percent chance of timely emergency service and immediate relief is vital. Personnel assigned to units at or exceeding 0.3 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.

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

For the purposes of this workload analysis, each unit was assumed to be in service every day of each year. As illustrated in the following figure, no AFR units are at a concerning level of workload as of 2022.

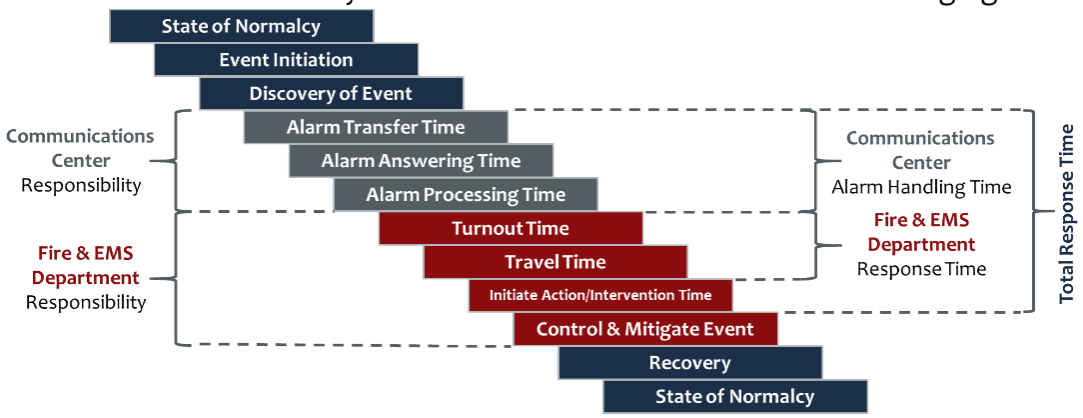
Unit	2018	2019	2020	2021	2022	Change Over Study Period
BC1	0.00%	0.77%	0.31%	3.73%	3.82%	3.82%
E1	7.05%	6.23%	6.91%	6.87%	8.64%	1.60%
MEDIC 1	0.00%	0.00%	0.06%	0.09%	4.13%	4.13%

Response Performance Analysis

The final element of service delivery to be analyzed is response performance. With a primary mission of responding to calls for service, AFR leadership should understand how quickly units arrive at the scene. This overall measure between the public activating 911 and arrival of the first unit at the scene is known as total response time performance. This data is comprised of several smaller measures which complete the response time continuum. The smaller measures of the response time continuum include:

- Alarm Handling – a measure between activation of 911 and dispatch of the first unit.
- Turnout – a measure between dispatch and the unit responding to the incident.
- Travel – a measure between the unit responding to the incident and arrival at the incident.
- Response time – a measure between dispatch and arrival at the incident.
- Total response time – a measure between activation of 911 and arrival at the incident.

The response time continuum may also be illustrated as shown in the following figure.



In analyzing response performance, ESCI generates percentile measurements of response 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 percent of the values are greater than the value stated, and all other data are at below this level. This can be compared to the desired performance objective to determine the degree of success in achieving the goal.

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 fractile percentage is calculated exists in a set of data unto itself.

For the purposes of this analysis, only those incidents coded by firefighters as an emergency response (lights and sirens) were included. It should also be noted that the data provided by AFR and the Collin County Sheriff's Office included only hour and minute for each timestamp, so this analysis is unable to accurately calculate down to the second. ESCI recommends that AFR leadership work with Collin County to ensure documentation of time stamps down to the second and regularly track and report time performance measures.

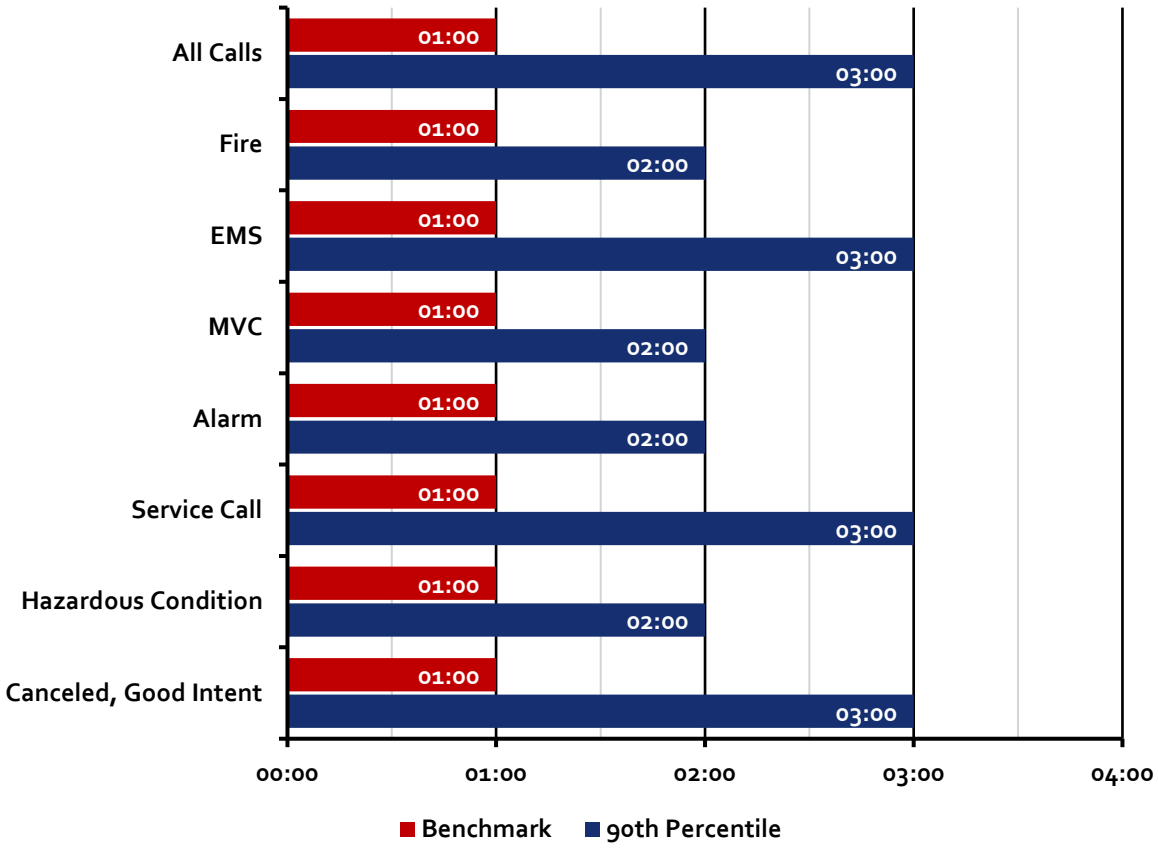
Alarm Handling

Alarm handling is a measure of the time between activation of 911 and dispatch of the first unit. The applicable standard is 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, overall alarm handling performance is 3 minutes, well above the expected standard of 1 minute. This significant deficiency should be identified as an immediate action item. While alarm handling is not a function under the direct control of Anna Fire Rescue, AFR leadership should work with the Collin County communications center to monitor and improve performance on this measure.

AFR Alarm Handling Performance, 2018–2022



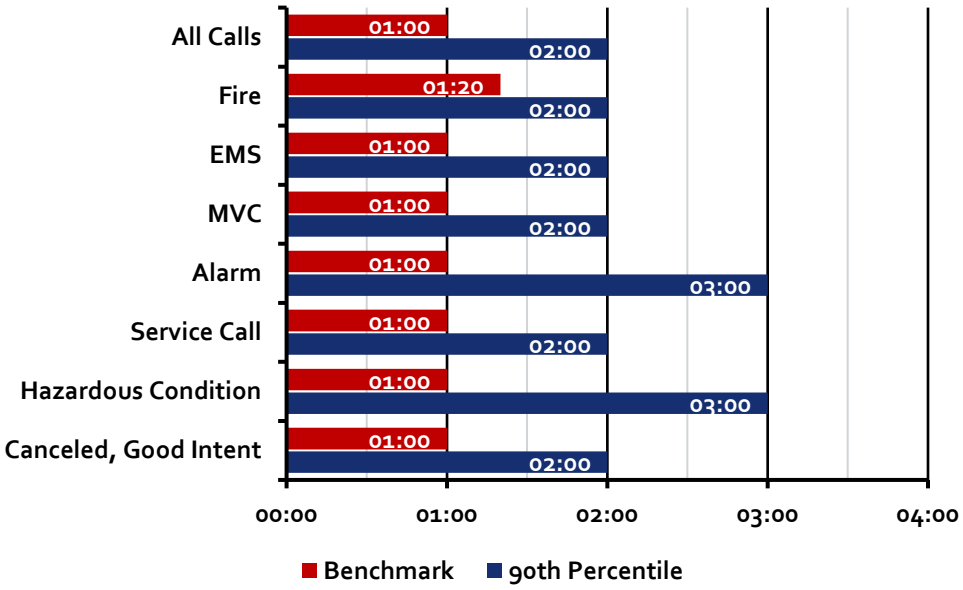
Turnout

Turnout is a measure of the time between dispatch and the unit responding to the incident; unit advises dispatch it is responding, and the apparatus is moving down the road. The applicable standard is 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, AFR overall turnout performance is 2 minutes, double the expected performance of 1 minute.

AFR Turnout Performance, 2018–2022



As this is the first measure under direct control of the fire department, AFR leadership should 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.

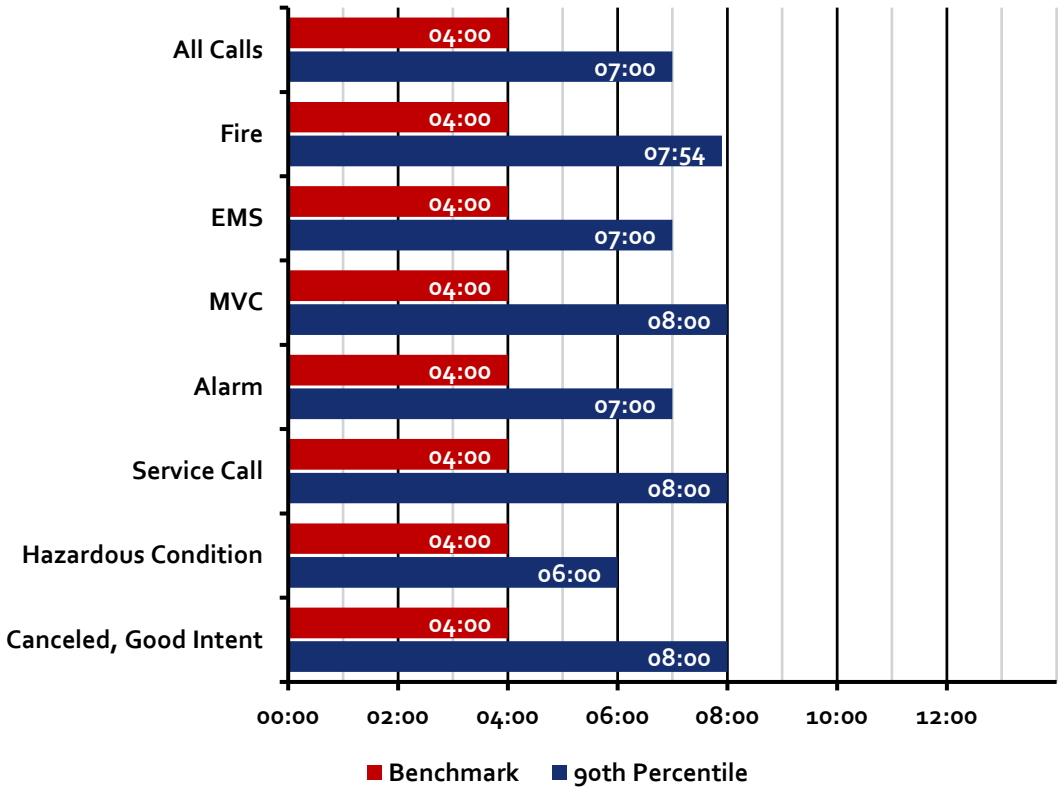
Travel

Travel is a measure of time between the unit responding to the incident and arrival at the incident. The applicable standard is 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	First Unit 4 minutes at the 90th percentile Full Compliment 8 minutes at the 90th percentile

As illustrated in the following figure, AFR overall travel performance is 7 minutes, which is 3 minutes greater than the expected performance. For this measure, it is key that fire department leadership work closely with elected officials and the community to balance between meeting this standard and the costs of adding sufficient resources to accomplish it.

AFR Travel Performance, 2018–2022

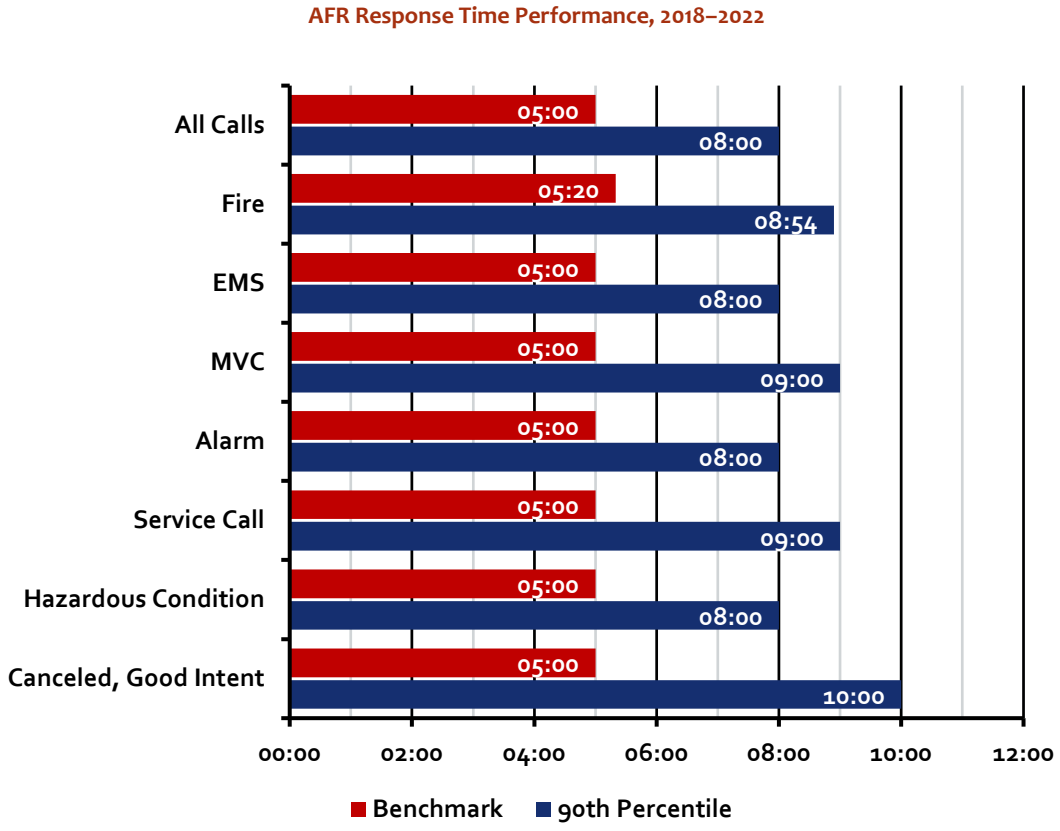


Response Time

Response time is a measure of the time between dispatch and arrival at the incident. For this measure, there is not a specific applicable standard. However, by combining the individual component standards, the following figure may illustrate expected performance.

Component	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, AFR overall response time performance is 8 minutes, which is 3 minutes greater than the expected performance.



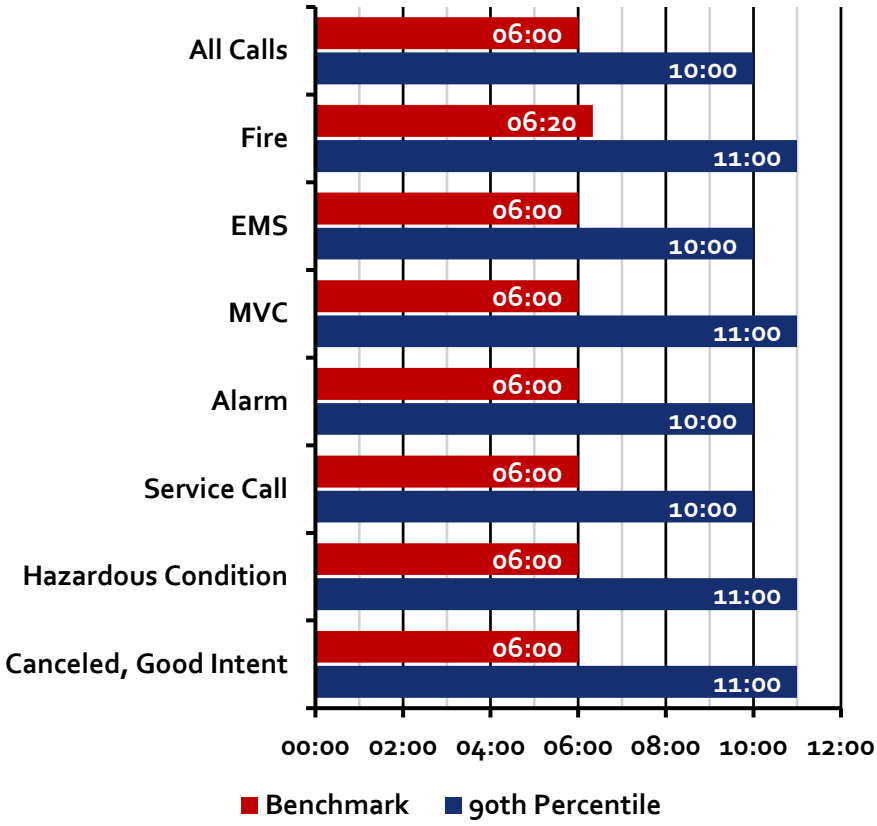
Total Response Time

Total response time is a measure of the time between activation of 911 and arrival at the incident. 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
Call Processing 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, AFR overall total response time performance is 10 minutes, which is 4 minutes greater than the expected performance.

AFR Total Response Time Performance, 2018–2022



Mutual and Automatic Aid

As society continues to change and communities grow, there are ongoing efforts to streamline services and provide cost-effective response to incidents. Towards this goal, many departments sign aid agreements that enable the sharing of resources, thus decreasing the need for the department to supply all needed resources as a sole entity. With mutual aid agreements, each department agrees to respond resources to the other agency's jurisdiction, when requested by the responding officer or on-scene incident commander. With automatic aid agreements, each department agrees to respond resources to the other agency's jurisdiction when dispatched as part of the initial dispatch of units—within a formal matrix or process which specifies which units are dispatched to what types of incidents. AFR is a part of several aid agreements as illustrated in the following figure. While the City of Melissa is an automatic aid agreement, the department has identified that often, the dispatch center is not automatically dispatching aid resources but rather it is done by request—thus operating mostly as a mutual aid process. ESCI recommends that AFR leadership work with Collin County Sheriff's Office leadership to resolve this so that the automatic aid process is more effectively utilized.

AFR Aid Agreements

Agency	Agreement Type
City of Melissa	Automatic
City of Van Alstyne Fire Protection Department	Mutual
Collin County Texas (AMR)	Mutual
McKinney Fire Department	Mutual
Blue Ridge Fire Department	Mutual
Princeton Fire Department	Mutual
Westminster Fire Department	Mutual

AFR makes use of the aid agreements for all types of responses, not just responses to fires. The following figure illustrates the number of incidents involving aid between agencies.

Description	2018	2023	2020	2021	2022	Total
Automatic aid given	165	137	106	63	23	494
Automatic aid received	66	56	41	26	12	201
Mutual aid given	132	123	123	127	136	641
Mutual aid received	194	138	112	128	156	728
Total	**557**	**454**	**382**	**344**	**327**	**2,064**

Future System Demand Projections and Community Risk

Population Growth Projections

The City of Anna, Texas, is experiencing significant population growth, with projections suggesting a doubling of its current population by 2030. This rapid expansion has important implications for future fire service planning. As the population increases, the demand for firefighting services, including emergency response, fire prevention inspections, and community outreach, is expected to rise proportionately. Adequate resources, infrastructure, and staffing levels must be continually assessed and adjusted to meet the growing demands effectively. Additionally, investments in training programs, recruitment efforts, community education, and prevention initiatives are essential to ensure the safety and well-being of Anna's residents as the city continues to expand. Strategic planning and collaboration among relevant stakeholders will be crucial to addressing the future public safety needs of the City of Anna.

With a 2023 population of 27,376, Anna is currently growing at a rate of 16.29% annually and its population has increased by 57.27% since the most recent census, which recorded a population of 17,407 in 2020. Spanning over 16 miles, Anna has a population density of 1,706 people per square mile.

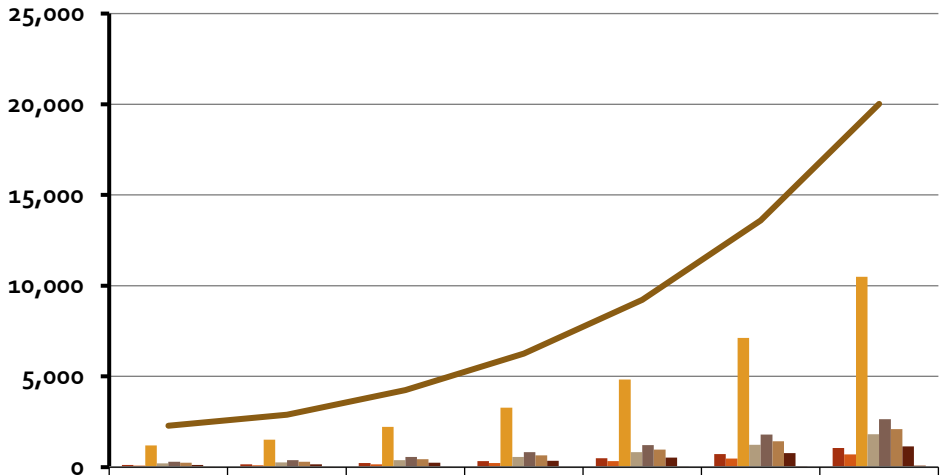
Service Demand Projections

The ability to plan for the future includes understanding the potential changes in service demand over time. There are two primary methods for projecting service demand which provide a high estimate and a low estimate; they are population and historical change. It is likely that reality will fall somewhere between those two projections.

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, the incidents per 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 AFR projected service demand using this method and is the higher estimate.

AFR Projected Service Demand by Population

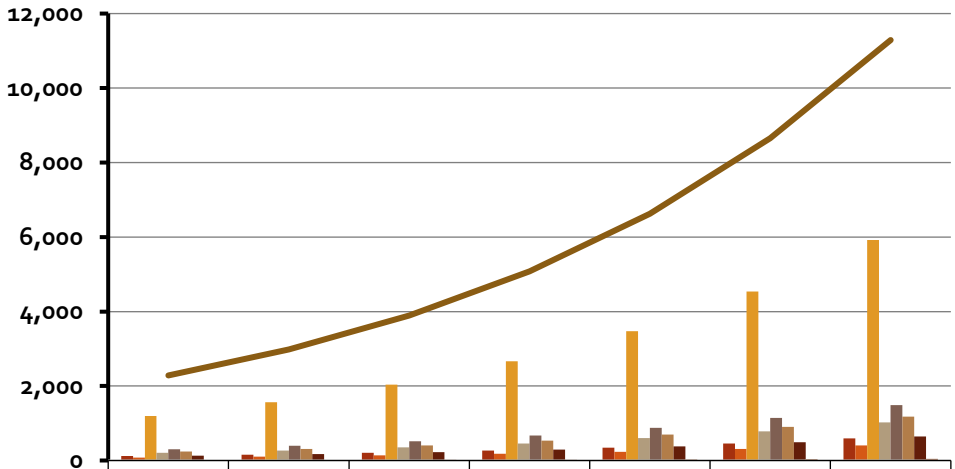


	2022	2025	2030	2035	2040	2045	2050
Fire (100)	120	151	223	329	484	714	1,052
Hazardous Condition (200, 400)	81	102	151	222	327	482	710
EMS (300 except 322-324)	1,197	1,510	2,226	3,280	4,833	7,121	10,493
MVC (322-324)	207	261	385	567	836	1,231	1,815
Service Call (500)	301	380	560	825	1,215	1,791	2,639
Canceled, Good Intent (600)	239	302	444	655	965	1,422	2,095
Alarm (700)	130	164	242	356	525	773	1,140
Other (800, 900)	9	11	17	25	36	54	79
Total	2,284	2,882	4,247	6,258	9,221	13,588	20,022

Future Service Demand by Historical Change

This method of projecting future service demand analyzes the historical percentage of change of service delivery to determine the average increase or decrease per year. 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 AFR projected service demand using this method and is the lower estimate.

AFR Projected Service Demand by Historical Change



	2022	2025	2030	2035	2040	2045	2050
Fire (100)	120	157	204	267	348	454	593
Hazardous Condition (200, 400)	81	106	138	180	235	307	400
EMS (300 except 322-324)	1,197	1,562	2,039	2,661	3,473	4,533	5,916
MVC (322-324)	207	270	353	460	601	784	1,023
Service Call (500)	301	393	513	669	873	1,140	1,488
Canceled, Good Intent (600)	239	312	407	531	693	905	1,181
Alarm (700)	130	170	221	289	377	492	643
Other (800, 900)	9	12	15	20	26	34	44
Total	2,284	2,981	3,891	5,078	6,627	8,649	11,289

FIRE PREVENTION & PUBLIC EDUCATION

An aggressive risk management program through active fire and life safety services is a fire department's best opportunity to minimize the losses and human trauma associated with fires and other community risks.

> The National Fire Protection Association recommends a multifaceted, coordinated risk reduction process at the community level to address local risks. This requires engaging all segments of the community, identifying the highest priority risks, and then developing and implementing strategies designed to mitigate the risks.[11]

All fire departments must review and understand the importance of fire prevention and public education, appreciating their role in the planning process of a community with diversified zoning, including residential, commercial, and industrial properties. The fundamental components of an effective fire prevention program are listed in the following figure, accompanied by the elements needed to address each component.

Fire Prevention Program Components

Fire Prevention Program Components	Elements Needed to Address Program Components
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 Juvenile fire setter intervention Prevention information dissemination
Fire Cause Investigation	Fire cause and origin determination Fire death investigation Arson investigation and prosecution

Fire Prevention Discussion

Anna Fire Rescue operates an active fire and life safety program in support of the fire prevention program components mentioned above. Interviews conducted during the site visit established that the department has a healthy appreciation of fire prevention within its community. The Fire Chief (who also serves as the Fire Marshal) clearly understands the significance of having a quality program that is valid and credible and is committed to the Department's fire and life safety programs, as discussed here. However, based on the defined roles of the Fire Prevention Division, there are some challenges with the current configuration.

[11] Kirtley, Edward, *Fire Protection Handbook*, 20th Edition, 2008, NFPA, Quincy, MA.

Fire and Life Safety Code Enforcement

The most effective way to combat fires is to prevent them. An intense fire prevention program, based on locally identified risk and relevant codes and ordinances, reduces loss of property, life, and the personal and community-wide disruption that accompanies a catastrophic fire.

Fire Prevention Code Enforcement

Survey Components	Observations
Code Enforcement	
Fire codes adopted	IFC 2015
Code used – year/version	Collin County Fire Code (2015 IFC) is used in all unincorporated areas, and Department Fire Code (2015 IFC) is used inside city limits
Sprinkler ordinance in place	Commercial only per adopted code(s)
New Construction Inspections and Involvement	
Consulted in proposed new construction	Yes
Perform fire and life safety plan review	Yes
Sign-off on new construction	Yes
Charges for inspections or reviews	For re-inspections only and plan review permits.

Code Enforcement Discussion

The City of Anna has adopted a Fire Code based on the 2015 edition of the International Fire Code (IFC), as well as a Municipal Fire Code. It has also adopted the North Central Texas Council of Governments (NCTCOG) overlay requirements founded upon the 2015 IFC and has supplemented the municipal code with the relevant NCTCOG amendments. Fire code enforcement and administration in the city is the responsibility of a full-time Fire Chief/Fire Marshal supplemented by two staff members.

Construction Plan Review and Inspection

An essential component of a fire prevention program is new construction plan review. When a new building is proposed within the Department's boundary, the Department has the responsibility to protect the structure for the life of the building. The Department therefore has a fundamental interest and duty to ensure that all buildings within its jurisdiction are properly constructed.

New construction code enforcement activities consist of regularly reviewing submitted commercial and residential plans of all commercial and public buildings. The Fire Marshal must be provided with the plans for review and to sign off prior to the City issuing a building construction permit. The Fire Marshal and/or Fire Inspector then complete a variety of field inspections that are related to the new construction permitting process. The Department has adopted a fee schedule, last updated in 2020 for all permits, and has published a fee schedule for plan review and permits related to new construction.

Fire Code Discussion

The Department has adopted the 2015 edition of the International Fire Code (IFC-2015) and has supplemented the code appropriately with local and regional code amendments or ordinances. ESCI recommends updating codes and standards every 6-8 years within a cycle.

Existing Occupancy Inspection Program

Existing property inspections, to find and eliminate potential life hazards, are an essential part of the overall fire prevention mechanism. These efforts are most effective when completed by individuals who possess the proper combination of training and experience, and when completed with appropriate frequency.

Fire Inspection Discussion

Within the local government of Anna, Texas, the Department provides existing occupancy inspections for assemblies, schools, businesses, and identified high-risk facilities. The Fire Marshal and/or the Fire Inspectors currently conduct all existing occupancy inspections for the Department. Annual inspections of commercial and public occupancies within the city limits should be the objective. This represents a workload of about 150 inspections each year.

Existing Occupancy Inspection Program

Survey Components	Observations	Comments
General Inspection Program		
Perform existing occupancy inspections	Yes Approx. 250 per year (2022)	Staffing currently inadequate for recurring annuals
Special risk inspections	Yes	Target hazards and special events
Storage tank inspections	Yes	Provided by State
Key-box entry program in place	Yes	Knox System
Hydrant flow records are maintained	Where provided by City unknown test period	Not in areas with private water supply or UD
Self-inspection program in place	No formal program	Courtesy checklist provided
Frequency of inspections	Annual and change of ownership	Inadequate staffing
Citation process in place and formally documented/adopted	No formal process exists	Action item
Inspections computerized	Internal FD system	City lacks proper integration between departments
Community feedback system in place	FD reporting system	
Number of personnel devoted to program	2 full-time employees beside the Fire Chief	Inadequate staffing
Fees for specialty inspections	Yes	Engine company pre-plans and referrals for compliance

The Department has been authorized to issue citations for code violations inside city limits; however, this is used most often as a last resort; most compliance issues are resolved through proper education and positive relationships between the Department inspector and the property owner or manager. It is vital for the City to develop similar and consistent processes for the issuance of citations across all relevant internal departments.

In addition to conducting a regular fire inspection program, it is important to ensure proper record keeping of the inspections. These records ensure each occupancy is inspected regularly and that the results of fire inspections are available in each subsequent inspection. This allows Fire Inspectors to understand trends, violations previously experienced, and corrective actions taken. The Department utilizes a paper-based system with web-based, online data entry to manage all fire inspection and pre-fire incident records. However, the program does not have full integration with other fire records management systems, so it is difficult for incident commanders to have access to specific information relative to building hazards. Such integration would have the potential to reduce fire risk and improve firefighter safety. Individual inspection and plan review workloads appear to be overly demanding when compared to national staffing models such as NFPA 1730 and recent fire prevention staffing studies. This is discussed in more detail in the Staffing Section of this report.

Conclusion of Fire Prevention Division

The Fire Prevention Division (Fire Marshal's Office) of Anna Fire Rescue is proactive in nature and is headed by the Fire Chief / Fire Marshal. This division is responsible for all fire code enforcement, plan reviews, life-safety inspections, fire fighter safety, public education programs, fire cause determination, arson investigations, and many other preventative measures.

Fire prevention is a distinct sub-discipline in the fire service that is unique, technically complex, and requires extensive education, experience, and training. Fire prevention personnel are typically certified peace officers due to their responsibility to investigate the crime of arson and enforce particular state laws. While fire inspectors and investigators often have backgrounds in Fire Operations, few fire service personnel have backgrounds in prevention.
Due to their responsibility and authority to interpret, apply, and enforce fire codes, laws, and ordinances, fire inspectors must be identifiable as an Officer of the department with the rank of Captain or Lieutenant. The Prevention Division must also be structured to the requirements set forth in NFPA 1730, *Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations*.

The emphasis on community outreach and development through the Prevention Division is another positive observation during ESCI's research findings. By actively engaging with the community, disseminating safety information, and conducting effective fire prevention programs, the department is attempting to build trust and cooperation between citizens and within the construction and development community. This approach not only reduces the occurrence of severe emergencies but also demonstrates a progressive and organizationally mature strategy that focuses on long-term risk reduction and construction safety. A community that is well-informed and safety-conscious is more likely to collaborate with the fire department in emergency situations and during new construction efforts, leading to improved overall public safety.

Anna Fire Rescue, particularly in the areas of Fire Prevention services, community outreach, permitting, ordinance creation, safety inspections, and builder consulting appears to have yielded positive outcomes. Research conducted by ESCI during this project showcases the efforts of the Fire Chief in incorporating prevention strategies, concepts, and methods into all aspects of the department. Currently, the Fire Chief serves a dual role as the Fire Marshal and possesses extensive training and experience in the fire prevention realm. This combined expertise has produced a fire department that is more attuned to fire prevention and public outreach initiatives by embracing its inherent benefits.

Within the Prevention Division are currently two Inspector/Investigators, a Captain and Lieutenant respectively. With exception to weekly development meetings attended by the Fire Chief, these two personnel are responsible for all civil plan reviews, fire protection system plan reviews, permitting intake and issuance, code research, field inspections of new and existing occupancies, new construction acceptance testing, combined pre-planning efforts with Operations, in-service Operations training, consulting, outreach and safety training activities, fire code enforcement, and fire cause and origin investigations.

The Fire Chief's directive in emphasizing community outreach and development through combined efforts between the Fire Marshal’s Office and the Operations Division is an effective approach. This effort emphasizes the importance of fire prevention, public education, and enforcement activities in mitigating multiple hazards. By actively engaging with the community, disseminating safety information, properly enforcing codes and ordinances, and conducting fire prevention programs, Anna Fire Rescue is building a safer and more informed community. This approach, rooted in the insights provided by ESCI, aligns with the department's mission to enhance public safety by preventing fires and promoting safety awareness. This represents the “education” function of the division.

ESCI's analysis reveals significant needs of the Prevention Division related to a substantial increase in permitting, fire code enforcement, and plan review activity. As the city experiences unprecedented growth and construction, the demand for permits will continue to increase. In recognizing this, the department has taken proactive steps to accommodate this growth and is prepared to streamline the permitting process, ensuring that construction projects adhere to safety standards and fire codes in a timely manner. This innovative strategy not only enhances public safety but also facilitates the city's land development through responsible methods. This represents the “engineering” function of the division.

ESCI's research has also highlighted the importance of increasing investigative efforts. With a growing city, the likelihood of incidents requiring a fire investigation also increases. Anna Fire Rescue must be better equipped to handle fire investigations, ensuring that incidents are thoroughly examined, and their causes are identified. This not only serves as a tool for fire prevention but also plays a vital role in ensuring accountability and enhancing public safety. This represents a portion of the "enforcement" function of the division.

Fire Prevention Staffing Recommendations

The exponential growth in new construction projects within the city of Anna, Texas, has necessitated a strategic expansion of Anna Fire Rescue, particularly in the Prevention Division aligned with the Operations Division. This crucial decision stems from a comprehensive analysis of the current construction progress and trajectory within the city. The surge in development activities has significantly heightened the demand for fire prevention resources, underscoring the urgent requirement for augmenting personnel in this division. AFR recognizes the imperative of maintaining a proactive stance in fire prevention to safeguard the community's well-being.

As the city burgeons with new construction projects, fire prevention resources must be bolstered to keep pace with the increasing workload. Adequate and capable staffing is paramount to ensuring Anna Fire Rescue's ability to effectively manage the increasing demands placed upon it. The proposed addition of one additional Inspector/Investigator and one dedicated Administrative Assistant, as recommended by ESCI, aligns seamlessly with the department's commitment to enhancing its preventive measures and should be considered an immediate need. These additions will not only fortify the Prevention Division but also contribute to the overall operational efficiency of the city government.

ESCI's recommendation for staffing adjustments resonates with the department's forward-thinking approach. The addition of an Inspector/Investigator will enhance the department's capacity to conduct thorough inspections, plan reviews, and investigations crucial for identifying and mitigating potential fire hazards. Simultaneously, the inclusion of an administrative assistant will alleviate the operational burden on existing staff, enabling them to focus more effectively on their primary responsibilities.

In conclusion, the decision to expand the Prevention Division, in tandem with the Operations Division, is a strategic response to the escalating demands imposed by the city's rapid growth and construction activities. The recommendation from ESCI for additional staffing in the Prevention Division is not only justified but also aligns seamlessly with the department's commitment to enhancing fire prevention measures. This expansion is a proactive step that ensures Anna Fire Rescue remains well-equipped and adequately staffed to safeguard the community and effectively manage current and future challenges.

Section II: Recommended/Enhancements

KEY RECOMMENDATIONS

To ensure Anna Fire Rescue is well-prepared for future challenges, it is imperative to fortify its infrastructure, laying a firm foundation that can withstand the evolving needs of the community. The Evaluation of Current Conditions section in this report, conducted by ESCI, provides invaluable insights and recommendations deemed essential for this purpose. ESCI's recommendations, outlined in the report, are crucial building blocks for the department's future resilience. These recommendations encompass a range of short and mid-term actions that, if strategically implemented, can significantly enhance the department's capabilities.

The report's recommendations, tailored to address current conditions and anticipate future growth, are diverse in nature. Some of the suggested actions can be executed promptly, ensuring a swift response to immediate needs. However, a subset of recommendations may require a more extended timeframe, spanning 2–3 years, and involve comprehensive planning and execution. Prioritization is crucial, with a focus on addressing safety concerns taking precedence. It is advised that the department develops a strategic plan to methodically navigate through these recommendations. While some tasks may be overseen by the responsible officers, a collaborative effort is essential to ensure a holistic and cohesive implementation strategy.

The consideration of the report's recommendations as the department expands in size and activity level is paramount. A proactive approach in dealing with potential safety concerns is emphasized, aligning with the department's commitment to safeguarding the community. The last two columns of the report, serving as a checklist for maintained items and completed actions, provide a systematic means of tracking progress. This approach fosters clarity, accountability, and continuous improvement. Overall, implementing ESCI's recommendations lays the groundwork for a resilient and future-ready Anna Fire Rescue, capable of efficiently meeting the challenges of a growing and dynamic community.

Item	Recommendation	Maintained	Completed
Organizational Overview			
1	Improve overall organizational communications.		
2	Maintain a program designed to support overall continuous professional development.		
3	Maintain staffing levels in Operations and Prevention to meet national and community standards.		
4	Take formal meeting minutes during the quarterly officer and chief officer meetings and distribute them (excluding information that may require confidentiality) to department employees.		
5	Continue to develop policies, procedures, SOGs, training guidelines, and other documents utilizing the Lexipol® system. Re-evaluate every three years.		
6	Record minutes of staff meetings.		

Item	Recommendation	Maintained	Completed
7	Establish a system to maintain evaluation of service delivery to help with evaluation reports. Develop a 12-month target and response goals. (Performance Management)		
8	Review annually and maintain EMS-based technology and equipment for all new and updated equipment.		
9	Improve fire suppression incident and pre-planning capabilities.		
Staffing			
10	Dedicate an FTE to coordinate the Emergency Management Division within the Department.		
11	Ensure that proper workspace is planned and constructed for current and future administration and prevention staffing.		
12	Add additional staff to the Fire Prevention Division to meet the growing needs of the city and the impact of new construction.		
Service Delivery and Response Performance			
13	Monitor performance of turnout and response times.		
14	Continue constructing a robust fire hydrant infrastructure throughout the growing areas of the City.		
15	Consider the future staffing needs of Station 2 once internal thresholds for service demand are reached or exceeded.		
16	Continue to monitor call concurrency (overlap) statistics as the number of calls increase.		
17	Form a working group to explore the high call processing times and provide recommendations for improvements. Continue to monitor travel times across the city. As service demand thresholds are approached or reached, the Department may consider increased staffing, stations, or apparatus.		
Fire and EMS Training Delivery			
18	Ensure all personnel have ICS training commensurate with their position and NIMS requirements. Document and maintain ICS training records.		
19	Establish a company officer training and development program.		
20	Adopt a department safety policy that address components.		
21	Implement a close-call (near-miss) reporting and training system.		
22	Implement a system of minimum training hour tracking and accountability.		
23	Define and document all wildland training levels. All personnel should be trained to the awareness level and the NWCG S130/190 level, and company officers to the engine boss level.		
24	Incorporate regionalized EMS scenario-based training with ambulance transportation.		
25	Establish a full-time department Training Officer and consider regional partnering on training.		
26	Incorporate annual live fire training evolutions.		
27	Implement a department "culture of safety" program; e.g., "Just Culture," "Everyone Goes Home," or "Crew Resource Management (CRM)."		

Item	Recommendation	Maintained	Completed
Fire Prevention and Public Outreach			
28	The Department may consider the adoption of applicable sections of the Wildland Urban Interface Code as amendments to the Department Fire Code.		
29	Greater authority should be provided to the Department when reviewing civil plans for fire department access and available water supplies within the city.		
30	Recommended that the fire code inspection fee schedule be adjusted annually to account for reasonable inspection costs of the Department, where authorized by law.		
31	The Department may consider (1) a self-inspection program for low-risk occupancies and (2) cross-training firefighters as fire inspectors to balance individual workload and staffing requirements with recognized efficiency models and available funding.		
32	The Department should develop and implement a formal risk reduction plan that is updated annually.		
33	The Department may consider an additional position to establish a community outreach coordinator assigned to the Fire Marshal to ensure the development, delivery, and enhancement of necessary community outreach and risk reduction program elements.		
34	Implement a formal CE training and competency program for all personnel who may conduct origin and cause fire investigations.		
35	Classify all Fire Marshal personnel as Fire Protection Officers, with cross-training as Fire Inspectors, Fire Investigators, Peace Officers, and Public Educators in order to ensure fire inspections, fire investigations, and code enforcement activities are conducted in accordance with nationally recognized standards, and to balance staffing requirements with recognized models of efficiency and available funding.		
36	Consider the regular use of the RMS to assist with community risk reduction and response performance benchmarking.		
37	Consider the assignment of a data analyst position, either part-time or as part of the duties of an existing position.		
38	Assign all Fire Marshal personnel to normal administrative hours with the potential for staggered shifts; e.g., 8–5 and 12–9, if there is need for increased evening or weekend coverage.		
39	Have Fire Prevention personnel trained and available to function as Safety Officers, as needed.		
40	Increase staffing by 1 additional Inspector/Investigator and 1 dedicated Administrative Assistant.		
Future Delivery Systems			
41	Continue to implement and monitor the success of county dispatch corrections with regard to Station response times.		
42	Evaluate the financial impact and benefits of placing an additional ambulance unit into fulltime service.		
43	Evaluate the applicability and consider using Peak Activity Units when appropriate.		

LONG-TERM STRATEGIES

As Anna Fire Rescue embarks on a new phase with the opening of Station Two, a comprehensive long-term strategy is imperative to ensure sustained growth, effective response capabilities, and heightened community safety. This strategic plan focuses on key areas such as staffing, fire prevention, and managing the anticipated increase in call volumes and new construction activity, aligning with the department's commitment to excellence and adaptability.

1. Staffing Expansion: With the introduction of Station Two, a phased staffing expansion is vital to meet the growing demands of an expanding community. The plan includes targeted recruitment efforts to secure additional firefighters, paramedics, inspector/investigators, and administrative personnel.
2. Training and Professional Development: To ensure the preparedness of the expanded team, a robust training and professional development program will be implemented. Continuous training on evolving firefighting techniques, medical protocols, and technological advancements will be prioritized. Investing in leadership development programs will also cultivate a pool of capable officers to oversee the growing workforce effectively.
3. Adherence to Updated Fire Codes: New code cycles necessitate a meticulous review and update of fire codes to align with the evolving needs of the community. Collaborating with local authorities and fire safety experts, Anna Fire Rescue will proactively revise and enhance fire codes to ensure they are comprehensive, reflective of current risks, and capable of accommodating future developments in the city.
4. Infrastructure and Equipment Enhancement: As part of the long-term strategy, attention will be given to upgrading infrastructure and acquiring advanced equipment. This includes the maintenance and potential expansion of Station Two to accommodate future needs. Additionally, the department will invest in state-of-the-art firefighting apparatus, communication systems, and technological tools to optimize response times and operational efficiency.
5. Community Engagement and Education: To foster a culture of safety and resilience within the community, the strategic plan emphasizes proactive community engagement and education initiatives. Public outreach programs, school partnerships, and regular safety workshops will be conducted to enhance awareness and encourage preventative measures. Community involvement will also be sought in developing emergency response plans tailored to specific neighborhoods.
6. Call Volume Management: Anticipating an increase in call volumes post-Station Two opening, the strategic plan addresses efficient call management and dispatch protocols. Enhanced coordination with emergency services in neighboring jurisdictions, coupled with the utilization of predictive analytics and call data, will enable the department to allocate resources strategically and optimize response times. Regular evaluations will inform future adjustments to deployments.

This long-term strategic plan positions Anna Fire Rescue for sustained success, resilience, and excellence in the face of a growing and dynamic community. By focusing on staffing, fire prevention, and the management of increased workloads, the department will not only adapt to current demands, it will excel. It will also proactively prepare for the challenges of the future. This comprehensive strategy embodies the commitment of Anna Fire Rescue to the safety and well-being of the community it serves.

CONCLUSION

In conclusion, Anna Fire Rescue stands as a beacon of effective risk management, demonstrating its commitment to the safety and well-being of the community it serves. The Department's adept handling of operational demands reflects a proactive approach to evolving challenges. Through meticulous planning and foresight, the financial health of the Department must become robust in order to provide a solid foundation for present and future endeavors.

The recent addition of resources and facilities is a testament to the Department's commitment to continuous improvement. These additions are poised to significantly enhance safety and productivity within the community. By preventing incidents before they occur and aligning with contemporary fire safety standards, Anna Fire Rescue is proactively mitigating risks and fostering a secure environment for residents and businesses alike.

The current leadership, under the guidance of Chief Isom, has played a pivotal role in steering the Department towards long-term success. The Chief's actions reflect a keen understanding of both immediate needs and future challenges. The addition of fire prevention measures and adherence to modern fire prevention strategies aligns with a vision for sustained growth and resilience. Under the Chief's leadership, the Department is not only meeting its current operational demands but is also strategically positioning itself for the challenges that lie ahead.

In essence, the Anna Texas Fire Protection Department is not merely a responder to emergencies; it is a proactive guardian of community well-being. Through effective risk management, prudent financial stewardship, and forward-thinking leadership, the Department is poised to continue its legacy of excellence. As the Anna community evolves, the Fire Department's commitment to safety, productivity, and future-oriented strategies ensures that it remains a cornerstone of resilience and security for years to come.

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