SALINAS

Salinas Fire Department

Salinas, CA

September 2023

LONG-RANGE MASTER PLAN

- Community Risk Assessment
- Standards of Cover Update

AP TRITON

VISION · INNOVATION · SOLUTIONS

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Our sincere appreciation is extended to each of you…

— Salinas City Council & Administration —

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Mayor

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Fire Marshal

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…and each of the firefighters, officers, and support staff who daily serve the citizens and visitors of the City of Salinas and the surrounding communities.

Introduction

The City of Salinas partnered with AP Triton, a leader in public safety consulting, to develop a comprehensive Fire Department Master Plan. This initiative underscores Salinas's commitment to ensuring that its fire services are both highly effective and efficiently run, today and into the future.

Purpose & Approach

The Fire Department Master Plan serves as a strategic roadmap that equips the City of Salinas to proactively address the dynamic risks and challenges facing the community. By analyzing existing data, assessing community risk profiles, and anticipating growth patterns, the plan aims to ensure that the City's fire department evolves in tandem with the community it serves. In essence, this Master Plan is designed to prevent the fire department from falling behind as the community grows and changes, and to facilitate policy and budgeting decisions for elected officials.

Methodology

The AP Triton team analyzed data furnished by the department, along with other relevant information, to determine the current standards of response performance. Our analysis has allowed us to identify various factors that influence community risk and response efficiency. Consequently, we have identified opportunities for delivery system improvements.

Objectives & Metrics

This document sets forth response time objectives, as well as key performance indicators, that serve as benchmarks for evaluating the effectiveness of resource allocation and deployment.

Recommendations

Our findings are followed by a set of recommendations that are segmented into short-term, medium-term, and long-term priorities. While we understand that economic conditions may influence the timeline for implementing these recommendations, they collectively offer a blueprint for elevating the fire department's capabilities and services.

By employing AP Triton's multi-disciplinary expertise and innovative approach, Salinas gains a trusted consulting partner committed to delivering tailored, sustainable solutions that will empower the City's fire department to achieve long-term success.

Section I-A: EVALUATION OF CURRENT CONDITIONS

Overview of the Salinas Fire Department

The Salinas Fire Department (SFD) was established in 1874 as a volunteer fire department. The first career firefighter was hired by the City of Salinas in 1894 as a part-time position. Later that year, he was appointed as a full-time firefighter with a monthly salary of $80.

Figure 1: Salinas, CA (1917)

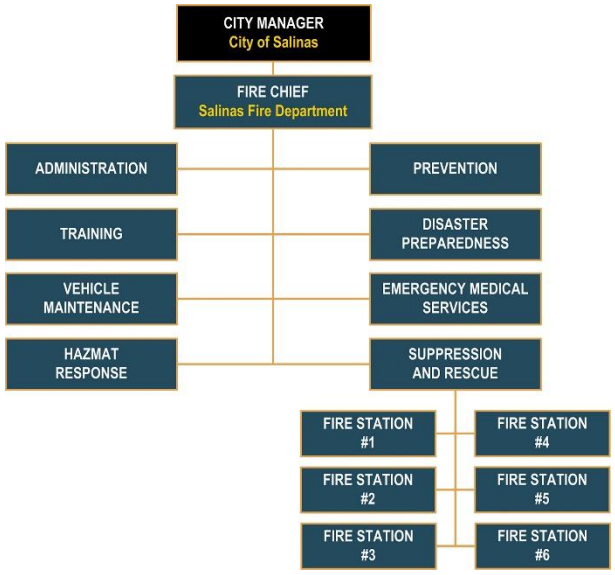
SFD serves an area of approximately 23 square miles with a population exceeding 163,000 persons.[1] SFD is an all-hazards municipal fire department that deploys its personnel and apparatus from six fire stations located throughout the city.

SFD Organizational Structure

Governance & Lines of Authority

The City of Salinas functions under a Council-Manager form of government, with seven elected members of the City Council. As shown in the following figure, the City Manager supervises the SFD Fire Chief.

Figure 2: SFD Organization Structure (2022)

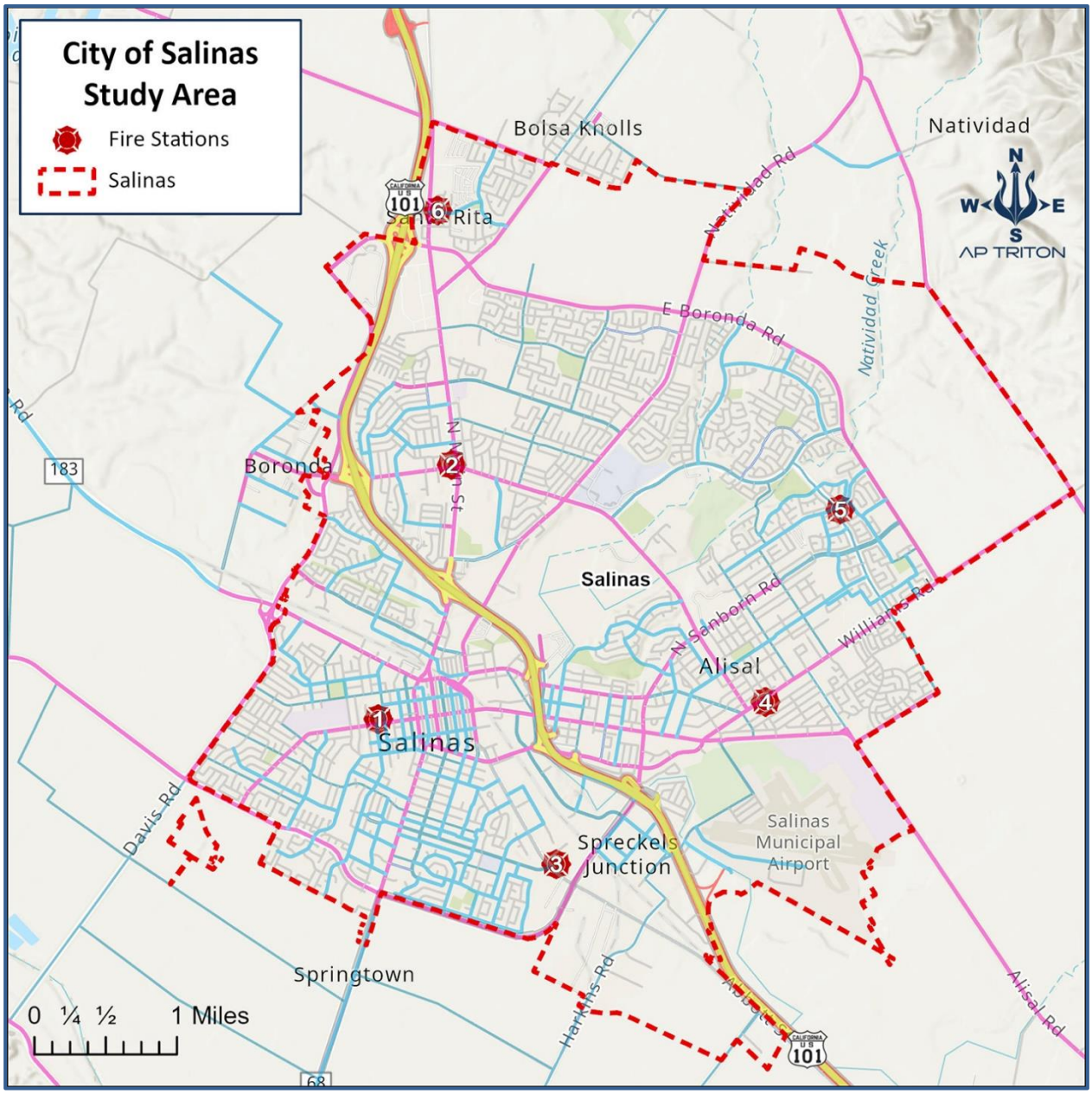


The preceding figure shows the eight divisions that comprise SFD.

SFD Service Area

The following figure illustrates the Salinas Fire Department's service area.

Figure 3: Salinas Fire Department Service Area



Services Provided by SFD

The Salinas Fire Department is an all-hazards public safety organization providing traditional fire suppression, aircraft rescue firefighting, wildland firefighting, Type I HazMat response team, and medical first-response (MFR) at the Basic Life Support (BLS) and Advanced Life Support (ALS) levels. Special operations at SFD include participation in the regional hazmat response team and provides services to San Benito County via a memorandum of understanding and the provision of Tactical Paramedics (SWAT) in support of the Salinas Police Department.

The Fire Prevention Division conducts fire and life-safety inspections and fire code enforcement, plan reviews using a contractor, and limited fire-cause determination.

Emergency Operations

SFD deploys a three-person engine company from each of its six fire stations. In addition, a three-person (four when staffing allows) truck company (100-foot tractor drawn aerial) and Battalion Chief are housed at Station 1. A second 100-foot aerial truck company with three-person minimum staffing is located at Station 5. Various reserve apparatuses are distributed among each of the fire stations. All frontline staffed apparatus includes a minimum of one Paramedic (any rank) and are furnished with Advanced Life Support supplies and equipment.

In April 2021, the Salinas Fire Department was given a Public Protection Classification (PPC®) score of 2/2X by the Insurance Services Office (ISO). Additional ISO information is in the Report's Comparison of Fire Risk in Other Communities section.

Other Emergency Resources in Monterey County

Emergency Communications & Dispatch

SFD, along with the Salinas Police Department, participates in a countywide public safety communication and 911 dispatch system. Dispatch and communications are provided through the Monterey County Emergency Communications Department (ECD).

ECD serves as the largest primary Public Safety Answering Point (PSAP) in Monterey County, providing communications services to multiple police and fire departments. Within the ECD is the consolidated fire dispatch center known as FIRECOM, which dispatches over 17 fire agencies. Dispatch of the County's contracted private ambulance service is located at the County's administrative offices on Schilling Place in Salinas but is not part of the consolidated dispatch center.

Emergency Medical Transport

ALS-level Ground Emergency Medical Transport (GEMT) service is provided by American Medical Response (AMR).

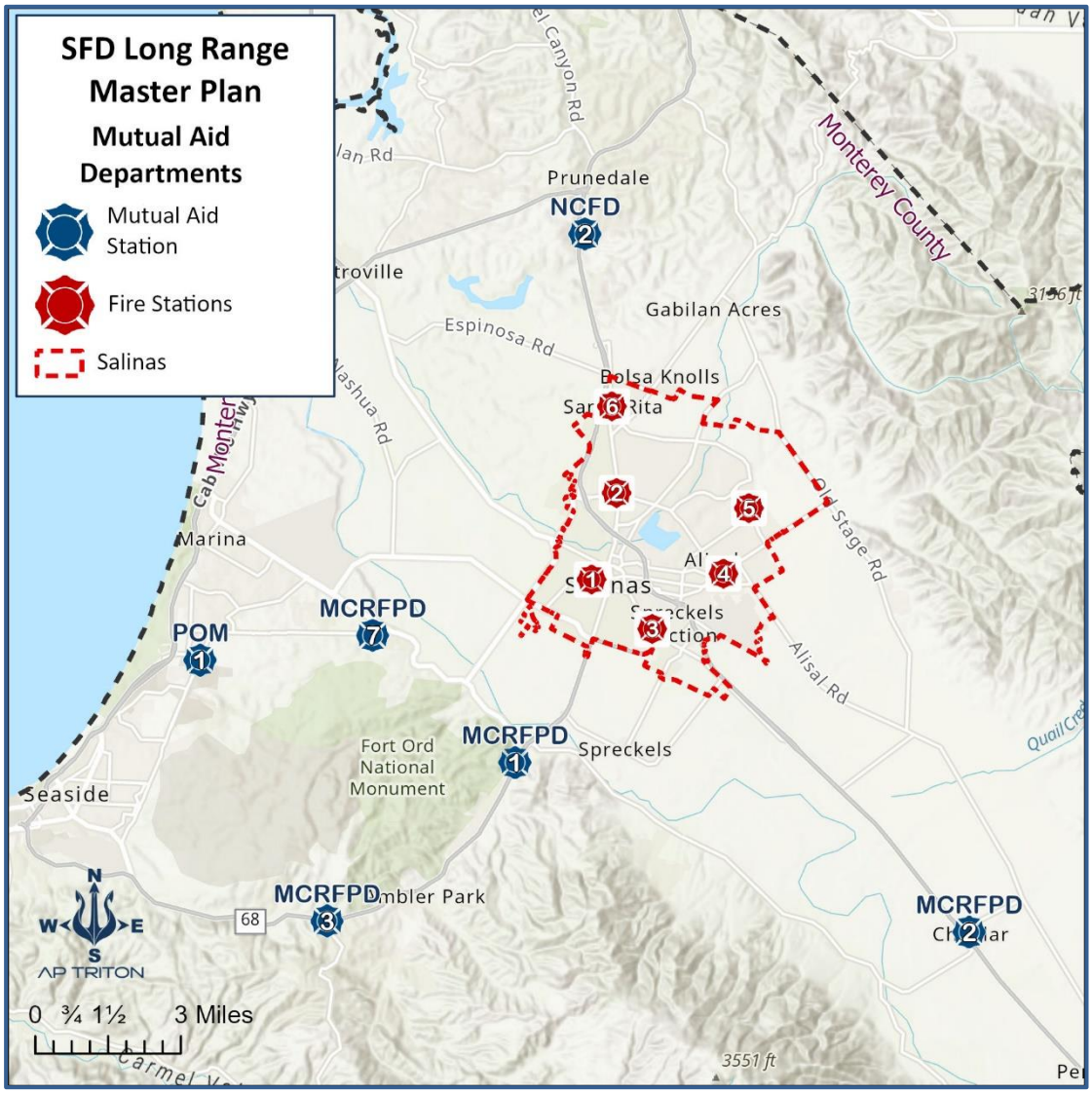
Air Medical Transport

CALSTAR Air Medical Services provides rotary wing (helicopter) air medical transport with one helicopter base in Salinas. Two additional helicopter bases are located within a 20-minute estimated time of arrival.

Mutual Aid Fire Stations

The following figure shows the locations of the various mutual aid fire stations available to the Salinas Fire Department. As shown, the primary providers are the Monterey County Regional Fire Protection District (MCRFD), North Monterey County Fire Protection District (NCFD), and Presidio of Monterey Fire Department (POM).

Figure 4: Mutual Aid Fire Stations



Management Components

Managing today's fire service can be highly complex. A progressive department needs to address various elements, including maintaining a stable, qualified workforce; ever-increasing health and safety concerns; addressing community expectations; ensuring an adequate and timely emergency response in serving the community; and providing stewardship over constrained financial resources.

In addition to these organizational challenges, managing a fire department requires developing fundamental elements, including the Department's Mission, Vision, and Values; setting goals and objectives; identifying critical internal issues and challenges; providing internal and external communication avenues; ensuring proper and up-to-date recordkeeping; and developing planning processes. This section of the report examines SFD's efforts in these areas.

Foundational Elements

Mission, Vision, Values

The Salinas Fire Department has developed the following Mission, Vision, and Values Statements, which are proudly displayed on the Department's website and at each of its fire stations:

SFD Mission Statement

The Salinas Fire Department is dedicated to preserving and protecting the safety of our community with integrity, pride, and commitment. We will do this with diversity of thought and people while ensuring fiscal responsibility.

SFD Vision Statement

Our steadfast belief in each other and our mission guides us in providing dynamic, professional service to our community through emergency response and community risk reduction.

SFD Values

The Salinas Fire Department is committed to these, our core values, which guides us in carrying our mission and realizing our vision:

Trust
We build and reaffirm the value of our trust through our actions.

Respect
The ability to see the value in others and ourselves and through this we will treat all people with courtesy, politeness, and kindness.

Accountability
We are caretakers of taxpayer money. We see ourselves as stewards of taxpayer dollars.

Diversity
We value and promote diversity in both thought and person.

Integrity
Whole and undivided in all things we do.

Teamwork
Together everyone achieves more.

Innovation
Constantly strive to use new methods, technology, and techniques.

Opportunity
Never miss an opportunity to exceed expectations.

Never Give Up
We have never, and we will never give up on each other or on our mission (Tradition).

Management Goals & Objectives
At the time of this report, the fire department's management had not explicitly identified goals for SFD. However, in reviewing budgets and other planning documents, SFD did participate in a 2020 City Performance Management program to identify challenges in meeting certain objectives. At that time, SFD listed one goal: Emergency EMS total response time (90% of calls, 8 minutes or less from call processing to arrival). It is unknown at this time if this goal has been met. In the 2023 adopted budget, SFD strategies and objectives align with the City's strategic plan.

Internal Assessment of Critical Issues

During the Master Plan process AP Triton asked for a list of critical issues from the Fire Chief's perspective:

- Staffing for an effective response force (ERF).
- Recruitment, Retention, and training.
- Response times and station locations.
- Stations, facilities, and deferred maintenance.
- Reducing reliance on mutual aid.
- A dedicated and sustainable training facility.

Internal Assessment of Future Challenges

Several challenges were identified with the stakeholder interview process. Five challenges stand out for the SFD: Not having adequate resources for the size of the city—doing more with less. Recruitment and retention of personnel (at all ranks). Fiscal challenges, including budgeting and rising costs for infrastructure and apparatus replacement. The ability to provide more community outreach and how the department will address the age and condition of the fire stations.

Communication

Internal Communication

Internal communication within the SFD is accomplished in several ways. Each morning on the first day of a 48-hour shift, the Battalion Chief conducts a morning virtual briefing with all on-duty Captains using the Zoom platform. The Chief Officers, Administrative Staff, Fire Prevention Staff, and an Executive Board Member representing Local IAFF 1270 meet monthly. There is a monthly standing meeting with staff and labor management. Informal meetings occur weekly between the Deputy Chief, Division Chiefs, and Battalion Chiefs, depending on who is on-duty and available.

These Chief Officers are also members of the Fire Supervisor's Association (FSA) and meet bimonthly. SFD has a formal Labor/Management arrangement, and in addition to the meetings noted above, Chief Officers, the IAFF 1270 Executive Board, and a representative from Human Resources meet monthly.

While the Fire Chief conducts all-hands meetings to relay announcements, changes within the department, or significant incidents, such meetings have been rare. SFD has an open-door policy to discuss issues and concerns, and member forums are encouraged to participate.

In addition to internal staff meetings, the Fire Chief and other department directors meet with the City Manager weekly.

External Communication

Communication with the public is accomplished primarily through social media platforms, including Facebook, Instagram, and the City's various integrated public outreach conduits and City PIO. Content is provided and monitored by administrative and prevention staff. As of 2022, SFD had approximately 3,300 Facebook followers and about 2,645 Instagram users. Another application utilized by SFD in conjunction with the Monterey County Office of Emergency Services (Alert Monterey County) for alerting the community regarding emergencies and other community news is the Everbridge (Nixle) platform.

Department news, events, and other information are available on the department's website, which has been redesigned and updated. SFD does not currently provide a community newsletter but contributes to weekly content publications through the City's PIO/Community Outreach Coordinator.

Reporting & Recordkeeping

The ability to provide detailed reports and maintain adequate recordkeeping is crucial for a fire department's success. Collecting complete and accurate information from each division within the department ensures that relevant data are obtained and provides for timely reporting based on local, state, and federal requirements.

Incident responses are entered and maintained utilizing a third-party electronic platform for gathering data. ESO® is an electronic repository for archiving EMS and non-EMS data. This cloud-based program allows SFD to meet the National Fire Incident Reporting System (NFIRS) reporting requirements as a single reporting platform.

Reports provided to the City Manager and City Council include management, operational, and quarterly/annual financial documents. Personnel records, including applications, background, and worker's compensation documents, are maintained by the City of Salinas Human Resources department.

At the time of this study, SFD had produced but not presented an annual report showcasing the department's goals, objectives, accomplishments, or response statistics.

Training records are collected and archived within Vector Solutions®. All personnel have the authority to access their files and upload course completion certificates and other supporting documents. A hierarchical order has been established for those who can access additional training records or run reports, which allows the Training Battalion Chief to maintain the integrity of the records. SFD has developed a policy for addressing training record procedures (SFD Policy 809).

Additional records maintained and archived by the SFD include personnel exposure records, incident reports, and patient care reports. Internal records for self-contained breathing apparatus (SCBA) and apparatus pump tests are captured electronically. Hose, pump, and ladder tests are conducted by outside contractors, with records maintained accordingly. Fleet maintenance records are kept in a separate electronic database, Fleetio. SFD Hazardous Materials Technicians perform gas-monitor maintenance and calibration, maintaining required records accordingly.

Document Control & Physical Security

Document Control

SFD produces a variety of information and documents daily. Many of these documents must be maintained for regulatory and organizational needs and can significantly impact the agency's health. SFD has developed policies and procedures, utilizing an industry best-practices model (Lexipol) to adhere to for document controls and safeguards (Policy 904 & Policy 1000).

Regulatory documents such as policy manuals, employee handbooks, standard operating guidelines, and incident reporting must be maintained, kept current, and protected from unauthorized use. In addition, informational documents such as official memorandums, agency performance reporting, and general agency information should comply with the agency, local, state, and federal policies and regulations.

Personnel need computer access to record activities, provide modern communications, and maintain management awareness. Access should be available to those who create the information and those who need to use this data to complete evaluations or reports. Modern information technology systems must have a solid infrastructure, including data retention, back-ups, and hardware and software maintenance. All SFD personnel have access to computer systems at each department facility.

Physical Security

Facility security for SFD is achieved using a traditional key lock or a combination lock system (KNOX®) for facility access. Offices within each SFD facility can be secured with a conventional key. Remote transmitters in each vehicle and apparatus are used to activate gates and apparatus bay doors. Several of the fire stations have perimeter fencing and locked gates. However, others have perimeter fencing with no lockable gates.

SFD has completed the installation of exterior cameras at each fire station that will record persons accessing the grounds and the facility.

Security for SFD vehicles and apparatus is achieved by utilizing original equipment manufacturer locking devices.

Information Technology Systems

The City of Salinas provides IT support to SFD for general IT issues, hardware, and system configurations. Various platforms used include Mobile Data Computers (MDCs), tablets, and specific software applications that outside vendors support. However, SFD is developing an internal group of experts who can handle various MDC, radio, tablet, and command vehicle electronic installs.

Staffing & Personnel

Today's fire service departments must consider their employees as their most valuable assets. Managing personnel to achieve maximum efficiency, professionalism, and personal satisfaction is an art as much as a science. Consistency, fairness, safety, and personal and professional growth opportunities are critical values for a healthy management culture. This is especially true in departments evolving and progressing to meet current emergency response challenges.

The size and structure of a fire department's staffing depend on the organization's specific needs. These needs must directly correlate to the needs and funding capacity of the community, and a structure that works for one department may not necessarily work for another department. This section provides an overview of SFD staffing configuration and management practices.

Fire department staffing is typically divided into two distinct groups: 1) administration and support and 2) operations. The administration and support group usually provides oversight and support to the operations group. This support provides emergency response personnel with the tools needed to deliver effective services to the community it serves. The operations group provides the necessary resources to perform emergency and non-emergency services to the community.

Administration & Support Staffing

As with every other division within a fire department, administration and support must have the appropriate number of resources to function adequately. Balancing administration and support personnel against operational personnel is critical to the organization's success in accomplishing its mission.

Planning, organizing, directing, coordinating, and evaluating each of the various programs within a fire department are typical responsibilities of the administration and support personnel. This list is not exhaustive and may include other elements as needed. It is essential to understand that tasks associated with each of these functions often co-occur. This requires the Fire Chief and administrative support staff to focus on many different areas simultaneously.

Ten full-time equivalent (FTE) employees and two part-time equivalent (PTE) employees provide support and administrative services to the SFD. The Fire Chief is the SFD's top executive leader and reports directly to the City Manager. The Deputy Chief is number two in succession and reports to the Fire Chief.

The Training Battalion Chief reports to the Deputy Chief, and the Fire Marshal reports to the Fire Chief. SFD operates with civilian administrative support staff responsible for critical tasks, including providing clerical, financial, records management, and customer service support for SFD. In the FY 2023 budget, an additional administrative captain position was funded. This position is designed to assist with succession planning and continuity for SFD. There are also discussions to reclassify the non-suppression battalion chief positions to division chief ranks.

The Management Analyst reports to the Fire Chief. An Office Technician and Administrative Clerk report directly to the Management Analyst. The Fire Prevention Bureau receives administrative support from an Administrative Analyst and Office Technician, both reporting directly to the Fire Marshal. Most of the administrative staff operate during regular business hours, which are 8:00 a.m. to 5:00 p.m., Monday through Friday.

The following figure lists administrative and support staffing for SFD.

Figure 5: SFD Administrative & Support Staffing

Position	Assigned
Fire Chief	1
Deputy Fire Chief	1
Training (BC)	1
Fire Marshal (BC)	1
Fire Inspector (FT)	3
Fire Inspector (PT)	1
Administrative Captain	1
Management Analyst (FT)—Administration	1
Office Technician (FT)—Administration	1
Administrative Clerk (PT)—Administration	1
Administrative Analyst (FT)—Prevention	1
Office Technician (FT)—Prevention	1

Fire Prevention Bureau Staffing

SFD's Fire Prevention Bureau is responsible for preventing loss and injury through code enforcement activities, investigation, and education. A Fire Marshal, two Inspectors, and one part-time Inspector complete the required mandated life-safety inspections and provide public education.

In addition, prevention staff work collaboratively with the City's Planning, Building, and Public Works Departments in the plan review, permit, and inspection processes for construction projects. The Fire Marshal is also responsible for vehicle maintenance and purchase, the apparatus equipment and maintenance work group, purchasing, illegal fireworks enforcement and Safe-n-Sane fireworks sales booths, special events permitting and planning review, attending the development review committee meetings, collaborating with the City's general plan update, assisting with the local hazard mitigation plan annex, and is responsible for emergency planning and operations in Salinas.

Operations Staffing

Personnel assigned to operations (suppression) conduct various duties relating to emergency and non-emergency responses. In addition to response, personnel assigned to operations conduct various internal and external tasks to support the mission.

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*[1] is frequently cited as an authoritative document addressing fire department staffing. In addition, the Center for Public Safety Excellence publishes benchmarks for the number of personnel recommended on the emergency scene for various levels of risk.

The following figure lists full-time position counts for the Operations Division but does not include five over-hire positions used for anticipated vacancies that occur annually.

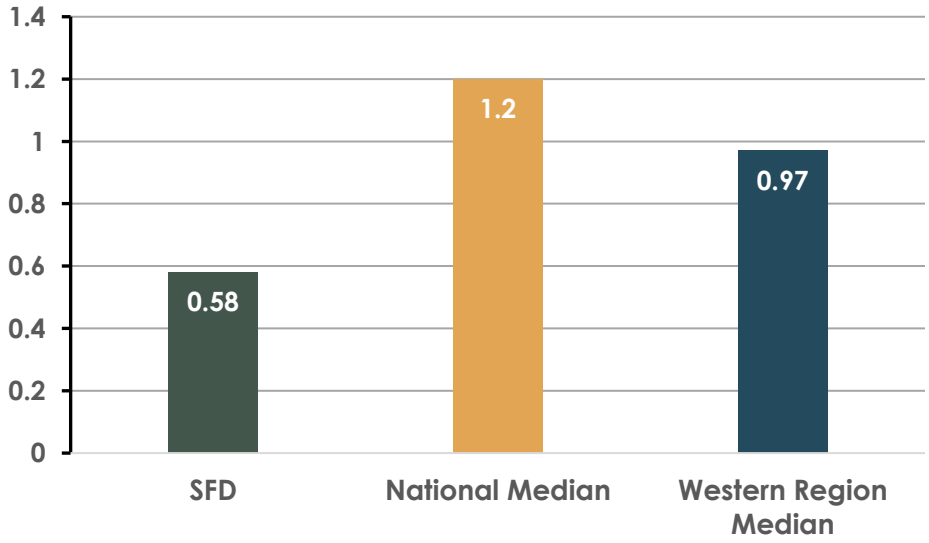
Figure 6: Operations Staffing

Position	FTEs
Battalion Chiefs	3
Captains (8 Paramedics)	24
Engineer/Operator (10 Paramedics)	24
Firefighter/Firefighter Paramedics (10 Paramedics)	41
Total FTEs:	**92**

Operations Staff Allocation

SFD has an operational staffing level of 0.58 Firefighters per 1,000 population served. This figure is based on the January 1, 2022, population estimate of 159,932 from the California Department of Finance. In comparison to the national average and western region, as referenced within the US Fire Department Profile (2020), SFD staffing levels are well below the national median (1.2) and the western region median (0.97). The following figure is a comparison of firefighters per 1,000 in population protected.

Figure 7: Firefighters Per 1,000 in Population Comparison



Fire Explorer Post #202

SFD has sponsored Fire Explorer Post #202 in cooperation with the Scouts BSA. The Fire Explorer program aims to provide insight into the firefighting profession to young people (between the ages of 14–21). Currently, Post #202 has 15 members, which, in conjunction with SFD staff, comprise the various organizational elements of the Post. Explorers are held to various requirements as written within the Salinas Fire Department Explorer Post #202 Rules and Regulations. Continued Explorer membership is dependent upon adherence to these rules.

Personnel Management

Personnel that deliver emergency services to a community's residents, businesses, and visitors are critical to any fire department. Effective and efficient management of an organization is crucial for a department's success. Fulfilling a department's mission may become compromised without adequate administrative and support personnel. An essential function of a department's success is managing human resources—providing for its greatest assets.

Policies, Rules, & Regulations

SFD policies and procedures are maintained using Lexipol®, a third-party, state-specific policy developer. SFD conducts policy reviews as needed, with the last review completed in 2022. The policies developed between SFD and Lexipol® are geared toward sworn department personnel.

The City of Salinas Human Resource Division also maintains rules and regulations for sworn and non-sworn department personnel in the City's Personnel Manual (2007).

Standard Operating Guidelines (SOGs)

SFD is developing various standard operating guidelines (SOGs) applicable to specific operational processes. These formal guidelines include fire ground operations, engine company evolutions, training exercises, and technical rescue procedures, with each guideline derived from internal and external sources. Additional industry best-practice standards are contained within SFD's policies and procedures. The formalized SOGs were not fully implemented at the time of this study.

Job Descriptions

The City of Salinas's Human Resources Department maintains job descriptions for each position within the City. Job descriptions for SFD are comparable with those found in fire departments of similar size and organization. Job descriptions are on the City's website, under the Human Resources tab.

Application & Recruitment Process

SFD has developed an internal task force of line personnel to assist in recruiting potential candidates. In addition, it utilizes traditional written and social media platforms and local outreach to schools, colleges, and neighboring fire academies for marketing purposes. It advertises on its website for open, full-time firefighter positions. It also offers a Fire Department Employment Informational Packet on its website, providing potential applicants with an overview of its recruitment process.

The hiring process for SFD includes a background, reference, and qualifications check, a structured interview, and a psychological evaluation. Candidates must have passed a candidate physical ability test (CPAT) before applying. A comprehensive medical examination is required once a conditional offer has been made to the candidate. The SFD recruitment and selection process is outlined in Policy #1200.

Performance Reviews, Testing, Measurement, & Promotional Process

SFD conducts annual performance evaluations for all full-time, permanent personnel, per SFD Policy #1201. Periodic personnel skills assessments are coordinated through the Training Division, allowing personnel to enhance their abilities in performing repetitive operational tasks. These assessments are designed to be non-punitive.

To ensure job satisfaction requirements have been met, probationary Firefighters receive a probation review at the end of 12 months. Promotional assessment centers are used for various positions within the SFD, including all ranks from Engineer to Deputy Chief.

Disciplinary Process

Personnel-related decisions can be made at various department levels, with the Fire Chief being authorized to hire, discharge, and promote. Levels of discipline and associated procedures are listed within SFD policy and the Memorandum of Understanding (MOU) between the City of Salinas and the Salinas Firefighters Association, Local 1270 (January 1, 2023–December 25, 2025). The City's policies allow all personnel to appeal through the established grievance procedure.

Personnel-related decisions can, and often do, subject an organization to potentially expensive liability exposure. Risk is presented that can result from a hiring mistake, improperly processed disciplinary process, wrongful termination claims, and more. Access to legal counsel can reduce this liability. SFD consults with the City's HR Department and the City Attorney on personnel-related matters as necessary.

Health, Wellness, & Safety

SFD has a Wellness & Fitness program defined for its operational personnel (SFD Policy #1221). Although all new hires complete a comprehensive medical exam after a conditional job offer, periodic and annual medical exams are not required for permanent personnel. It was noted within the data collected that the initial physical examinations given meet NFPA 1582: *Standard on Comprehensive Occupational Medical Program for Fire Departments.*

SFD established a Safety Committee which is comprised of three representatives from Local 1270, two from the Fire Administration (one of whom will be the Fire Chief), and one from the Human Resources Department. Utilizing processes within NFPA 1500: *Standard on Fire Department Occupational Safety and Health Program,* Chapter 4 (Section 4.5), this committee can significantly increase the safety of firefighters.

The primary focus of the Safety Committee should be to 1) help create a safe working environment for all employees, 2) identify safety concerns and considerations for improvement, 3) work collectively to establish safety education programs, and 4) bring labor and management together in a cooperative way to solve problems.

Another task of this committee should be to review accidents, injuries, near-miss incidents, and workplace safety suggestions. It should analyze the information presented and develop actions to mitigate findings in conjunction with the Fire Chief.

Counseling Services

Changing the fire service culture is a tremendous task, especially as it relates to the mental health of our first responders. "Toughing it out," believing you are not at risk for mental illness issues, or not admitting you may have a problem should no longer be considered the usual way to conduct business.

In recognizing the stressors associated with physical, emotional, and mental health concerns, both on and off duty, SFD has developed a Critical Incident Stress Management (CISM) program to assist members experiencing post-traumatic stress injuries/illness. Developing a CISM program requires a comprehensive and organized approach to reducing and controlling stress. In early 2023, SFD added a "Facility Canine" for mental health and wellness, and plans are to add two more in the next year. The canines will be used for CISM and public outreach.

SFD uses a trained internal team of its members and an external third-party contractor to provide support services. The SFD CISM program is based on recommendations set forth within NFPA 1500 (Chapter 12, Behavioral Health and Wellness Programs), as well as the Fire Service Joint-Labor/Management Wellness and Fitness Initiative developed by the International Association of Firefighters (IAFF) and the International Association of Fire Chiefs (IAFC). SFD Policy #1222 addresses its CISM program in detail.

Financial Overview

City of Salinas Historical Financial Activity

The City of Salinas utilizes an accounting system typical of most municipal, county, state, and special districts. This system, known as fund accounting, allows government agencies to manage their financial transactions according to the type of service being provided or expenditure being made and comply with legal mandates for financial reporting. It also allows similar services to be combined into one fund but accounted for separately through individual departments. An example is a City's General Fund (GF) that collects revenues from sources not designated to a specific program and disburses these funds to departments providing most of the governmental services such as fire, police, human resources, community development, etc. This study will focus on receipts and disbursements from the City's GF, including Measures E and G, but will consider the impact of revenues from other funds that are pertinent to fire and EMS services.

The City prepares a one-year operating budget and related other various capital improvement plans based on a July through June fiscal year. Budget preparations for the subsequent year typically begin in January with a review of current budget objectives and the impact of any modifications in Council priorities. The City Manager reviews budget requests in March and April, with the Finance Department tasked with compiling the requests and financial data into the preliminary presentation document. The City Manager presents the proposed budget to Council in late May. The proposed budget may be modified by Council during its review process or after obtaining public comment. The council votes to adopt the budget on or before June 30 of each year. The adoption of the budget provides the legal authorization of the City departments to expend the revenues received by the City.

A comprehensive plan for capital improvements and a vehicle and equipment replacement program are important to a City's long-range financial and operational stability, including provisions for fire service physical resources. Programs such as these must coordinate with the financial planning process to anticipate capital expenditures in a manner that does not adversely influence the City's operations or the affected department. Citywide expenditures include streets, utility projects, vehicles, buildings, land, other facilities, and other major equipment.

General Fund Recurring Revenues

For analytical purposes, Triton divides revenues into two categories, recurring and non-recurring. Recurring revenues are those which are typically set by legislation or resolution, and which are easily quantified. Non-recurring revenues are those sources such as grant income, sales of surplus assets, insurance recoveries, loan or lease proceeds, and other sources for which an amount is not readily estimated.

A significant amount of information was provided by City staff and was reviewed to develop a financial trend analysis for the five years from FY 2018 through the estimates for FY 2022. This review of the historical information of GF revenues revealed recurring revenues increased from $133,051,929 in FY 2018 to an estimated $151,432,225 in FY 2022, a 13.8% overall increase or an annualized increase of approximately 3.5%.

Approximately 89% (FY 2022) of the City's GF revenue is derived from property tax, sales taxes (including Measures E and G), utility users' tax, franchise fees, and business license taxes.

The City has experienced consistent growth in its property valuations, with values increasing from $10,422,521,600 in FY 2018 to $12,636,068,200 in FY 2022, an average increase of 5.3%. Property tax revenues have increased from $28,606,101 in FY 2018 to an estimated $34,539,000 in FY 2022, or 20.7% overall. The City has not elected to participate in the "Teeter Plan" offered by Monterey County, which funds 100% of the annual property tax assessment but allows the county to receive the penalties and interest on delinquent payments.

Sales tax revenue, the second largest contributor to GF revenues, has experienced an increase from $28,420,384 in FY 2018 to an estimated $31,728,000 in FY 2022, an increase of 11.6%. Sales tax revenue has rebounded from the decline in FY 2020 caused by the economic effects of the pandemic.

Measure E (originally Measure V) is a ½ cent transaction and use tax implemented to fund the City's general services. It was adopted in 2006 in response to the recession that had resulted in the City's overall staff reduction of 123 positions and the closing of the three libraries.

The tax was effective April 1, 2006, and was originally set to expire in 2016. The tax was extended in 2016 and became Measure E but the extension language does not contain an expiration date. Revenues from Measure E have followed a path similar to the general sales tax revenue, increasing 12.6% from $12,597,096 in FY 2018 to an estimated $14,190,000 in FY 2022.

In response to community outreach regarding the City's service levels, an election was held in November of 2014 to seek approval of a one-cent transaction and use tax with a fifteen-year sunset and with citizen oversight of the expenditures. Measure G was passed to restore previously reduced services to the community to provide for a "safer and better Salinas." Following the general sales tax and the Measure E transaction tax pattern, Measure G revenues have increased 10.4% from $25,235,291 in FY 2018 to an estimated $27,865,000 in FY 2022.

Utility user's taxes and franchise fees are other stable sources of revenue for the City and are approximately 14% of GF revenues combined.

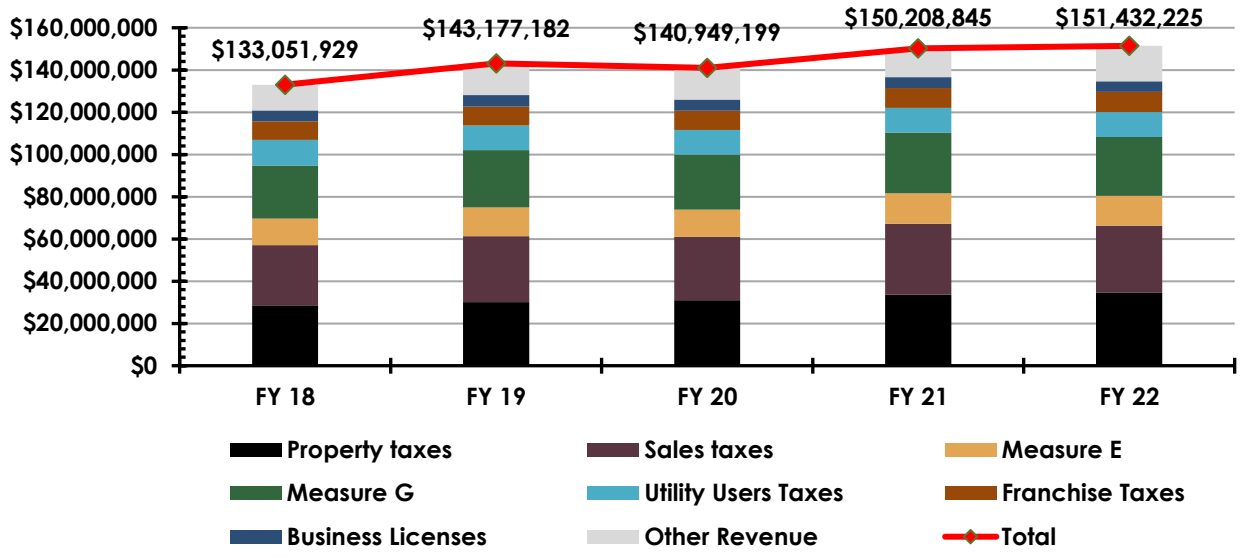
The following figure provides a historical context of the sources of revenues to the City's GF.

Figure 8: City of Salinas General Fund Historical Revenue Sources[2]

Revenue	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022 Budget
Property Tax	28,606,101	30,140,102	30,993,814	33,665,585	34,539,000
Sales Tax	28,420,384	31,235,018	29,972,865	33,613,204	31,728,000
Measure E Tax	12,597,096	13,526,569	13,006,182	14,327,404	14,190,000
Measure G Tax	25,235,291	27,179,977	26,023,834	28,805,687	27,865,000
Utility Users Tax	12,124,060	11,704,036	11,641,209	11,664,913	11,800,000
Franchise Fees	8,785,768	8,866,502	9,129,385	9,377,699	9,485,000
Business License Tax	5,141,299	5,415,507	5,187,485	5,094,477	5,000,000
Other Revenue	12,141,930	15,109,471	14,994,425	13,659,876	16,825,225
TOTAL REVENUE:	**133,051,929**	**143,177,182**	**140,949,199**	**150,208,845**	**151,432,225**

The following figure graphically depicts the historical GF, Measure E and Measure G revenues of the City of Salinas.

Figure 9: Graphic Picture of General Fund, Measure E, & Measure G Historical Revenues



General Fund Recurring Expenses

The City of Salinas GF provides funding for various City departments, including City Council, Administration, Human Resources, City Attorney, Finance, Community Development, Police, Fire, Public Works, Library & Community Services, and an internal service group styled non-Departmental. Each department operates with personnel and related costs and other operating costs.

The City participates in the CalPERS pension system. As a result of changes in the pension earnings calculations over several years, participant agencies were required to provide additional funding to offset losses experienced in the pension system's investments. This has resulted in a very significant unfunded actuarial liability (UAL).

The pension system has allowed for amortizing this liability over thirty years. However, this amortization, in addition to the normal pension cost, has resulted in an additional payment of $6,500,000 annually. This amount is projected to increase by approximately $250,000 annually until FY 2030 and begin to decrease annually until the end of the 30 years in approximately FY 2042.

The onset of the COVID-19 pandemic and the anticipated impact on revenues, the widespread panic, and stay-at-home orders required the City to reduce expenditures to match anticipated revenues. As indicated in the following figure, expenditures in a significant number of the departments included in the City's GF in FY 2020 were lower than FY 2019 levels.

Additional expenditures in several departments are provided from sources other than the GF or the two special measures. SFD's other revenues will be discussed in the revenue projection for the report.

The following figure provides historical information on GF, Measure E, and Measure G expenditures from FY 2018 through the budgeted FY 2022 period.

Figure 10: City of Salinas Historical General Fund Expenditures

Expenditures	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022 Budget
Administration	3,546,018	2,250,930	2,247,194	1,925,843	2,525,886
City Attorney	1,036,255	795,203	803,554	780,960	881,684
City Council	246,402	254,733	281,174	246,282	282,723
Community Develop.	3,686,633	3,749,237	4,137,232	3,912,989	4,945,043
Finance	4,550,260	4,306,069	4,399,480	3,991,439	4,977,247
Fire	23,714,148	21,755,433	22,856,501	24,703,915	25,146,807
Human Resources	1,090,231	1,220,947	1,340,156	1,397,234	1,493,540
Library & Community	7,265,400	8,624,001	7,608,415	9,123,242	12,469,438
Non-Departmental	18,343,380	5,043,491	12,150,415	12,977,732	5,729,467
Police	48,946,165	51,219,617	52,425,759	53,993,690	53,649,857
Public Works	11,749,209	11,274,748,	11,702,849	9,182,433	11,330,838
Total Expenditures:	**124,174,101**	**110,494,409**	**119,952,729**	**122,235,759**	**123,432,530**

Salinas Fire Department Historical Financial Activity

SFD provides services to the community through seven divisions: Fire Administration, Suppression, Emergency Medical Services, Prevention, Training, Vehicle Maintenance and Hazardous Material Control.

Historical Revenues

SFD provides primary support by allocating GF revenues, which account for approximately 85% of its required funding. The one-cent Measure G sales tax revenue source funds 14 sworn and one non-sworn personnel. Revenue from this source has increased from $2,169,000 in FY 2018 to $2,424,000 in FY 2021 but is budgeted to fall to $1,969,000 in FY 2022. Measure E, a ½ cent sales tax fund, provides minimal additional funding for the fire department annually and tracks a similar path as Measure G. Revenues from the Emergency Medical Services (EMS) Fund increased from $1,000,830 in FY 2018 to $1,232,581 in FY 2022.

Historical Expenses

Salaries and benefits represent approximately 92% of the annual costs of the SFD, amounting to approximately $24,000,000 of the budgeted $26,000,000 in FY 02022. Total SFD expenses have increased from $24,848,000 in FY 2018 to a budgeted $26,394,000 in FY 2022.

As previously discussed, the City (and SFD) budgets have been negatively impacted by the CalPERS pension funds not meeting anticipated investment returns. Of the approximate $24,000,000 in annual SFD salaries and benefits, approximately $4,300,000 is an additional payment of the UAL for fire department employees.

The following figure indicates the historical funding to the SFD from various sources and the related expenses.

Figure 11: SFD Historical Receipts & Expenses (FY 2018–Budgeted FY 2022)

Receipts/Expenses	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022 Budget
Receipts					
Measure E	118,774	165,174	129,014	122,788	75,888
Measure G	2,169,062	1,953,223	2,111,737	2,424,209	1,969,250
EMS Fund–2501	1,000,830	1,065,929	1,141,939	1,237,557	1,232,581
SAFER 2013	133,348	462,674	297,439	176,465	—
Other	—	—	—	10,025	15,075
General Fund Support	21,426,312	19,637,037	20,615,750	22,156,917	23,101,669
Total Funding:	**24,848,326**	**23,284,037**	**24,295,879**	**26,127,961**	**26,394,463**
Expenses by Division					
Fire Administration	512,923	402,421	389,399	471,653	705,315
Suppression	20,810,263	19,573,224	20,465,938	22,653,434	22,687,741
EMS	1,269,668	1,085,729	1,161,684	1,267,682	1,276,590
Prevention	957,857	1,015,356	977,692	834,056	840,078
Training	498,319	551,114	525,256	214,382	150,723
Vehicle Maintenance	505,172	392,591	507,703	421,788	449,160
HazMat Control	294,124	263,602	268,207	264,966	284,856
Total Expenditures:	**24,848,326**	**23,284,037**	**24,295,879**	**26,127,961**	**26,394,463**

Financial Projections

City of Salinas

The City commissioned the National Resource Network to produce *The Salinas Plan* in November 2018 to provide the City Management Team with guidance to maintaining a long-term balanced budget while continuing to provide City services and addressing a City priority of addressing the City's affordable housing crisis. The report was produced just prior to the outbreak of the COVID-19 pandemic, rendering useless the timing of a significant portion of the projections. The FY 2023 budget process was developed to be in alignment with the City Council Strategic Plan with goals and objectives for 2022–2025.

The FY 2023 budget process begins each December with an online survey for the community. Staff start work on the Capital Improvement Budget in February, and budget instructions and budget packets are provided to each department. Staff then reviews and updates the revenue forecast in March and for individual department meetings between the Director of Finance and departments. After the department meetings, the Finance Staff meets with the City Manager and the Executive Team. In early May, staff presents the proposed budget and the capital improvement program to the Finance Committee, followed by the mid-May presentation to the City Council.

Revenue Projections

Revenue projections utilize the adopted FY 2022 budget as the base year. Property tax revenue is anticipated to experience a 3.1% growth from the FY 2022 adopted budget amount. Sales and use taxes, including Measure E and Measure G, are expected to increase by 17.7%. Utility users' tax and franchise fees are projected to grow by 0.8% and 0.5%, respectively, and business license tax is expected to increase by 14%.

Figure 12: Projected City of Salinas Revenues

Revenue	FY 2023 Budget	FY 2024 Forecast	FY 2025 Forecast	FY 2026 Forecast	FY 2027 Forecast
Property Tax	35,602,585	36,706,265	37,844,159	39,017,328	40,226,865
Sales Tax	37,570,000	39,072,800	40,635,712	42,261,140	43,951,586
Measure E Tax	16,423,000	17,079,920	17,763,117	18,473,641	19,212,587
Measure G Tax	32,846,000	34,159,840	35,526,234	36,947,283	38,425,174
Utility Users Tax	11,900,000	11,995,200	12,091,162	12,187,891	12,285,394
Franchise Fees	9,535,000	9,582,675	9,630,588	9,678,741	9,727,135
Business License Tax	5,700,000	5,985,000	6,284,250	6,598,463	6,928,386
Other Revenue	15,156,400	15,156,400	15,156,400	15,156,400	15,156,400
TOTAL REVENUE:	**164,732,985**	**169,738,100**	**174,931,622**	**180,320,888**	**185,913,528**

Expense Projections

General Fund, Measure E, and Measure G budgeted FY 2023 expenditures are forecast to increase by 9.7% from the FY 2022 budgeted amounts, with all Departments, except Administration, projected to have increased spending. This level of annual cost escalation is not sustainable. Expenditures are forecast to escalate at 3% annually. The transfers in and out of the three funds are forecast to remain at those amounts. Similarly, capital expenditures are forecast to remain at the amounts included in the FY 2023 budget.

The following figure summarizes the forecast revenues, expenses, and transfers for GF and the Measure E and G funds.

Figure 13: Forecasted Receipts & Expenditures for the City of Salinas

Receipts and Expenditures	FY 2023 Budget	FY 2024 Forecast	FY 2025 Forecast	FY 2026 Forecast	FY 2027 Forecast
General Fund					
Recurring Revenues	115,310,985	118,498,340	121,642,271	124,899,963	128,275,766
Transfers In	2,625,000	2,600,000	2,600,000	2,600,000	2,600,000
Total Receipts	117,935,985	121,098,340	124,242,271	127,499,963	130,875,766
Measure E					
Recurring Revenues	16,468,000	17,079,920	17,763,117	18,473,641	19,212,587
Transfers In	350,000	350,000	350,000	350,000	350,000
Total Receipts	16,818,000	17,429,920	18,113,117	18,823,641	19,562,587
Measure G					
Recurring Revenues	32,954,000	34,159,840	35,526,234	36,947,283	38,425,174
Transfers In	—	—	—	—	—
Total Receipts	32,954,000	34,159,840	35,526,234	36,947,283	38,425,174
Total Receipts:	**167,707,985**	**172,688,100**	**177,881,622**	**183,270,887**	**188,863,527**
General Fund					
Expenditures	99,588,365	100,975,808	102,995,324	105,055,231	107,156,335
Transfers Out	17,459,710	17,500,000	17,500,001	17,500,002	17,500,003
Total Expenditures	117,048,075	118,475,808	120,495,325	122,555,233	124,656,338
Measure E					
Expenditures	12,854,604	14,840,450	15,285,664	15,744,234	16,216,561
Transfers Out	2,233,600	2,400,000	2,400,001	2,400,002	2,400,003
Total Expenditures	15,088,204	17,240,450	17,685,665	18,144,236	18,616,564
Measure G					
Expenditures	21,295,238	21,934,095	22,592,118	23,269,882	23,967,978
Capital	4,957,110	5,000,000	5,000,000	5,000,000	5,000,000
Transfers Out	7,125,600	7,250,000	7,250,000	7,250,000	7,250,000
Total Expenditures	33,377,948	34,184,095	34,842,118	35,519,882	36,217,978
Total Disbursements:	**165,514,227**	**169,900,353**	**173,023,108**	**176,219,351**	**179,490,882**

The following figure calculates each fund's forecast surplus (deficit) and the impact on fund balances based on the above receipts, disbursements, and transfers.

Figure 14: Forecast of Impact on Fund Balances

Summary	FY 2023 Budget	FY 2024 Forecast	FY 2025 Forecast	FY 2026 Forecast	FY 2027 Forecast
Surplus (Deficit)					
General Fund	887,910	2,622,532	3,746,946	4,944,731	6,219,428
Measure E	1,729,796	189,470	427,452	679,406	946,024
Measure G	(423,948)	(24,255)	684,116	1,427,401	2,207,196
Total:	**2,193,758**	**2,787,747**	**4,858,514**	**7,051,538**	**9,372,648**
Fund Balances					
Beginning					
General Fund	43,450,310	44,338,220	46,960,752	50,707,698	55,652,429
Measure E	10,839,847	12,569,643	12,759,113	13,186,565	13,865,971
Measure G	13,552,392	13,128,444	13,104,189	13,788,304	15,215,706
Ending					
General Fund	44,338,220	46,960,752	50,707,698	55,652,429	61,871,857
Measure E	12,569,643	12,759,113	13,186,565	13,865,971	14,811,995
Measure G	13,128,444	13,104,189	13,788,304	15,215,706	17,422,902
Total Fund Balances:	**70,036,307**	**72,824,054**	**77,682,568**	**84,734,106**	**94,106,754**

Salinas Fire Department

SFD was successful in receiving a $162,000 Urban Area Security Initiative Federal Grant to upgrade technology in the City's mobile command vehicle and an additional $682,550 from an Assistance to Firefighter Grant to send firefighters to paramedic school and to pay for resulting backfill positions. This grant was split with the City of Monterey. City Council has supported the continued funding to train additional firefighters as paramedics. Salary and benefit costs will continue to escalate as pension costs related to payment of the unfunded actuarial liability continue to increase annually. SFD has applied for a Staffing for Adequate Fire and Emergency Response (SAFER) grant from the Federal Emergency Management Agency (FEMA) for approximately $4.7 million to help offset future costs to staff future Fire Station 7, four persons staffing for the truck companies, a new administrative Captain position, and other staff reclassifications, including Division Chiefs and Fire Inspector IIs.

Some of these cost escalations may be offset by revenue growth from EMS services and the Measure E and Measure G funds allocations. The availability of funding from the City of Salinas will constrain the funding for SFD.

Review of 2019 Standards of Cover Financial Results

The 2019 ESCI study did not include a financial forecast but included recommendations to add an additional Battalion Chief per shift and to consider adding three Type VI engines as EMS first response vehicles. Neither of the recommendations appears to have been implemented as of the writing of this report, but in the FY 2023 Capital Improvement Fund, two Type VI engines are scheduled for acquisition.

Capital Facilities & Apparatus

Apparatus and other vehicles, trained personnel, firefighting and emergency medical equipment, and fire stations are the essential capital resources necessary for a fire department to carry out its mission. No matter how competent or numerous the firefighters, if appropriate capital equipment is not available for operations personnel, it would be impossible for the Salinas Fire Department to perform its responsibilities effectively. The essential capital assets for emergency operations are facilities, apparatus, and other emergency response vehicles. This report section assesses SFD's fire stations, frontline apparatus, and ambulances.

Fire Station Features

Fire stations play an integral role in the delivery of emergency services for several reasons. To a large degree, a station's location will dictate response times to emergencies. A poorly located station can mean the difference between confining a fire to a single room and losing the structure, or survival from sudden cardiac arrest. Fire stations also need to be designed to adequately house equipment and apparatus, meet the needs of the organization and its personnel, and be an integral part of the communities they serve.

Fire station activities should be closely examined to ensure the structure is adequate in both size and function. Examples of these functions can include the following:

- Kitchen facilities, appliances, and storage
- Residential living space and sleeping quarters for on-duty personnel (all genders)
- Bathrooms and showers (all genders)
- Training, classroom, and library areas
- Firefighter fitness area
- The housing and cleaning of apparatus and equipment, including decontamination and disposal of biohazards
- Administrative and management offices, computer stations, and office facilities
- Public meeting space

In gathering information from the Salinas Fire Department, Triton asked the department to rate the condition of its fire stations using the criteria from the next figure. The results will be seen in the following figures.

Figure 15: Criteria Utilized to Determine Fire Station Condition

Excellent	Like new condition. No visible structural defects. The facility is clean and well maintained. Interior layout is conducive to function with no unnecessary impediments to the apparatus bays or offices. No significant defect history. Building design and construction match the building's purposes. Age is typically less than 10 years.
Good	The exterior has a good appearance with minor or no defects. Clean lines, good workflow design, and only minor wear of the building interior. Roof and apparatus apron are in good working order, absent any significant full-thickness cracks or crumbling of apron surface or visible roof patches or leaks. Building design and construction match the building's purposes. Age is typically less than 20 years.
Fair	The building appears to be structurally sound with a weathered appearance and minor to moderate non-structural defects. The interior condition shows normal wear and tear but flows effectively to the apparatus bay or offices. Mechanical systems are in working order. Building design and construction may not match the building's purposes well. Showing increasing age-related maintenance, but with no critical defects. Age is typically 30 years or more.
Poor	The building appears to be cosmetically weathered and worn with potentially structural defects, although not imminently dangerous or unsafe. Large, multiple full-thickness cracks and crumbling of concrete on the apron may exist. The roof has evidence of leaking and multiple repairs. The interior is poorly maintained or showing signs of advanced deterioration with moderate to significant non-structural defects. Problematic age-related maintenance and major defects are evident. It may not be well-suited to its intended purpose. Age is typically greater than 40 years.

SFD Fire Stations

The following figures describe the basic features of each of SFD's fire stations.

Figure 16: SFD Station 1

Address/Physical Location:	216 West Alisal Street

General Description:
SFD Station 1 is a large, two-story, multi-bay facility which houses Engine 1, Truck 1, a Battalion Chief, a regional command and communications unit (CMD5), and reserve apparatus This station also serves as the Salinas Fire Department Fleet Maintenance facility, with six SFD Firefighters serving in fleet mechanic roles.

Structure						
Date of Original Construction	1982					
Seismic Protection	Yes					
Auxiliary Power	Yes					
General Condition	Poor					
Number of Apparatus Bays	Drive-through Bays	3	Back-in Bays	3		
ADA Compliant	No					
Total Square Footage	10,375 sq. ft. (1st floor) 9,460 sq. ft (2nd floor)					
Facilities Available						
Sleeping Quarters	4	Bedrooms	0	Beds	17	Dorm Beds
Maximum Staffing Capability	17					
Exercise/Workout Facilities	Yes (on apparatus floor)					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	Yes; two gender-specific					
Training/Meeting Rooms	Yes					
Washer/Dryer/Extractor	Washer/dryer & extractor					
Safety & Security						
Station Sprinklered	No					
Smoke Detection	Yes					
Decon & Biological Disposal	No					
Security System	Keypads & external cameras					
Apparatus Exhaust System	Yes, but partially out of service (aged)					

Figure 17: SFD Station 2

Address/Physical Location:	10 West Laurel Drive

General Description:
SFD Station 2 is the oldest fire station in the City of Salinas situated on a very small footprint, with limited access and egress. Located on a blind corner adjacent to a busy intersection, apparatus operators must use extreme caution when maneuvering in and out of the station.

Structure						
Date of Original Construction	1951					
Seismic Protection	No					
Auxiliary Power	Yes					
General Condition	Poor					
Number of Apparatus Bays	Drive-through Bays	0	Back-in Bays	1		
ADA Compliant	No					
Total Square Footage	3,200 sq. ft.					
Facilities Available						
Sleeping Quarters	1	Bedrooms	0	Beds	4	Dorm Beds
Maximum Staffing Capability	4					
Exercise/Workout Facilities	Yes (on apparatus floor)					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	Yes (unisex)					
Training/Meeting Rooms	No					
Washer/Dryer/Extractor	Washer/dryer & extractor					
Safety & Security						
Station Sprinklered	Modified					
Smoke Detection	Yes					
Decon & Biological Disposal	No					
Security System	Cameras being installed. rear fencing					
Apparatus Exhaust System	Yes (dated)					

Figure 18: SFD Station 3

Address/Physical Location:	827 Abbott Place
	General Description: SFD Station 3 is the second oldest station in the city. In addition to housing Engine 3, this station serves as the SFD Training Facility. The training tower is used for suppression and rescue evolutions, however live-fire training can no longer be conducted inside. Various props are located on site. A classroom is available adjacent to the station for conducting didactic lessons.

Structure						
Date of Original Construction	1957					
Seismic Protection	No					
Auxiliary Power	Yes					
General Condition	Poor					
Number of Apparatus Bays	Drive-through Bays	0	Back-in Bays	2		
ADA Compliant	No					
Total Square Footage	4,385 sq. ft.					
Facilities Available						
Sleeping Quarters	2	Bedrooms	0	Beds	4	Dorm Beds
Maximum Staffing Capability	4					
Exercise/Workout Facilities	Yes (on apparatus floor)					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	1 unisex					
Training/Meeting Rooms	No					
Washer/Dryer/Extractor	Washer/dryer & extractor					
Safety & Security						
Station Sprinklered	No					
Smoke Detection	Yes					
Decon & Biological Disposal	No					
Security System	Rear fencing, cameras currently being installed					
Apparatus Exhaust System	Yes (dated)					

Figure 19: SFD Station 4

Address/Physical Location:	308 Williams Road

General Description:
Station 4 is approximately 57-years old, and houses Engine 4 as well as specialty apparatus: Crash 4 and OES E-323. The station is protected by security fencing, and cameras have recently been installed. It is noted the preemptive traffic signal designed to halt approaching vehicles has been in-operative for an extended time.

Structure						
Date of Original Construction	1966					
Seismic Protection	No					
Auxiliary Power	Yes					
General Condition	Poor					
Number of Apparatus Bays	Drive-through Bays	0		Back-in Bays	2	
ADA Compliant	No					
Total Square Footage	5,800 sq. ft.					
Facilities Available						
Sleeping Quarters	2	Bedrooms	0	Beds	4	Dorm Beds
Maximum Staffing Capability	4					
Exercise/Workout Facilities	Yes					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	Yes (gender separated)					
Training/Meeting Rooms	No					
Washer/Dryer/Extractor	Washer/dryer & extractor					
Safety & Security						
Station Sprinklered	No					
Smoke Detection	Yes					
Decon & Biological Disposal	No					
Security System	Rear fencing, security cameras being installed					
Apparatus Exhaust System	Yes (dated)					

Figure 20: SFD Station 5

Address/Physical Location:	1400 Rider Avenue

General Description:
SFD Station 5 is the newest station in the city, built in 2000, This station is well maintained, inside and out, and has adequate space for crew segregation. As with other SFD stations, PPE is stored in the apparatus bay along with workout equipment. Station-5 houses Engine 5, Truck 2, and Hazmat 1.

Structure						
Date of Original Construction	2000					
Seismic Protection	Yes					
Auxiliary Power	Yes					
General Condition	Good					
Number of Apparatus Bays	Drive-through Bays	0	Back-in Bays	2		
ADA Compliant	Yes					
Total Square Footage	2,500 sq. ft.					
Facilities Available						
Sleeping Quarters	4	Bedrooms	8	Beds	0	Dorm Beds
Maximum Staffing Capability	8					
Exercise/Workout Facilities	Yes (on apparatus floor)					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	Yes (gender separated)					
Training/Meeting Rooms	No					
Washer/Dryer/Extractor	Washer/dryer & extractor					
Safety & Security						
Station Sprinklered	Yes					
Smoke Detection	Yes					
Decon & Biological Disposal	No					
Security System	Fencing, automatic gate, cameras being installed					
Apparatus Exhaust System	Yes (dated)					

Figure 21: SFD Station 6

Address/Physical Location:	45 East Bolivar Street

General Description:
SFD Station 6 sits on a very small footprint. This single-bay station houses Engine 6 and is located on the north side of the city's response area. Perimeter fencing and external cameras help keep the station secure.

Structure						
Date of Original Construction	1970					
Seismic Protection	No					
Auxiliary Power	Yes					
General Condition	Fair to Poor					
Number of Apparatus Bays	Drive-through Bays	0		Back-in Bays	1	
ADA Compliant	No					
Total Square Footage	2,980 sq. ft.					
Facilities Available						
Sleeping Quarters	1	Bedrooms	0	Beds	3	Dorm Beds
Maximum Staffing Capability	3					
Exercise/Workout Facilities	Yes (on apparatus floor)					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	Yes (unisex)					
Training/Meeting Rooms	No					
Washer/Dryer/Extractor	Washer/dryer & extractor					
Safety & Security						
Station Sprinklered	Modified					
Smoke Detection	Yes					
Decon & Biological Disposal	No					
Security System	Fencing, cameras being installed					
Apparatus Exhaust System	Yes (dated)					

Additional Fire Station Details

The Salinas City Council has allocated $2.9 million in American Rescue Plan Act funding for fire station repairs and upgrades. CSG Consultants has been engaged to manage the project and an architect is preparing a scope of work and plans for a competitive bidding process. Some of the work will include remediating mold and asbestos removal, upgrades to heating and air conditioning systems, vehicle exhaust removal, kitchens, restrooms, security, and public access.

Fire Station 1

Although improvements have been made to this aging station, such as having a new roof installed, SFD Station 1 has issues that should be addressed, including replacing the existing emergency generator that is no longer in compliance with EPA requirements, evaluating the existing vehicle exhaust extraction system, replacing rear parking lot (due to heavy vehicle traffic), installing physical security measures (gates and/or fencing) around the perimeter, and developing a plan for separating the workout area and PPE storage from the apparatus bay.

Fire Station 2

SFD crews take pride in all their stations, and Station 2 is no exception. However, this 72-year-old fire station is not large enough to meet the needs of today's fire service and needs an extensive overhaul or replacement. The station is very small and does not provide adequate space for personnel. In addition to health and safety concerns such as lack of segregation between the workout area, personal protective equipment (PPE) storage, and the apparatus bay, this station lacks modern construction and ADA features, and the ability to protect personnel and other areas from diesel exhaust.

Fire Station 3

Station 3 is the second oldest fire station in the city. This station does not meet the needs of today's fire service, based on size, segregation, ADA features, and safety considerations including lack of laundry, cleaning, and disinfecting/decontamination areas, as well as the location of workout area and PPE storage located in the apparatus bay. The station has very limited space and utilizes "dorm-style" housing and one unisex restroom.

In addition to housing Engine 3, Station 3 serves as the department's training center, boasting a training tower, a concrete-block building used for various firefighting operations, including suppression, rescue, and roof-top evolutions. Additional props include a commercial roof prop, firefighter-entanglement prop, rolling hose prop, roll-up door prop, and a flat roof prop. Most didactic training is conducted on-site in the adjoining classroom that is leased-back to the SFD. The classroom is adequately sized and utilizes modern technology to deliver courses. The training center houses various pieces of apparatus including a decommissioned ladder truck used for drivers training.

Fire Station 4

SFD Station 4 is designed as a "neighborhood station," located in a residential area of the city. This station is well maintained by the crews. However, like the other stations within the city, it is lacking various elements as it relates to facilities meeting the needs of today's fire service.

Segregation between living space and the apparatus bay is an issue, as well as workout equipment and PPE storage being in the bay, which can expose personnel to diesel exhaust. As noted in the General Description, the preemptive traffic signal designed to stop approaching traffic and allow the responding apparatus to cross the travel lines has been inoperative for a long time.

Fire Station 5

As SFD's newest fire station (2000), this facility was not designed for two companies, but was retrofitted in 2015 for additional personnel. The station is well maintained and has a fenced perimeter, automatic gate, and security cameras located on the perimeter. The workout and PPE storage areas are in the apparatus bay, with no segregation. As noted in the General Description, Station 5 houses Engine 5, Truck 2, Engine 305 (which is a cross-staffed Type III wildland apparatus), and HazMat 1, the City's hazardous materials response unit.

Fire Station 6

Station 6 is a small station with very limited internal and exterior space and lacks modern construction and ADA features. It is unable to protect personnel from diesel exhaust since the PPE storage and workout equipment are co-located in the apparatus bay. As with other SFD stations, there is no area for decontaminating equipment. Perimeter fencing and cameras provide exterior security for the station.

Fire Station Features Summary

The following figure is a summary list of some of the primary features of the six SFD fire stations.

Figure 22: Summary of the SFD Fire Station Features

Station	Square Footage[A]	Apparatus Bays	Maximum Staffing	General Condition	Station Age[B]
Station 1	19,835	6	17	Poor	41
Station 2	3,200	1	4	Poor	72
Station 3	4,385	2	4	Poor	66
Station 4	5,800	2	4	Poor	57
Station 5	2,500	2	8	Good	23
Station 6	2,980	1	3	Fair-Poor	53
Totals:	**38,700**	**14**	**40**		

[A]Square footage of fire stations are approximate. [B]As of 2023.

As shown in the preceding figure, it has a maximum capacity of 14 apparatus bays with the ability to house at least 40 personnel. SFD rates the majority (67%) of its six fire stations as "Poor." The fire stations have a combined average age of 52 years.

SFD Apparatus & Vehicles Inventory

Fire apparatus and other emergency response vehicles must be sufficiently reliable to transport firefighters and equipment rapidly and safely to an incident scene. In addition, such vehicles must be properly equipped and function appropriately to ensure that the delivery of emergency services is not compromised.

As a part of this study, Triton requested that the Salinas Fire Department provide a complete inventory of its fleet (suppression apparatus, command and support vehicles, specialty units, etc.). For each vehicle listed, SFD was asked to rate its condition utilizing the criteria described in the next figure. The results of this ranking will be shown in the subsequent apparatus inventory figures.

Figure 23: Criteria Used to Determine Apparatus & Vehicle Condition

Components	Points Assignment Criteria	
Age:	One point for every year of chronological age, based on the date the unit was originally placed into service.	
Miles/Hours:	One point for every 10,000 miles or 1,000 hours.	
Service:	1, 3, or 5 points are assigned based on service type received (e.g., a pumper would be given a 5 since it is classified as severe duty).	
Condition:	This category considers body condition, rust, interior condition, accident history, anticipated repairs, etc. The better the condition, the lower the assignment of points.	
Reliability:	Points are assigned as 1, 3, or 5, depending on the frequency a vehicle is in for repair (e.g., a 5 would be assigned to a vehicle in the shop 2 or more times per month on average; while a 1 would be assigned if in the shop on average once every 3 months or less.	
Point Ranges	**Condition Rating**	**Condition Description**
Under 18 points	Condition I	Excellent
18–22 points	Condition II	Good
23–27 points	Condition III	Fair (consider replacement)
28 points or higher	Condition IV	Poor (immediate replacement)

The next figure lists the inventory of the Salinas Fire Department's current frontline apparatus and other vehicles.

Figure 24: SFD Frontline Apparatus Inventory (2023)

Unit	Type	Manufacturer	Year	Condition	Features
Engines					
Medic Engine 1	Type I	Pierce	2021	Excellent	1500 gpm/500 gal.
Medic Engine 2	Type I	Pierce	2016	Good	1500 gpm/500 gal.
Medic Engine 3	Type I	Pierce	2015	Good	1500 gpm/500 gal.
Medic Engine 4	Type I	Pierce	2018	Excellent	1500 gpm/500 gal.
Medic Engine 5	Type I	Pierce	2016	Good	1500 gpm/500 gal.
Medic Engine 6	Type I	Pierce	2021	Excellent	1500 gpm/500 gal.
Engine 305	Type III	Pierce/Intern.	2006	Fair	Goes with HM1
OES 323	Type I	HME	2007		State-owned unit
Aerial Apparatus & Other Units					
Ladder 1	Truck	Pierce	2015	Good	100-foot tiller
Ladder 2	Truck	Pierce	2016	Good	100-foot tiller
CMD-5	Utility	Spartan	2011	Good	Command unit
Crash 4	ARFF	Rosenbauer			ARFF apparatus
Hazmat 1	Utility	Spartan	2015	Excellent	Hazmat unit
Hazmat 2	Utility	Ford	2003	Fair	Hazmat unit

In addition to the inventory listed in the preceding figure, SFD maintains five Type I engines and one 105-foot aerial apparatus (Truck 4) in reserve status. As shown, SFD's engines were in either "Good" or "Excellent" condition. Its two frontline tillers are in "Good" condition.

The next figure lists the inventory of command and staff vehicles assigned to Salinas Fire Department personnel or divisions.

Figure 25: SFD Frontline Command & Staff Vehicles (2023)

Unit	Type	Manufacturer	Year	Condition	Assigned To
Chief 1	Explorer	Ford	2022	Excellent	Fire Chief
Chief 2	Explorer	Ford	2018	Excellent	Deputy Chief
Battalion 1	Tahoe	Chevrolet	2016	Good	Command unit
Battalion 4	F-250	Ford	2007	Fair	Command unit
Battalion 5	F-250	Ford	2007	Fair	Command unit
Prevention 1	Fusion	Ford	2016	Good	Prevention
Prevention 2	Fusion	Ford	2016	Good	Prevention
Prevention 3	Fusion	Ford	2016	Good	Prevention
Prevention 4	Fusion	Ford	2016	Good	Prevention
Prevention 5	Fusion	Ford	2016	Good	Prevention
Prevention 6	Fusion	Ford	2016	Good	Prevention
Utility 3	Expedition	Ford	2018	Excellent	Station 3
Utility 102	Expedition	Ford	2007	Poor	Station 2
Utility 104	Expedition	Ford	2007	Poor	Station 4
Utility 105	Expedition	Ford	2007	Poor	Station 5

In addition to the inventory listed in the preceding figures, the Salinas Fire Department maintains several other utility and command vehicles in reserve. SFD also maintains several specialty vehicles for use at special events and SWAT incidents.

Apparatus Maintenance & Replacement Planning

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

Because of the expense of fire apparatus, most communities develop replacement plans. To enable such planning, fire departments often turn to the accepted practice of establishing a life cycle for apparatus that results in an anticipated replacement date for each vehicle.

The reality is that it may be best to establish a life cycle for planning purposes, such as the development of replacement funding for various types of apparatus yet apply a different method (such as a maintenance and performance review) for determining the actual replacement date, thereby achieving greater cost-effectiveness when possible. In the FY 2023 budget and CIP, there is funding to order a new tractor drawn tiller ladder truck, Type I engine, and two Type VI engines. These engines are being ordered because the time to build and deliver new apparatus is approximately three years.

City of Salinas Fleet Maintenance

Much of the maintenance of Salinas Fire Department's heavy apparatus is outsourced for major repairs and maintenance. Salinas City staff maintain the smaller vehicles such as pickups, SUVs, and staff cars. Currently, the maintenance staff at SFD are not qualified as Emergency Vehicle Technicians (EVT) in accordance with NFPA standards[3], but do attend the California Fire Mechanics Academy and Pierce Manufacturing training. According to SFD staff, preventative maintenance checks are not being conducted regularly per manufacturer recommendations. Pump tests on the engines are being performed annually at the public works yard in accordance with NFPA 1911: *Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles* by an outside contractor.

Economic Theory of Apparatus Replacement

A conceptual model utilized by some fire departments is the *Economic Theory of Vehicle Replacement*. As a vehicle ages, the theory states that the cost of capital diminishes, and its operating costs increase.

The combination of these two costs produces a total cost curve. The model suggests that the optimal time to replace any apparatus is when the operating costs begin to exceed the capital costs. This optimal time may not be a fixed point but rather a range of time.

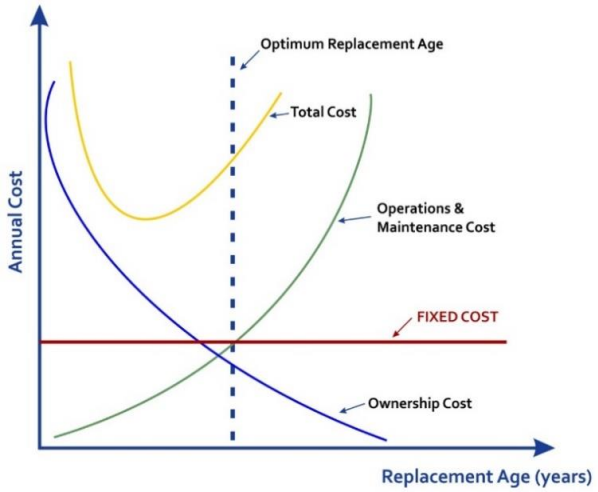
Shortening the replacement cycle to this window allows an apparatus to be replaced at optimal savings to the fire department. If an organization does not routinely replace equipment promptly, the overall reduction in replacement spending can quickly increase maintenance and repair expenditures.

Fire officials, who assume that deferring replacement purchases is a good tactic for balancing the budget, need to understand two possible outcomes that may occur because of that decision:

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

The next figure is a representation of the *Economic Theory of Vehicle Replacement*.

Figure 26: Economic Theory of Vehicle Replacement



Regardless of its net effect on current apparatus and vehicle costs, the deferral of replacement purchases unquestionably increases future replacement spending needs. The deferral may also impact operational capabilities, including the safe and efficient use of apparatus.

Future Apparatus Serviceability

An important consideration for fire departments is the cost associated with the future replacement of major equipment. Apparatus service life can readily be predicted based on factors including vehicle type, call volume, age, and maintenance considerations.

NFPA 1901: *Standard for Automotive Fire Apparatus* recommends that fire apparatus 15 years of age or older be placed into reserve status, and that apparatus 25 years or older be replaced. This is a general guideline, and the standard recommends using the following objective criteria in evaluating fire apparatus lifespan:

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

It is important to note that age is not the only factor in evaluating serviceability and replacement. Vehicle mileage and pump hours on engines must also be considered. A two-year-old engine with 250,000 miles may need replacement sooner than a 10-year-old engine with 2,500 miles.

Capital Medical & Other Equipment

The Salinas Fire Department maintains ten Physio-Control® Lifepak® 15 cardiac monitors that range in age from 2–23 years. Five of these are in excellent condition and are capable of 12-lead acquisition, SpO_2, $etCO_2$, carbon monoxide, and blood pressure monitoring. The three oldest models are in poor condition. SFD also owns a Lifepak® 1000 Automated External Defibrillator (AED).

SFD also owns two LUCAS® Chest Compression Systems. This device provides automatic mechanical chest compressions in cases of cardiac arrest. This allows EMS personnel to perform other clinical procedures instead of CPR. In the FY 2023 budget, six additional LUCAS® devices are funded to equip all first out apparatus.

Other Equipment

Each of SFD's aerial apparatus carries one set of the Hurst Jaws of Life® eDRAULIC extrication tools, in addition to other tools utilized for extrication. The department also has 10 thermal imaging cameras (TIC).

Service Delivery & Performance

This section will give the Salinas Fire Department (SFD) a general understanding of relevant response information. It is developed to assist the department with identifying its recent performance and creating a baseline performance expectation. SFD, county, community, and other political leaders can then use this information to understand how their decisions, policies, and outside pressures affect performance.

Research Information

The information within this section was developed from various sources provided by SFD. Detailed information was provided between January 1, 2019, and December 31, 2022, from the Records Management System (RMS). In addition, the Emergency Communications Department (ECD) provided comprehensive total incident volumes from the Computer Aided Dispatch System (CAD) between January 1, 2018, and December 31, 2022, to identify long-term trends. CAD data was used to evaluate performance, and RMS data were used to determine Fire Loss, property use, and outcome data such as the final coding of an incident.

Statistics Discussion

This analysis is designed to quantify and analyze available information. Mathematical and technological methodologies must be used judicially to evaluate something as complex as an emergency incident response. Unfortunately, there are instances of incorrect evaluations leading to severe consequences. However, the agency should use it as a starting place as they seek to improve performance.

Statistical Tools

Various statistical analytical tools were employed to create this section. The fundamental tools were categorization, percentile, and regression analysis. This helps paint a picture of historical performance, with some inferences that may help leaders identify positive and negative performance trends.

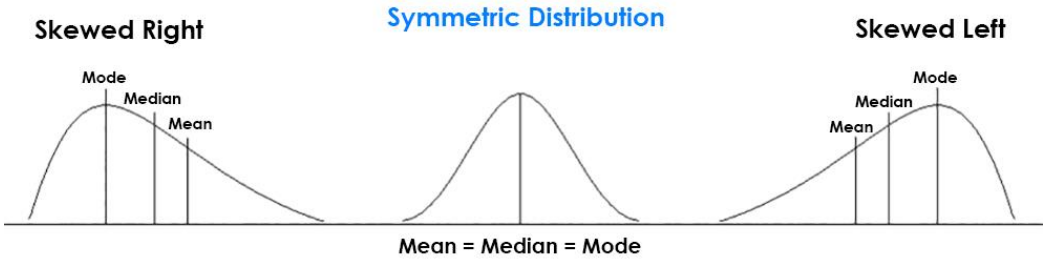
90th Percentile

The time performance measures for this report are done using the 90th percentile measure. While discussing the mathematics behind this measure is outside the scope of this report, it is helpful to understand why it is utilized.

The most common reason to use this measure is that the industry has adopted it. If a fire agency wishes to judge its performance against standards or other agencies, it must use the 90th percentile. For example, the NFPA utilizes the 90th percentile measure in most of its standards. In addition, the Commission on Fire Accreditation International requires reporting performance measures at the 90th percentile.

The statistical reason to use the measure is that it more fully captures performance and will identify trends in performance more quickly. Unfortunately, the time performance data used in this study has a skew, making other statistical measures less sensitive and representative. The following figure is a general example of data skew.

Figure 27: Data Skew



In a symmetric distribution, the mean (average), median (middle of the data), and mode (the most frequent) are all equal. When the distribution skews, these three measures of the middle shift. Using the average, or mean, in skewed data left would underrepresent the bulk of the performance. At the same time, the opposite is true when skewed right. In SFD's case, most of the time-performance data is skewed right, so using the average would over-represent the performance.

Possibly due to the size and distances traveled by the responding SFD units, the skew is very pronounced. This precludes using the average as a definitive evaluation of performance. For example, an assessment of SFD's total response time, without filters used later in this section, defines the mode as near 5 minutes, the median near 7 minutes, and the average near 10 minutes.

Data Discussion

Detailed data were provided from SFD's primary incident reporting software (RMS) and the CAD system. These different database tables were used for differing purposes, as described previously. Triton used proven data engineering techniques to analyze the data sets.

Data Engineering Findings

Because the SFD changed records management systems in 2019, a more comprehensive evaluation of data over a more extended period (preferably 10 years) proved impossible. Triton staff were given access to the ESO RMS data management system and extracted the data from the NFIRS report format. (ESO AD HOC:15-01 Fire Incident Basic Module). RMS data were also the source of information to evaluate the impact of the homeless population on system demand. RMS incidents occasionally were classified by an SFD-specific NFIRS +1 code indicating that the Fire, Medical, or Other problem was related to a homeless person or camp area.

The number of unit records for the RMS and CAD systems was similar. There were 64,497 records in the RMS and 63,772 unique incident records for the CAD system for the SFD. No explanation was disclosed regarding the difference between CAD & RMS. However, this represents 1.12% and can be considered statistically insignificant.

There were 80,732 individual unit responses provided in the CAD data set. The RMS system was not evaluated for individual unit responses.

Data Error Handling

Data collection within the various data sets has the potential for significant errors. Although there can be many reasons for incorrect information, these errors are typically a combination of human input and collection errors. Various methods exist to manage these errors, including statistical exclusion, real-time exclusion, formula manipulation, and logic testing.

For SFD, some information in the data fields was error-prone. Therefore, much of the data required statistical intervention and limitations. The specific rules of a performance indicator will be defined within that portion of the performance evaluation. Some data were excluded by the formula applied. For example, the time segment math utilized a logic tree to eliminate harmful and null sets.

The coordinate data provided was not in a helpful format and had to be manipulated to plot incidents on the map. Each longitude value was incorrect as the decimal was to the left one place.

Service Demand

The first dimension of the analysis is the overall system call load. Because this analysis is a simple count of incident responses by SFD, all its CAD records will be counted. Unlike the time-based performance, detailed data from the previously discussed systems will be used.

Volume Analysis

A simple volume analysis can indicate how often the department is called upon to respond to an incident. The first look is at the overall call counts grouped by primary categories in NFIRS. Establishing the incident jurisdiction required a match between the geocoded information and the provided geographic boundaries. The following figure is the total number of responses recorded by the agency for the entire data set and the percentage of the categorized responses.

Figure 28: RMS Total Incident Count (2018–2022)

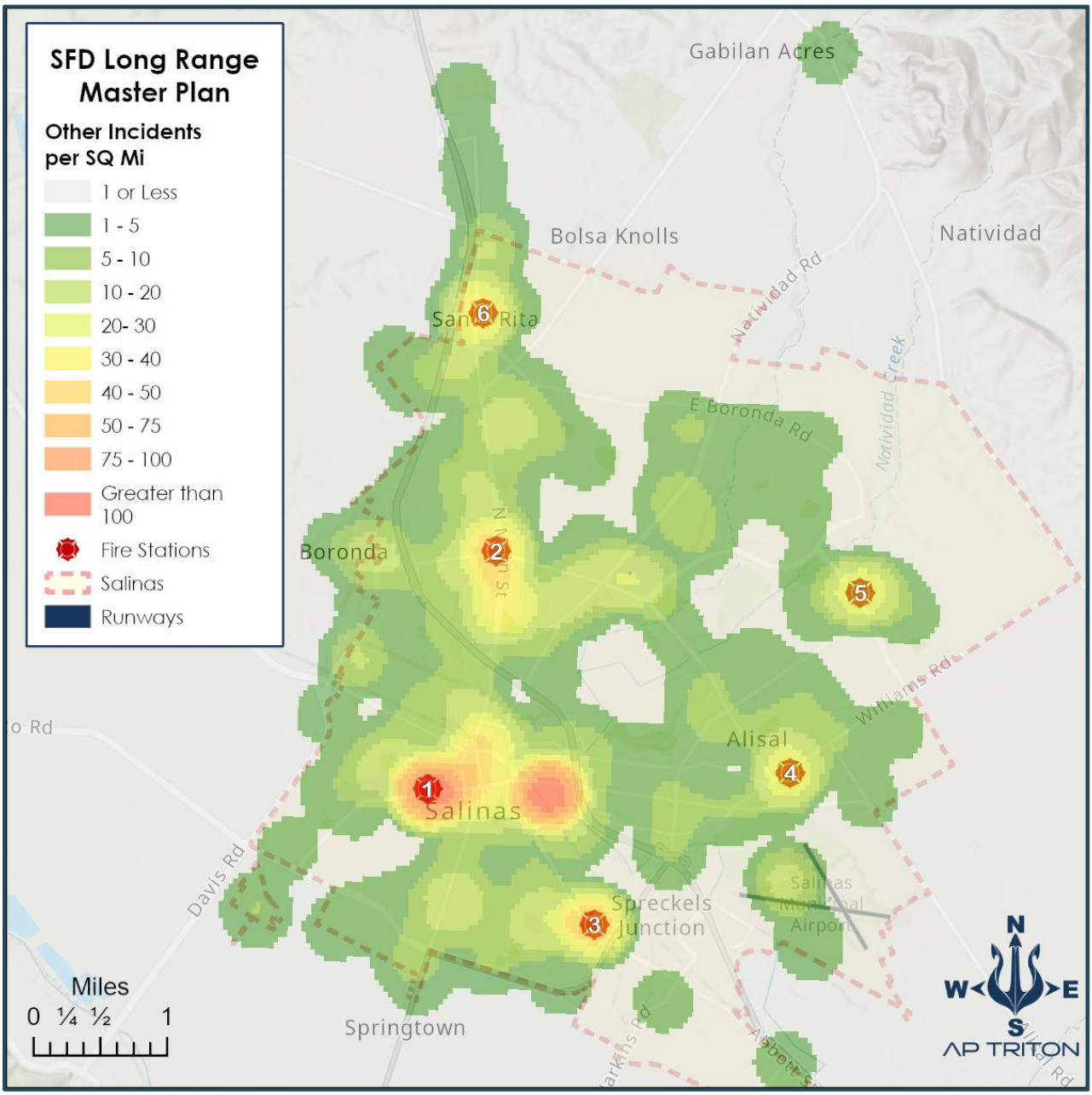
Incident (NIFRS Group)	Count	% of Total
Salinas Fire Department Responses		
Fire (100)	3,321	5.1%
Overpressure (200)	34	< 1%
Rescue-Medical (300)	40,568	62.9%
Hazardous condition (400)	1,399	2.2%
Service (500)	4,982	7.7%
Good Intent (600)	10,318	16.0%
False Alarm (700)	3,328	5.2%
Disaster (800)	14	< 1%
Special (900)	44	< 1%
Other	488	< 1%
Total Salinas FD:	**64,496**	
Mutual Aid		
Automatic aid given	182	9%
Automatic aid received	31	2%
Contract Area	1,361	67%
Mutual aid given	207	10%
Mutual aid received	228	11%
Other aid given	11	1%
Not documented	318	16%

This call-type distribution is consistent with industry averages. It is common for a more prominent agency to provide more mutual aid than it receives. SFD records the highest percentage of aid responses in the contract area at 58.2%. A statistically significant amount flagged as Mutual/Auto aid is presented in the data as (blank). 62,159 incidents were recorded without Mutual or Automatic Aid.

Geographic Analysis

A call density analysis is helpful when reviewing the best location for apparatus placement. It is also useful when evaluating where the prevention programs may have the most impact. The following figure geographically represents the incident density for the study period.

Figure 29: Incident Density—All Types (2018–2022)



Because of the size and changing demographic and geographic conditions throughout the response area, it is unsurprising to see the primary density within populated corridors. The Station 1 area, immediately east of the station, shows the most significant concentration, much of which can be attributed to the downtown population concentration and other high-density locations.

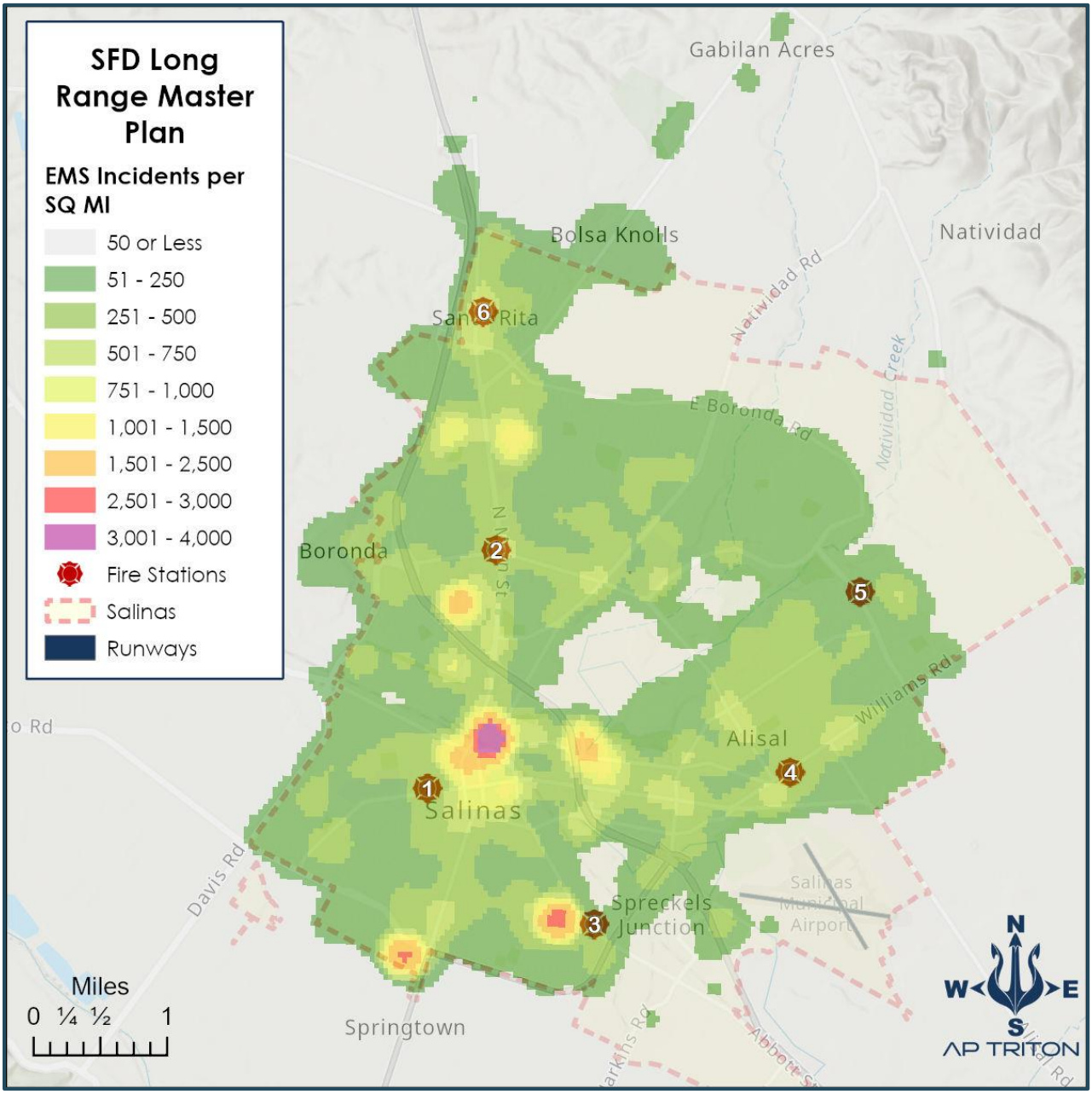
Agencies will typically respond to some locations much more frequently than others. This is true for SFD. For example, community service facilities account for many single-location responses. Responses are most often recorded at fire stations or intersections.

Figure 30: Frequent Service Demand Locations (2018–2022)

Rank	Address	Occupancy Type	Count
1	HWY 101	Highway	1,192
2	N MAIN ST	Street	584
3	637 E ROMIE LN	Senior Care	557
4	1320 PADRE DR	Senior Care	530
5	21 SOLEDAD ST	Multifamily/Steet	427
6	E LAUREL DR	Street	419
7	350 IRIS DR	Senior Care	401
8	1410 NATIVIDAD RD	Jail	394
9	30 SOLEDAD ST	Street/Other	380
10	720 E ROMIE LN	Senior Care	351

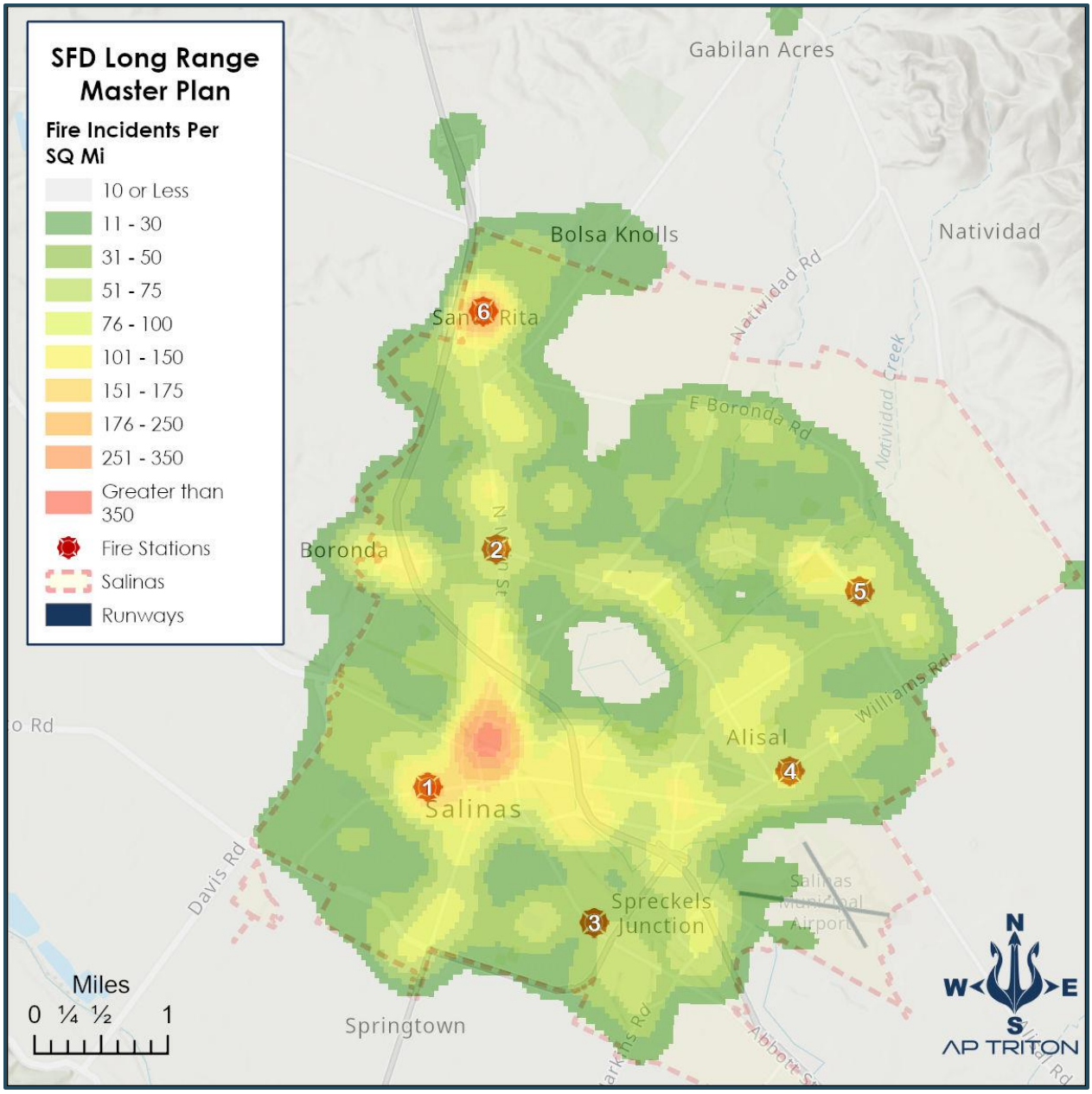
It is not surprising to see the volume of calls in the types of facilities and occupancies listed above. This is especially true since they are typically high EMS demand facilities. Notably, there are so few multiple response locations in the data. In addition, evaluating the EMS call density further shows the service demand created by these occupancies. The following figure is an incident density map for all EMS incidents.

Figure 31: EMS Incident Density (2018–2022)



The following figure is the incident density for fire incidents within the study period. This indicates a strong correlation between the EMS incidents and the total call volume. While this may give a general idea of where to focus medical prevention efforts, it does not address the more hazardous incident types. It may require a different deployment model and resource commitment to prevent and mitigate structure fires.

Figure 32: Fire Incident Density



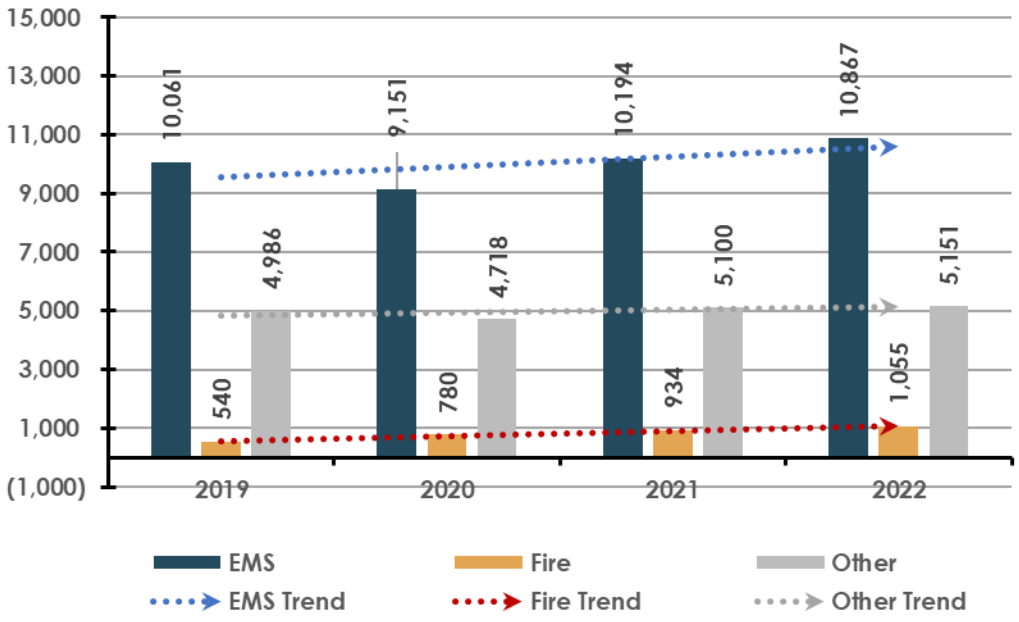
The fire problem city-wide is moderate. While the denser areas appear around Station 1, it is important to understand the legend. For example, the red zones in the above analysis only indicate an incident density of 350 per square mile.

Temporal Analysis

The annual incident count for SFD has been inconsistent since 2018, but EMS and Fire incidents are generally increasing linearly. On the other hand, "Other" call types are decreasing linearly.

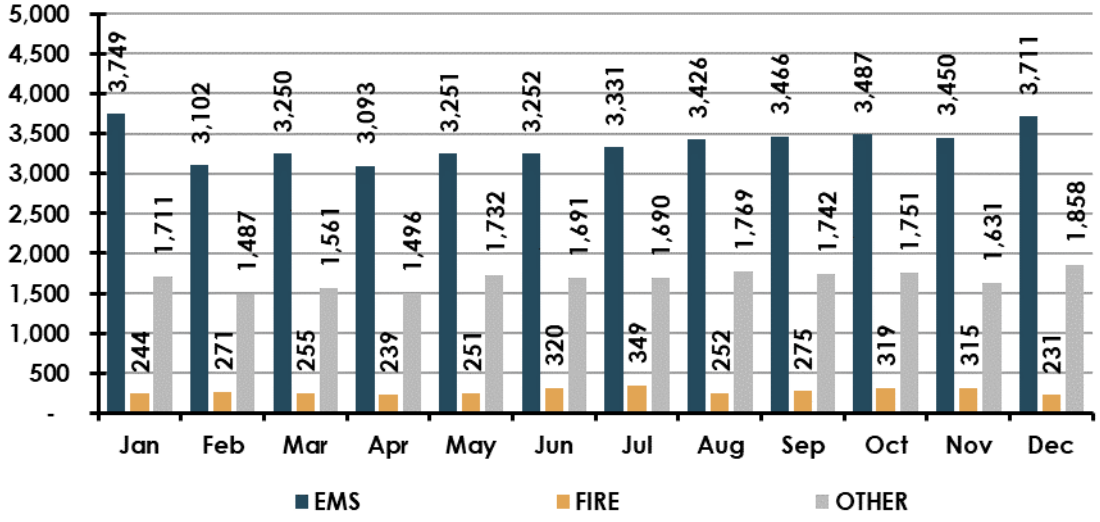
In 2020 there was a significant decline in EMS incidents. Much of the volume change can be attributed to the lockdown and responses during the 2020 pandemic. It is difficult to fully understand the effect of the 2020 pandemic on call volume over four years. However, the incident volume appears to be rebounding from 2020, but not to the same level as in 2019. The following figure shows the incident volume over the years with the completed data between 2018–2021, separated into Fire, EMS, and Other incidents.

Figure 33: Incident Volume by Year & Type (2018–2021)



Analyzing the incident volume by month, weekday, and hour is valuable when attempting to schedule events or add staffing. Additionally, months may reveal seasonality for the service needs. At the same time, days and hours may indicate the population movement and activities throughout the time intervals. The following figure analyzes incident classes by month for 2018 through 2022.

Figure 34: Incidents by Month & Class (2018–2022)

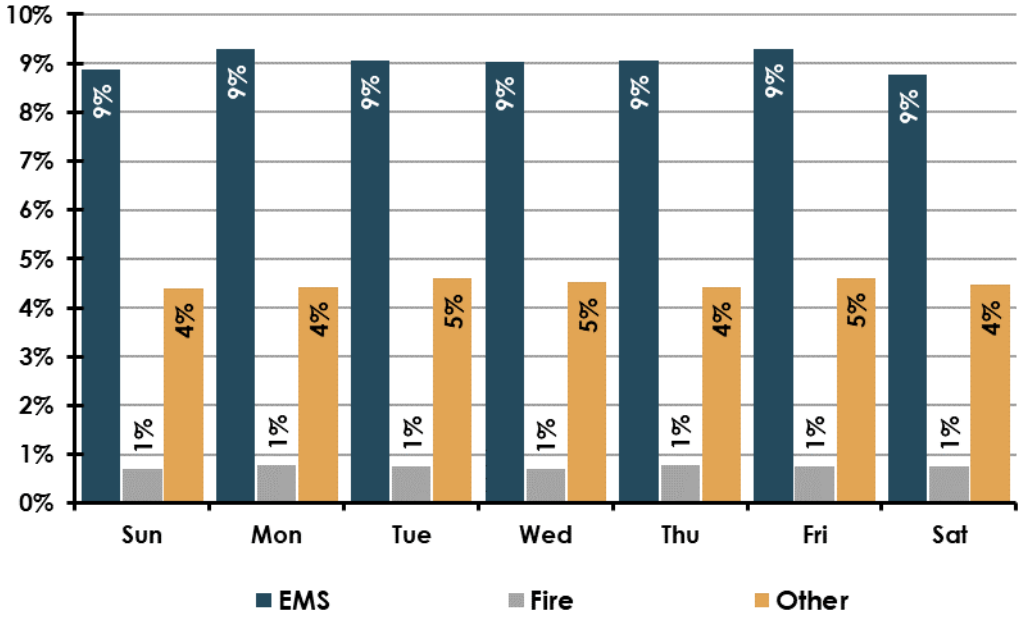


There appears to be a slight variation each month and seasonality in the winter months. The fall and winter months increase in incident volumes, with October being the most significant variation. This is most pronounced with EMS incident types, but FIRE incidents also increase in the colder months. This is likely attributable to warming fires and the consequent fire extension into nearby combustibles.

However, the variations are at most 1.2% from the lowest month (April) to the highest month (December) than expected. They are most likely due to the transient population increasing in the city during colder months. In December, 7.4% of the yearly incidents occurred.

Another dimension for evaluation is the volume of incidents that happen by the day of the week. The following figure is the percentage of incidents that occur by the weekday and includes all the detailed incident data, including 2022.

Figure 35: Incident Percent by Weekday (2018–2022)



As with the monthly evaluation, there is no significant variation by weekday. There was less than 0.6% overall variation. However, Friday and Monday are slightly heavier; Sunday was the least active.

It can be helpful to combine the month and day dimensions to identify potentially significant combinations of the month and weekday. The goal is to uncover seasonality across the weekday not captured by analyzing month and day alone. However, like the monthly evaluation, only complete years of data can be explored.

The next figure shows the density of call volumes by month and weekday from 2018–2022.

Figure 36: Month & Day Incident Density (2018–2022)

Month	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Totals
Jan	843	841	792	847	772	794	982	**5,871**
Feb	675	717	668	683	720	703	710	**4,876**
Mar	666	768	862	740	676	722	643	**5,077**
Apr	646	717	695	652	684	769	682	**4,845**
May	798	774	704	709	716	790	762	**5,253**
Jun	791	710	782	787	745	706	755	**5,276**
Jul	769	747	744	766	764	845	793	**5,428**
Aug	774	824	769	724	760	797	829	**5,477**
Sep	748	765	768	866	867	800	709	**5,523**
Oct	753	784	784	773	793	883	807	**5,577**
Nov	726	871	847	778	733	760	722	**5,437**
Dec	800	808	857	840	940	856	755	**5,856**
Totals:	**8,989**	**9,326**	**9,272**	**9,165**	**9,170**	**9,425**	**9,149**	**64,496**

It is sometimes easier to discover trends when this table is color-coded by frequency. This view is the same data as the previous figure but highlighted by most to least.

Figure 37: Incident Density by Month & Day of Week

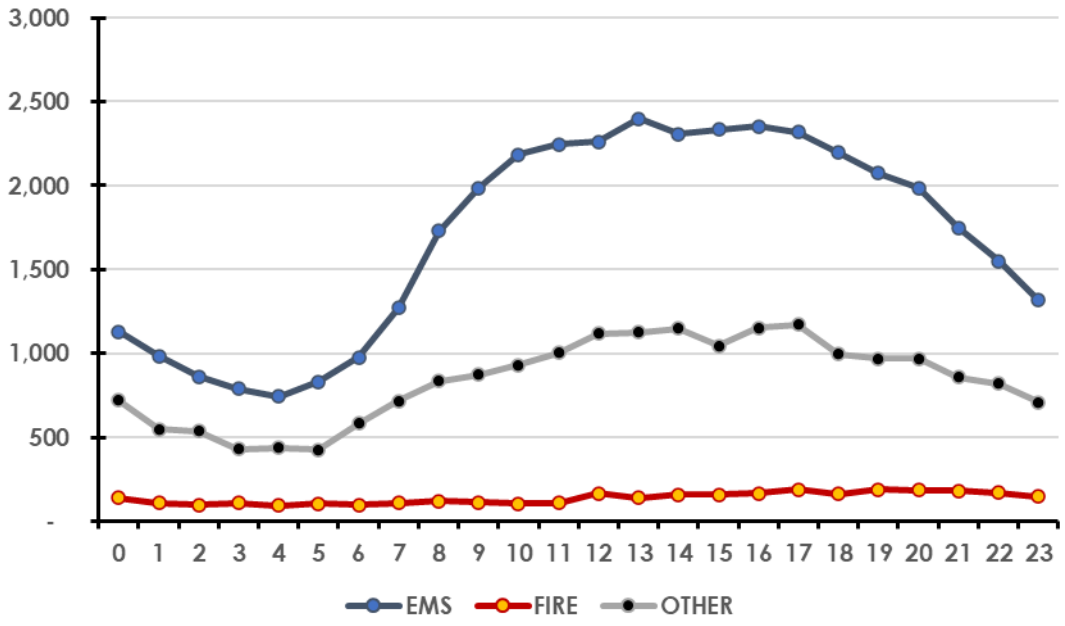
Month	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Grand Total
Jan	843	841	792	847	772	794	982	5,871
Feb	675	717	668	683	720	703	710	4,876
Mar	666	768	862	740	676	722	643	5,077
Apr	646	717	695	652	684	769	682	4,845
May	798	774	704	709	716	790	762	5,253
Jun	791	710	782	787	745	706	755	5,276
Jul	769	747	744	766	764	845	793	5,428
Aug	774	824	769	724	760	797	829	5,477
Sep	748	765	768	866	867	800	709	5,523
Oct	753	784	784	773	793	883	807	5,577
Nov	726	871	847	778	733	760	722	5,437
Dec	800	808	857	840	940	856	755	5,856
Grand Total	**8,989**	**9,326**	**9,272**	**9,165**	**9,170**	**9,425**	**9,149**	**64,496**

There is an interesting spike in incidents on Thursday and Saturday during the winter months and a consistent spike during October. However, it should be noted that the difference between the maximum and minimum call counts is only 397 incidents over four years. Therefore, this chart may appear to overinflate the importance of the variation, although there is some value to knowing the more active days and months.

Another analytic dimension of service demand is to evaluate call volume throughout the hours of the day. For example, fire and EMS incidents are distributed unequally throughout most systems throughout the day. The daytime is typically more active than the evening, night, and early morning. The driving force behind this phenomenon is likely that people are awake and moving.

The following figure indicates that SFD closely follows this daytime pattern, with approximately 54% of incidents occurring between 7 a.m. and 8 p.m.

Figure 38: Incidents by Hour of the Day (2019–2022)



To fully appreciate how the time of day affects the volume, it is important to understand the combination of the hour of the day and the day of the week. By evaluating that density, some hot spot times can be identified.

In SFD's case, the evaluation shows a consistent and statistically significant pattern of daytime calls regardless of the day of the week. There is a slight increase in volume Tuesday and Wednesday early afternoon into the early evening. The volume swing is much more telling than the month and year analysis, with the incident difference of 638 incidents from the maximum to the minimum call volumes.

The following figure indicates incident density by the hour and day of the week for all incidents between January 1, 2018, and December 31, 2022.

Figure 39: Incident Density by Hour & Day (2019–2022)

Hour	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total
0	367	272	262	261	250	252	497	2,161
1	337	232	194	205	201	238	245	1,652
2	315	202	172	191	201	184	242	1,507
3	237	193	190	157	180	166	214	1,337
4	199	191	177	158	205	173	179	1,282
5	207	209	176	192	187	190	207	1,368
6	197	234	270	249	266	254	199	1,669
7	266	311	353	332	302	287	264	2,115
8	306	399	428	416	401	431	317	2,698
9	329	491	470	461	425	415	391	2,982
10	377	491	497	465	488	492	424	3,234
11	395	516	517	503	481	493	476	3,381
12	478	510	539	507	507	530	481	3,552
13	503	540	532	544	575	522	463	3,679
14	428	570	561	524	538	528	475	3,624
15	448	522	566	519	509	534	451	3,549
16	498	516	535	568	522	583	463	3,685
17	499	548	571	527	550	517	483	3,695
18	497	497	450	500	460	517	456	3,377
19	550	433	424	454	456	467	462	3,246
20	484	423	412	436	451	499	449	3,154
21	408	387	381	375	391	412	455	2,809
22	381	343	320	338	330	389	458	2,559
23	283	296	275	283	294	352	398	2,181
Totals:	**8,989**	**9,326**	**9,272**	**9,165**	**9,170**	**9,425**	**9,149**	**64,496**

Resource Distribution

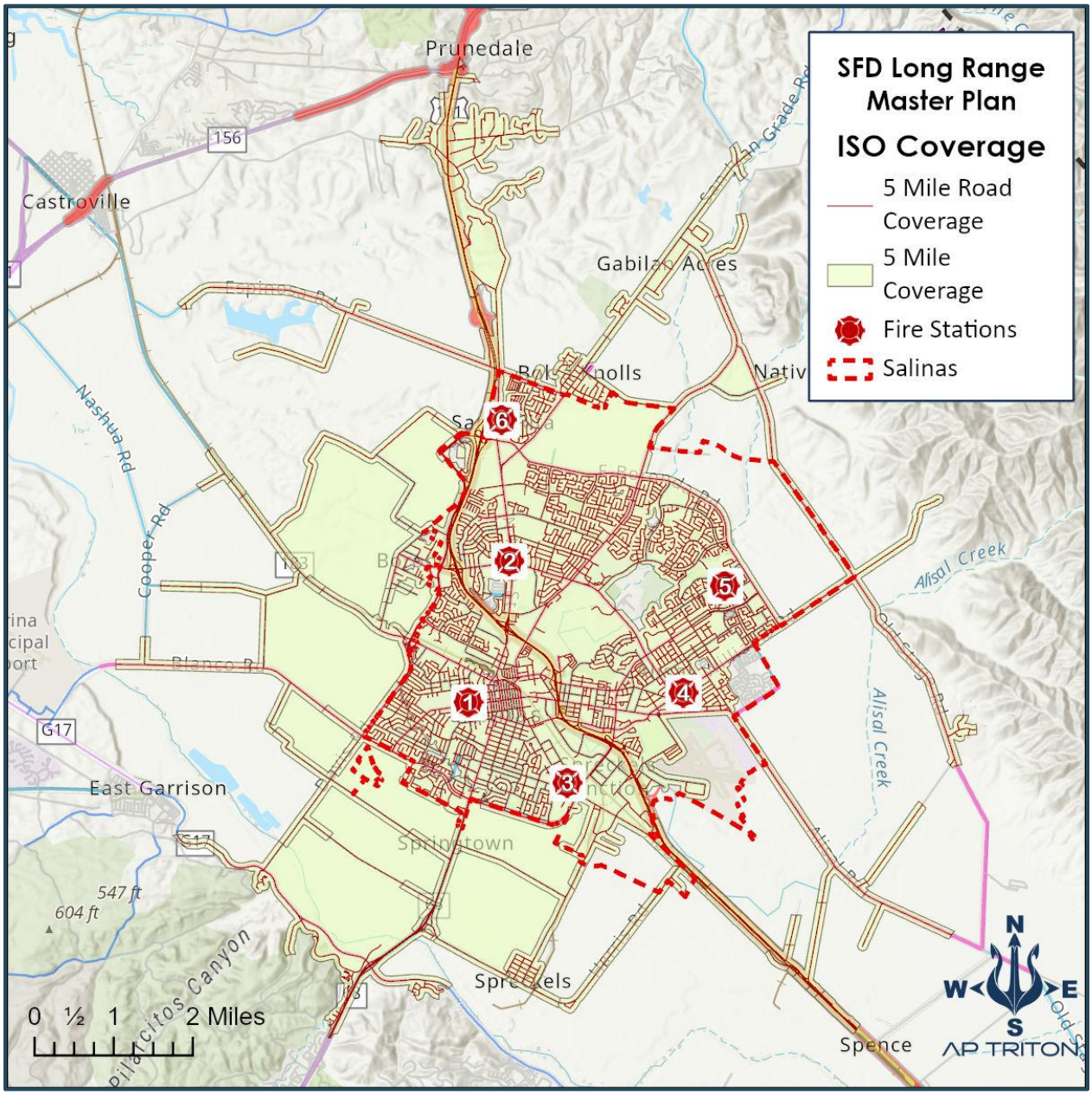
Several key performance metrics can identify the effectiveness of resource distribution. A broad allocation of resources allows for a more rapid first response to any given area. This is typically referred to as distribution. However, the first unit is only a portion of the deployment question. It is critical to have enough units to respond to incidents' volume, type, and severity. Concentration is the concept of having enough units on the scene to deal with an emergency promptly. Knowing where units are related to volume is also essential to equalize the unit responses.

Geographic Distribution Analysis

Units and stations should be distributed to allow the best chance of reaching an incident in its earliest stages. There are two primary sources for performance standards that address this geographic distribution. ISO defines distance, while the NFPA utilizes time as a criterion.

ISO uses five miles from a fire station as its standard. In a career department like SFD, it is advantageous to understand the overall picture and the services with a staffed unit in the station. The following figure shows the 5-mile travel distance from all the fire stations.

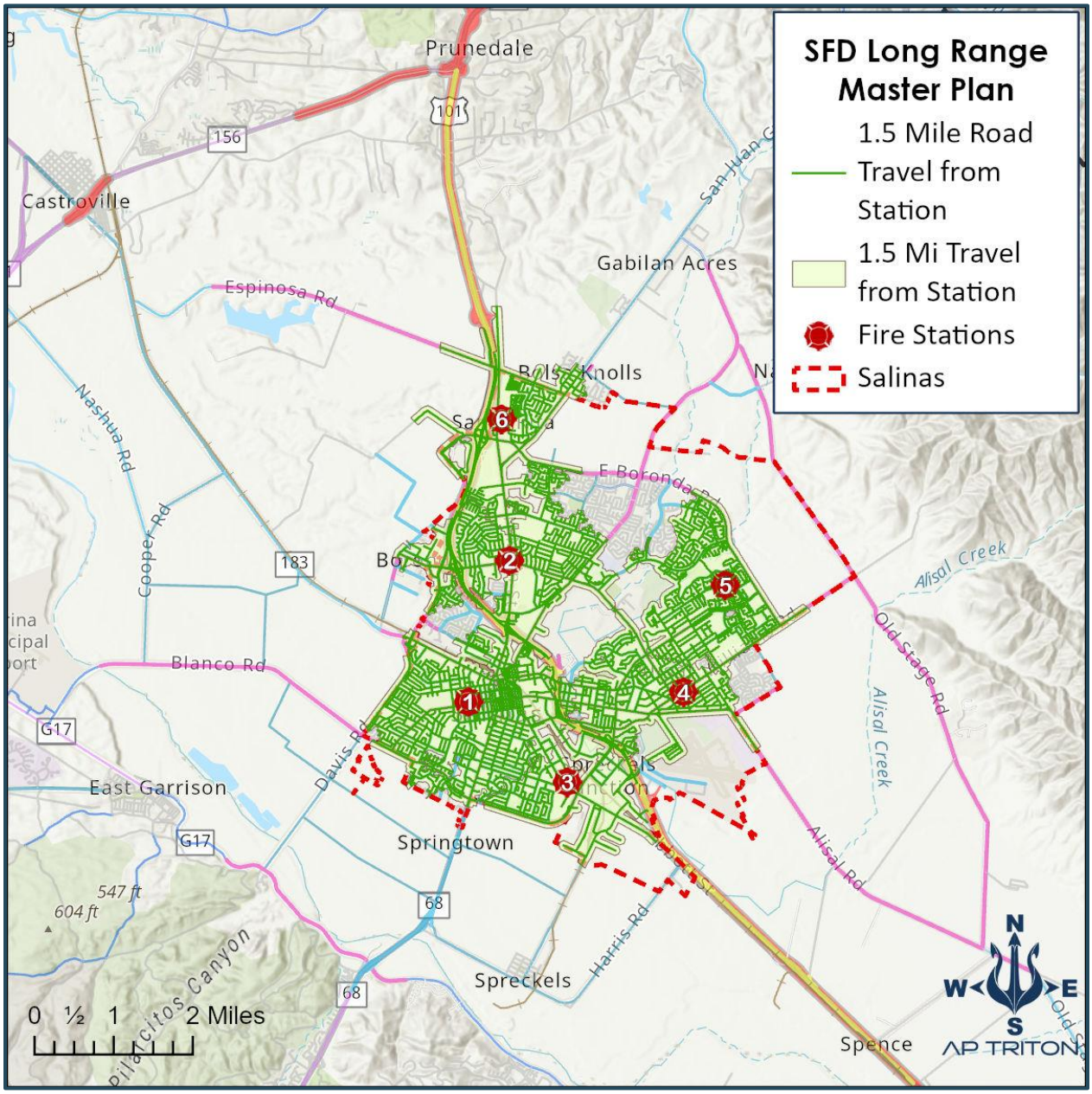
Figure 40: 5-Mile Travel Distance—All Stations



As the preceding figure indicates, the City of Salinas and the communities of Spreckels, Bolsa Knolls, and Gabilan Acres are accessible within five miles. The more densely populated areas do have overall good coverage.

For full credit in an ISO Fire Suppression Rating Schedule (FSRS), any building within the jurisdiction should be within 1.5 miles of an engine company and 2.5 miles of a truck company. [4] SFD has an engine at all fire stations and trucks at two stations. However, most of the jurisdiction is outside a 1.5-mile coverage standard due to the department's size versus the area covered. The following figure shows the 1.5-mile travel distance from each station as they house engine companies.

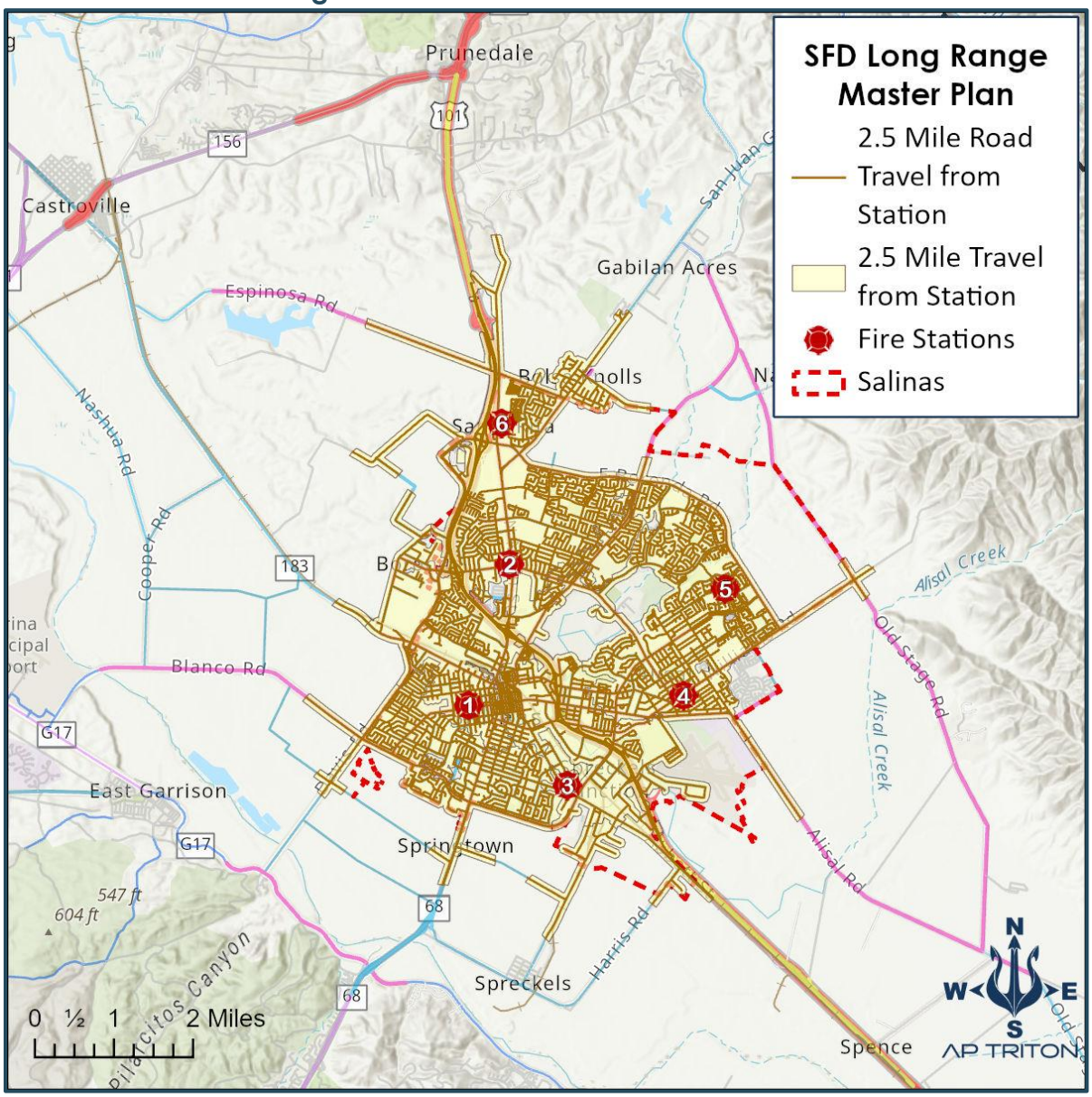
Figure 41: 1.5-Mile Travel for Engines



The ISO judges specialized equipment, such as a truck company, separately from an engine company. While engine companies are typically found at most fire stations, truck companies are only located at specific locations. ISO requires these truck companies to be within 2.5 miles of any building. With only two truck companies in the SFD system, only a few areas are within the 2.5-mile coverage area. This would indicate that SFD needs to rely on timely mutual aid from surrounding agencies to provide specialized companies.

The next figure shows the 2.5-mile travel distance from the two truck company stations.

Figure 42: 2.5-Mile Truck Travel Distance



Unit Workload Analysis

Unit workload should be balanced to maintain readiness, resiliency, and service availability. While it is prevalent for one unit to be busier than others, no crew should carry too heavy a load that could interfere with its effectiveness.

Incidents by Unit

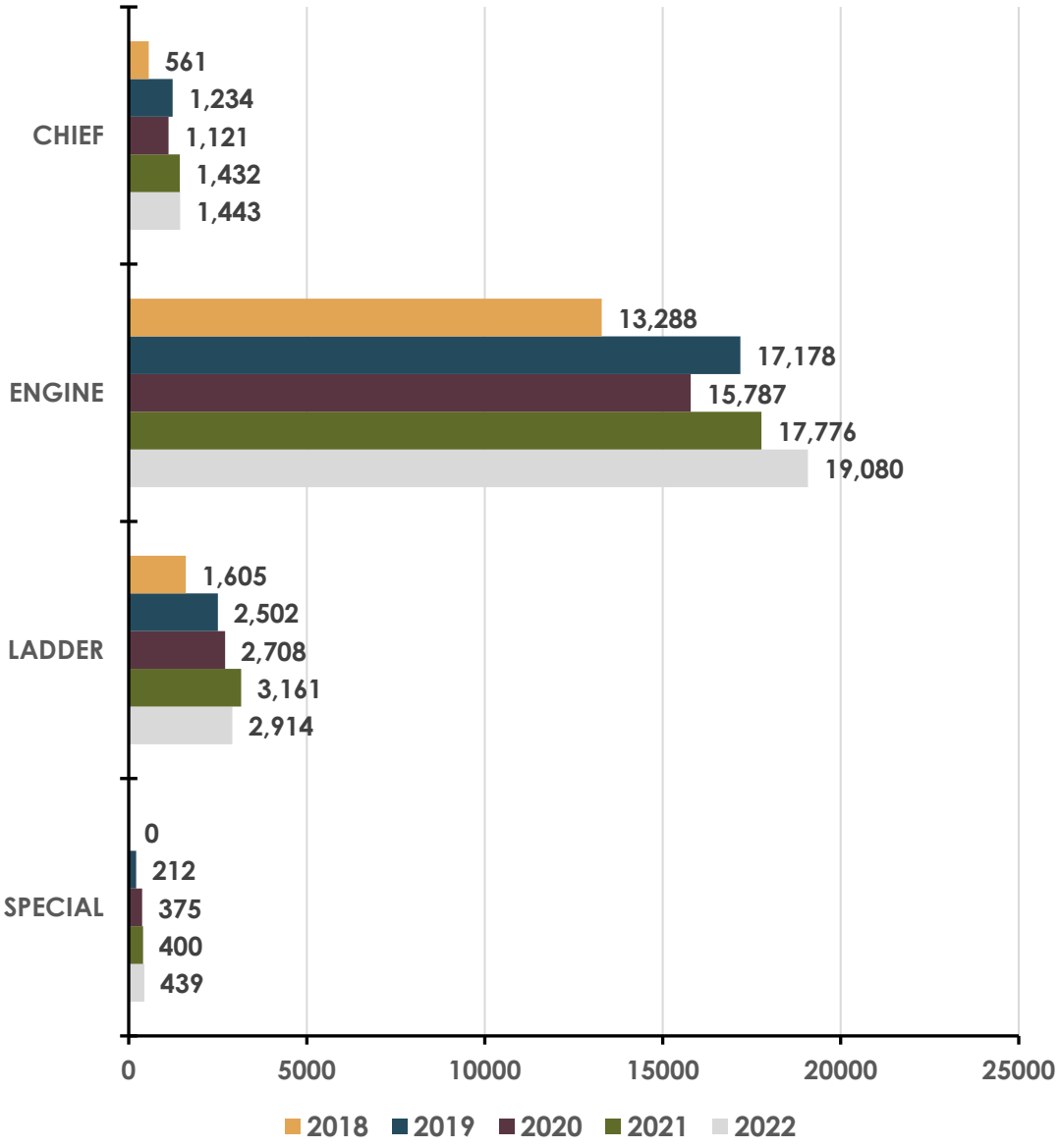
SFD had over 250 unique units responding to all incidents within the incident records. The unit data included single resources and other responders, such as incident management teams with support, specialty mutual aid units, and other miscellaneous assets. However, the front-line engines and trucks completed approximately 87% of all unit responses. The most heavily used units across the system were the type 1, 2, 3, and 6 engines spread throughout the jurisdiction. Unfortunately, a detailed trend analysis is complicated because of the pandemic and societal lockdown. Therefore, it was not possible to identify specific growth or usage trends.

The next figure shows the incident volume for each apparatus type for 2018–2022. However, unit workload numbers for 2022 appear to be greater than 2021.

Figure 43: Top 90% Unit Workload (2018–2022)

Unit	2018	2019	2020	2021	2022	Totals	Percent
ME1	1,655	3,422	3,261	4,147	4,544	**17,029**	**14.2%**
ME2	2,859	3,277	3,205	3,673	3,757	**16,771**	**14.0%**
ME4	2,026	2,352	2,143	2,655	2,988	**12,164**	**10.2%**
ME6	1,852	2,375	2,015	2,806	2,856	**11,904**	**9.9%**
ME3	1,615	2,348	2,041	2,427	2,684	**11,115**	**9.3%**
ME5	1,325	1,536	1,608	2,048	2,225	**8,742**	**7.3%**
MT1	727	1,823	1,679	2,053	2,147	**8,429**	**7.0%**
MT2	385	470	626	835	740	**3,056**	**2.6%**
ME101	1,863	277	726	6	9	**2,881**	**2.4%**
ME104	93	1,591	788	14	17	**2,503**	**2.1%**
T1	290	531	203	307	622	**1,953**	**1.6%**
T2	238	539	295	282	518	**1,872**	**1.6%**
BAT2	229	401	371	405	354	**1,760**	**1.5%**
TAC43		212	375	400	439	**1,426**	**1.2%**
MT4	493	209	403	273	27	**1,405**	**1.2%**
BAT1	248	119	212	386	411	**1,376**	**1.1%**
BAT3	164	139	263	263	521	**1,350**	**1.1%**

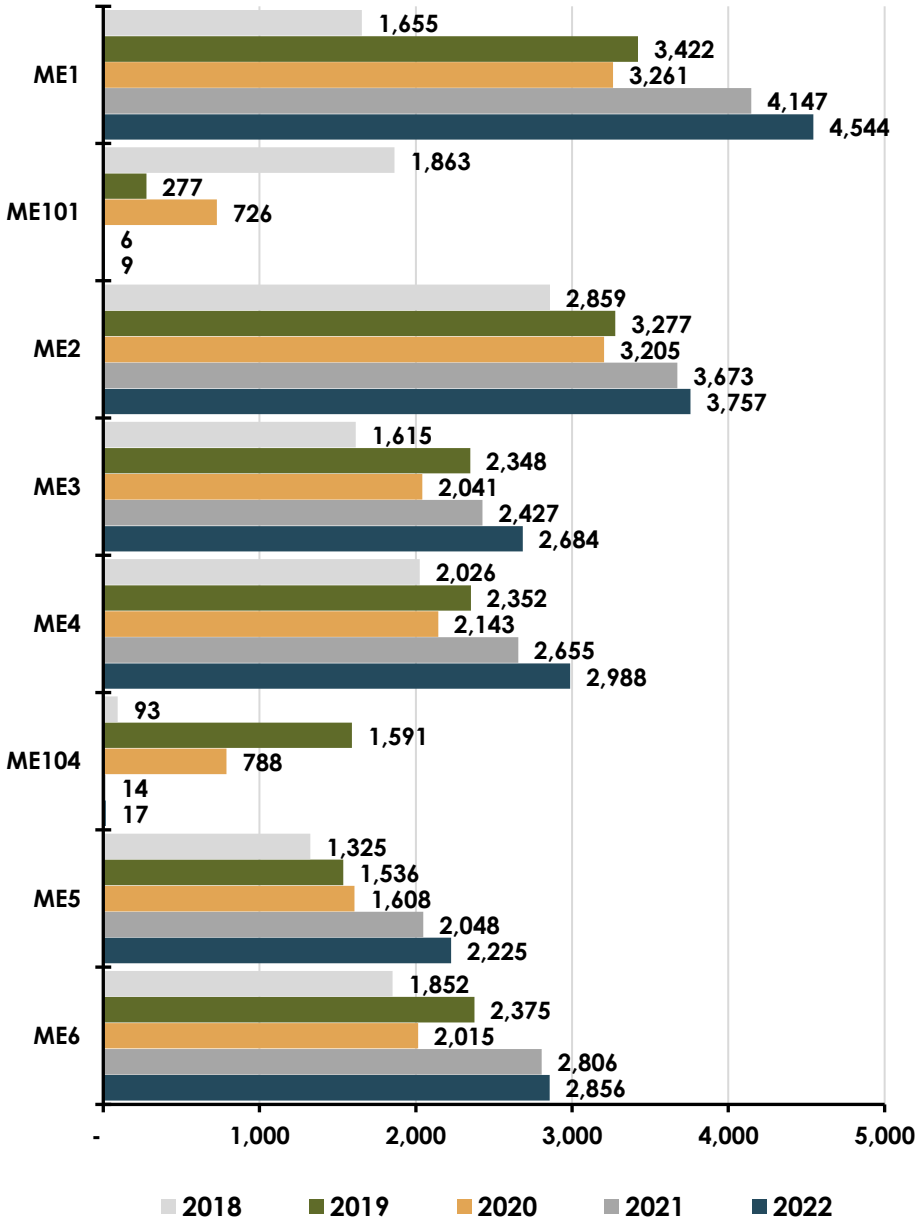
Figure 44: Incident Volume by Apparatus Type (2018–2022)



The incident volume falls primarily upon the engines and is evenly distributed between Stations 1-6. Examining unit types was confounded by identifying units in stations differing from how they were designated in the CAD data. For example, E1 in the facility document was ME1 in CAD data. There was a period in 2018 when ME1 was classified as ME101. It was initially assumed that ME101 was a reserve or cross-staffed unit. However, it was discovered that the ECD needed to use an incorrect unit ID for a portion of the year.

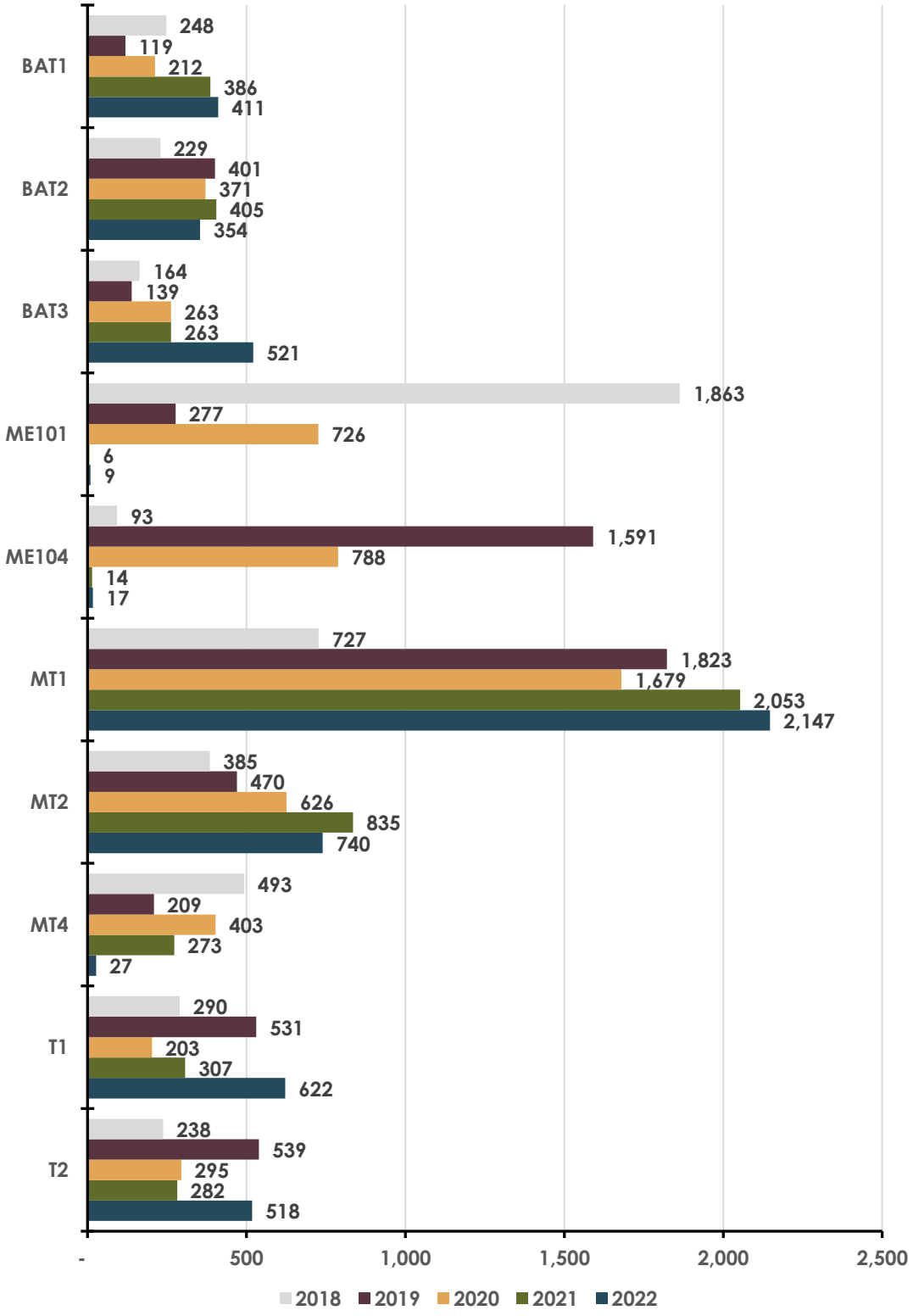
The workload is unevenly distributed, and it appears to affect Engine 1 the most. The following figure shows each engine's call volume response throughout the completed years of 2018–2022. Note the inconsistency in 2018 with ME101 call volume. A similar situation may have occurred in 2019 with ME104/E4; however, this is not confirmed.

Figure 45: Engine Response Volume (2018–2022)



Other units also responded throughout the review period, although at a lower rate than the engines. The following figure shows the incident count other than engines throughout the completed years of 2018–2022.

Figure 46: Other than Engine Responses (2018–2021)

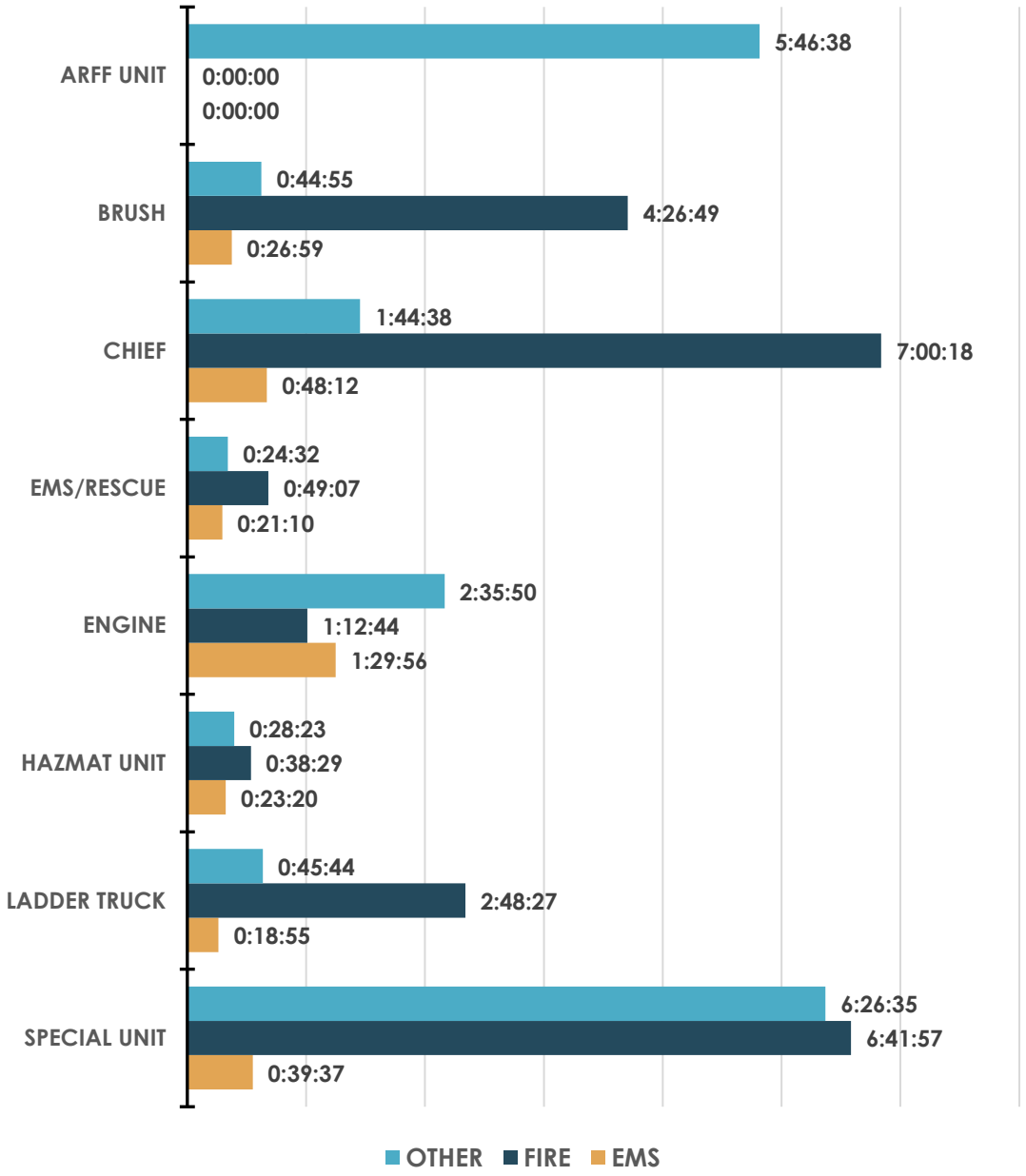


Each incident requires a unit to remain on the scene to finalize mitigating the situation. This workload is typically consistent across all apparatus types. It can be used as a general guideline to predict how busy a response company is. Therefore, a general idea of how long a specific crew will stay on the incident can assist operational planning.

SFD has 10 primary types of units that respond to emergencies. SFD's engines provide overall response capabilities for various incidents. Ladder Trucks have different specific functions but can operate in many of the same ways as an engine if adequately equipped.

Specialty unit types, such as Brush Units, Hazmat, Support, etc., are included, revealing a variation of committed time by incident type. Finally, command officers are any chief officers within the SFD system. The following figure shows the average minutes each apparatus type was committed to a given incident category for the entire study period. More comprehensive CAD data were used than in the previous volume studies.

Figure 47: Average Committed Time per Incident by Apparatus



One final dimension of unit workload is how much time each unit is committed to incidents throughout the year. The unit hour utilization (UHU) calculation evaluates how much time a crew is committed to an incident throughout a specific time frame. The desire is for the primary unit at a station, typically an engine to be under 10% UHU. Maintaining 10% UHU should indicate that the area has 90% availability from unscheduled events. Stations with multiple engines and quint companies should aggregate to less than 10% UHU for all similar units.

SFD is a moderately busy system, and the unit workload is unevenly distributed based on the size of the population served by a station. Typically, the UHU is evaluated by agency-owned apparatus only.

Salinas Fire Department Unit Hour Utilization

The first and relatively straightforward analysis is to evaluate unit hour utilization by City assets. The following figure shows the UHU for each staffed apparatus.

Figure 48: Staffed Apparatus Unit Hour Utilization (2018–2022)

Unit	Average (UHU)	2018	2019	2020	2021	2022
BAT1	2.0%	2.2%	2.2%	0.9%	1.4%	3.5%
BAT101	1.3%	0.2%	0.2%	2.9%	1.8%	1.3%
BAT2	2.5%	1.8%	1.8%	3.2%	2.6%	3.2%
BAT3	1.8%	2.0%	2.0%	0.8%	1.8%	2.3%
BAT5	1.0%	0.8%	0.8%	1.2%	0.2%	1.9%
ME1	12.2%	7.4%	7.4%	14.7%	13.5%	17.8%
ME101 *	4.6%	9.0%	9.0%	1.4%	3.3%	0.1%
ME102 *	1.0%	1.6%	1.6%	0.5%	1.2%	0.0%
ME103 *	1.2%	2.4%	2.4%	0.4%	0.8%	0.0%
ME104 *	2.8%	0.4%	0.4%	8.5%	3.8%	0.7%
ME2	16.1%	15.0%	15.0%	17.2%	15.4%	17.9%
ME3	10.8%	10.1%	10.1%	11.7%	9.7%	12.5%
ME4	11.7%	11.3%	11.3%	12.1%	10.5%	13.2%
ME5	9.1%	8.6%	8.6%	9.0%	8.3%	11.0%
ME6	11.3%	10.3%	10.3%	12.0%	9.6%	14.1%
MT1	7.9%	4.9%	4.9%	10.1%	9.0%	10.9%
MT2	4.0%	3.6%	3.6%	3.6%	3.9%	5.4%
MT4	2.4%	3.5%	3.5%	1.3%	2.0%	1.4%
T1	1.9%	1.9%	1.9%	3.0%	0.9%	1.7%
T2	2.5%	2.3%	2.3%	3.7%	2.0%	2.3%

* In 2022, SFD discontinued using reserve unit numbers ME101, ME102, ME 103, ME 104, and ME 105. The UHU is the most accurate for 2022.

The staffed equipment appears to be at risk of being overloaded, specifically Engine 1 (ME1) at 17.8% and Engine 2 (ME2) at 17.9% during 2022. This indicates that nearly 18% of the time, Stations 1 and 2 are engaged in response activities. This does not mean the rest of the day is idle; maintenance, training, and prevention require time during a shift. However, these additional time components can be managed to ensure coverage of a given area and are not typically captured in agency data. Units staffed for 24 hours should be assumed to have eight hours of rest. Between responses, 82% of the day is allocated to other activities.

Concurrency Analysis

Incidents that happen simultaneously can impact an agency's ability to respond. While SFD maintains multiple units at each station, there may be times when all crews are engaged, leaving the jurisdiction reliant on outside aid.

When evaluating incident concurrency, it is essential to consider multiple-day deployments. These are not generally counted in the evaluation because units on an incident lasting longer than 24 hours are typically back-filled. This may be accomplished with another crew, or other arrangements are made to provide area coverage.

After removing the extended responses, the maximum number of current incidents for the study period was nine. The following figure shows the incidents happening simultaneously throughout the study period.

Figure 49: Concurrent Incidents (2018–2022)

Concurrent Incidents	Count	Percent	Cumulative Percent
1	33,605	40%	40%
2	28,233	34%	74%
3	13,903	17%	90%
4	5,162	6%	96%
5	1,508	2%	98%
6 or More	1481	1%	100%

As is evident, it is common for SFD to be running simultaneous incidents within the jurisdiction. However, over 40% of the incidents begin and end without another response required. Additionally, over 90% of the incidents are either one, two, or three responses concurrently.

Another factor in unit workload is the number of units assigned to a specific incident. The majority of SFD incidents, over 91%, have only one, two, or three responding engines, or trucks assigned. In addition, the dispatch data collected multiple resource responses besides the engine, and truck. However, these were not included in the analysis. The following figure shows the percentage of incidents where the specified number of response units were assigned.

Figure 50: Number of Apparatus Per Incident

Concurrent Units	Count	Percent	Cumulative Percent
1	33,621	28%	28%
2	27,186	23%	51%
3	18,331	15%	66%
4	12,450	10%	77%
5	8,581	7%	84%
6	5,957	5%	89%
7	4,017	3%	92%
8	2,779	2%	94%
9	1,876	2%	96%
10 or More	4,703	1%	100%

It is important to note that many of the incident responses are emergency medical incidents. Since the ambulance that responds with this apparatus is a for-profit ambulance company, it is likely that many of the single-unit incidents above likely have an outside agency ambulance assigned as well.

Station/Unit Reliability

Examination of the amount of station reliability involves the study of incidents that were responded to by station units in the immediate area of the station. When a unit arrives on the scene first from the nearest station, it is said to be a reliable response.

Even though many departments utilize geographic positioning technologies and in-vehicle computers to facilitate the CAD system's selection of the closest unit, the measure of the percentage of how many times a unit from a station handled the incident in their designated area is valuable to determine if enough resources are deployed in the response zone.

Figure 51: Annual Reliability by Fire Station

Year	Station 1	Station 2	Station 3	Station 4	Station 5	Station 6
2018	70%	47%	40%	44%	56%	52%
2019	70%	45%	40%	49%	58%	56%
2020	74%	44%	36%	56%	56%	54%
2021	76%	44%	34%	60%	52%	54%
2022	72%	46%	39%	52%	57%	55%

Station 1 is the most reliable, with 75% of incident requests in Station 1's area, likely to receive a Station 1 unit on the incident. In most other station areas, this is true about half the time. This level of reliability was most significant in 2021 but has been relatively constant from 2018–2022.

Performance Review

When evaluating a system, having a set of objectives or standards to judge performance against is helpful. While national and state standards may be recommended, in California, it is up to the authority having jurisdiction to adopt specific ones. In this case, Salinas has not adopted performance requirements. Therefore, as a reference, NFPA standards will be utilized as a reference where appropriate. This will include the NFPA 1710: *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments.* In addition, the NFPA 1225: *Standard for Emergency Services Communications* is referenced where applicable.

Evaluating overall performance requires an understanding of the lifecycle of an incident. It starts with a normal state and should end with a new normal state, but there are many measurable time segments in between. Some elements, such as call processing time and turnout time, can be improved by tactical management techniques such as training and policy. However, other time segment performances, such as travel time, are typically managed by a strategic methodology such as station location.

The following figure identifies each time segment in the incident lifecycle, an example of a key performance indicator (KPI), and the applicable NFPA standards.

Figure 52: Incident KPI Segments

Segment	Key Performance Metric		Standard	Comments
Normal State	Community demographics		N/A	This base state needs to be defined. Prevention mainly affects this.
Incident Initiation	Incident Counts			
Incident Detection				
Notification Action	PSAP Answer		NFPA 1225	15 sec., 90% or 20 sec., 95%
PSAP Notification				
PSAP Interrogation	PSAP Transfer & Agency Answer		NFPA 1225	30 sec. 90%
Agency Notification				
Agency Interrogation	Call Processing[1]	Total Response Time	NFPA 1225	60 sec., 90%
FD Notified				
FD Unit Dispatched	> Turnout Time		NFPA 1710 & 1720	60–80 sec., 90%
FD Unit Responding	> Travel Time			240 sec., 90%
FD 1st Unit Arrives	Total time			455–475 sec., 90%
FD ERF Dispatched	ERF Travel & Total Time		NFPA 1710 & 1720	
FD ERF Arrives				480 sec., 90%
FD Units Clear Incident	From dispatch to clear, total time translates into unit utilization		N/A	Used to evaluate unit workload and availability.
Normal State	The outcome of the incident response is the gold standard for service delivery analytics. However, this advanced study is outside the scope of this report and requires unconventional research and analytic methods.			

[1] Certain incident types are exempt from the new NFPA 1225 time standard.

The incident data provided did not allow for analysis of all time segments in the above list. However, enough information was provided to evaluate call processing, turnout, travel, total response, and committed elapsed times. In addition, SFD has not adopted general performance standards. Therefore, the NFPA standards will be used as a performance benchmark reference.

The time segment performance standards are evaluated as a percentile. This will allow SFD to compare its performance against other agencies and the standard with a similar statistical technique.

Call Processing Analysis

There are several time measures of a dispatch center. The metrics identified in NFPA 1225 and NFPA 1710 are ring time and call processing. Ring time measures when the phone in dispatch begins to ring until someone answers. NFPA 1225 requires the ring time to be less than 15 seconds, 90% of the time and less than 20 seconds, 95 % of the time. Call processing indicates the time it takes from when a person answers the call for help until the first unit is notified when there is an incident. Unfortunately, ring time is typically captured in a separate system and was unavailable for this report. However, sufficient data were available to evaluate call processing.

Call processing should start from when the phone is answered until the first, preferably correct, unit has been notified that an incident is in progress. For example, the right team is closest and exactly equipped to handle the incident. However, there is typically a short period, seconds usually, from when the phone is answered, and the incident is started in the CAD system. For this analysis, it is assumed that this short period, while not captured, is inconsequential. The NFPA 1225 standard indicates that a high-priority incident should be processed within 60 seconds, 90% of the time. This standard exempts certain incident types, including those requiring emergency medical questioning, hazardous materials, and technical rescue incidents. Other exceptions exist for persons needing translation, calls from devices used by hard-of-hearing individuals, text messages, and calls requiring location determination. NFPA 1221, superseded by NFPA 1225, set the time performance for these exemptions at 90 seconds, 90% and 120 seconds, 99% of the time.

The data provided was evaluated for integrity and reliability. Errors or missing times were evident in 24% of records of the CAD data. However, even with the missing data, 81,786 unique incidents were available for evaluation. This left most of the incident data available and sufficient for evaluation. Overall, the Emergency Communications Division (ECD) processed calls at approximately 57 seconds, 90% of the time or faster. EMS incidents are processed at 54 seconds, 90% of the time or quicker. The following chart shows the call processing time at the 90th percentile based on the incident class grouping for 2018–2022.

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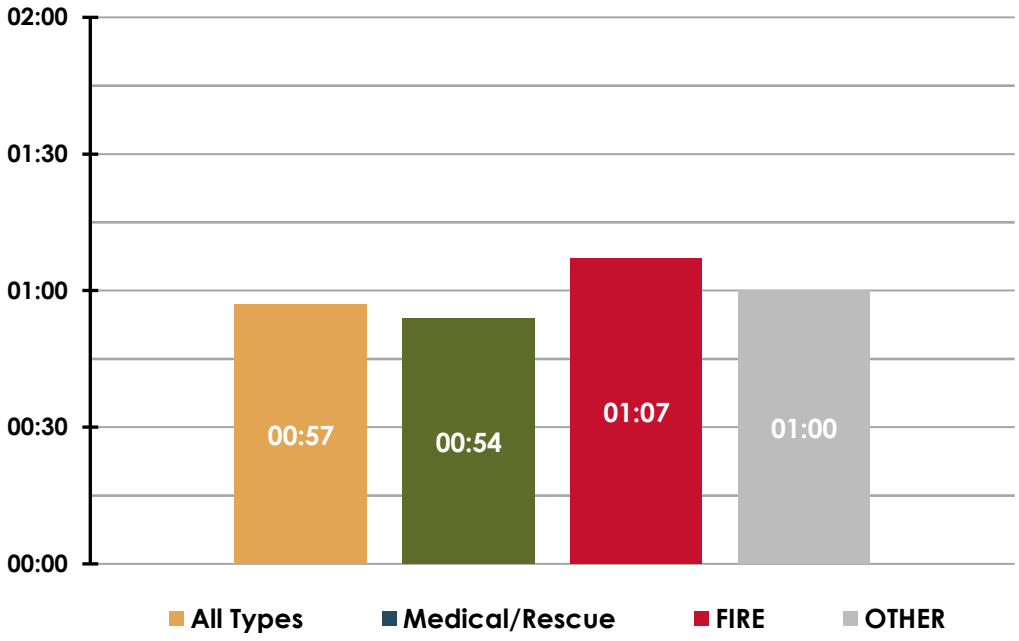
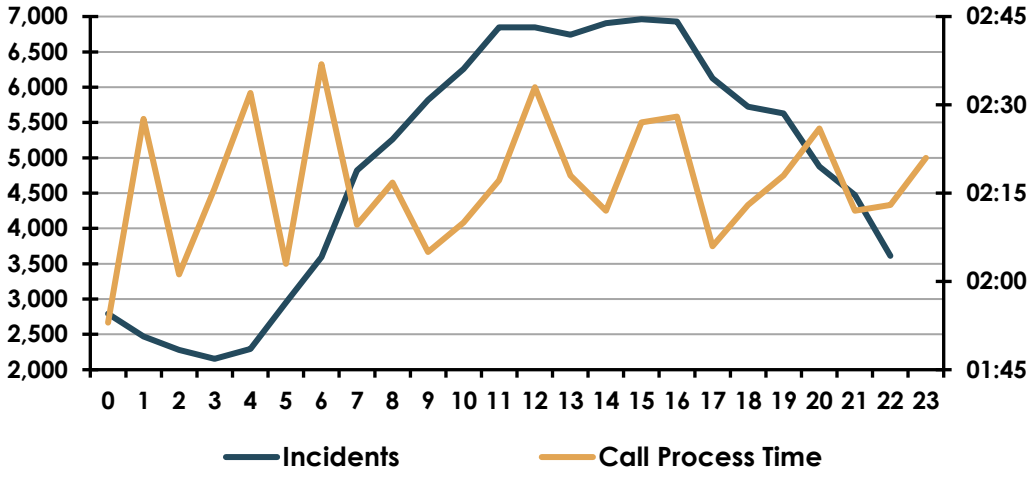
Figure 53: Call Processing by Incident Type (2018–2022)



Another dimension of the call processing time is how incident workload affects dispatch center performance. Again, ECD manages the workload, and the call processing time varies by up to a minute by the hour. A slightly higher processing time is evident in the early morning hours, and the processing decreases as call volume increases, the processing decreases. This indicates fewer incidents in the morning, leaving the data more susceptible to excessive times. The following figure shows the call processing times of all incident classes by the hour of the day, with the call load added as a reference.

Figure 54: Call Processing by Hour with Workload (2019–2022)



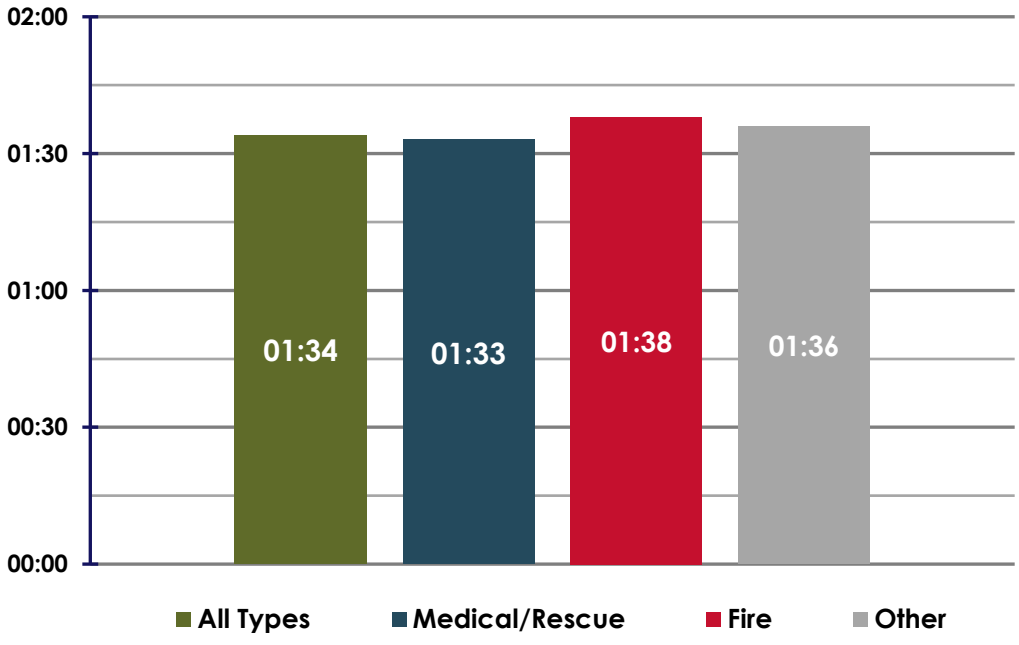
Turnout Time Analysis

Turnout time is the difference between when the unit is notified of an incident and when they start to respond. NFPA 1710 indicates the performance measure for this time segment is 60 seconds for medical incidents and 80 seconds for fire incidents. NFPA 1720 publishes a similar standard of 90 seconds for special operations and 60 seconds for EMS. For this analysis, the incidents will be grouped by All, EMS, Fire, incidents, and All Others.

The data were analyzed for statistical reliability, and several steps had to be taken to ensure appropriate data points were analyzed. Records with missing dispatched or en route time values represented 7% of the data set. These records and those identified for exclusion by SFD were eliminated. Exclusion causes included units not routinely used on emergency responses, such as training, notifications, information, etc. (5,906 records). Certain incident types that do not require an emergency response were excluded (2,014 records). The exclusions represent 11% of the available records.

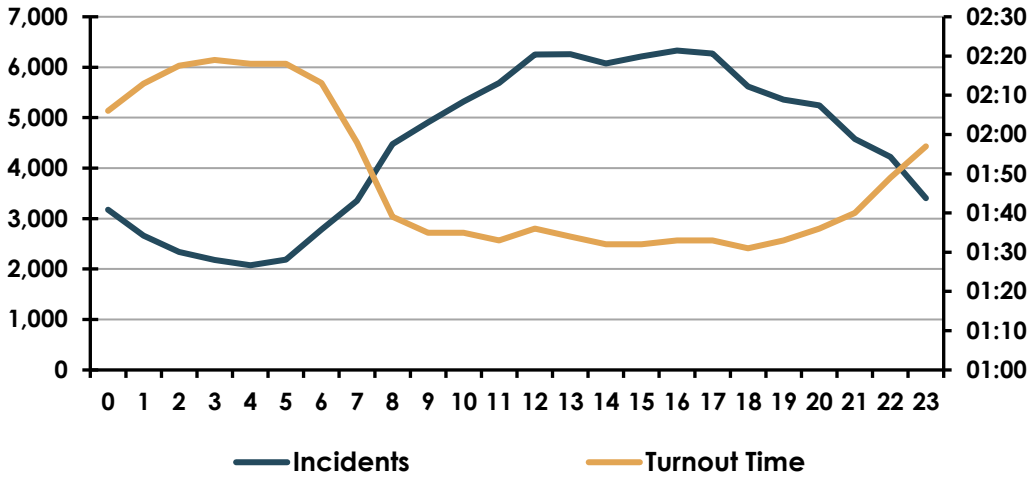
Overall, SFD staffed apparatus have a turnout time of 1 minute, 34 seconds at the 90th percentile. The following chart shows the turnout times by incident type.

Figure 55: Turnout Time by Incident Type (2018–2022)



One final dimension of the turnout time analysis is the changes in the percentile by the hour of the day. Since SFD staffs all of their units 24 hours a day, it is expected that crews can try to sleep at night. However, sleeping personnel can impact how fast they can get to the apparatus and begin to respond. Turnout times vary by almost a minute from the nighttime and daytime periods. The following figure shows the turnout percentile by the hour of the day, with the workload by general incident type added for reference.

Figure 56: Turnout Time by Hour (2018–2022)



It is interesting to note the inverse pattern of turnout times and workload, a common phenomenon in agencies with lower call volume at night. This can be explained as a combination of crews resting and fewer incidents to analyze. A limited data set, such as those found in the slower hours, is typically much more susceptible to higher times and more obvious data swings.

Travel Time Analysis

NFPA 1710 list several travel time requirements for apparatus. NFPA 1710 first defined travel time as the first unit, either an engine or a truck that can operate as an engine for 4 minutes. The second-due engine should travel 6 minutes, and the first alarm should arrive within 8 minutes for a moderate-risk structure fire.[5] The following figure summarizes the staffing and response time.[6]

Figure 57: NFPA 1710 Staffing and Response Time

Demand Zone [a]	Demographics (Pop/mi²)	Minimum Response Staff [b]	Response Time (min) [c]	Meets Objective
Urban	> 1,000	15	9	90th percentile
Suburban	500-1,000	10	10	80th percentile
Rural	< 500	6	14	80th percentile
Remote	Travel > 8 mi	4	Distance [e]	90th percentile
Special Risks [d]	AHJ	AHJ	AHJ	90th percentile

a Jurisdictions can have more than one demand zone.

b Minimum staff includes department and automatic aid.

c Interval from dispatch to arrival per the chart.

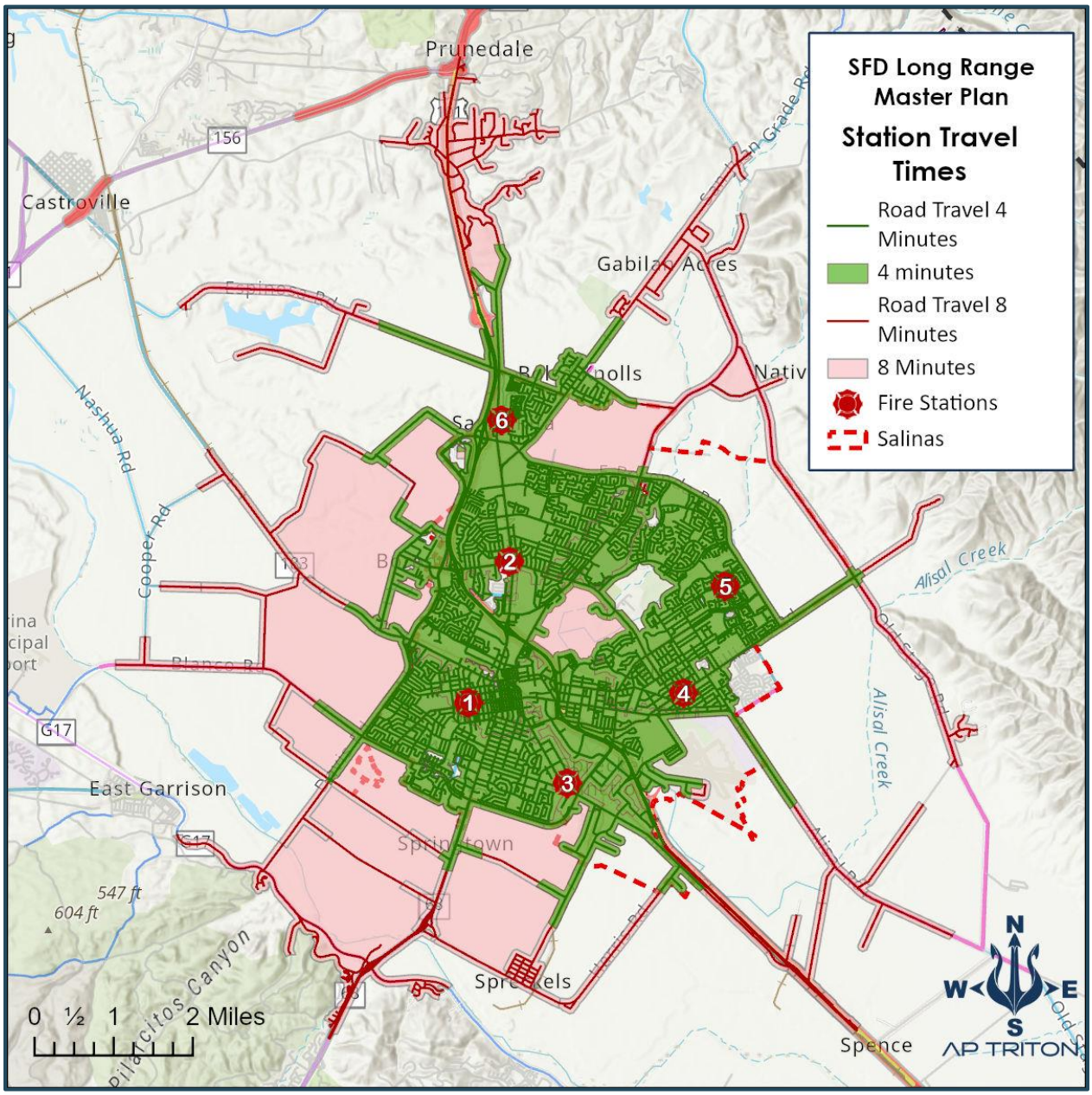
d Defined and set by the authority having jurisdiction (AHJ).

e Distance and travel minutes are variable and determined by the AHJ

This analysis breaks the response zones into local and state response areas. Local response areas are roughly equivalent to urban and suburban populations, while the state areas are roughly similar to rural areas. Since SFD has not adopted any specific response targets, and the times were only supplied with whole minutes, these standards are used as a reference, not as an adopted standard.

Travel time is the difference between when the apparatus checks enroute and when the first apparatus arrives. The following figure shows the 4- and 8-minute travel times from SFD's fire stations.

Figure 58: 4- & 8-Minute Travel Model



The distribution and staffing levels for SFD support rapid responses within the populated areas. In addition to 4-minute coverage of the entire city, several outlying communities can be served within 8 minutes, including Gabilan Acres, Springtown, Spreckels, Bolsa Knolls, Prunedale, and Natividad. The 8-minute area in the city's center is explained by the lack of roads for apparatus to access this area directly. Responders would need an alternative method of travel to serve this area.

Theoretic models are beneficial when evaluating what can happen, although considering the actual performance may give a better understanding of what the agency can provide.

First Due Apparatus

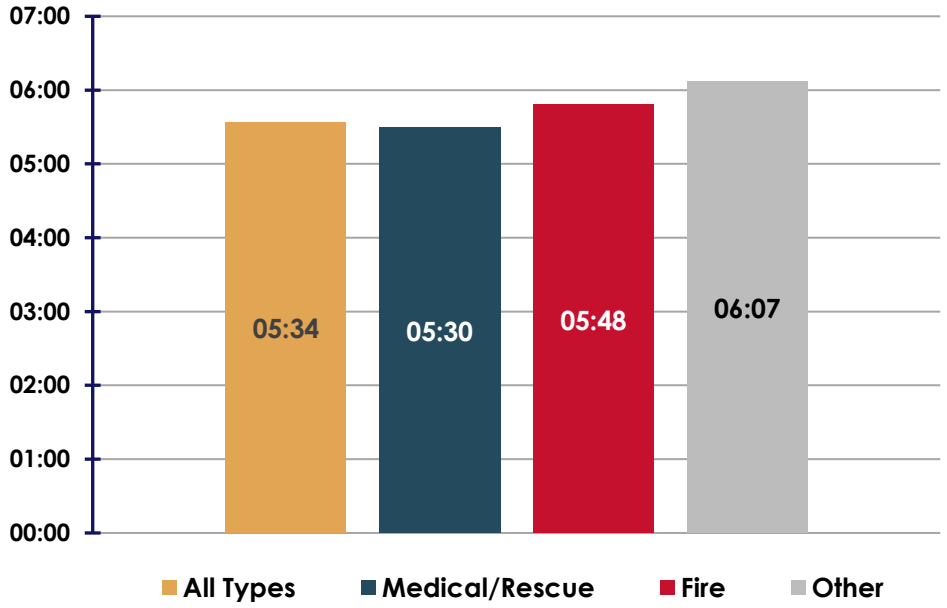
An evaluation of the data required several filters and rules to be applied. From the data, there were 75,121 first-unit arrival times in the data. Filters included Excluded Units and Incident classes, leaving approximately 86% of all incidents. However, several travel time calculations returned zero. Typically, only those units responding with lights and sirens are included; fortunately, the data had priority type data, allowing for P1 Emergency CODE3 and P2 Immediate CODE3 to be used (72,779 Records). Limiting the upper number allowed to 7 minutes reduced the analytic set to 71,102 incidents or 81% of the data.

Figure 59: Priority Types Evaluated

Priority	EMS	FIRE	OTHER	Totals
P1 Emergency Code 3	60,262	2,093		**62,355**
P2 Immediate Code 3	3	8,687	1,734	**10,424**
P3 ASAP Code 2	1,262	195		**1,457**
P6 Info Only/No Response			885	**885**
Totals:	**61,527**	**10,975**	**2,619**	**75,121**

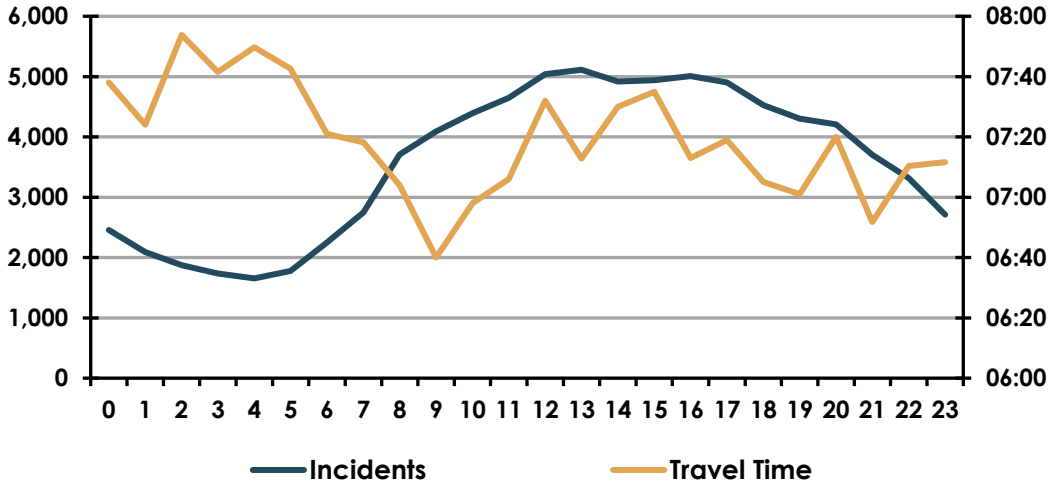
The first due performance for SFD is 5 minutes, 34 seconds. The overall number of evaluated responses with present valid travel times was 55,382. The following figure shows emergent first-due travel time by response incident classes.

Figure 60: First Arrival Travel Time



Time of day can have an enormous impact on travel times. For example, crew readiness, traffic patterns, and incident volume can impact travel times. Nevertheless, SFD's travel times throughout the day remain relatively consistent. What is notable is how travel times increase in the early morning hours. The following figure shows the first due travel times by the hour, grouped response incidents, and the workload shown for reference.

Figure 61: Travel Time by Hour of the Day (2018–2022)



Effective Response Force

The second dimension of the travel time analysis is how well the effective response force (ERF) needed for a type of incident can be assembled. ERFs change with the complexity and resources required of any incident and can range from one unit to multiple units with specialty equipment. Two commonly evaluated ERFs are EMS incidents and a moderate risk structure fire. Unfortunately, there were not enough data points to effectively analyze either.

It is possible to evaluate the time it takes for a certain number of units to arrive on the scene. SFD can respond with many internal and aid resources to any given incident. However, gathering more crews takes much time due to the large distances needed for additional units to arrive. For most incidents, SFD can assemble 20 personnel in over 85% of the city. However, travel time for personnel in the extreme northwest and southwest portions of the city varies significantly but indicates that less than 20 staff can arrive in eight minutes.

SFD has determined that the personnel required to complete critical tasks for a Moderate Risk incident type is 15. SFD can deliver an effective response force to meet this need in 100% of the city.

Figure 62: Salinas Personnel Requirements for Critical Tasks for a Moderate Risk Fire

Task Description	Personnel Needed
Command	1
Safety	
Size up (360°)	2
Driver/Engine or Pump Operator	1
Fire Attack	2
Search and Rescue	2
Ventilation/Utilities	2
Back-up Line	2
Rapid Intervention Team	3
Medical	
Effective Response Force:	**15**

*Temporary assignment

The apparatus designated to deliver at least this amount of personnel is as follows:

Figure 63: Alarm Assignments—Moderate Risk Fire Incident

Unit Description	Salinas FD		Auto Aid*		Mutual Aid**		
	Units	Staff	Units	Staff	Units	Staff	
Engine/Pumper	4	12					
Ladder/Aerial	2	6					
Rescue							
Battalion Chief	1	1					
EMS							
Totals:							**Totals**
Staff Available:		**19**					**19**
Staff Needed:							**15**
Deficiency:							**+4**

Figure 64: SFD Effective Response Force (2019–2022)

Salinas SF & SFU ERF	2019	2020	2021	2022
SF	101	113	119	113
SFU	98	92	91	75
Incidents with ERF	31	34	44	40
90th Percentile Assembled ERF	18:46	15:54	32:23	13:49

The Moderate Risk structure fire study results in the preceding table indicate that SFD has difficulty assembling an ERF within the performance standard in NFPA 1710. The NFPA 1710 standard recommends the assembly of an initial full alarm for low/medium hazard incidents to be 8 minutes. As you can see in the preceding table, actual performance exceeds this target. It should be noted that this 8-minute first alarm assembly goal is challenging for any fire department to meet, considering staffing, geography, traffic patterns, etc.

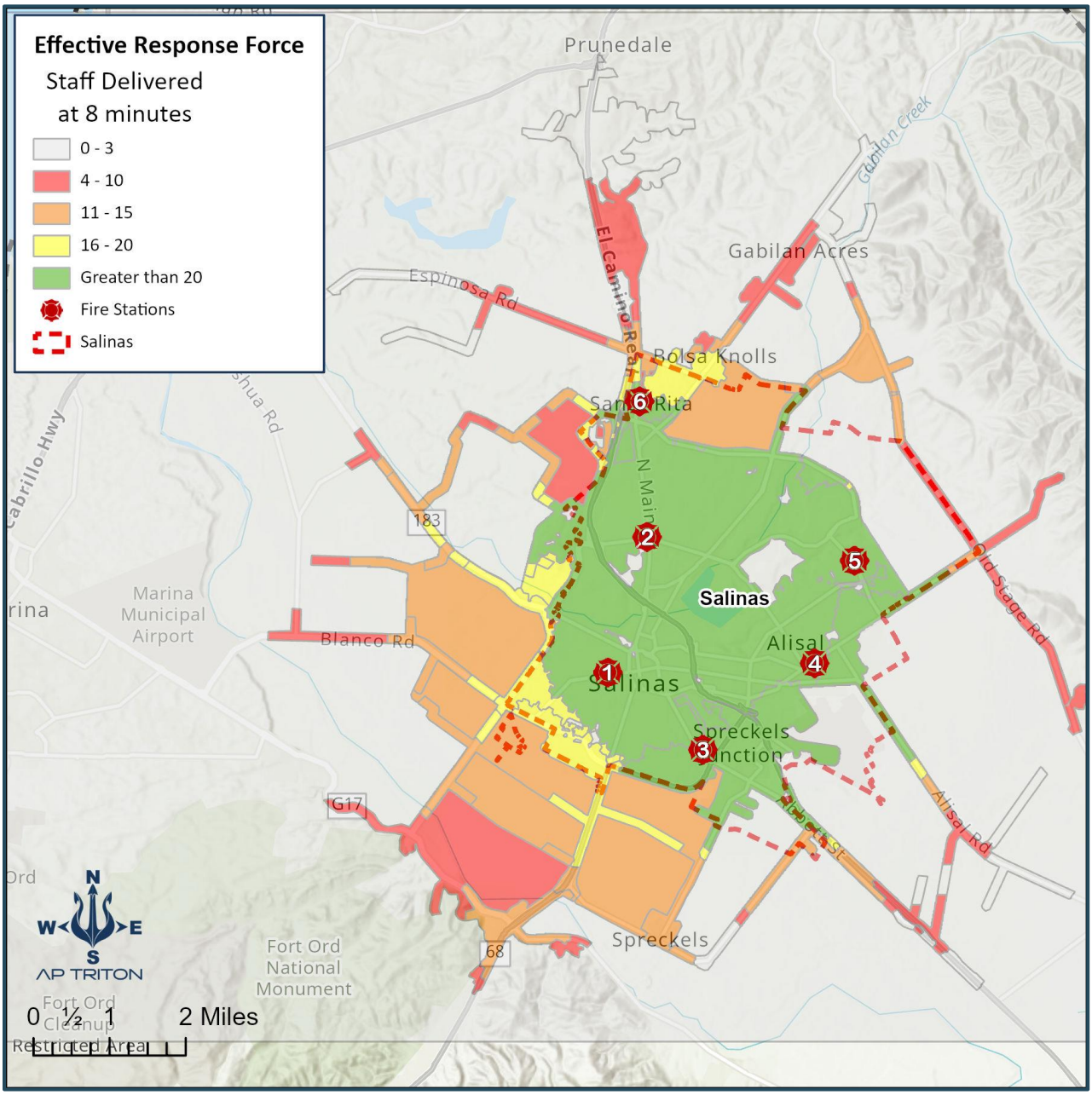
All units, including apparatus delivered by outside agencies, were evaluated to fulfill the needed four engines, two ladders, and one Battalion Chief. Relying on these auto/mutual aid resources (mostly ladder truck units) resulted in some incidents with longer response times. In 2021, there were a few incidents with long assembly times (for example, one unit that stopped the clock had an over 1-hour response time) which skewed the results.

Many of the incidents designated as Moderate Risks may have been mitigated before the entire complement of apparatus reached the scene of the service request. Multiple incidents involving the cancellation of one of the engines or ladders caused this incident to fall out of the evaluation because the apparatus pattern was not fulfilled.

This is not necessarily an adverse finding because the conservation of unneeded resources provides for the further utilization of this apparatus on other service requests when required.

There are only small portions of Salinas, in the Spreckels junction area to the south and the northern area designated as Bolsa Knolls, where the delivery of an ERF is challenging. The figure below identifies the two regions with lesser ERF personnel delivery potential. We say potential because this analysis assumes all units are in their stations and fully available to respond at the time of the service request.

Figure 65: Effective Response Force at 8 Minutes



High Risk Response

A high-risk incident, such as an apartment complex, needs more firefighters to meet the critical tasking needs for fireground operations. When this type of response is necessary, it depletes all personnel and apparatus in the city, and mutual aid is required to answer other incidents. In the following figures, the number of firefighters required to meet the critical tasking needs is 33, but only 29 are available, even with mutual aid assistance.

Figure 66: Salinas Personnel Requirements for Critical Tasks for a High-Risk Fire

Task Description	Personnel Needed
Command	1
Safety	1
Size up (360°)	4
Driver/Engine or Pump Operator	2
Water Supply	2
Standpipe/Sprinkler Control	2
Fire Attack	4
Search & Rescue	4
Ventilation/Utilities	4
Back-up Line	2
Rapid Intervention Team	4
Medical	3
Effective Response Force:	**33**

Figure 67: Alarm Assignments—High Risk Fire Incident

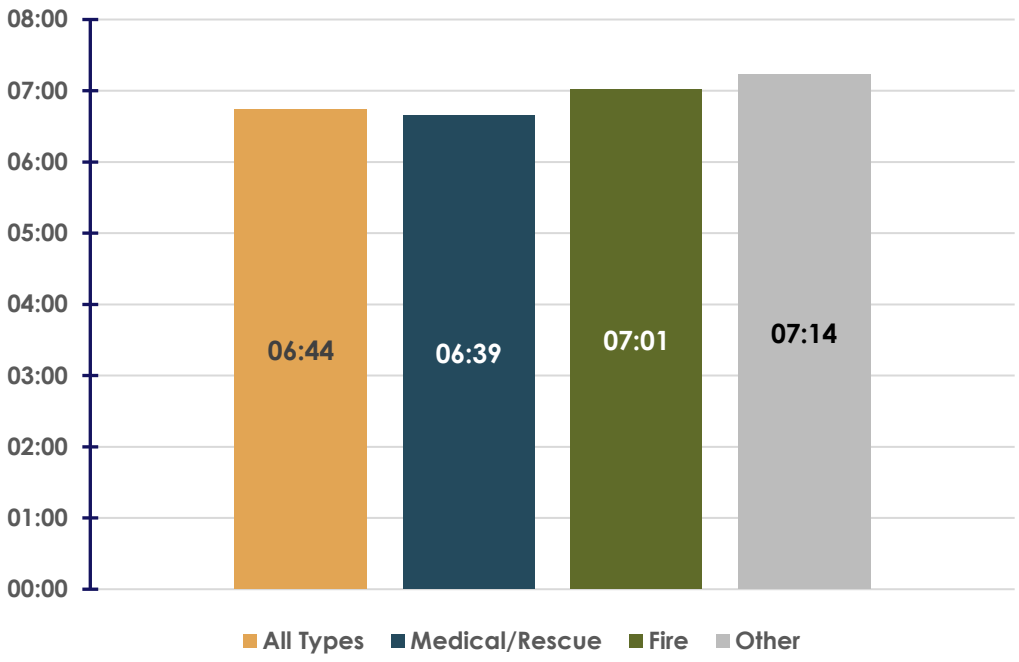
Unit Description	Salinas FD		Auto Aid*		Mutual Aid**		
	Units	Staff	Units	Staff	Units	Staff	
Engine/Pumper	6	18					
Ladder/Aerial	2	6			1	4	
Rescue							
Battalion Chief	1	1					
EMS							
Totals:							**Totals**
Staff Available:		**25**					**29**
Staff Needed:							**33**
Deficiency:							**-4**

To complicate this type of incident, 60% of the time, two or more units are already on an incident and unable to respond, thus depleting the number of units available from SFD. The current UHU for SFD is 10% or more for all units except one, and reliability ranges from 72% for Station 1 (two units at the station) to a low of 39% for Station 3. These factors can lead to a reduced ERF for a moderate or high risk incident or delay a response to another type of emergency.

Response Time Analysis

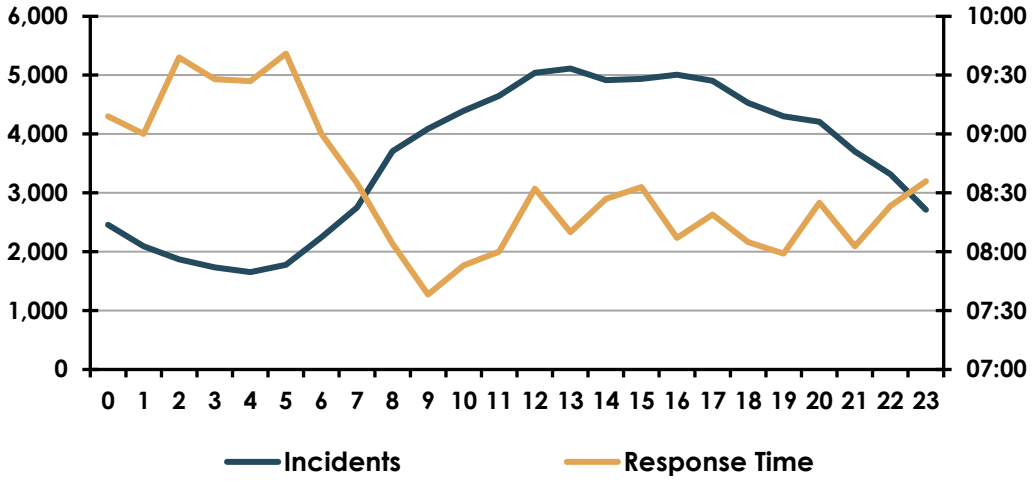
The time that a unit is notified of an incident until they arrive at the scene of the service request is referred to as Response Time. This is a valuable measure of crew performance concerning reaction time (turnout) and travel time, both controllable by SFD. Impacts on Response time could include investment in technology to improve alerting, positioning of apparatus compared to living spaces, staging of protective clothing, choosing the best route to the scene based on conditions, etc.

Figure 68: Response Time Performance by Class (2018–2022)



It is helpful to evaluate response times by hour of the day to determine if there are patterns that change to SFD controllable factors could potentially address. The chart below shows that the response time lengthens considerably between midnight and 6 a.m.

Figure 69: Response Time Performance by Hour of the Day



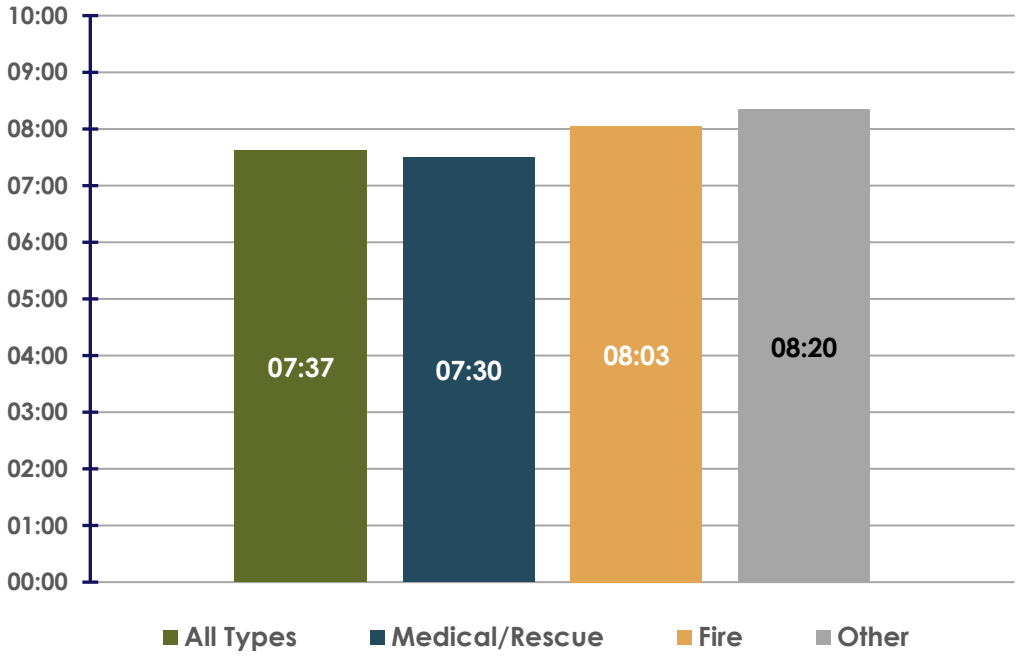
Total Response Time Analysis

The data were evaluated for this segment and found more usable and complete than the travel time segments. This is due primarily to the more accurate time stamps of dispatch notified and first unit on scene. Unfortunately, the analysis was completed on the CAD data with some invalid or missing on-scene times, which could include canceled responses. While the total time data were acceptable for 76% of SFD responses, only the recommended response priority was included. The response mode was not collected, meaning all emergent and non-emergency unit responses (downgrades to non-emergency answers) were included.

Each time segment is analyzed to get an understanding of where performance can be measured and improved. However, the primary performance measurement for the customer is the total response time. The person in need sees this as SFD's performance. For example, SFD's overall first due total-response time for the urban/suburban areas is 7 minutes, 37 seconds at 90% or less.

The following figure shows incident classes and their first-due total response times.

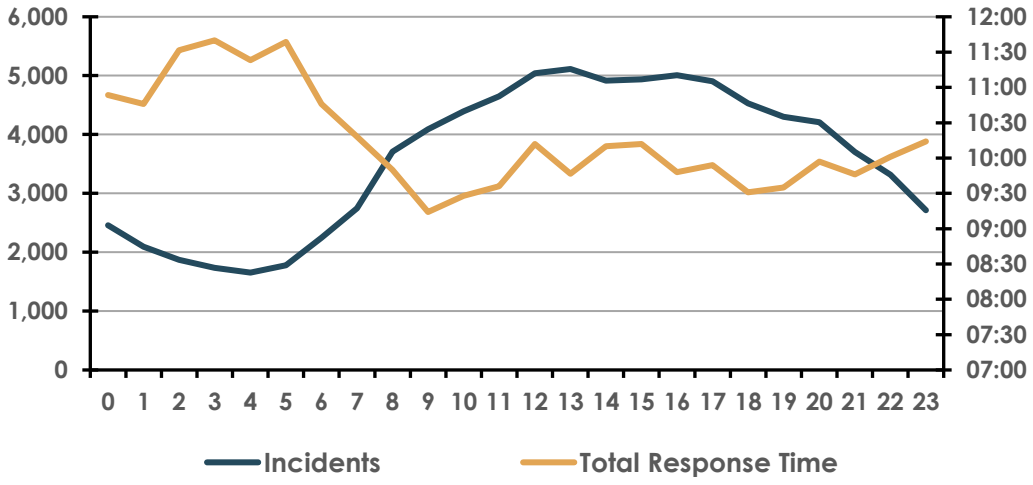
Figure 70: Total Response Time by Incident Type



It may seem that the 90th percentile call processing plus the 90th percentile turn out and travel times would equal the 90th percentile total time. However, this is not usually the case. Each time segment is analyzed independently, including the total response time. The total-response time does not add the segments' percentiles due to the variability of the time segments within each incident.

The final analysis was to look at the total response time by the hour. Most incident volume settings follow the same pattern. However, the change in total response time was not remarkable by that time of day. While there is a slight improvement from late morning to early evening, it is insignificant. The following figure shows the total response time by hour. The incident volume percentage is included for reference.

Figure 71: Total Response Time by Hour

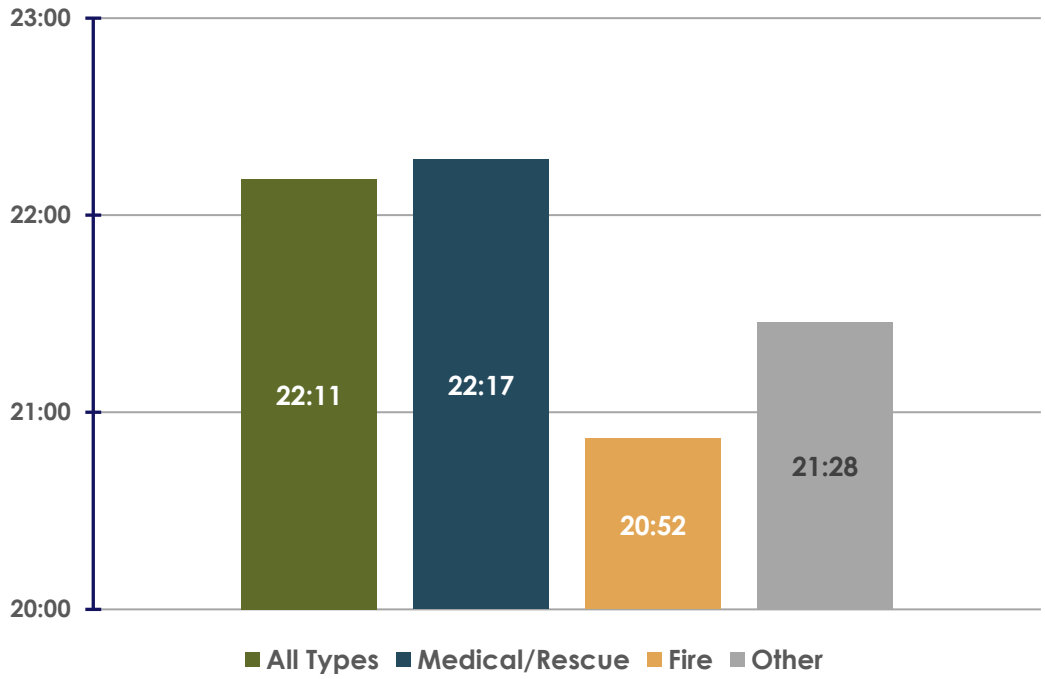


Time on Task

The time on task interval is helpful to study to determine if resources are being used effectively. Longer times on task could represent more difficulty mitigating the incident, waiting for third-party transport providers, or even turning a scene over to law enforcement.

The next figure shows how much time SFD units spend on scenes by incident class.

Figure 72: Time on Task Performance (2018–2022)



Committed Time

The final time interval studied is when a resource is committed to an incident. This time starts when the unit is alerted of the service request (dispatch time) until they are ready to accept another service request (unit clear time). The chart below shows the difference in committed time by call class.

Overall, resources are allocated for 30 minutes, 13 seconds, 90% of the time. It makes sense that fire incidents take longer to address than EMS incidents. Other call classes include a broad range of incident types and may involve more effort to mitigate. Other classes include such incident types as Hazardous Materials situations, which are often time-consuming.

The following figures highlight committed time performance by types of calls and by hour of the day.

Figure 73: Committed Time Performance (2018–2022)

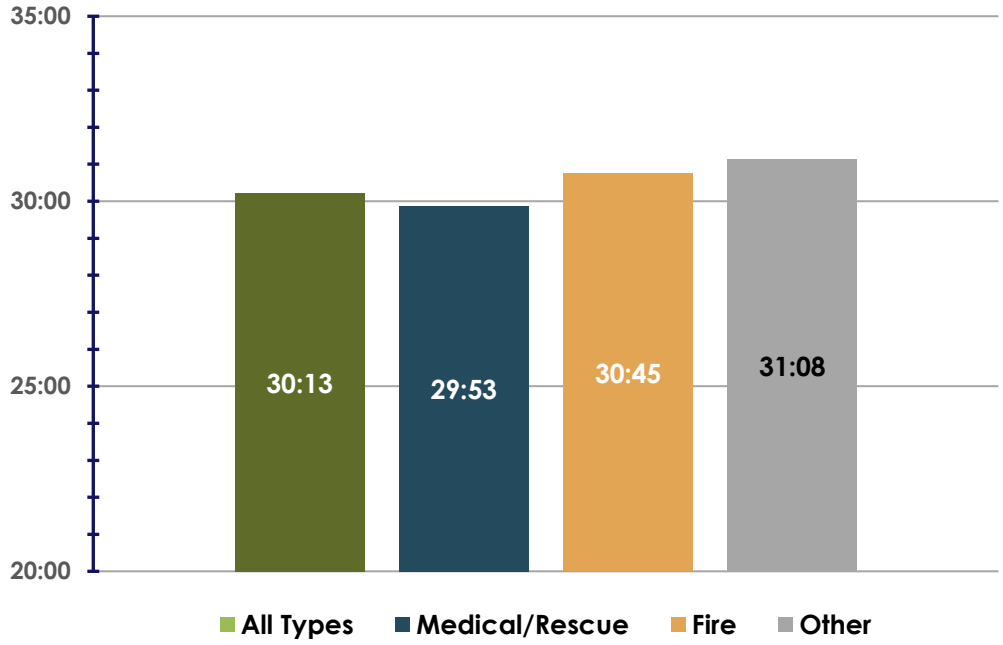
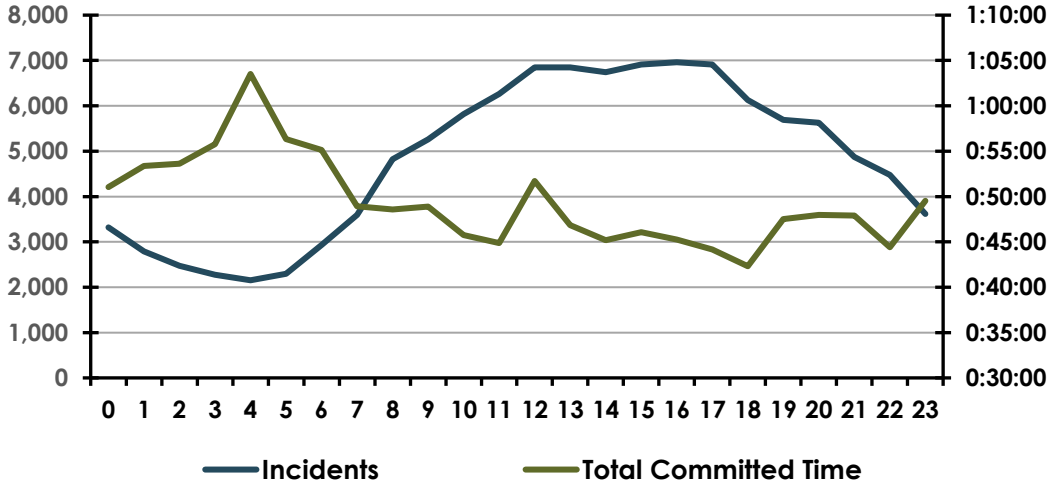


Figure 74: Time Committed to an Incident by Hour of the Day



Committed times are longer in the early morning, with a notable spike between 3 and 4 a.m. Resource allocation (committed time) shows less variability during the day and early evening hours.

Population Growth & Service Demand Projections

According to the United States Census Bureau, in the year 2030, the United States will mark a turning point.

> *"Beginning that year, all baby boomers will be older than 65. This will expand the size of the older population so that one in every five Americans is projected to be retirement age (Figure 1). Later that decade, by 2034, we project that older adults will outnumber children for the first time in U.S. history. The year 2030 marks another demographic first for the United States. Beginning that year, because of population aging, immigration is projected to overtake natural increase (the excess of births over deaths) as the Country's primary driver of population growth. As the population ages, the number of deaths is projected to rise substantially, slowing the Country's natural growth.*[7]

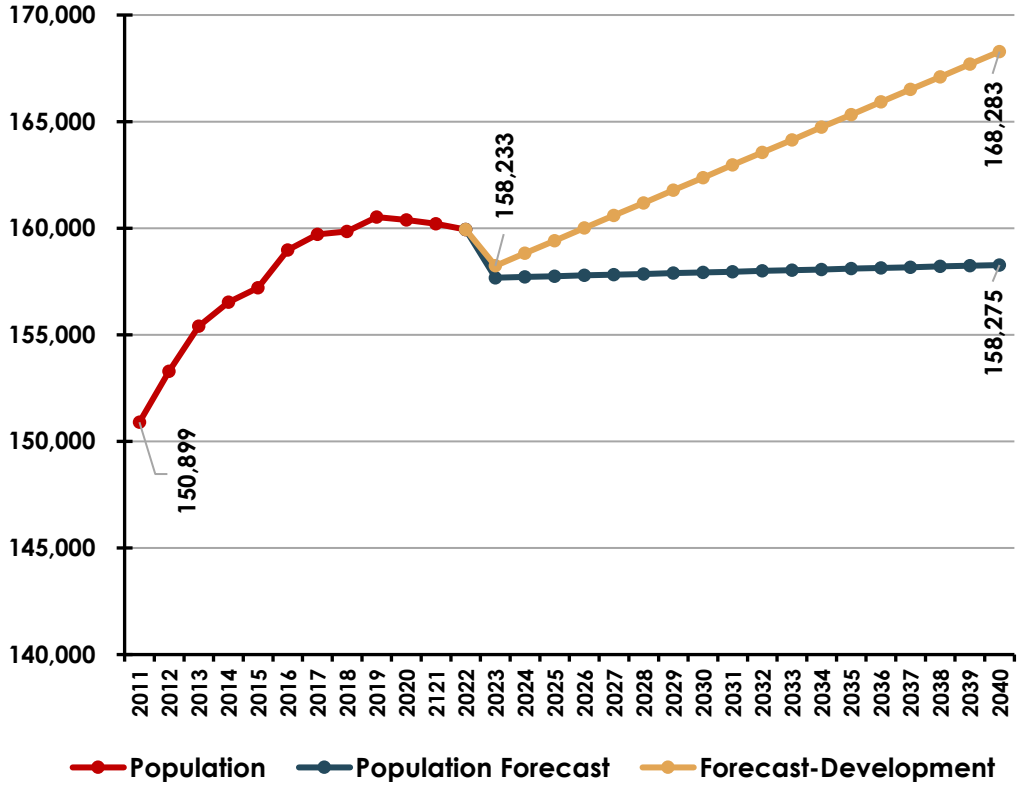
As the population in the United States grows older, the need for emergency services and the demand for alternative methods of treating people will rise.

In Salinas, the 2020 decennial census listed the population as 163,345, while the California Department of Finance calculated it at 160,387. Salinas is the most populous city in the Monterey Bay Area, in the northern part of the Central Coast. In 2022, the Department of Finance provided a population estimate of 159,932, but the population can be projected using a linear progression. Salinas declined in population during the pandemic (-0.5%).

Although the population is declining, an estimated 8,000 new homes are forecasted in the next ten years in the north and eastern sides of the city. The following figure provides a projection based on the current growth estimates of the Department of Finance with minimal development. It also provides estimates if the area forecast for development occurs.

The following figure shows the projected population growth in Salinas through 2040.

Figure 75: Forecasted Population Increases Until 2040



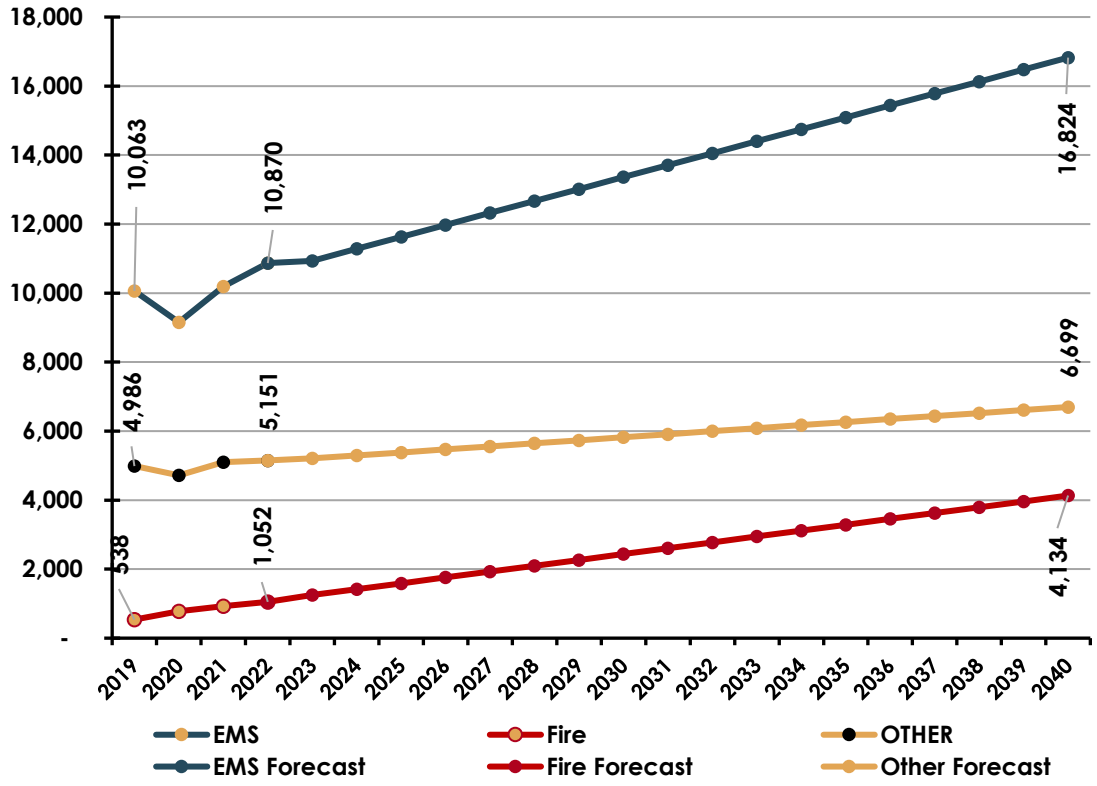
Projected Service Demand

Future requests for service can be affected by many things in a city or county. Typically, the aging of a population will drive an increase in service demand. Throughout the nation, additional aspects drastically affect call volumes, including the unhoused and the increase in Fentanyl related overdoses. Salinas has seen a rise in homelessness over the last few years. Regardless of the exact numbers, the fire department has seen an increase in homeless-related calls, including fires, overdoses, and psychiatric emergencies. As these calls increase in the next few years, all emergency services must adapt to a new service model to continue serving the community at the highest level.[8]

Future requests for service are projections based on information gathered from demographic calculations and estimated growth rates. The previous figure showed the estimated population increases based on minimal growth and expected growth based on new residential development on the city's north and east sides.

The potential exists for Salinas to increase its population to more than 168,000 by 2040 with a projected build-out of housing projects, translating to a higher call volume. The anticipated increase in the aging and unsheltered populations of Salinas will also change the dynamics of the calls to which emergency responders are dispatched. The following figure shows the total projected service demand by incident class through 2040.

Figure 76: Incident Volume Forecast by Class (2018–2040)



The Other call type shows a steady decrease until 2040. This is likely due to the impact on the linear projection of the drop in incidents in 2020–2021 for these types.

Section I-B:
SUPPORT PROGRAMS

Communications & Dispatch Services

Overview

Dispatch services for the Salinas Fire Department (SFD) are provided by the Monterey County Emergency Communications Department (ECD). The ECD is the largest public safety answering point (PSAP) in Monterey County.

Upon initiating a 911 call, the ECD determines if a response is needed and dispatches one of the many law enforcement or fire/EMS agencies, 24/7, 365 days a year. Other Public Safety Answering Points (PSAPs) in the county include the California Highway Patrol (CHP, and Carmel-by-the-Sea. Monterey County ECD provides emergency fire and medical dispatch services for the entire county, dispatching several fire agencies and two paramedic ambulance providers, American Medical Response (AMR)and the Carmel Regional Fire Ambulance, as well as coordinating dispatch services for law enforcement agencies. Monterey County ECD dispatches for the following fire agencies:

- Big Sur
- Gonzales FD
- Greenfield FD
- King City FD
- Marina FD
- Monterey County Regional Fire Protection District
- Monterey FD – Including service contract areas of Pacific Grove, Monterey Airport, and the City of Carmel FD
- North County FPD
- Salinas FD
- Seaside FD

Staffing

Monterey County's Consolidated Emergency Fire Dispatch Center is staffed by full-time dispatchers. According to the Monterey County ECD organizational chart (specific to fire), it is staffed by 25 Communications Dispatcher II, five Shift Supervisors, one Fire Communication Manager, one Law Communications Manager, Operations Manager, and one Center Manager who reports to the ECD Director. Like many 911 centers nationwide, hiring and maintaining adequate staffing is a challenge for the ECD. As of August 2023, the center has 13 unfilled positions, which requires overtime to meet minimum staffing requirements. Additional overtime places additional stress on current employees.

Medical Priority Dispatch System

Emergency medical dispatching (EMD)and Medical Priority Dispatching System (MPDS) play a crucial role in the pre-hospital care of patients. It involves the coordination of resources and the appropriate allocation of emergency medical services (EMS) to patients in need. EMD is the initial point of contact between patients needing emergency medical assistance and the EMS system. The EMD process involves receiving emergency calls, assessing the nature and severity of the emergency, and dispatching the appropriate resources to the scene. As emergency units are en route, dispatchers provide pre-arrival instructions to the caller to begin treating the patient.

The speed and accuracy of EMD can significantly impact the outcome of a medical emergency, making it a critical component of the EMS system.

The ECD is governed by several Monterey County EMS policies that detail criteria and requirements for the designation of an EMS/EMD Communications Center. The ECD meets the following American Standards for Testing and Materials standards: a) Standard Practice for Emergency Medical Dispatch, b) Standard Practice for Training Instructor Qualification and Certification Eligibility of Emergency Medical Dispatchers, and c) Standard Practice for Emergency Medical Dispatch Management. Additionally, the ECD must comply with applicable state and federal statutes, codes and regulations, and EMS system policies and procedures.

EMD begins the lifesaving process by providing pre-arrival instructions to the caller, basically converting the caller into a first responder. Response determinant is defined by the International Academy of Emergency Dispatch in non-linear response levels based on capability (BLS vs. ALS), single vs. multiple resources, and response priorities based on the general acuity of the patient and resources needed.[9]

Response levels are categorized based on information obtained during the call screening process into one of six levels (Omega, Alpha, Bravo, Charlie, Delta, and Echo). However, within Monterey County, the EMS Medical Director may modify response priority and response resources. Only the EMS Communications Center shall also dispatch the Exclusive Operating Area contracted ambulance provider.

Furthermore, and according to county EMS policy, if certain conditions exist, an AMR ambulance response is subject to reassignment to a higher-level call. The following figure details the response determinant levels, inclusive of the response code and rationale to assist a dispatcher in choosing the right level.

Figure 77: Response Determinant Levels

Response Level	Capability	Clinically Indicated Response Resource(s) and Priorities		Rationale
		First Responder	Ambulance	
ECHO	ALS	Red Lights & Siren	Red Lights & Siren	• Information exists that death is eminent • Closest any First Response and ALS Ambulance • Immediate lights and siren response needed • Multiple resources necessary • Rapid ALS transport almost certain
DELTA	ALS	Red Lights & Siren	Red Lights & Siren	• Closest First Response and ALS Ambulance • Immediate lights and siren response needed • Multiple resources necessary • ALS transport likely
CHARLIE Urban	ALS	Optional Response- No Red Lights & Siren	Red Lights and Siren	• ALS Ambulance / First response for extended ETA • Multiple resources not necessary • ALS or BLS transport likely
CHARLIE Rural	ALS	Red Lights and Siren	Red Lights and Siren	
BRAVO Urban	BLS or ALS	Optional Response- No Red Lights & Siren	Red Lights and Siren	• BLS or ALS Ambulance / First Response for extended ETA • Rapid BLS evaluation indicated
BRAVO Rural	BLS or ALS	Red Lights & Siren	No Red Lights & Siren	
ALPHA	Closest BLS or ALS	Optional Response- No Red Lights & Siren	No Red Lights & Siren	• BLS or ALS Ambulance / First Response not needed • Multiple resources not necessary • Transport less likely
OMEGA	Referral or BLS	Not indicated	No Red Lights & Siren	• Ambulance transport not indicated and referral to specialty service appropriate

Monterey County EMS System Policy Number 3050 allows an EMD-trained dispatcher to reassign the Exclusive Operating Area (EOA) (AMR in this case) ambulance that is en route simultaneously with an SFD engine or truck company to another EMS call. When a reassignment occurs, it is reasonable to expect an extended on-scene (out of service) time for the fire department unit while an Emergency Medical Services Communications Center (EMSCC) dispatcher either dispatches an ambulance that is further away or waits for another ambulance to become available. In addition, contracted ambulances (AMR) can upgrade or downgrade the call as more information becomes available.

At the beginning of an emergency call, dispatchers must quickly screen calls to determine if they retain dispatch responsibility or if the call should be transferred to the EMS Communications Center, which an AMR dispatcher does. When an AMR ambulance is diverted, reassigned, or downgraded, communicating these critical decisions requires an AMR dispatcher at the EMSCC to enter call information into the computer-aided dispatch (CAD), which then signals a prompt in CAD at the ECD and responding fire unit. The information exchange inconsistently takes place via CAD and is not transferred through verbal exchange between the ECD, EMSCC, and/or SFD crews. To that end, SFD and AMR can communicate via the same radio. However, it is reported that it is rare for AMR crews to transmit on their handheld radio to an SFD crew.

In Monterey County, dispatchers identify and route calls to a designated Monterey County EMSCC (AMR dispatcher located in another building) to conduct EMD and MPDS. Using MPDS, dispatchers ask questions to determine the nature and severity of the call. Based on the information obtained from the caller, the MPDS will categorize the call as Priority 1, 2, or 3, from high acuity to low acuity, respectively. Once an appropriate response pattern is determined and units are dispatched, the AMR dispatchers should provide pre-arrival and post-arrival instructions. Dispatchers are responsible for relaying critical information to responding paramedic ambulances and fire crews.

Although well intended, the practice of relying on an emergency medical communications dispatcher (who is in another building) to relay critical information to a fire dispatcher (located in the ECD where the call originated) and fire crews is subject to human error.

Critical medical complaint information obtained in the EMSCC, which is entered into CAD and is subjective, may not be delivered in a timely manner to fire units.[10] To that end, Monterey County EMSA identified 11 goals in their 2018–2020 Strategic Plan. Goal One was implementing Medical Priority Dispatch System Call Prioritization, Resource Management, and Referral Options. Goal Two was to Implement and maintain a Countywide EMS Data System. According to AMR's Performance Metrics provided to the LEMSA, covering January 2022—January 2023, AMR's dispatchers have a 66%—76% MPDS utilization rate; however, information obtained from MPDS is not consistently transferred or updated to SFD.

Emergency Medical Services System

Introduction

The EMS section summarizes SFD's services related to pre-hospital medical care services. Utilizing focused interviews and an analysis of the information supplied by SFD, AP Triton evaluated the current level of pre-hospital care offered to the community. AP Triton will identify challenges related to the EMS program and make recommendations.

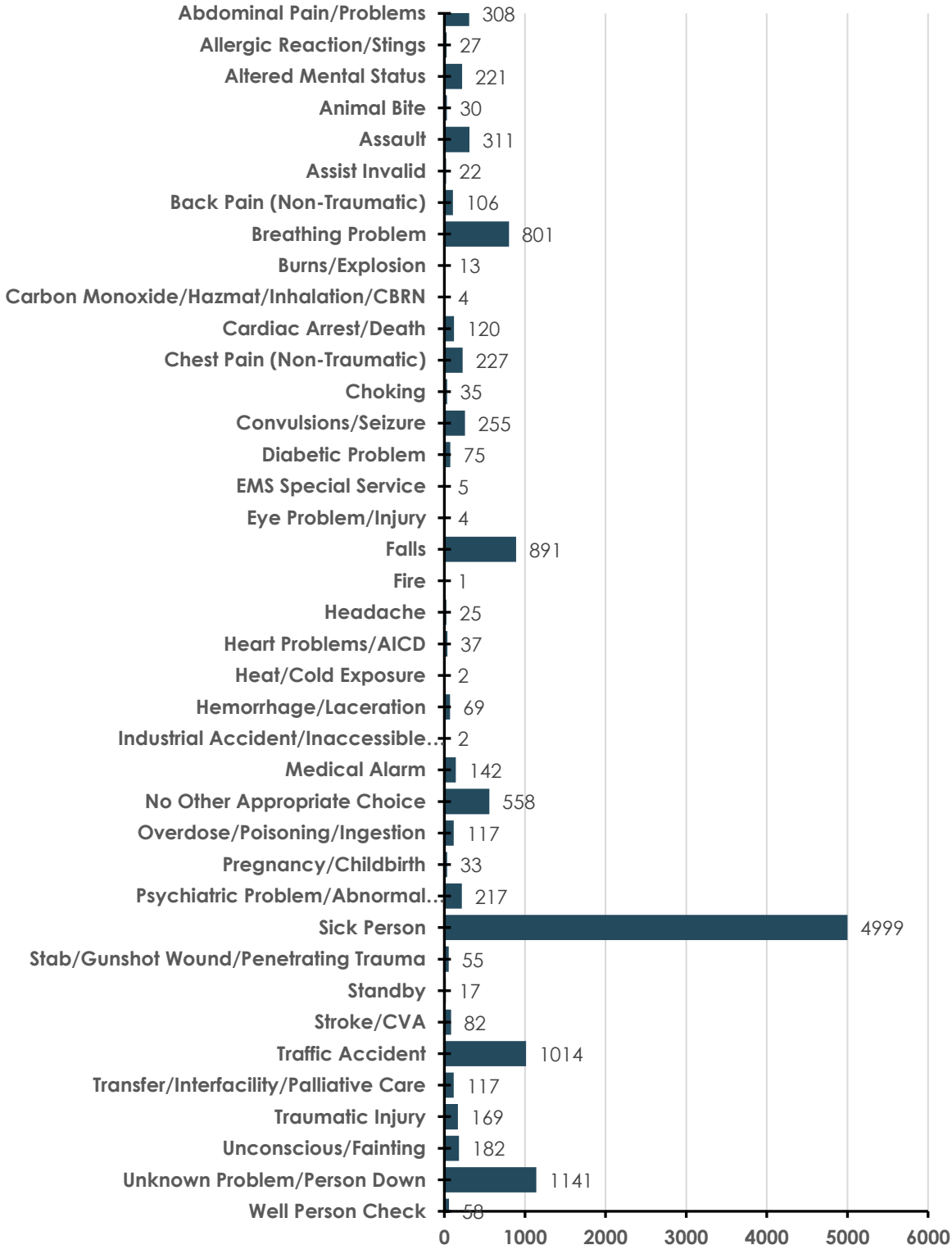
SFD is an all-hazard organization. The department staffs six advanced life support (ALS, or paramedic) fire engines and two ALS-equipped fire trucks out of six fire stations. The department can drop to basic life support (BLS) service on the two truck companies when and if staffing challenges occur while maintaining ALS level service on each of the six fire engines. This is an appropriate and acceptable practice when considering that the truck companies are housed along with engine companies in the same fire station. As mentioned previously, the Monterey County ECD provides 911 call-taking and dispatching, while AMR provides EMD and MPDS. AMR, staffed with one paramedic and one basic emergency medical technician, has exclusive ambulance transport in a single Exclusive Operating Area (EOA).

SFD has been providing emergency medical services response for many years. However, it does not retain Health and Safety Code—HSC § 1797.201 rights, meaning Monterey County has created the exclusive operating area (EOA). Moreover, Monterey County maintains administrative oversight and guidance for pre-hospital EMS. In this case, it enters into a written exclusive operating agreement for services with AMR. 90% of the 31,000 departments in the United States provide pre-hospital medical services.

Since 1980, the number of residential and commercial structure fires in the United States has reduced by 52%. Conversely, the demand for EMS has gradually increased nationwide. Along those lines, the following figure is based on 2018–2022 (five years) data and shows that 79%–82% of emergency response calls in Salinas are EMS-related.

The following figure shows a granular breakdown of EMS calls in Salinas. A "Sick Person" call is categorized when the information obtained from the caller does not accurately fit into another one of the listed categories or call types and is the number one call type. The call type "Unknown Problem/Person down" comes in second. These two call types account for 6,140 EMS calls where emergency response crews are dispatched with limited information. According to the data provided and considering that the total EMS runs for 2022 was 14,234, units are responding to over 43% of calls with non-specific (Sick Person or Unknown Problem/Person Down) detailed information.

Figure 78: Breakdown of Call Types in Salinas



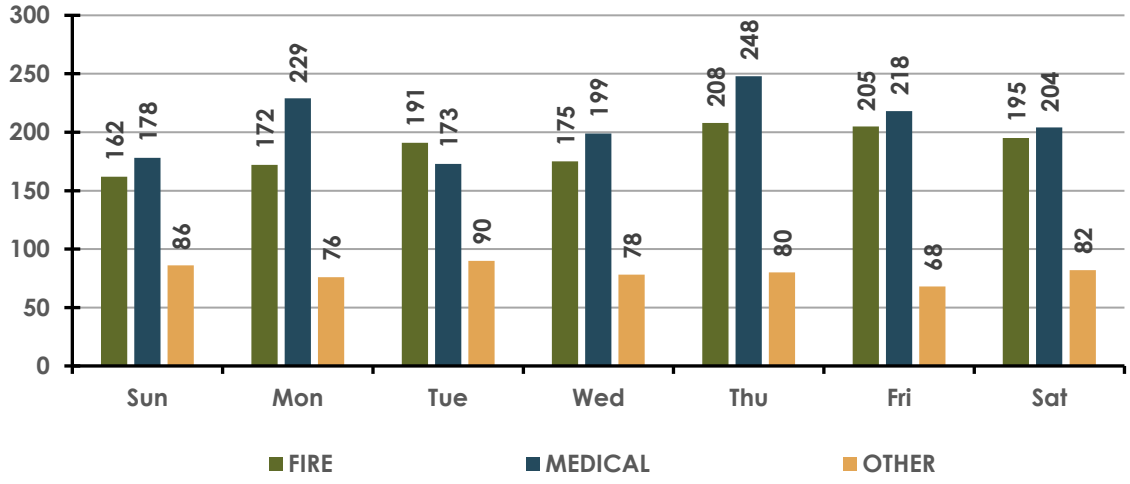
Triton reviewed EMS and Fire calls for service from 2018–2022 (2018 did not have any data to report) involving a homeless person (transient) from the Records Management System (RMS) data provided by SFD personnel. In reviewing the data, it is noteworthy that some data years were missing EMS data (2019–2020); however, it is reasonable to presume that the data from those years could be consistent with subsequent years. The following figure shows the data relative to responses specific to incidents involving a person experiencing homelessness.

Figure 79: Transient Incident Class Totals (2019–2022)

Incident Class	2019	2020	2021	2022	Grand Total	Percentage
Fire	100	158	400	647	1,305	39.8%
Medical			482	945	1,427	43.6
Other			147	397	544	16.6%
Grand Total:	**100**	**158**	**1,029**	**1,989**	**3,276**	

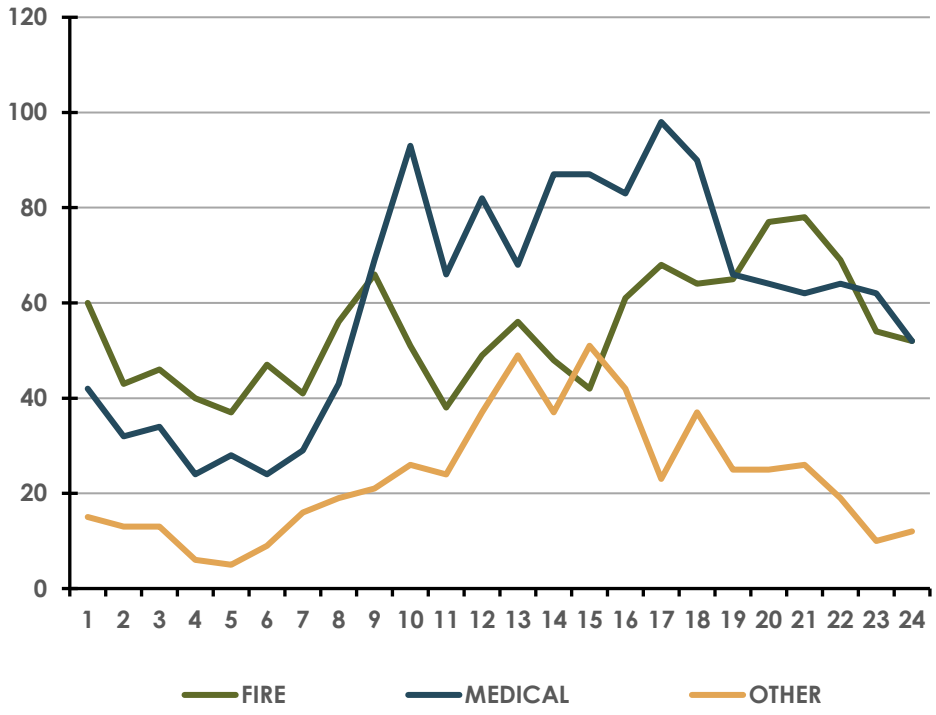
The data provided by SFD was reviewed and analyzed to aid in identifying trends. Specifically, Triton analyzed the data to determine if there was a day of the week or segment of the day where calls for service trended upward. The following figure shows the incident count for days of the week involving transients.

Figure 80: Transient Incidents by Day of Week



The following figure shows how calls for service trend during a 24-hour period. The data provided is consistent with findings from numerous studies of fire departments across the nation.

Figure 81: Transient Incidents by Hour of the Day



The data shows that the trends in calls for service begin to increase around the 7:00 a.m. timeframe and show a downward trend at the 7:00 p.m. hour for EMS, whereas there is a notable upward trend for fires at that same time. It is not until 11:00 p.m. that EMS calls drop below 60.

Current Homeless Programs

The City of Salinas is progressive, funding several programs to address homelessness. According to the City's website, Salinas is funding or has accessed funds for programs such as street outreach, emergency shelter, homeless prevention, and rapid rehousing, including an MOU with the County of Monterey for several housing/shelter projects. In addition, the police department appointed a new Homeless Outreach Team (HOT) officer who is actively working with the homeless in Chinatown.

Whether it is the Public Works Department working to clean up homeless encampments, the Fire Department extinguishing encampment fires, or other City departments aiding in addressing homelessness, Salinas is proactively employing several methods to provide aid and reduce the effects of homelessness.

In other areas of the state, programs are directed toward the homeless population, effectively reducing the workload on fire responders. One specific example is BeWell Orange County (OC). Instead of a law enforcement or EMS response, this program provides a specialized response to a mental health crisis, intoxication, welfare checks, and other lower-acuity situations.

There are many other examples of City fire departments partnering with their local law enforcement partners and county to address low-acuity calls not requiring ambulance transport to a local emergency room. The City of Ontario has assigned a firefighter, police officer, and a social worker from their county to respond to service calls and address a person experiencing a mental health crisis or intoxication or to perform welfare checks.

The Community Assessment Response & Engagement (CARE) Team, led by the Alameda Fire Department (AFD), is an alternative program yielding promising data in serving the homeless and a good example of a community paramedic program. AFD staffs a mid-sized SUV with one EMT and one paramedic to respond to non-violent individuals facing a mental health crisis.[11] The CARE Team assesses and triages the patient to assist them with navigating the best path forward in obtaining needed services.

Logistical Support Services

Logistics is the process of planning, implementing, and controlling the movement of goods, products, or services from the point of origin to the end of consumption to meet the customer's needs and requirements. It involves coordinating all aspects of transportation, warehousing, and inventory management. Logistics aims to minimize costs and maximize efficiency in the supply chain.

Whether fire departments are dealing with an emergency incident or day-to-day operations, logistics are critical to the success of an organization. A person or group managing logistics help in successful operations by providing support and services. Specific to EMS, logistical support and services are often responsible for ensuring that the field personnel have all the proper tools and equipment to do the job they are tasked with, including repair, maintenance, and equipment replacement. The EMS division has implemented LogRx, which aids department personnel in providing medication organization and accountability, medication inventory control, medication low supply alerts, and limits the chance of medication inventory loss or damage.

Medical Control & Oversight

The City of Salinas provides local EMS system oversight and regulation, the Monterey County Emergency Medical Services Agency (LEMSA) provides regional management and regulation, and the California Emergency Medical Services Agency (EMSA) provides state oversight and regulation. Not all fire and rescue agencies employ a medical director to assist in localized medical direction; although SFD contracts with Dr. David Ramos to be the department's Medical Director, Dr. Ramos' primary duty is as the prescribing physician.

Quality Management Mechanisms

A quality improvement/quality assurance (QI/QA) plan is a comprehensive approach to improving and maintaining the quality of an organization's products, services, or processes. The plan outlines the methods and procedures for measuring, evaluating, and improving quality and consistently meeting quality standards. The QI/QA plan aims to improve efficiency, customer satisfaction, and overall performance while reducing errors and costs. It may include performance metrics, data collection and analysis, process improvement initiatives, employee training, and regular management review. The QI/QA plan is an essential part of a quality management system, and it helps organizations meet regulatory requirements and industry standards.

Since SFD's EMTs and paramedics are authorized and governed by EMSA it is responsible for maintaining a robust QI/QA plan. Chapter six of its policies and procedures manual contains several policies that provide a framework and clear expectations. Policy Number: 6000, titled *Quality Improvement,* states the following as it relates to EMT-Paramedic Service Providers:

2. *Agreements with EMT-Paramedic Service Providers requiring, but not limited to, the following:*
    a. *Compliance with Emergency Medical Services system policies and procedures.*
    b. *Implementation and maintenance of a Quality Improvement Program integral to the Base Hospitals Quality Improvement Program and the Monterey County EMS Agency systemwide CQI.*
    c. *Reporting of excellence/opportunities for improvement in the Service Providers QI Program, as well as steps taken to recognize excellence or correct the opportunities for improvement.*

4. *Agreements with participating First Responder Agencies requiring, but not limited to, the following:*
    a. *Compliance with Emergency Medical Services system policies and procedures.*
    b. *Participation in and coordination with the Monterey County QI Program and systemwide CQI.*
    c. *Designating an EMS Coordinator to act as a liaison between the EMS agency and other QI representative.*
    d. *Reporting of excellence/opportunities for improvement in the First Responder Agency's QI Program, as well as steps taken to recognize excellence or correct the opportunities for improvement.*

A quality QI/QA plan should include the following elements:

- Clearly defined goals and objectives
- A clear definition of the areas and processes to be covered
- Performance measures
- Data collection
- Continuous improvement process
- Communication plan
- Training plan to support QI/QA
- Management review of the QI/QA plan to ensure it remains relevant

On average, SFD responds to a total of 39 EMS calls per day (2022 data). Of those calls, the EMS PTCs perform spot evaluations of every electronic Patient Care Report (ePCR) to ensure that documentation standards are met or exceeded, appropriate treatment is rendered, and performance objectives are met.

In addition to the spot evaluations, 5% of patient refusals, also known as Against Medical Advice, are reviewed since these have a higher associated risk. SFD uses ESO (ePCR) for patient outcome data. The patient outcome data is limited to field assessments and treatment by SFD or AMR. Moreover, local hospitals or LEMSA do not consistently provide patient outcome data back to SFD personnel. For audits of ePCRs to be effective, feedback to field crews should be provided and followed up by ranking members of the organization. Dr. Ramos participates in the annual and quarterly QI/QA reviews, provides training, direct observation and input on ride-a-longs, and has critical conversations with the fire department and county stakeholders.

Unfortunately, patient complaints are inevitable, and SFD has a system in place to address complaints while using the opportunity for training and performance improvement. Additional consideration should be given to creating a feedback loop to measure the success of provided feedback.

System Integrity Regarding Required Credentialing

As a minimum job requirement, SFD requires that a candidate possess a current valid California Driver's License, high school diploma, EMT certification, and CPR certification. Regardless of rank, every firefighter possesses an EMT license issued by California State EMSA. Of the 91 sworn operations personnel employed, 28 are licensed EMT-Paramedics.

At a minimum, EMTs must earn 24 hours of Continuing Education (CE) specific to their skill set and established scope of practice, including the expanded scope of practice allowable in each county. SFD achieves this by offering in-house training that is scheduled, facilitated, or taught by subject matter experts within the organization, usually by their EMS training captain or the PTC.

State regulations require paramedics to earn 48 hours of CE, which is achieved parallel to the EMT's CE hours. In-house training includes all on-duty personnel and is a value-added service to the EMT members as the subject matter is often taught at the ALS level, thereby raising the level and competency of BLS medical care throughout the organization.

SFD manages and tracks required training hours using the online Learning Management System (LMS) Vector Solutions. Vector Solutions allows an agency to set up a "credentialing" system to track and manage required training hours. On the other hand, paramedic licensure is completed through the California EMSA. Each paramedic must apply and certify that they have met or exceeded the 48 hours of CE requirement.

Many non-required advanced-level training opportunities exist for paramedics, such as Prehospital Trauma Life Support (PHTLS), Advanced Cardiac Life Support (ACLS), and Pediatric Advanced Life Support (PALS). These are not required as a condition of employment but enhance the emergency medical services to the community. SFD provides this training through a third-party contracted vendor.

The next figure shows that SFD achieves 1,476 continuing education training hours annually.

Figure 82: Required & Supplemental Training

CME	EMT	Paramedic
EMT (24 Hours, required)	X	
Paramedic (48 Hours required)		X
ACLS (specialty)		X
PHTLS (specialty)		X
PALS (specialty)		X

Mobile Integrated Healthcare Program

Mobile Integrated Healthcare (MIH) is an alternative approach to handling low-acuity calls. It is on the leading edge of fire-based EMS and should be considered the future of emergency medical services. Rising call volumes require utilizing alternative treatment modes and transport options.

In an open letter to the California State Medical Director, the Ambulance Association of California listed six items (Ambulance Patient Off-Load Time, or APOT, ambulance age requirements, tiered response, telehealth, expanded licensing, and approval of more training programs) that are causing poor performance in some of their contracted areas. Three of those issues could see significant relief with an MIH model. California is experiencing a need for alternative, better, and innovative ways to respond to and treat low-acuity patients.

AP Triton will discuss three alternative models with viable solutions for integrating MIH into a system in California and, specifically, Salinas. Fire departments nationwide are experiencing a drastic increase in response to patients experiencing homelessness and psychiatric (behavioral) emergencies. Although these call types are not explicitly considered MIH, there are potential options that can assist in addressing this growing problem.

Although there are many variations of provider-led responses currently being used, the following three programs in California and surrounding states are successful deployments: Community Paramedicine (CP), Advanced Practice Provider (APP) Care Units, and Responder-led Telemedicine. Each of these programs has unique qualities that can serve the residents of Salinas in different ways while maintaining excellent patient care, flexibility, and sustainability. The following briefly describes each model and shows an example of current departments with working programs.

Community Paramedicine

A Community Paramedicine (CP) program would free up emergency response units to be available for higher acuity calls while addressing the community's needs. CP programs are considered the next step in delivering cost-effective, efficient patient-centered care.

The concept trains paramedics currently working in the field on the safe treatment and care of patients with low-acuity illnesses or injuries, and has them develop strategies to get the patient to the most appropriate receiving center for proper treatment (e.g., Urgent Care Facility, Behavioral Health evaluation facility, sobering center, etc.).

> *"The Affordable Care Act (ACA) was designed to reform the health care system with expanded eligibility for coverage, reduced out-of-pocket costs for health plan consumers with lower incomes, and coverage with essential benefits that include no- or low-cost preventive care. A key principle of the ACA is the so-called "triple aim" framework developed by the Institute for Healthcare Improvement, which determined that healthcare managers should:*
>
> 1. Improve overall patient care, quality, and satisfaction
> 2. Enhance the health of populations
> 3. Reduce per capita health care costs

Recognizing that the spiraling cost of health care was not translating to better patient outcomes and that a well-trained workforce was available to provide more effective care in the community, the California EMS Authority launched the California Paramedicine Pilot Project in 2014.

The objective was to evaluate the feasibility of paramedics expanding their roles beyond emergency response. In all, 53 California cities received various nontraditional services from community paramedics, including hospice support, post-discharge care, direct observation of daily tuberculosis treatment, and transportation to alternative non-emergency sites such as sobering centers, urgent care centers, and psychiatric facilities. The Healthforce Center at UCSF analyzed the project.

It concluded that community paramedics collaborated effectively with numerous healthcare partners, provided services safely and efficiently, reduced medically unnecessary transports to hospital emergency departments, and saved more than $3 million during a short time span."[12]

Community Paramedicine Toolkit

CP is a critical EMS model in managing low-acuity medical aid calls, emergency response, transporting patients to an appropriate facility, and reducing the burden on local hospital emergency departments. California EMSA, in collaboration with the EMS Administrators' Association of California (EMSAAC), the EMS Medical Directors Association of California (EMDAC), the California Fire Chiefs Association (Cal Chiefs), the California Ambulance Association (CAA), the California Professional Firefighters (CPF), and the CARESTAR Foundation has embraced CP programs like many other states and created a Toolkit for implementing a CP program. The purpose of the toolkit is threefold:[13]

1. Reduce the burden on individual partners to create programs from scratch
2. Decrease duplication of effort across the state
3. Enhance CP program participation and approval efficiency

This toolkit is designed to serve as an optional resource for use with Chapter 5 of the California Code of Regulations—Community Paramedicine and Triage to Alternate Destination Regulations. It does not replace the regulations. Use of this toolkit is optional.

The toolkit produced a starting point for new programs in CP and existing programs to align with new regulations found in Assembly Bill (AB) 1544. The toolkit is broken down into eight steps to bring the provider and the LEMSA in alignment in the development of a program:

- Step 1—The Planning Process
- Step 2—Identification of the Community need and Recommended Solutions
- Step 3—Program Medical Protocols and Policies
- Step 4—Service Provider Approval
- Step 5—Collaboration with Public Health or Community Resource Entities
- Step 6—Curriculum for Program-Focused Training
- Step 7—Program Review & Approval Process
- Step 8—How to Evaluate the Program

The toolkit contains critical information relative to the planning process, identifying community needs and recommended solutions, medical protocols and policies, service provider approval requirements, collaborative efforts with public health and community entities, program training curriculum, program review and approval process, and how to evaluate the program. It should be reviewed before the implementation of any CP program.

In essence, the passage of AB1544 governs the implementation of community paramedicine or triage to alternate destination programs by local EMS agencies in California. Notably, the bill provides that public safety has first right of refusal for community paramedicine programs and requires that all ALS providers have an opportunity to participate in triage to alternate destination programs.

Within the context of CP, the City Manager and Fire Chief have been working closely and collaborating with the County of Monterey to create a Mobile Crisis Unit. The City is evaluating third-party contractors to supplement any City resources in the fire and police departments to form a service model to pilot in calendar year 2024. A variety of options are being explored. For example, the City is considering Quick Response Vehicles (QRV), or City-owned ambulances that could enhance a Community Paramedic/Mobile Crisis response program.

Advanced Practice Provider Care Unit

Advanced Practice Provider (APP) Care Units have are a viable and successful alternative in several California fire departments, including Anaheim Fire and Rescue, Beverly Hills Fire Department, and Los Angeles City Fire Department. These programs combine Advanced Practice Providers (i.e., Nurse Practitioners or Physician Assistants) with first responders to low-acuity medical calls to "treat and release" or "treat and refer" patients.

A significant difference between an APP Care Unit and a Community Paramedic Unit is the ability to make physician-level decisions in the field, including but not limited to writing prescriptions, referring to other physicians, referring to alternate destinations, and scheduling follow-up visits when necessary. An APP can respond to a low-acuity injury, suture the patient, prescribe antibiotics, provide the patient with care instructions, and make a follow-up appointment to remove the sutures in five days.

For this same example, in a system without an APP Care Unit, the patient would be transported to the ED for assessment and treatment. However, with an APP Care Unit, the patient would receive an evaluation and all appropriate treatment and follow-up care from the comfort of their home. These programs have successfully treated various low-acuity medical aids without transporting the patient to the hospital. The Beverly Hills Fire Department, is one of several departments leveraging the APP model and taking patient care to the next level.[14]

> *The City of Beverly Hills Fire Department (BHFD) is proud to announce the launch of its Nurse Practitioner Program. The program is a unique and innovative Emergency Medical Service (EMS) model designed to deliver advanced, efficient, and effective healthcare in the pre-hospital setting.*
>
> *BHFD's vehicle, 'Nurse Practitioner 1' (NP1), will respond to calls for service in the field. Staffed with a Nurse Practitioner and Firefighter Paramedic with oversight from a board-certified Emergency Medicine physician, NP1 is equipped with various medications, select laboratory diagnostics, and technical medical equipment.*
>
> *Whether responding to 911 calls or following up on 'in-home' patient referrals, NP1 will provide mobile urgent care and collaborate with primary care providers to optimize more excellent long-term health and wellness within our community.*
>
> *With a focus on improving patient outcomes and connecting healthcare resources to patients' specific needs, the program defines the future of Mobile Integrated Health.*

Using the Beverly Hills Fire Department as an example, at the time of dispatch, calls are screened by a trained Emergency Medical Dispatcher (EMD) to identify non-emergency patients who meet the classification of an "Alpha" or "Bravo" (low-acuity) level call. Clinically appropriate, legally compliant, and pre-determined dispatch protocols are created in collaboration with the department's Medical Director and would be followed.

If applicable, the APP Unit is then dispatched to the patient location to provide on-site evaluation, treatment, and coordination of care and referral. A paramedic-level response can be determined when the APP Unit crew evaluates the patient and identifies that ambulance transportation to the emergency department is appropriate. Conversely, as an option, the APP crew could be called by an emergency fire department unit on the scene post paramedic assessment if the paramedic determines that the patient is a good candidate for treatment by the APP Unit.

An APP response dramatically benefits the community and offers a practical, appropriate alternative in addressing low-acuity calls for service. This unique response model aims to reduce total costs to the overall healthcare system and deliver relevant and timely healthcare service on the scene, thereby preventing costly transport to the emergency department.

With an unlimited supply of funding, programs like an APP program could provide added value service to the department, yet rarely is funding unlimited or unmeasured. An APP response model uniquely utilizes Nurse Practitioners or Physician Assistants, who can bill for their services, regardless of transportation. There is also a partnership possibility with local hospitals to share personnel, and residents released in Salinas could be followed up on to reduce or prevent re-admittance to the hospital.

First Responder Telemedicine

Among the three models discussed, First Responder-led Telemedicine is the newest and has emerged as a popular option with several agencies during the COVID-19 era. Under specific guidelines, following an initial medical assessment, the patient may have the opportunity for a Telemedicine (virtual) consultation with a medical practitioner. This could be either someone stationed at an emergency 911 dispatch center or a contracted medical professional available on-call.

In the wake of the COVID-19 pandemic, the landscape of medical consultations has undergone a transformative shift. Virtual meetings, conducted through platforms like Zoom and Microsoft Teams, have become the new standard for interacting with healthcare professionals. The use of iPads and other mobile devices for these consultations has transcended from being a mere convenience to a widely accepted norm. This change marks a significant departure from pre-pandemic practices, reflecting the nation's adaptability and the evolving nature of healthcare delivery.

In this model, first responders would initiate a Telemedicine appointment. Telemedicine positively impacts the entire medical health system by providing first responders without delay who can evaluate the patient to determine the proper care plan, in this case, care provided by a telemedicine professional. The paramedics or EMTs would remain on the scene to relay pertinent medical information and findings to the telemedicine professional who would interview the patient to determine the best treatment plan and follow up to ensure the best outcome for the patient.

After a thorough telemedicine interview and patient assessment, the medical professional and patient would determine the next steps: transporting the patient to the hospital via ambulance; referring the patient to a clinic or urgent care center for treatment; advising them to contact their physician; or having the patient remain at home and monitor themselves.

In addition to the final resolution, the telemedicine physician could place prescriptions at the patient's pharmacy, provide medical records to the physician, or reassure the patient and provide a care plan. These calls are typically triggered in the emergency dispatch center at the "Alpha" or "Omega" dispatch level (low-acuity).

The Contra Costa County (California) Fire-EMS Alliance with AMR contracted with a new Tele911 company in November of 2021 to help deliver this unique and innovative solution to the growing needs in the field.

> *"CCCFPD is working with Tele911 to help make the system more efficient and increase readiness for emergency calls. To accomplish this goal, Tele911 integrates telemedicine and patient navigation into the EMS system to better serve Contra Costa County patients and place much-needed resources back into the system."*[15]

Telemedicine typically uses existing ALS resources and equipment to administer the program, so costs are low. However, there could be impacts to the overall system. Delays exist when organizations keep an ALS unit on the scene while a Physician group is contacted and a thorough medical exam is performed. This, along with other factors, requires further research to determine the impacts on SFD if a Telemedicine program were to be initiated.

Training & Continuing Education Program

Training Methodology

Training refers to the specific programs, resources, and capabilities of the personnel within a fire department. A training program should be comprehensive based on the department's needs and is an integral part of day-to-day activities. Proper training is designed to provide for the safe and effective delivery of emergency services to the community and is extremely important for all departments, no matter the size or make-up (career, volunteer, or combination) of staffing levels.

Although the number of incidents varies from jurisdiction to jurisdiction, the types may be similar. Developing initial and maintaining ongoing fire, EMS, rescue, and hazardous materials training is critical for SFD to be effective and safe during an incident. A well-designed and comprehensive training program creates team dynamics, cohesiveness, improved incident outcomes, and can lower liabilities for SFD.

The National Fire Protection Association (NFPA) has created several standards relating to the training and certification of fire personnel. These standards are designed as minimum recommendations for Firefighters, Fire Officers, Prevention Staff, Fire Investigators, Public Education staff, and various other position-specific personnel. SFD meets several of the recommended standards, as well as requirements set forth by State Fire Training (SFT), a division of the California State Fire Marshal's Office, the California Occupational Health and Safety Administration (Cal OSHA), the California Department of Motor Vehicles (DMV), and recognized standards outlined within the National Wildfire Coordinating Group (NWCG) curriculum for the department's response to wildland and interface incidents. In addition, SFD utilizes policies and procedures developed and adopted by the department. At the time of this report, standard operating guidelines (SOGs) have been developed but have not yet been issued department-wide.

To deliver a comprehensive training program, fire departments must have access to certified and qualified instructors and resources. These resources are typically found within the organization, externally with regional partners, through contract services, or a combination of all three. SFD can utilize six department members registered with State Fire Training who can instruct various didactic and manipulative courses. Two other members are currently obtaining State Fire Training certification to instruct State Fire Training Driver-Operator 1A and 1B courses.

Training Program Management & Scheduling

SFD assigns a Battalion Chief to oversee its Training Division, which includes the development, delivery, and recordkeeping of fire and EMS-related curriculum, including general and mandated courses required by local, state, and federal regulations. Training requirements are captured within the SFD Policy Manual, Chapter 8 for suppression training, and Chapter 7 for EMS training.

In addition to the Training Battalion Chief, one Fire Captain on each platoon is assigned (per the City of Salinas & IAFF 1270 MOU) to assist the Battalion Chief in coordinating and delivering various training subjects. Each of the Training Coordinators maintains this assignment for four years[2]. A fourth Captain is assigned as the EMS Officer, coordinating training and record-keeping for the department's EMS program. This position is not a direct report to the Training Battalion Chief.

The following figure reflects general training competencies for SFD.

Figure 83: General Training Competencies

Program Description	SFD Source
Incident Command System (ICS)	Cal OES/CSTI/FEMA 100, 200, 300, 700, 800
Personnel Accountability	SFD Task book(s), NFPA-101(various), SFD Policies, Vector Solutions
Basic and Advanced Firefighting	SFT / Vector Solutions
Wildland Firefighting	NWCG RT-130 (annually), CICCS ENGB, STL, SO, Single Resource, Driver-Operator
Rescue (Basic)	SFT, Local/County SOGs
Safety Procedures	SFD Policies/SOGs, IIPP
Emergency Medical Services (EMS)	Local and State Protocols, SFD Policies / SOGs
Hazardous Materials	HazMat FRO (CAL Fire / CSTI)
Vehicle Extrication	SFT / Vector Solutions
Driver-Operator	SFT Driver-Operator-1& 1B / SFD Task Books
Radio Use, Dispatch Procedures	SFD Policies / Vector Solutions
Use, Safety, & Power Equipment	Vector Solutions
Use, Safety, and Care of Small Tools	Vector Solutions

The Training Chief is responsible for developing an annual training plan and a multi-year calendar. These documents are available to all personnel within the Vector Solutions training platform. Topics of scheduled training vary but include manipulative, instructional, and computer-based subject matter using formal lesson plans produced in-house or through commercial vendors, task books, and other topics based on SFD policies, procedures, and SOGs. In addition, safety is a priority for SFD personnel. It is discussed before each training session or drill and at post-incident analysis (after-action reviews [AARs]) conducted with all personnel following significant incidents.

The following figure reflects the training drill type and frequency for the SFD.

Figure 84: Drill-type & Frequency

Drill-Type	Frequency
Manipulative skills exercised	Monthly
Inter-station drills	Monthly
Multi-company drills	Quarterly
Night drills	N/A
Disaster drills	Annually (Active Shooter, MCI)
Pre-incident planning	On-shift varies / Required for Probationary firefighters
Multi-agency drills	N/A

SFD does not routinely participate in suppression-based training with neighboring agencies; however, technical rescue and hazardous materials team members train with allied agencies regularly.

Training Budget

SFD has a training budget of $165,000 to pay for the training building, in-house training courses, tuition for select, outside training opportunities, and other industry-specific training, such as technical rescue and wildland firefighting. The lease for the training building is $60,000 per year.

Training Hours

SFD breaks down its respective training hours into five main categories:

- Company Training
- Driver Training
- Officer Training
- Hazardous Materials Training
- Facility Training

In 2022, SFD trained 90 career personnel, with each receiving approximately 220 hours of instruction. The following figure shows training hours logged into the Vector Solutions records management system for the year.

Figure 85: SFD Training Hours (2022)

Training Type	Hours
Fire-related	19,800
EMS-related	1,476
Total Hours (Approximate)	21,276

Career Personnel Training

In addition to mandated training for career personnel, based on the drill type and frequency, as noted above, new firefighters are required to successfully pass an in-house academy. Although the City of Salinas minimum requirement for new firefighters is possession of a Firefighter-1 certificate and an EMT certificate, recruits must complete a 12–16-week in-house academy based on SFD's need to build upon pre-existing skills, familiarize new personnel with SFD apparatus, equipment, agency-specific policies and procedures, and to acclimate firefighters to the geographical boundaries of the SFD.

Following the successful completion of the academy, each firefighter is issued a task book listing various proficiencies needed to be completed. At the time of this report, additional task books, including an Engineer's Task Book, were made available (as of October 1). An Officer's Task Book is currently being created, per the SFD 2023 Training Plan.

SFD uses a "progressive lessons" approach for all personnel pertaining to skills performance evaluations. All personnel must demonstrate skills in a variety of manipulative evolutions on an annual basis. These evaluations are not designed to be punitive but to ensure that personnel maintain the proper skills needed to complete their mission.

Training Facilities & Resources

SFD Fire Station 3 serves as the department's training center. This report's Facilities Section notes that the training center has several props, including roof props (commercial, flat, and residential), a large, multi-room concrete structure used for firefighting operations, and search and rescue drills.

A multi-story training tower is used for firefighting operations, rescue, and roof-top evolutions. However, due to the age and condition of the tower, live-fire activities cannot be performed. Additional props include a firefighter-entangled prop, a rolling hose prop, roll-up door prop. The training center also houses various apparatus, including a decommissioned ladder truck for driver training.

Most of the department's manipulative training is conducted at the center. Instructional training (including fire academy courses) is delivered in the classroom adjoining the fire station. The classroom is large enough to host approximately 30 people and has adequate, modern equipment to deliver courses.

At the time of this report, SFD is designing a new training facility for training needs, such as a new training tower and modular classroom.

Training Records

Training records and fire/EMS certifications are tracked and maintained electronically by the SFD Training Chief and Training Captains using the Vector Solutions platform. All career personnel have the authority to enter individual training records and access their respective training files.

Life Safety & Public Education

Code Enforcement & Permitting

A primary component of any risk reduction program is to provide a comprehensive fire and life safety inspection and permitting process. The goal is to prevent or mitigate a fire or injury before it occurs. A Fire Marshal, three full-time Inspectors, and one part-time Inspector staff the Fire Prevention Bureau for SFD. The inspectors use mobile devices for fire inspections. The Inspectors lack a career path, which can result in their leaving for other jurisdictions.

The Fire Marshal is also responsible for vehicle maintenance, apparatus equipment and maintenance work group, vehicle purchasing, fireworks, attends the development review committee meetings, collaborating with the City's general plan update, assisting with the local hazard mitigation plan annex, and is responsible for emergency planning and operations in Salinas.

Building Plan Review

The review process provides information on how the construction may affect SFD's access to the building during an incident, the type of construction, the need for fire protection systems, or a change of use.

Plan reviews should begin when the initial concept is presented for permitting. The initial review allows the fire department to provide suggestions and enforce existing requirements before permitting. For example, the site plan should include fire department access, fire department connection location if a sprinkler system is present, size and height of the building, water supply, hydrants, emergency radio coverage, or other features that impact emergency responders.

Proper permit applications and processes are necessary to assist the contractor when submitting plans for review and ultimate approval. Reviewing construction plans allows fire service representatives to ensure code compliance for existing fire sprinkler and alarm systems, emergency lighting, or other processes. In addition, a permitting system lets the organization change plans if they do not meet code requirements before construction begins.

The Permit Services Department manages all plan reviews for new or existing construction for the City of Salinas. SFD conducts plan reviews for all fire protection systems associated with the building and approves the permit. In March 2023, a new electronic submittal process was implemented to improve customer service. Avolve ProjectDox allows the electronic filing of plans, and the permits can be issued remotely.

Fire & Life Safety Inspections

Inspections of commercial buildings and properties allow SFD to educate the public and business owners about why the violation is a safety concern. Fire and life safety inspections utilize three of the *Five E's*—education, engineering, and enforcement. Each of these provides a method to reduce risks through mitigation or prevention.

SFD is not meeting the state-mandated inspection schedule, which does not allow other non-required occupancy types to receive an inspection. State-mandated inspections focus on higher-risk occupancies, but a defined schedule ensures that all businesses receive periodic inspections.

An example of buildings not receiving an inspection is the *Ghost Ship* fire in Oakland, California, which killed 36 people. The fire occurred in a repurposed warehouse without proper permitting. The building had not been inspected in 30 years and was not listed in the department's record management system.[16] Without these buildings receiving periodic inspections, life safety violations may exist without the knowledge of code enforcement officials and responding operations staff.

Although California has no requirements to inspect all occupancies, the following figure provides examples of occupancy types and the associated risks for determining when commercial occupancies should be inspected. It is recommended that SFD develop a schedule to conduct inspections of all occupancies or businesses in the city.

Figure 86: Occupancy Classifications

Risk	IBC Group	Examples
High	A-1, A-2	Nightclubs, restaurants, theater, airport/cruise ship terminals
	A-3, A-4, A-5	Arenas, museums, religious
	H-1, H-2, H-3, H-4, H-5	Hazardous materials sites (Tier II)
	B	All government & public buildings, other office buildings over two stories
	E	Schools, daycare centers
	I-1, I-2, I-3, I-4	Hospitals assisted living centers, correctional
	M	Strip malls, closed-air shopping malls, big box stores
	R-1, R-3	Hotels, motels, dormitories, apartments, board & care facilities
	Special Risk	Railroads, interstate highways, airports
	(Target hazard)	Any building with life safety risk beyond the reach of preconnected hose lines > 200 feet
Moderate	B	Outpatient clinics, general business, offices <3 stories
	F-1	Fabrication or manufacturing of combustible materials
	M	Mercantile, free-standing
	I-2, R-4	Foster group homes, assisted living homes
	S-1	Storage of combustible materials, car repair facilities, hangars
Low	F-2	Fabrication or manufacturing of non-combustibles
	R-1, R-2	1- and 2-family dwellings, foster homes
	S-2	Storage of combustible materials
	U	Barns, silos, and other unclassified buildings

NFPA 1730, *Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education,* provides a minimum inspection frequency, as shown in the following figure.

Figure 87: NFPA Minimum Inspection Frequency

Occupancy Risk Classification	Frequency
High	Annually
Moderate	Biennially
Low	Triennially
Critical Infrastructure	Per AHJ*

*Authority Having Jurisdiction

To determine an estimated number of occupancies, SFD provided a list of business licensing totaling more than 19,000, which may include closed businesses. The number from SFD is 1,025. SFD needs to determine the number of inspectable occupancies to clarify this discrepancy and determine the number of inspectors necessary to implement the recommended inspection frequency.

Permitting & Fees

A permit system enables SFD to review plans or conduct inspections to meet code requirements. The fees associated with the permit or other types of inspection are designed to recover any costs for the plan reviews or inspections. Salinas has adopted a fee schedule for fire alarm and sprinkler systems, kitchen hoods, and alternative automatic fire extinguishing systems.

Other construction permits include underground fire service systems (fire mains and hydrants), fire pumps, cryogenic fluids, compressed gases, flammable and combustible liquids, hazardous materials, solar photovoltaic power systems, spraying and dipping operations, emergency responder radio coverage systems, and temporary membrane structures, tents, and canopies.

SFD should institute all operational permits required by the California Fire Code Section 105.6, and all additional fees collected should be used to add staff to the Fire Prevention Division. Currently, only a few of the operational permits in the fee schedule are being charged, such as propane tanks, open flame, special events, and hydrant use.

Fire Investigations

Fire causes may include intentional, unintentional, failure of equipment, an act of nature, under investigation, or undetermined. Documenting the types of ignitions is required by the National Fire Incident Reporting System (NFIRS) for all fires and is necessary for fire investigations.

Determining the origin and cause of fire allows SFD to develop prevention programs that reduce future incidents. Any program designed should use data to review the cause of the fire and show trends of potential problems within the community. Data such as name, age, and gender may identify a specific person or group to target prevention programs, such as a Juvenile Firesetter.

Engine company officers are responsible for fire origin and cause, except for an injury, death, or significant fire loss. Minimal fire investigation training is provided, and no staff has any fire investigator certifications. SFD does not track incendiary fires and should develop a process to determine the cause of each fire. This process will allow SFD to create programs to reduce fires based on how it started.

Fire & Life Safety Education Programs

Prevention or mitigation of unintentional injuries or fires is a critical function of a fire department. Educational programs provide the best opportunity to reduce fires and injuries in the community.

A fire and life safety program to reduce risks requires a coordinated approach and should include other partner organizations in the community that may provide the same or similar services. These partnerships allow SFD to become a community partner and build relationships to reduce risks. In addition, developing fire and life safety programs requires a continual review of incident data to determine the types and frequency of responses.

SFD provides limited fire and life safety education to the public, although the public education materials provided to the community are bilingual. During interviews, a partner agency in Salinas stated that there is insufficient public outreach and risk reduction in the city. The only identified programs include information provided to the schools, station tours, smoke alarm installations with the American Red Cross, and limited messaging on social media. The inability to reach the public and businesses in Salinas increases the risk in the community.

Data from fire incident reports show a well above the national average property loss per 1,000 population, which is discussed further in the Comparison of Fire Risk in Other Communities section. Because of the high fire loss rate and number of fires in Salinas, Triton recommends hiring a Community Risk Reduction Coordinator, in conjunction with the reallocation of the workload for the fire marshal, to develop fire and life safety programs to reduce community risks and provide a primary point of contact for outreach efforts. This position can coordinate with external agencies and other City departments focusing on similar risks.

Special Operations

Hazardous Materials Response Program

Hazardous materials (Haz-Mat) are found in every community, homes and businesses, and transported on roadways, by air, and by sea. Responding to actual or potentially hazardous materials incidents is one of the many tasks performed by SFD. Although these types of incidents are less common than other types, hazardous materials, if released, may cause harm to people, the environment, critical infrastructure, and property.

Firefighters responding to any situation involving hazardous chemicals or materials must have adequate training and proper personal protective equipment (PPE) to handle any such incident. All 90 SFD personnel are trained at a minimum to the Hazardous Materials, First Responder Operational (FRO) level, as well as Hazardous Materials First Responder Decontamination (DECON) level, certified by the State of California, and as required by the Code of Federal Regulations (CFR 1910.120[q]). In addition to FRO certification, SFD has 21 personnel certified at the Hazardous Materials Technician/Specialist level; 21 certified at the Weapons of Mass Destruction (WMD) level; and four certified as Haz-Mat Safety Officers. At the time of this report, the number of certified Haz-Mat Incident Commanders was not determined.

When responding to a hazardous materials incident, the primary responsibility of the first-arriving engine company is to secure the scene, identify the substance (if possible), and make proper notifications. This initial action ensures that the safety of the public and emergency responders is the foremost priority.

Should any hazardous chemical or materials incident exceed SFD's resource capabilities, a request is made to activate the multi-agency hazardous materials response team. This team is comprised of personnel from SFD, the City of Seaside, which provides two to four personnel, and the Monterey County Environmental Health Department. The Governor's Office of Emergency Services (Cal OES) has certified the countywide team to Type I.

SFD owns and maintains a dedicated response apparatus, HAZMAT-1, located at SFD Station 5. This apparatus, which Cal OES types as a Type-I vehicle, contains the necessary equipment for detection, monitoring, entry (including level A and B suits), decontamination, plume modeling, spot weather forecasts, and equipment for plugging diking, and spill containment. For team-deployment, the Seaside Fire Department responds a similar-type apparatus, HM-22, classified as a Type-II resource provided by the California Office of Emergency Services.

Each of the participating departments train weekly, averaging 144 hours per year, per member.

Technical Rescue Program

All SFD personnel are certified at the Awareness-Level in confined space rescue and trench rescue. The department is certified at the Operations Level for low-angle rescue operations and rescue systems-I. Training courses for these disciplines are provided internally and externally through courses sponsored by the State Fire Training, the California Specialized Training Institute, Rescue-3 International, and through didactic training using Vector Solutions, the department's training platform. SFD personnel complete approximately 4-8 hours of training monthly in various scenarios to maintain their technical skills. In addition, SFD personnel participate in annual confined space training consistent with the standards set forth by the Occupational Safety and Health Administration (OSHA) 29 CFR 1910.146. The required hours are included in the total training hours listed in the Training Section of this study.

SFD personnel are also certified at the Awareness Level for swift water rescue and flood rescue disciplines. All personnel are trained for shore-based rescue operations (beyond the NFPA Awareness Level) and are provided with PPE per industry best-practices. Four personnel are members of the FEMA Urban Search and Rescue Task Force IV from Oakland. The department supports these personnel during training and deployments.

SFD does not have a separate budget to support its technical rescue program. The overall budget for the Training Division ($188,000) includes training, purchasing, and maintaining the equipment needed to perform the various technical rescue responses, as noted in this report.

SFD has several up-to-date policies and procedures used for TRT response, including confined space, trench rescue, elevator entrapment, atmospheric monitoring, rescue rope inspections, and swift water response. SOGs for Special Operations were not available at the time of this report.

Section II:
COMMUNITY RISK ASSESSMENT

Description of the Community Served by SFD

Salinas is located in northern Monterey County, California, with a land area of approximately 23.5 square miles. With a population of 159,932, it is the largest city within Monterey County. The city is approximately 10 miles from the Pacific Ocean, which impacts the local climate, and is primarily on level ground. Native Americans inhabited the area until the early 1820s when the first settlers came to this part of California. The name Salinas is Spanish for salt marsh or salt flats. The city received its name from settlers in the 1850s from the original Rancho Las Salinas land grant.

By the mid-1800s, it became a center for agricultural products, which brought a Southern Pacific rail line to the city. The city became the county seat in 1872 and incorporated in 1874. By the 1920s, Salinas had the highest per capita income in the United States, and during the growing seasons, the number of telephone calls and telegraph messages exceeded San Francisco. During the 1920s, wealth from the agricultural community allowed many Art Deco architectural buildings to be constructed in the city, which remains today. This area now produces 80% of the lettuce and artichokes in the United States. The area has been named "*The Salad Bowl of the World*."

The number of farmworkers increased dramatically during the growing season, impacting the local economy. The population in Salinas is approximately 80% Hispanic, 12% white, and 6% Asian. The population considered impoverished is 14.2%, and those speaking a language other than English is 71.5%. The median household income is $67,914.

The City of Salinas has a Council-Manager form of government. The City Council approves the annual budget, establishes policies for the City, and appoints people to serve on boards and commissions. The non-partisan City Council has seven members—one mayor and six council members—and is the City's legislative body. The Mayor serves a two-year term, and the Council is elected by district and serves staggered four-year terms.

Review & Update of the 2019 CRA-SOC

The previous reports reviewed the demographics for Salinas and at-risk populations. The following information is an update from the 2019 report.

All Hazards Community Risk Assessment

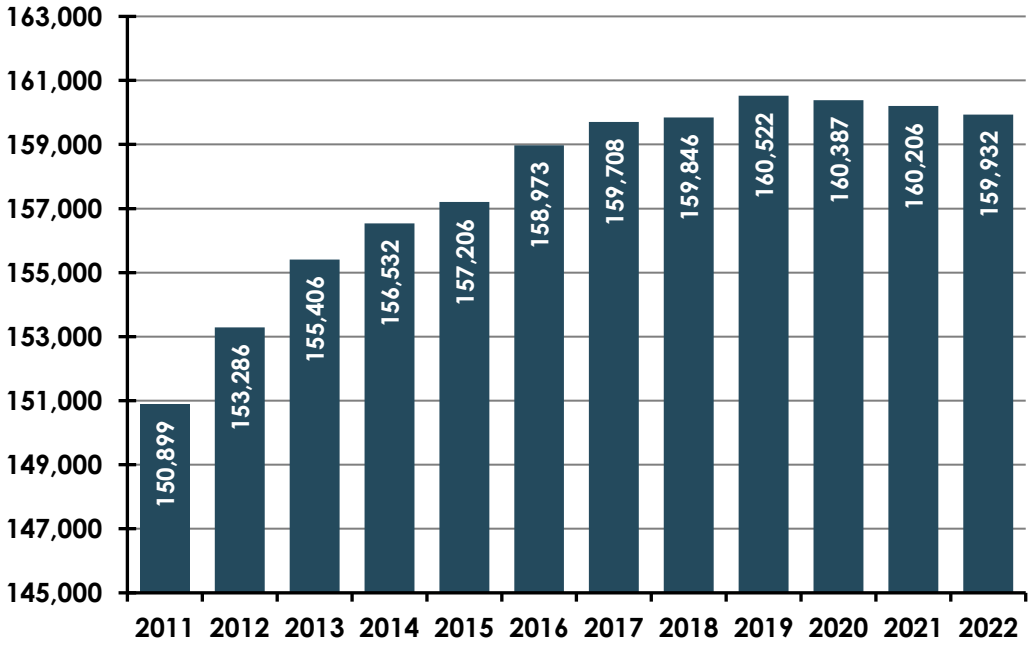
Population

The population and demographics can influence the type of services provided in a community. Social conditions such as poverty, the locations of high-risk areas, and housing types can impact the service delivery provided by SFD.

The city's population can directly affect the service delivered by SFD. Data from the California Department of Finance show a population of 150,899 in 2011, increasing to 159,932 in 2022, a growth rate of 6.1%. The highest population occurred in 2019 at 160,522, slowly decreasing to 159,932 in 2022.

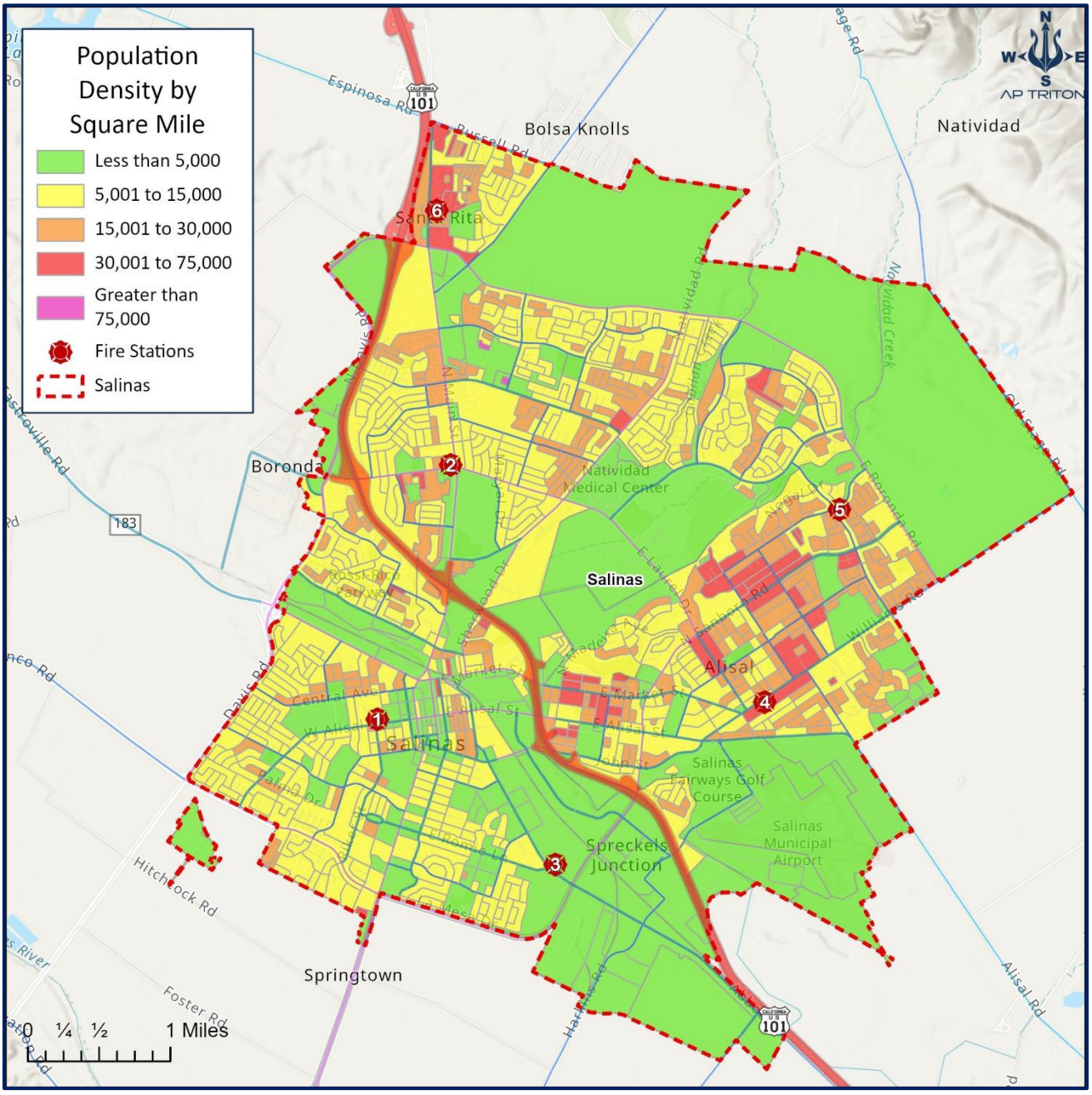
This decreasing population trend follows the state that has seen its numbers decline by more than half a million people since 2021.[17] The U.S. Census estimated the population in 2020 at 163,542. The below figure shows the population estimates from 2011 to 2022 from the California Department of Finance.

Figure 88: Population Growth (2011–2022)



The following figure population density by square mile in Salinas.

Figure 89: Population Density by Square Mile



Demographics

At-Risk Populations

Specific populations are at higher risk of fires and other unintentional injuries, and these incidents directly affect service delivery. The SFD response area is considered urban but includes other suburban areas, ranging from single-family homes, multi-family apartments, and commercial and industrial areas. The National Fire Protection Association (NFPA) has identified groups with an increased risk of injury or death from a fire, as indicated below.[18]

- Children under five years of age
- Older adults over 65 years of age
- People with disabilities
- Language barrier
- People in low-income communities

Data from the 2020 U.S. Census American Community Survey 5-year estimates identified several groups that fall into these categories. These groups are more likely to need emergency services, specifically emergency medical services (EMS), than other populations.[19]

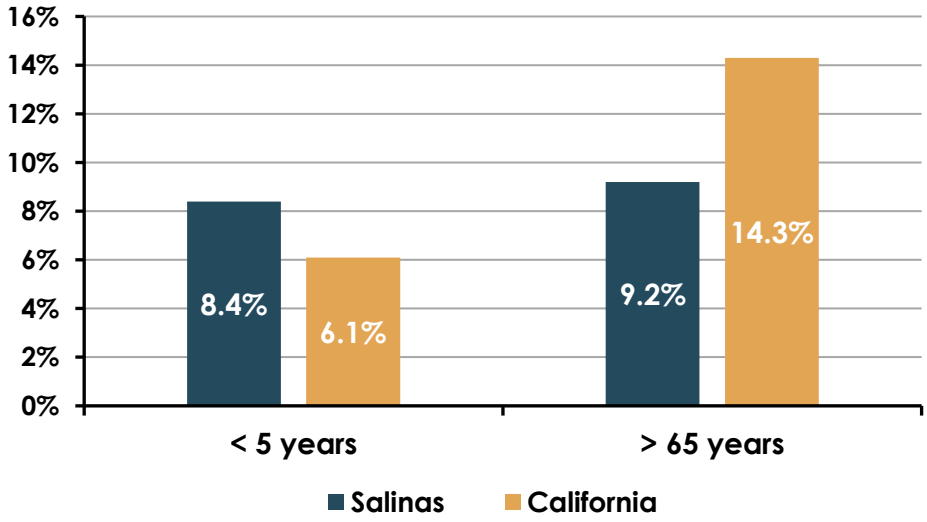
Age

A person's age within a high-risk population directly correlates to an increase in unintentional injuries and death or injury from a fire, while older adults have a 2.6 times greater risk of dying in a fire than the total population. These age risks increase service demand, specifically for older adults needing additional medical care.[20]

Children under the age of five are at more risk due to their inability to care for themselves and their need for additional assistance during an emergency. 2018 U.S. Fire Administration trend data indicate that this age group's relative risk of dying in a fire has dropped 30% in the last 10 years, credited to increased fire prevention and education.

The percentage of children under five in SFD's response area is 8.4%, slightly higher than in California at 6.1%. The population of those over 65 is 9.2% in SFD, lower than the state at 14.3%. The median age is 38.6 years, compared to the state median age of 36.7. The following figure shows the percentage of children under five years and those 65 years and older.

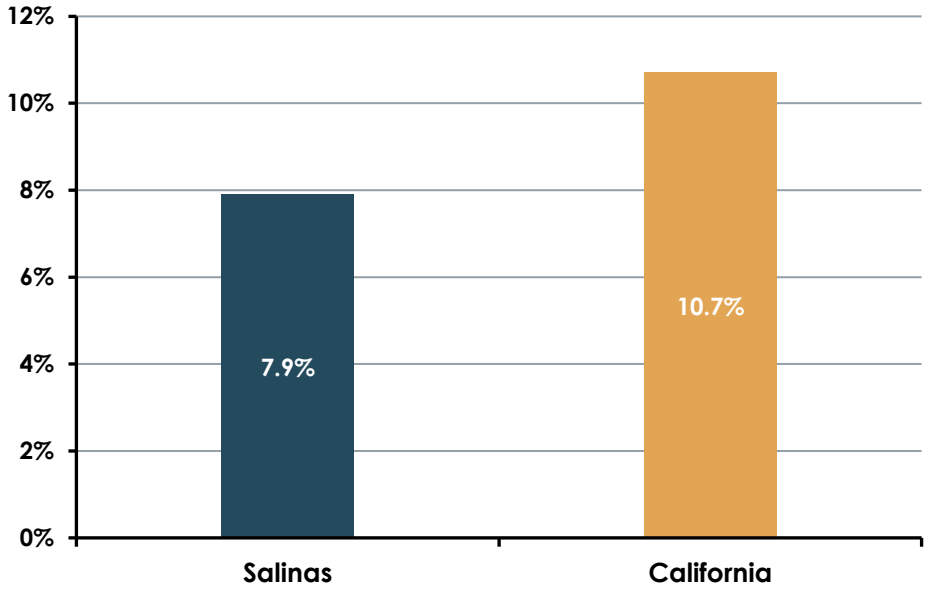
Figure 90: Populations by Age Risk



Disabilities

The residential population with disabilities is 7.9% in Salinas compared to the state at 10.7%. This population group may be unable to self-evacuate from a building during an emergency or need additional medical services because of disabilities. This may create additional demand for medical services, specifically as they age. The following figure depicts the percentage of households with a disability.

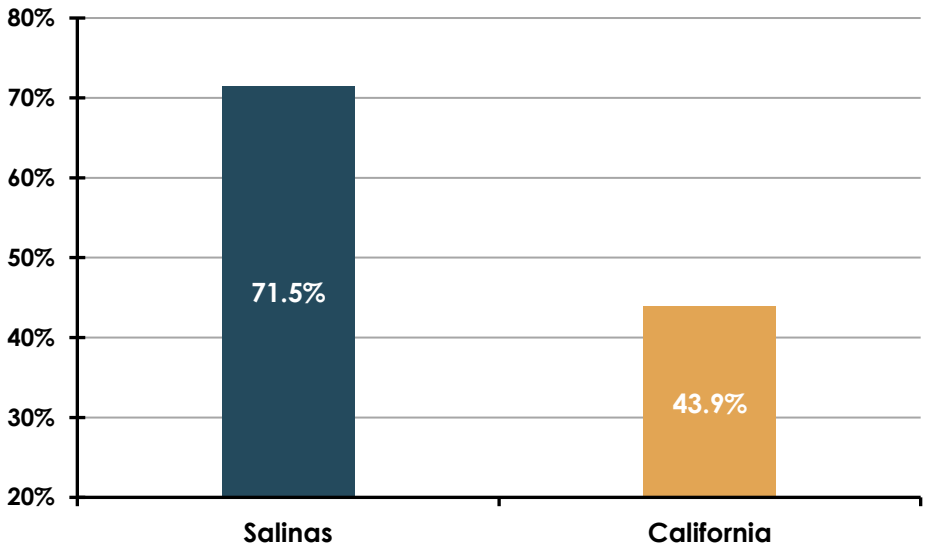
Figure 91: Percentage of Households with a Disability



Language Barriers

Emergency responders may have difficulty communicating with people speaking a language other than English. This population may not understand smoke alarm technology designed to provide early warning during a fire, increasing the risk of injuries or death in their home. The number of people over five who speak a language other than English in SFD is approximately 71.5%, which is much higher than the state at 43.9%.

Figure 92: Language Barriers



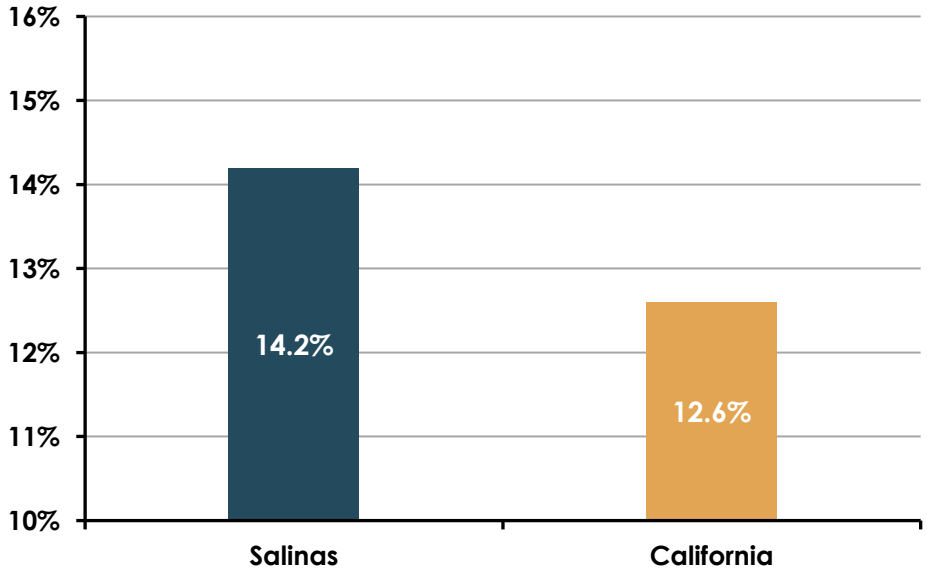
Poverty & Income

Low incomes increase the risks of fires and medical responses in the community. Living in a properly maintained residence or receiving adequate medical care can become difficult without higher incomes. People living below the poverty level are considered at the highest risk when combined with other factors such as education levels, disability, or inability to work.

Low income can lead to higher mental health impacts in the community. A report from the World Economic Forum states that depression and anxiety are nearly three times as likely in people with low incomes.[21]

Salinas's median household income is $67,914, lower than the state's $78,672. 14.2% of the population is considered impoverished, slightly more than the state at 12.6%.

Figure 93: Percentage of the Population in Poverty



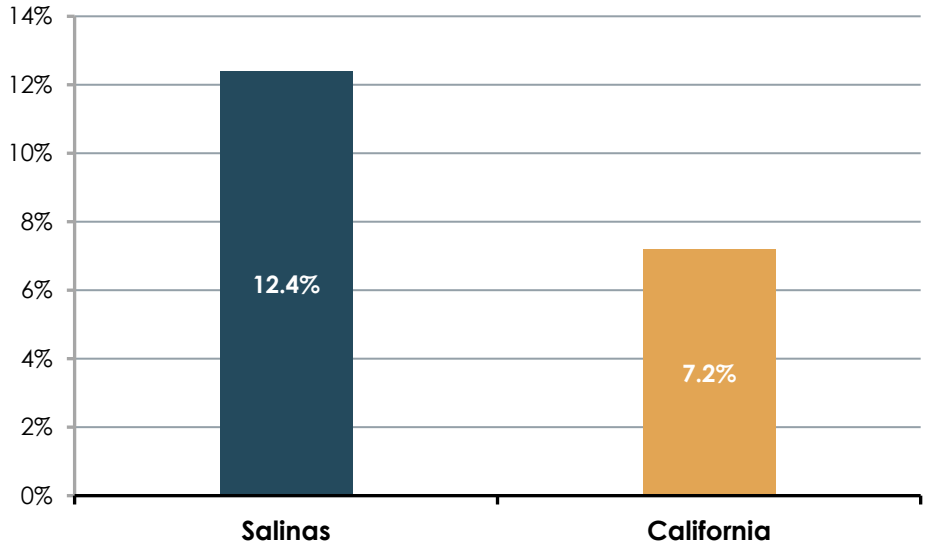
Additional Demographics

Persons Without Health Insurance

Populations without adequate health care can burden service delivery and increase the rate of medical incidents. Lack of health insurance may affect lower-income populations at a higher rate since they cannot pay for medical visits. 12.4% of Salinas's population is without health insurance compared to 7.2% in the state.

The following figure compares the percentage of people without health insurance.

Figure 94: Population with No Health Insurance



Farmworker Population

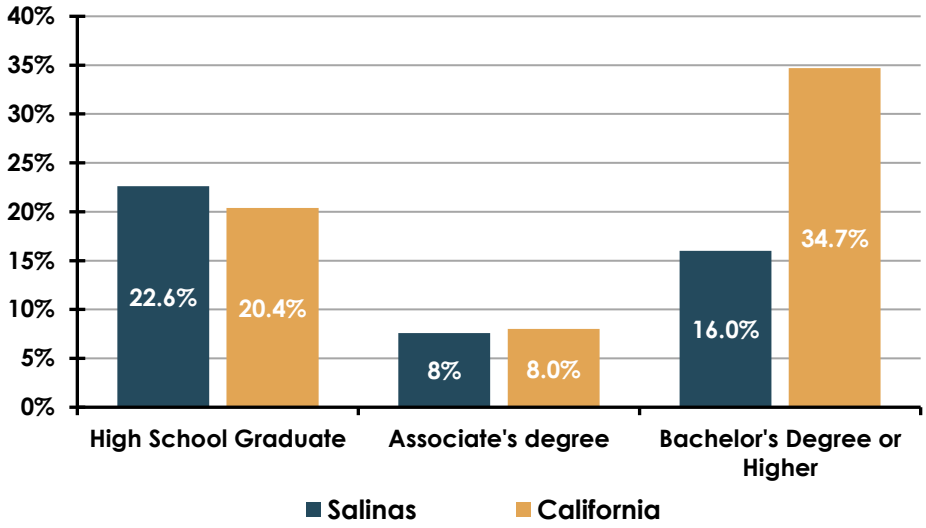
The number of farmworkers in Monterey County and Santa Cruz counties was estimated at more than 80,000 employed during a three-year period (2014–2016) in July. The number dropped by more than half in January. The average is over 60,000, a 24% increase from the prior ten years.[22] These individuals provide a sizeable economic impact on the community, but the high cost of living may cause these workers to live in overcrowded housing.

A survey revealed approximately two people per bedroom and one bathroom for every five. Education levels are low and most were born outside the United States. This population will impact the services provided by SFD and increase fire risks. Homes without smoke alarms place the residents at higher risk if a fire occurs while it is occupied, especially at night when they are asleep.

Education Levels

Educational attainment is not considered one of the at-risk populations but is recognized as another risk group when developing fire and life safety education programs. This group may fall into other categories, such as lower incomes and lacking health insurance. In Salinas, 22.6% of the population is a high school graduate compared to 20.4% of the state, while 16% have a bachelor's degree or higher compared to the state at 34.7%. The following figure provides information on the levels of education in SFD's response area.

Figure 95: Education Levels



Race & Ethnicity

Race is considered a person's identification with a social group, such as White, Black, African American, and Asian, while ethnicity identifies someone based on nationality, religion, language, or culture.

Figure 96: Race & Ethnicity

Description	Salinas	California
White alone	32.1%	71.9%
Black or African American alone	1.4%	6.5%
American Indian & Alaskan alone	0.8%	1.6%
Asian alone	6.4%	15.5%
Native Hawaiian & Other Pacific Islander alone	0.1%	0.5%
Two or more races	6.8%	4.0%
Hispanic or Latino (of any race)	79.2%	39.4
White alone, not Hispanic or Latino *	12.1%	36.5%

*White alone, not Hispanic or Latino are individuals who responded "No, not Spanish/Hispanic/Latino" and who reported "White" as their only entry in the race question. Data were sourced directly from the U.S. Census QuickFacts page.

Housing Characteristics

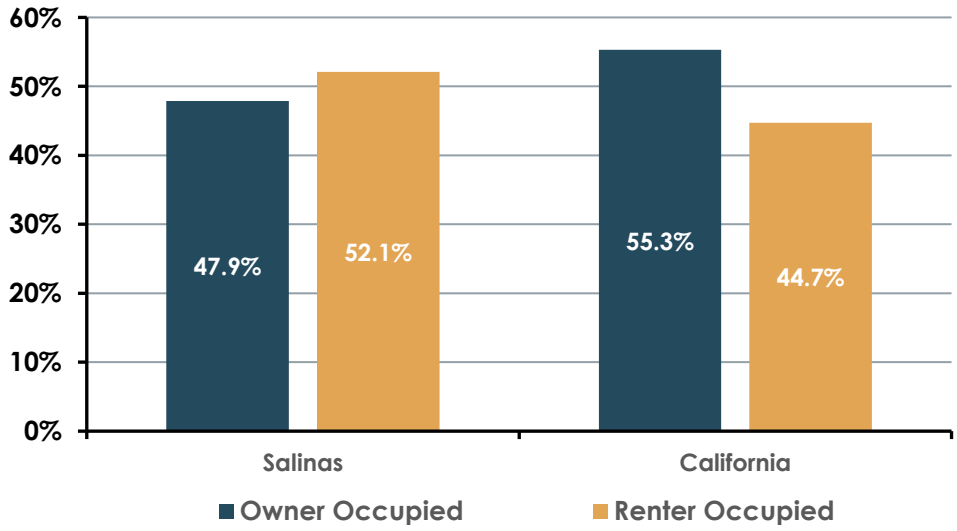
Housing types through a community can provide insight into ownership, the age of the home, and the number of units in the building. In the SFD response area, there are approximately 44,405 housing units, of which 1,242 are vacant. Vacant structures can pose risks for the fire department and community if the building is not secured to prevent entry. When buildings are not maintained, the structural integrity can degrade and present problems during a fire. Vandalism may create additional issues for the fire department and law enforcement.

Data from the NFPA state that from 2015 to 2019, 75% of the fire deaths occurred in homes, and 57% were male.

Housing Ownership

Homeownership in Salinas is 47.9% compared to the state at 55.3%. The next figure shows the percentage of owner and rented occupied housing in Salinas and the state.

Figure 97: Owner & Rental Occupied Housing

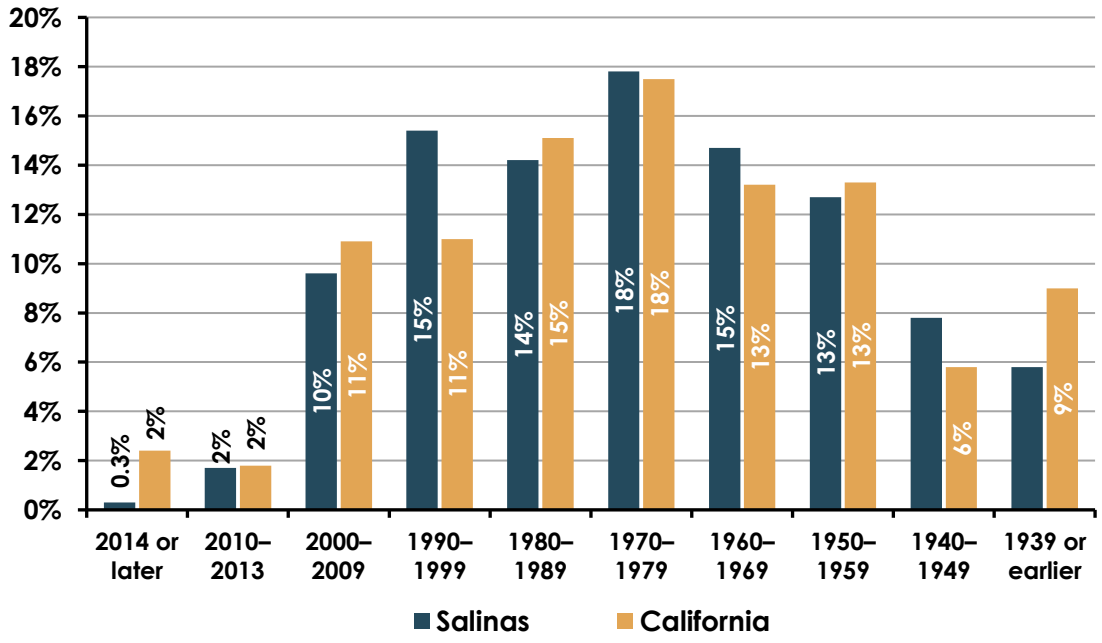


Age of Housing

As buildings age, the cost of maintaining the structure increases over time. Homes built before smoke alarm installation requirements create a higher risk if no alarms are present. 60% of the homes in the SFD response area were built before 1980, prior to most building code requirements for smoke alarm installations.

Working smoke alarms have reduced fire death and provided an early warning during the event of a fire. New codes now require smoke alarms for new residential properties in each bedroom, hall, and floor. The following figure provides the age of housing by decade in the SFD response area and the state.

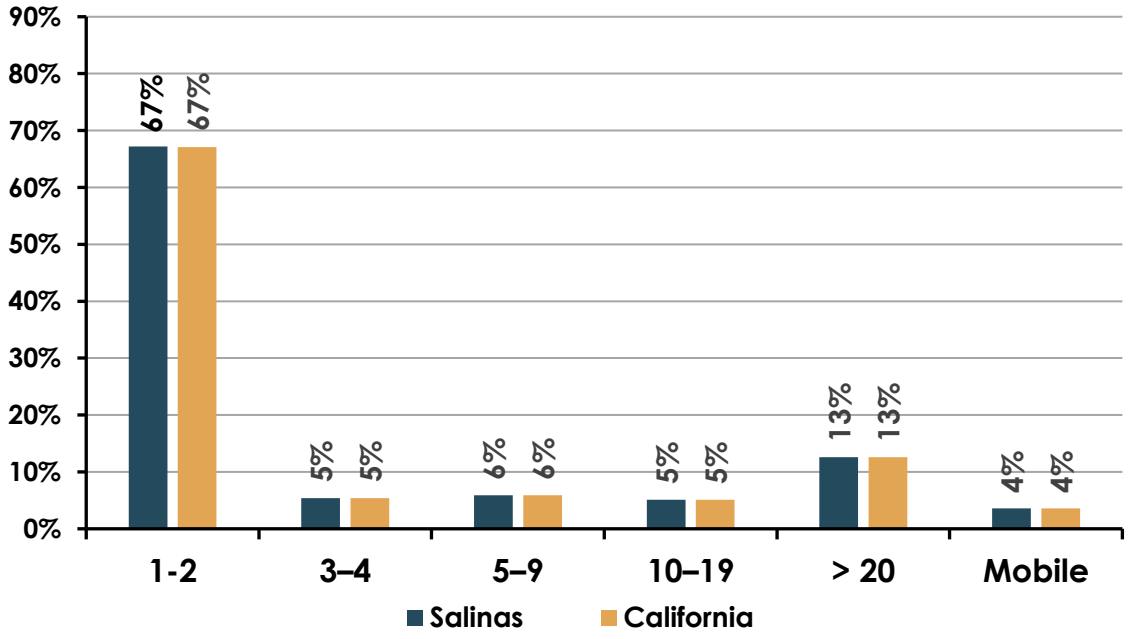
Figure 98: Age of Housing



Housing Units

The number of people living in one- or two-family dwellings within the SFD response area is 67%, the same as the state at 67%. The following figure lists the percentage of housing unit types.

Figure 99: Housing Units per Building



Risk Classification

Risk Assessment Methodology

Developing a risk score to determine risks in a community is necessary to provide an organization with a method for creating incident response protocols for an incident. The Three-Axis Heron model establishes a score by reviewing probability, consequence, and impact factors and assigning a score between 2–10 in each category.[23] A description of the incident types for each risk is in an appendix of this report.

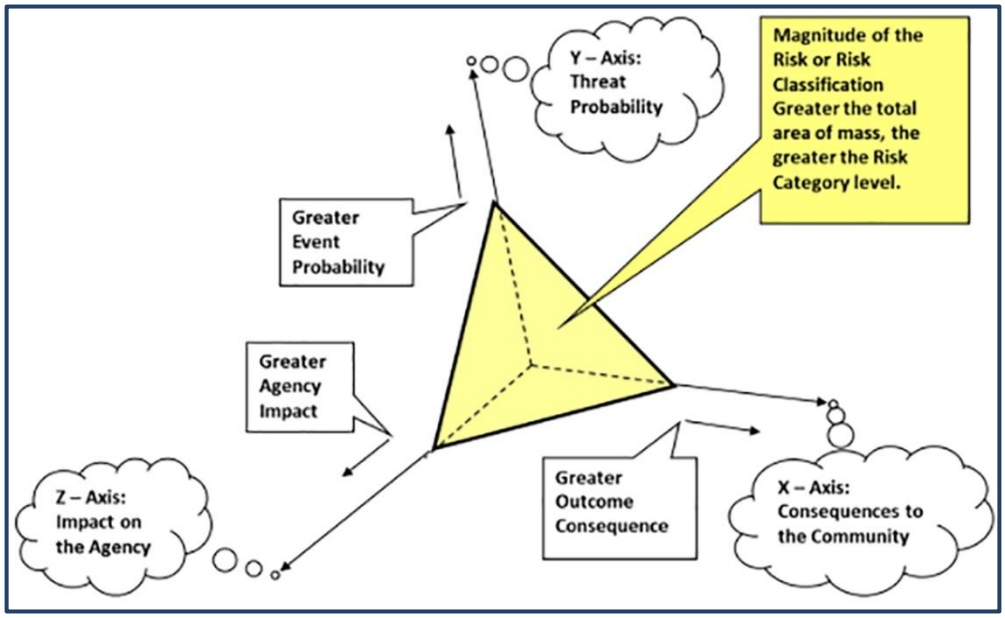
Use of the Three-Axis Heron Formula includes the following equation.

$$\text{Risk} = \sqrt{\frac{(P * C)^2}{2} + \frac{(C * I)^2}{2} + \frac{(I * P)^2}{2}}$$

The risk is graphically illustrated through a three-axis model as follows:

- **P** = Probability (Y-Axis)
- **C** = Consequences (X-Axis)
- **I** = Impact (Z-Axis)

Figure 100: Three-Axis Risk Classification Process



When developing the score, it should be recognized that each of the three scoring components is based on SFD incident data. An example of a low-risk fire response scoring is based on the probability of that type of incident occurring. Most low-risk incident types are frequent (occurring multiple times a day), but the consequence to the community and impact on SFD is low. The probability of a low-risk incident in SFD is 10 (high), while the consequence and impact are 2 (low). These numbers are placed into the above formula to create a score of 20.2. The score increases dramatically for maximum risk. However, the probability is low (2) because the consequence to the community is an 8, and the impact on SFD is the highest at 10, which gives a score of 59.4.

These scores are designed to provide information to SFD to determine the level of service for the community. The probability of an incident may affect response times if multiple events occur simultaneously. Even if the risk is low, a company is out of service for the response. The following information provides additional information on probability, consequence, and impact.

Probability

Probability is the likelihood of an incident occurring in the community over time. This axis reflects the probability of a particular type of incident occurring (contributing to the risk level). It can range from a rare event to one that occurs often. Many factors include the time of day, location, hazard present, the season of the year, building construction and maintenance, demographic factors, and more.

The following figure defines probability categories.

Figure 101: Probability or Likelihood of Occurrence

Score	Category	Probability or Likelihood
2	Minor	Unlikely: < 0.02% of total call volume. Expected to occur very rarely.
4	Low	Possible: 0.02%–0.07% of total call volume. Expected to occur rarely.
6	Moderate	Probable: 0.07%–0.3% of total call volume. Expected to occur monthly.
8	High	Likely: 0.3%–2% of total call volume. Expected to occur multiple times per week.
10	Extreme	Frequent: > 2% of total call volume. Expected to occur one or more times per day.

Consequence

The consequence of an incident can vary from minor casualties to severe impacts that may destroy historical or major facilities in the community and create a large loss of employment or life.

The following figure defines consequence categories.

Figure 102: Consequence to the Community

Score	Category	Consequence to the Community
2	Minor	1–2 people affected (injuries/deaths). < $10,000 loss.
4	Low	< 5 people affected (injuries/deaths). < $500,000 loss
6	Moderate	5–50 people affected (injuries/deaths). $500,000–$1,000,000 loss
8	High	50–100 people affected (injuries/deaths). $1,000,000–$5,000,000 loss
10	Extreme	> 100 people affected (injuries/deaths). > $5,000,000 loss

Impact

The third factor in determining the risk is the fire department's impact and the critical tasking needed to control or mitigate an incident. This includes the number of emergency responders and apparatus available, whether available internally or from external agencies. It measures the department's ability to respond to a given risk or incident while providing service to the remaining parts of the city.

The following figure defines impact categories.

Figure 103: Impact on Operational Forces

Score	Category	Impact on Operational Forces
2	Minor	≥ 90% Remaining Apparatus/Crews
4	Low	≥ 75% Remaining Apparatus/Crews
6	Moderate	≥ 50% Remaining Apparatus/Crews
8	High	≥ 25% Remaining Apparatus/Crews
10	Extreme	< 25% Remaining Apparatus/Crews

Fire Response

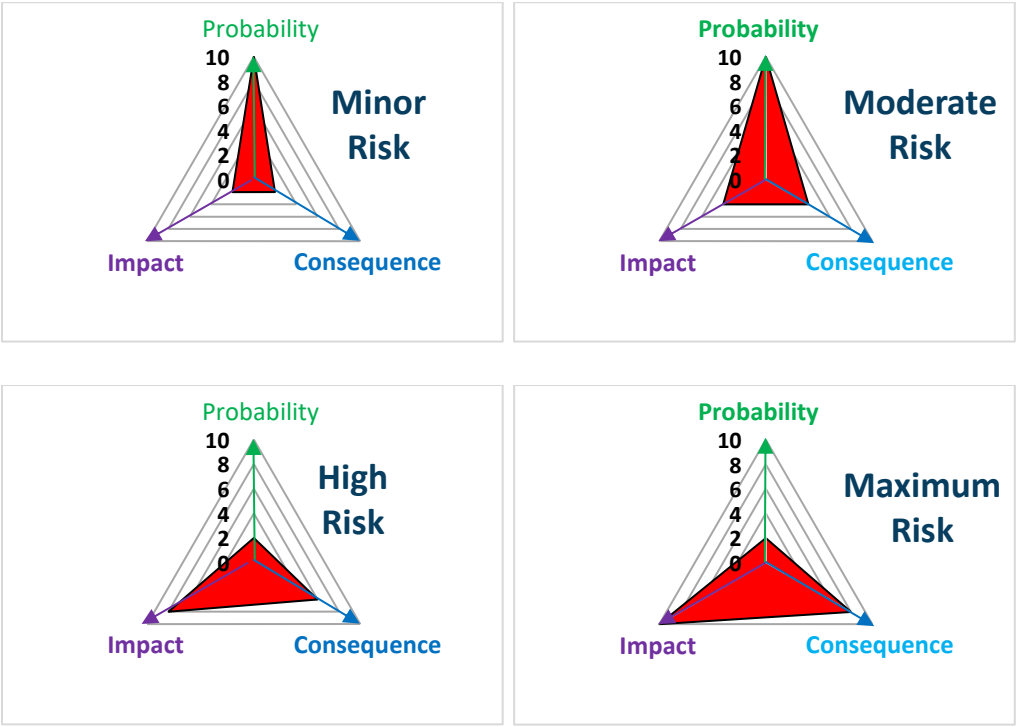
SFD is the primary provider of mitigation of fire-related incidents. These range from low-risk incidents such as a vehicle fire to a maximum risk for a fire involving a school. Fire risks for a vehicle fire are considered low compared to a maximum risk for a school that houses students. This scoring is applied to four different categories of fire incidents in SFD's response area to provide staffing needs to meet critical tasks on the fire ground.

The following figures provide the fire response risk assessment scoring and the three-axis risk classifications.

Figure 104: Fire Response Risk Assessment

Description	Low			Moderate			High			Maximum		
Risk Score	P	C	I	P	C	I	P	C	I	P	C	I
	10	2	2	10	4	4	2	6	8	2	8	10
Score Assigned:	20.2			41.6			36.8			59.4		

Figure 105: Fire 3-Axis Risk Classifications



Emergency Medical Services Response

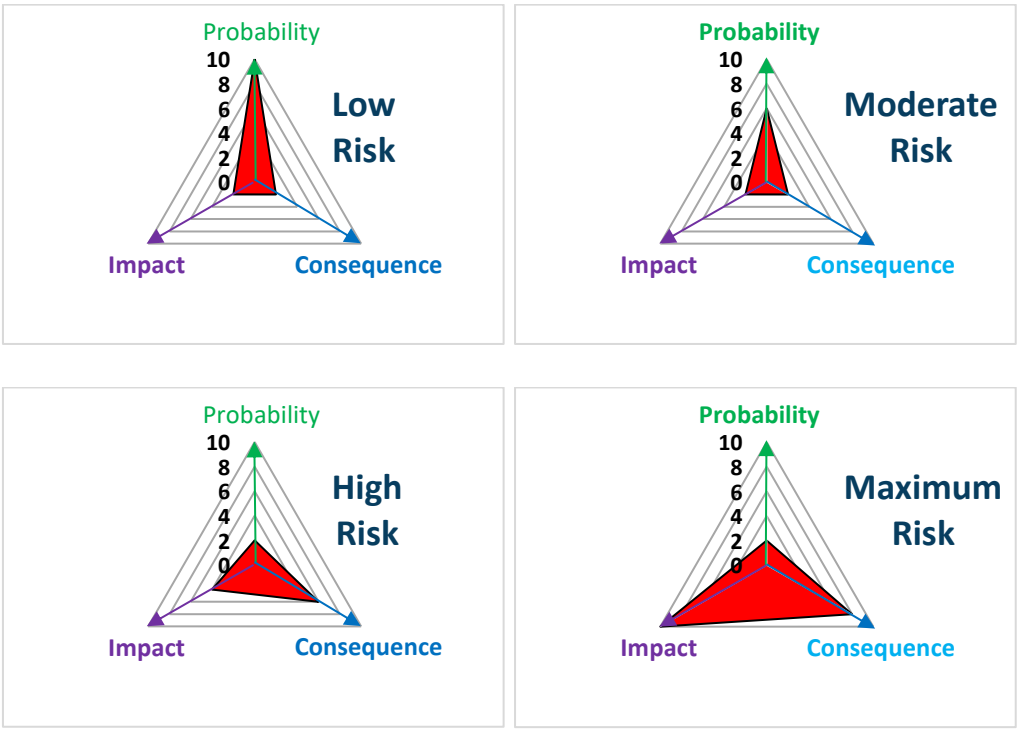
SFD provides advanced life support (ALS) emergency medical care in the city on all engines and BLS/ALS on the truck companies. AMR provides advanced life support (ALS) and transport services. Low-risk incidents range from a medical assist to a maximum for an active shooter. The following figures provide the risk score and classifications assigned to each type of EMS risk in SFD.

The following figures provide the EMS response risk assessment scoring and the three-axis risk classifications.

Figure 106: EMS Response Risk Assessment

Description	Low			Moderate			High			Maximum		
Risk Score	P	C	I	P	C	I	P	C	I	P	C	I
	10	2	2	6	2	2	2	6	4	2	8	10
Score Assigned:	20.2			12.3			19.8			59.4		

Figure 107: EMS Three-Axis Risk Classifications



Technical Rescue Response

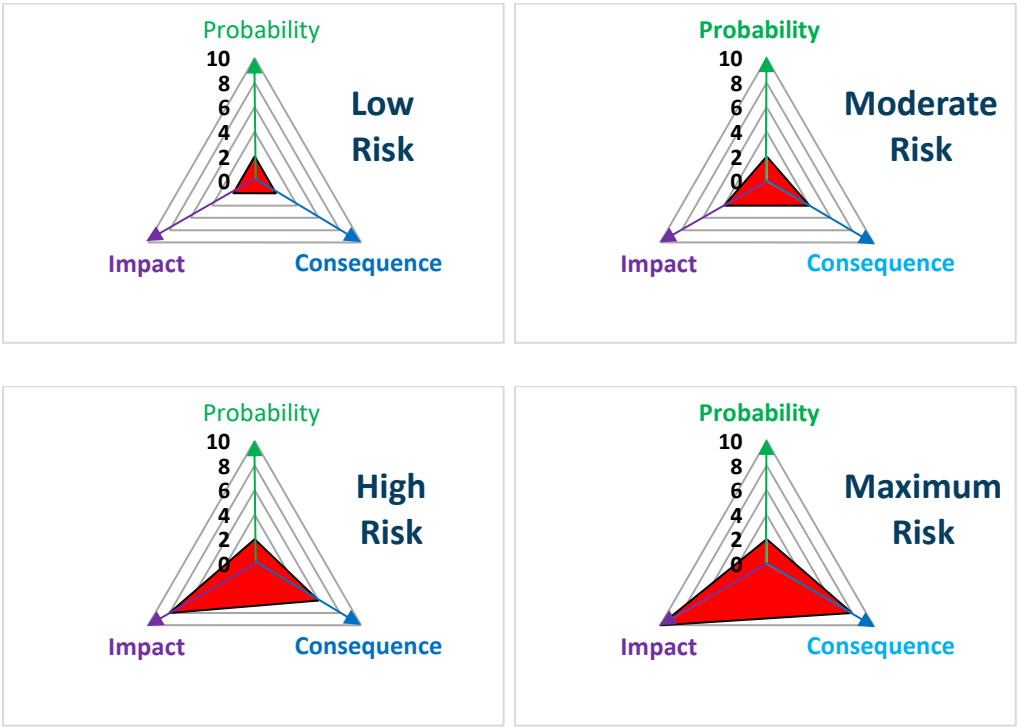
Rescue services can vary from a low risk incident such as accessing a locked vehicle with a child inside to a confined space incident (maximum) that potentially requires many personnel to mitigate the incident. The following figures provide the risk score and classifications assigned to each type of technical rescue risk in SFD's response area.

The following figures provide the technical rescue response risk assessment scoring and the three-axis risk classifications.

Figure 108: Technical Rescue Response Risk Assessment

Description	Low			Moderate			High			Maximum		
Risk Score	P	C	I	P	C	I	P	C	I	P	C	I
	2	2	2	2	4	4	2	6	8	2	8	10
Score Assigned:	4.9			13.9			36.8			59.4		

Figure 109: Technical Rescue 3-Axis Risk Classifications



Hazardous Materials Response

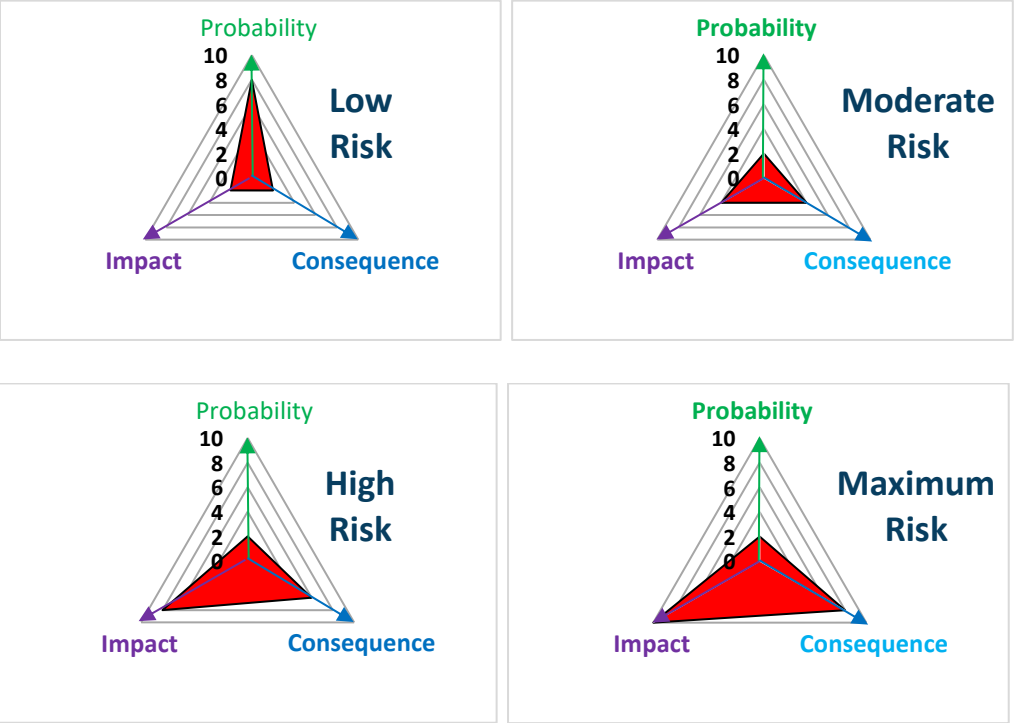
Hazardous material responses can vary from low-risk odor investigations to the maximum risk for a fuel tanker fire in higher populations areas. Most of these incidents can be managed by SFD, but higher risks may need assistance from outside resources. The following figures provide the risk score and classifications assigned to each type of hazardous materials risk in SFD's response area.

The following figures provide the scoring of the hazardous materials response risk assessment and the three-axis risk classifications.

Figure 110: Hazardous Materials Response Risk Assessment

Description	Low			Moderate			High			Maximum		
Risk Score	P	C	I	P	C	I	P	C	I	P	C	I
	8	2	2	2	4	4	2	6	8	2	8	10
Score Assigned:	16.2			13.9			36.8			59.4		

Figure 111: Hazardous Materials Three-Axis Risk Classifications



Wildland Fires Response

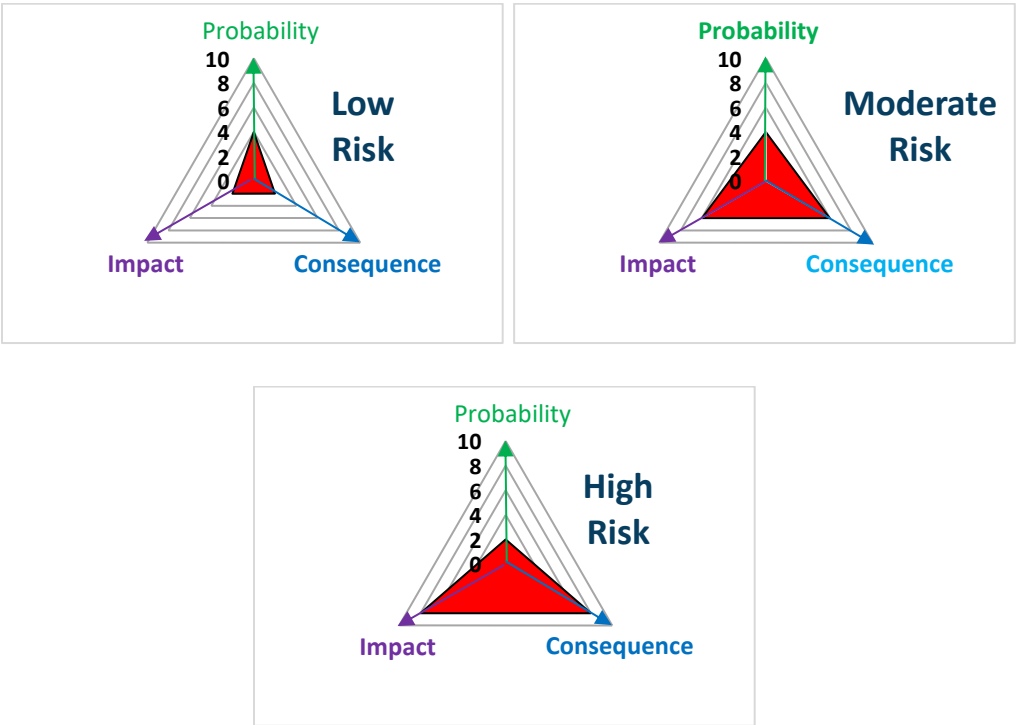
The types of wildland fire risk vary from small grass fires to large forest fires requiring many internal and external resources. The following figures provide the risk score and classifications assigned to each type of wildland fire risk in SFD's response area.

The following figures provide the wildland fire response risk assessment and the three-axis risk classification scoring.

Figure 112: Wildland Fires Response Risk Assessment

Description	Low			Moderate			High		
Risk Score	P	C	I	P	C	I	P	C	I
	4	2	2	4	6	6	2	8	8
Score Assigned:	8.5			35			48		

Figure 113: Wildland Fires Three-Axis Risk Classifications



Aircraft Rescue & Firefighting

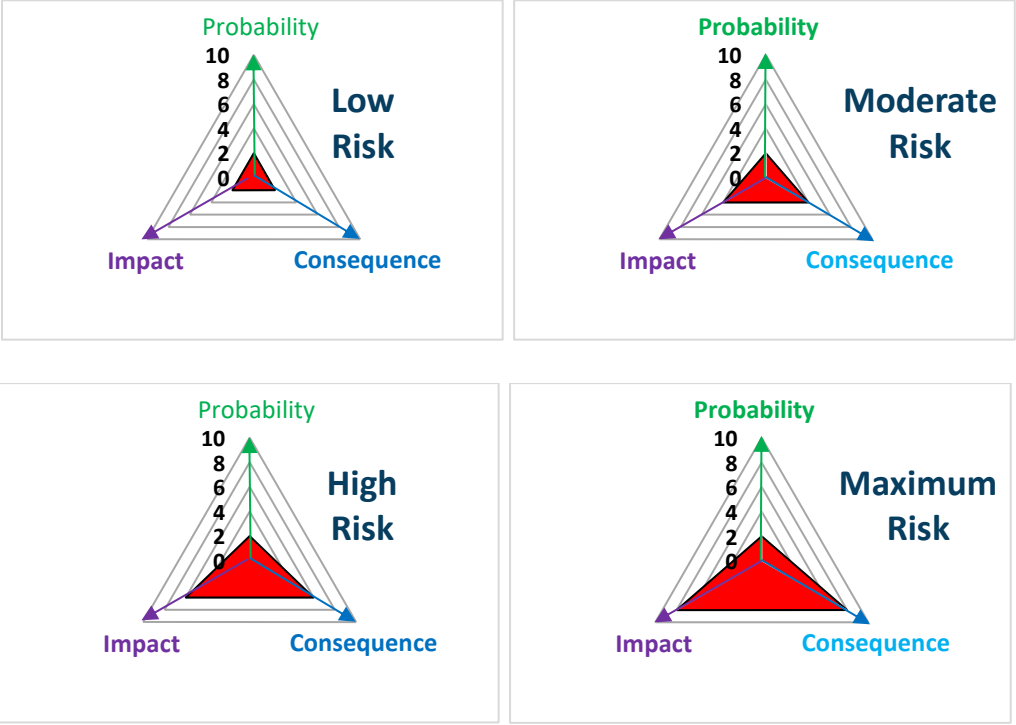
Aircraft emergencies can range from minor fuel leaks to crashes involving multiple casualties or victims. A large incident requires additional internal and external resources to manage the incident.

The following figures provide the risk score and classifications assigned to each aircraft rescue and firefighting fire risk type in SFD's response area.

Figure 114: Aircraft Rescue & Firefighting Response Risk Assessment

Description	Low			Moderate			High			Maximum		
Risk Score	P	C	I	P	C	I	P	C	I	P	C	I
	2	2	2	2	4	4	2	6	6	2	8	8
Score Assigned:	4.9			13.9			28.1			48		

Figure 115: Aircraft Rescue & Firefighting Three-Axis Risk Classifications



Land Use

The concept of land use regulation is to provide attractive social and environmental outcomes to assist in the management of development efficiently. Land use for a community is designed to assign a classification for properties within a geographical area generally under governmental control. Zoning areas may vary from one portion of the service area with a mixture of low-, moderate-, and high-risk properties.

- **Low Risk:** Areas zoned for agricultural purposes, open spaces, low-density residential, and other low-intensity use.
- **Moderate Risk:** Areas zoned for medium-density single-family properties, small commercial and office uses, low-intensity retail sales, and similarly sized business activities.
- **High Risk:** High-intensity business districts, mixed-use areas, high-density residential, industrial, storage facilities, and large mercantile centers.

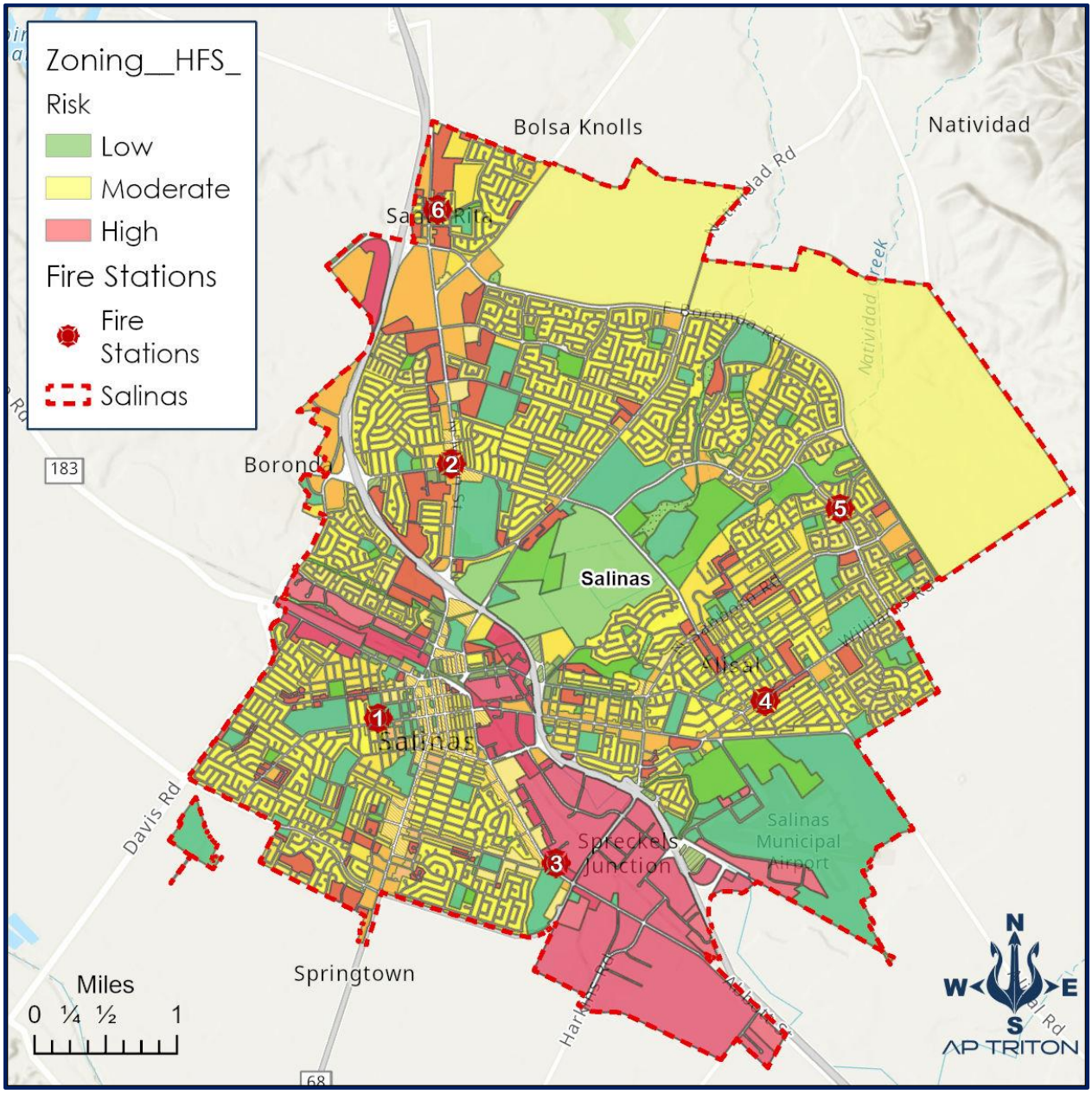
Most of Salinas is built out within its current city limits, except for its northeastern section. Significant residential growth is planned for north and east of E Boronda Road and will add an estimated 8,000 units to the city. Residential property permits continue, but most are accessory units in existing neighborhoods. An adaptive reuse ordinance is designed to transform business occupancies into residential units, with a few considered affordable housing.

Ferrashi Ranch, a business park in the county with commercial and residential components, is planned north of Russell Rd. The development will include light industrial and mixed-use with multifamily and commercial retail businesses.

Commercial redevelopment in Salinas includes the old Sears department store that may be converted into additional retail space at the Northridge Mall, and the K-Mart is being renovated into a new grocery store. In contrast, older low-performing hotels are transforming into extended-stay hotels.

As growth continues in Salinas, the increased population density will place additional demands on SFD with existing staff and station locations, specifically in the north and eastern sections of the city. Although the City plans a new fire station in this area, funding is necessary to increase staffing to meet service demand.

Figure 116: Zoning Districts by Risk



Physical Assets Protected

Commercial occupancies or properties are considered target hazards in every community because of the unique risks to emergency responders and the occupants during an incident or event. Each of these occupancies should have up-to-date pre-incident surveys completed annually. The surveys allow responders to become familiar with the building, property, and special hazards.

SFD should develop a system to ensure all target hazards and other commercial buildings have pre-incident plans. During an incident, these occupancies and facilities should have a current pre-incident plan for SFD operations personnel. The pre-incident plan informs emergency responders about potential hazards and can help them develop strategies and tactics during an incident. The current pre-incident planning process consists of binders on apparatus with hand-drawn plans of target hazards. SFD has been reviewing a cloud-based pre-incident planning software system that can be used to keep up-to-date plans available for all personnel.

Hazardous Materials

Events that occur without warning or that are unknown and suddenly appear are considered technological hazards, such as industrial accidents or hazardous chemical releases. Each community should create contingency plans for the specific risks in their jurisdiction. This may include permitting, periodic fire and life safety inspections, and pre-incident planning. These activities are designed to reduce risks and provide on-site visits for fire department personnel.

If a building or facility that stores or produces hazardous materials has been identified, it may require special personal protective clothing and equipment to control or mitigate the event. Locations with hazardous materials on-site for any time during the year exceeding the limits established by the Environmental Protection Agency are required to file Tier II reports.

These reports are provided to local jurisdictions, local emergency planning committees, and the State's Emergency Response Commission, as required by the Emergency Planning and Community Right-to-Know Act of 1986, also known as SARA Title III. These thresholds require submission:

- Ten thousand pounds for hazardous chemicals
- Lesser of 500 pounds or the threshold planning quantity for extremely hazardous chemicals

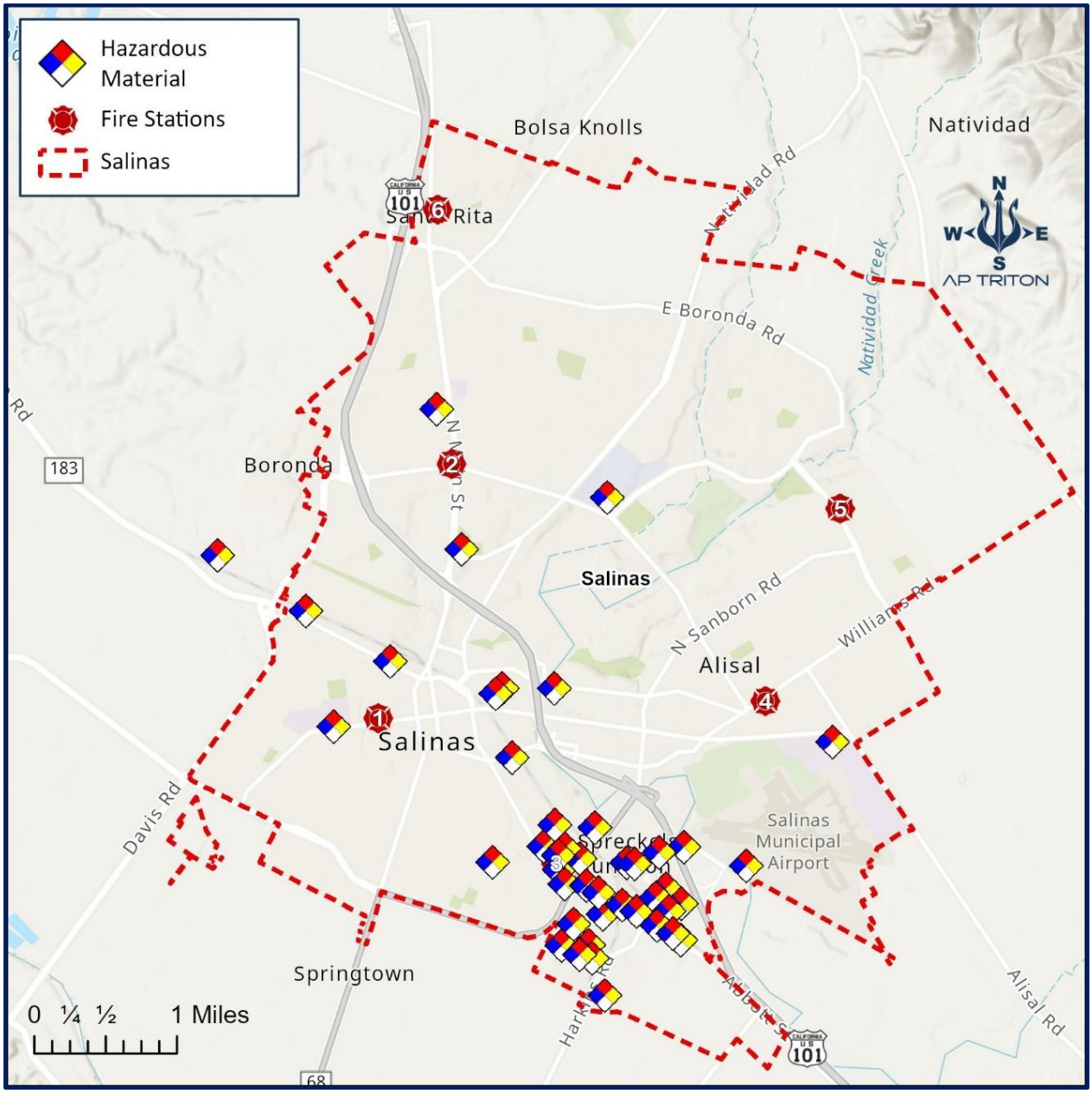
California requires additional reporting quantities through a five-tier system that authorizes the treatment and storage of hazardous waste.

The region around Salinas is highly dependent on the agriculture sector, which uses fertilizer and pesticides to grow crops. There are warehouses in the city which use ammonia to cool the buildings. Based on the size of an ammonia release, a full response of the hazardous materials teams and an evacuation of surrounding areas may be required.

SFD is the lead agency for a Type I hazardous materials response team in Monterey County, and they receive assistance from the Seaside Fire Department. SFD cross-staffs the hazardous materials team with at least four hazardous materials technicians and paramedics daily.

SFD has 21 personnel trained at both the technician and specialist levels. The hazardous materials apparatus is at Station 5, providing Level A and B entry suits, decontamination and spill containment equipment, and plume modeling software. Staff not certified as technicians are all trained to the operations level. Seaside Fire Department has an automatic aid Type 2 team that is available based on the type of incident.

Figure 117: Hazardous Materials Locations



Structural Risks

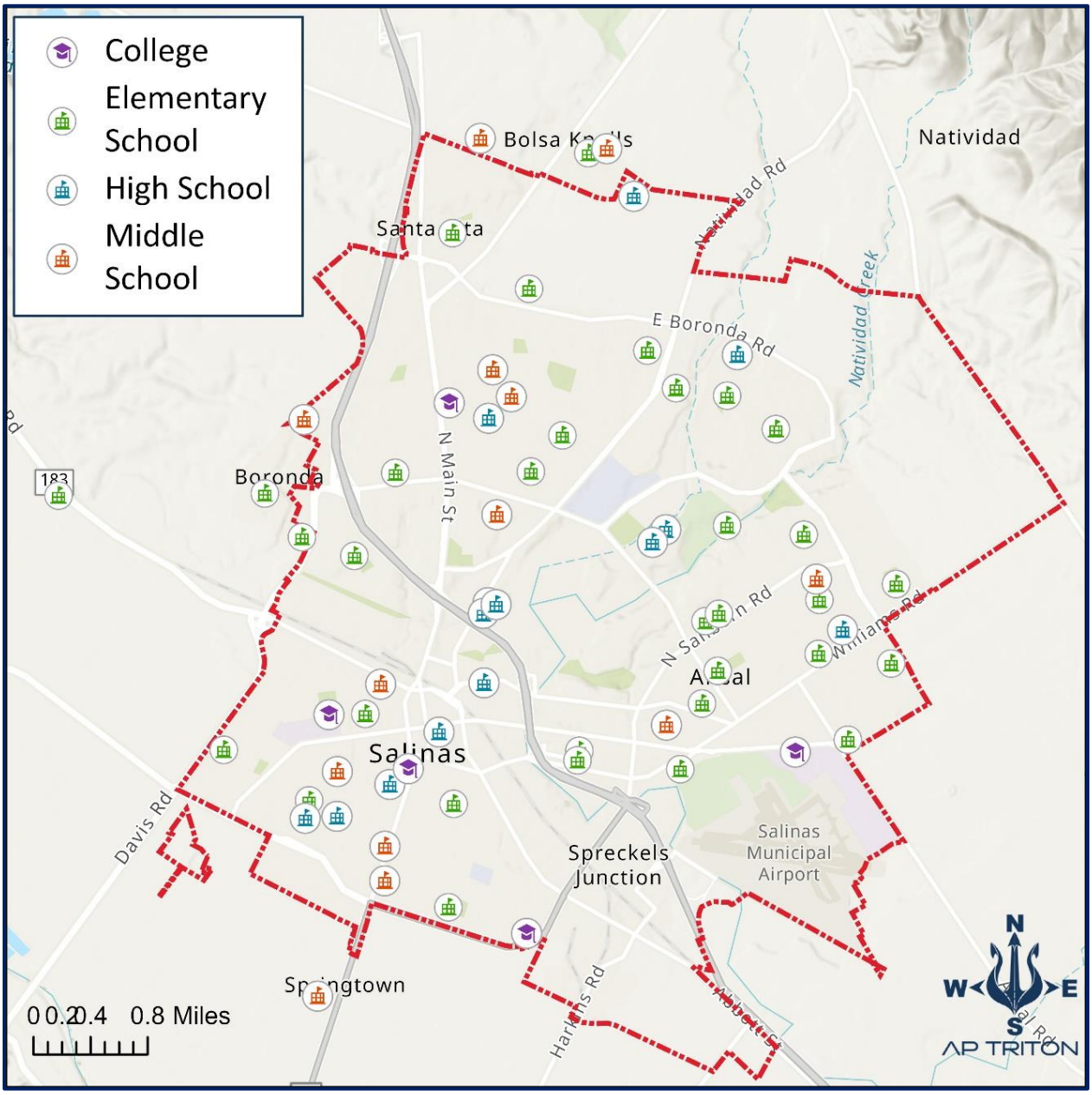
The risks created by residential or commercial occupancies increase based on the type and use of a building.

Educational & Childcare Facilities

Public and private schools and childcare facilities increase risks in any community and require substantial assistance during a significant event, such as a mass casualty or fire response. In SFD's response area, numerous schools and childcare facilities require inspections and pre-incident plans to ensure the property is safe and that emergency responders are familiar with the location and site-specific hazards.

The Salinas City Elementary School District comprises 15 schools providing education to more than 8,600 students.[24] The Salinas Union High School District serves more than 16,000 in 12 schools. They also provide education to adults at their adult education center.[25] The following figures provide the location of educational facilities in Salinas.

Figure 118: Educational Facilities

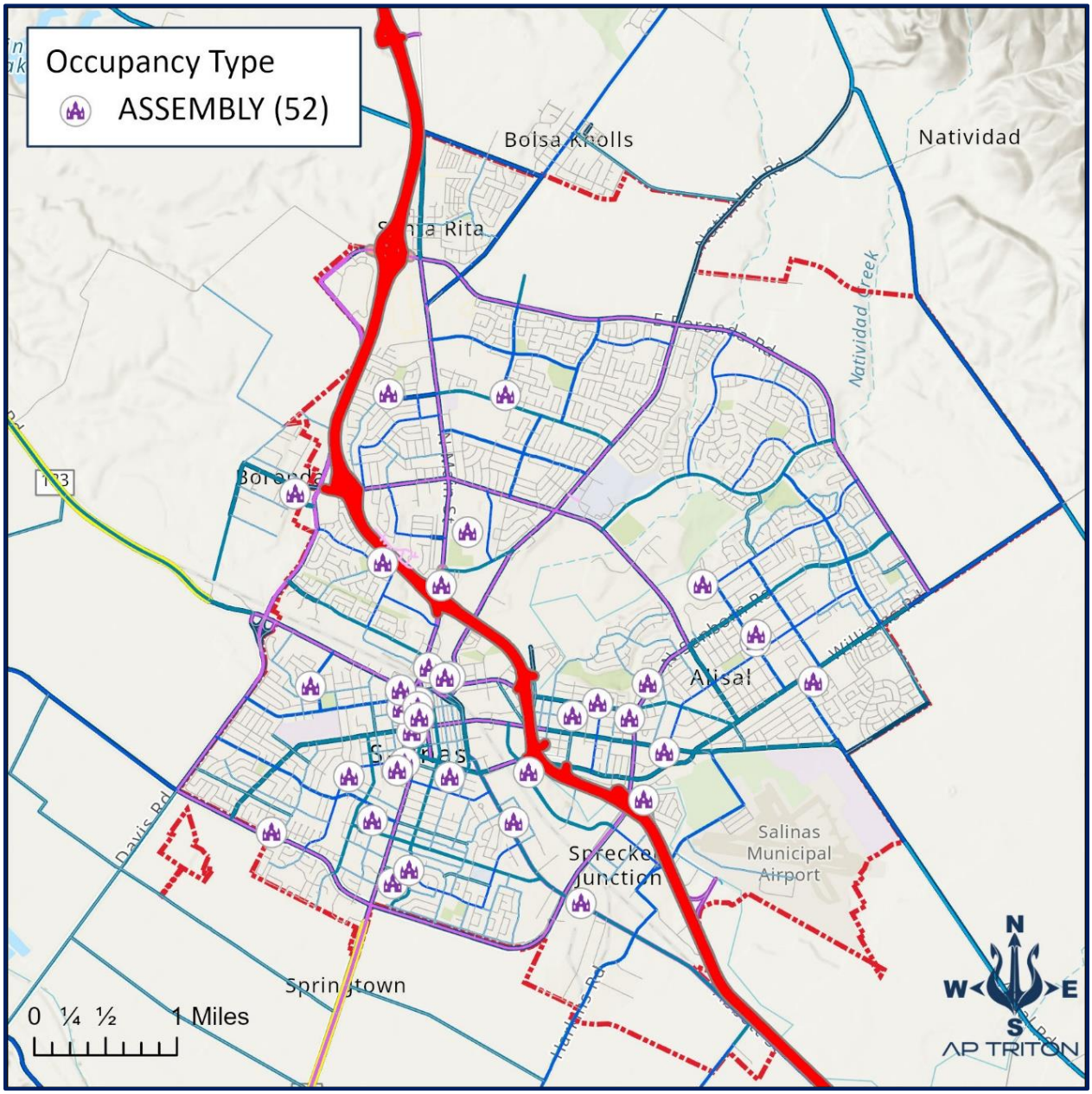


Assembly

Gathering large groups of people in a single location or building increases risks in locations such as a place of worship, entertainment venue, or eating establishment. Many outdoor special events, such as a street fair or other mass gatherings, occur in Salinas annually and may require a public safety plan per the California Fire Code.

This plan should include emergency vehicle access and egress, fire protection, emergency medical services, public assembly areas, directing of vehicular traffic and attendees, vendor and food concessions, need for law enforcement, fire, or EMS personnel, and weather monitoring. The following figure provides the location of assembly occupancies in the SFD response area.

Figure 119: Assembly Occupancies



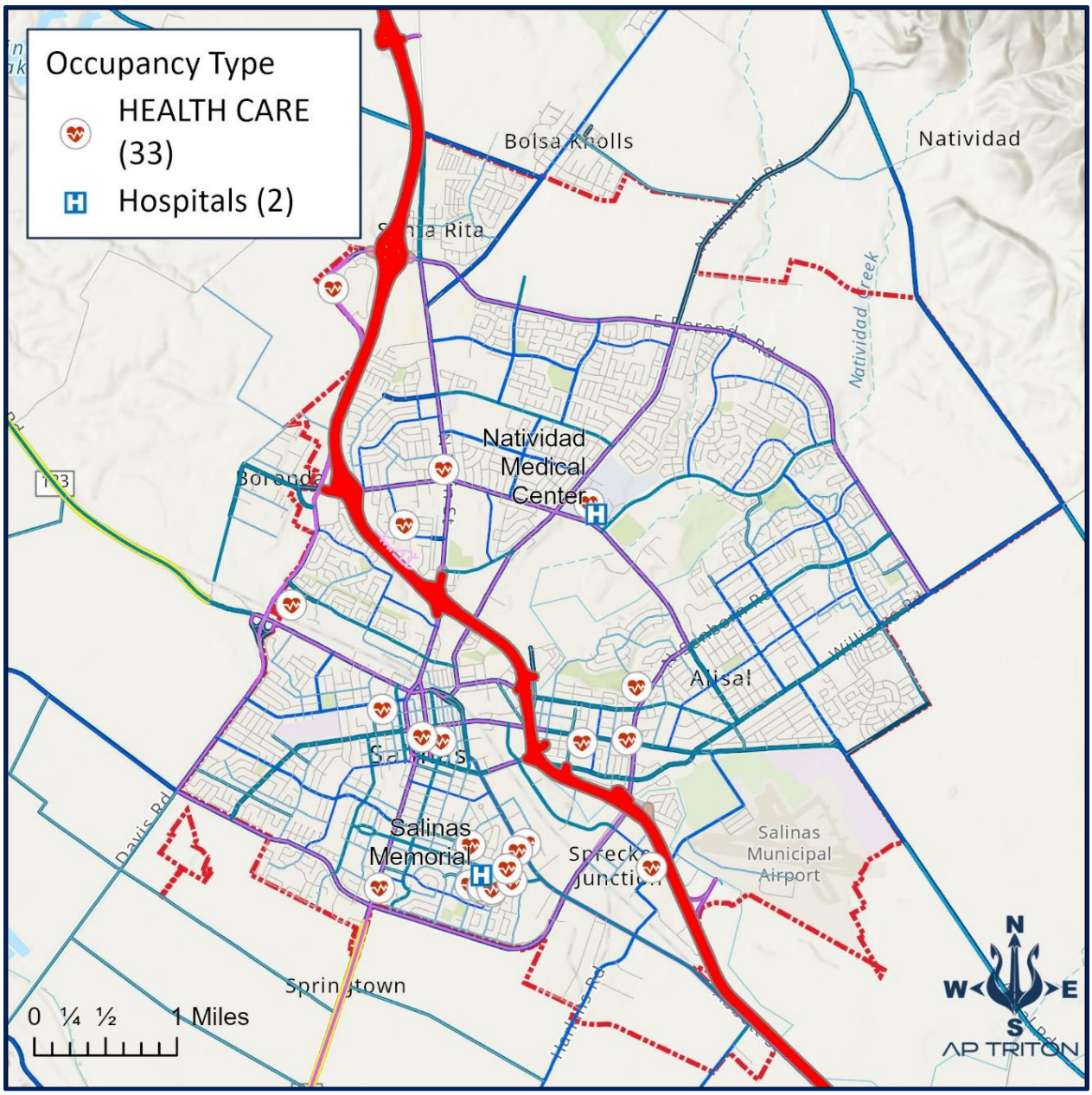
Medical Facilities

These types of buildings are where occupants may be unable to leave without assistance from the staff. These locations may contain medical gases, creating additional risks for emergency responders during a fire. Therefore, completing up-to-date pre-incident plans is necessary.

There are two primary medical facilities for the greater Salinas Valley in the City of Salinas. Salinas Valley Memorial Hospital has 263 beds and employs more than 2,000 people. The second is Natividad Medical Center, the county's only designated trauma care center (Level 3). It offers many medical services, including cardiac care, neurology, orthopedics, pediatrics, rheumatology, behavioral health, and surgical services.[26] Natividad Medical Center is owned and operated by the County of Monterey.

The following figure shows the locations of medical facilities in Salinas.

Figure 120: Health Care Facilities

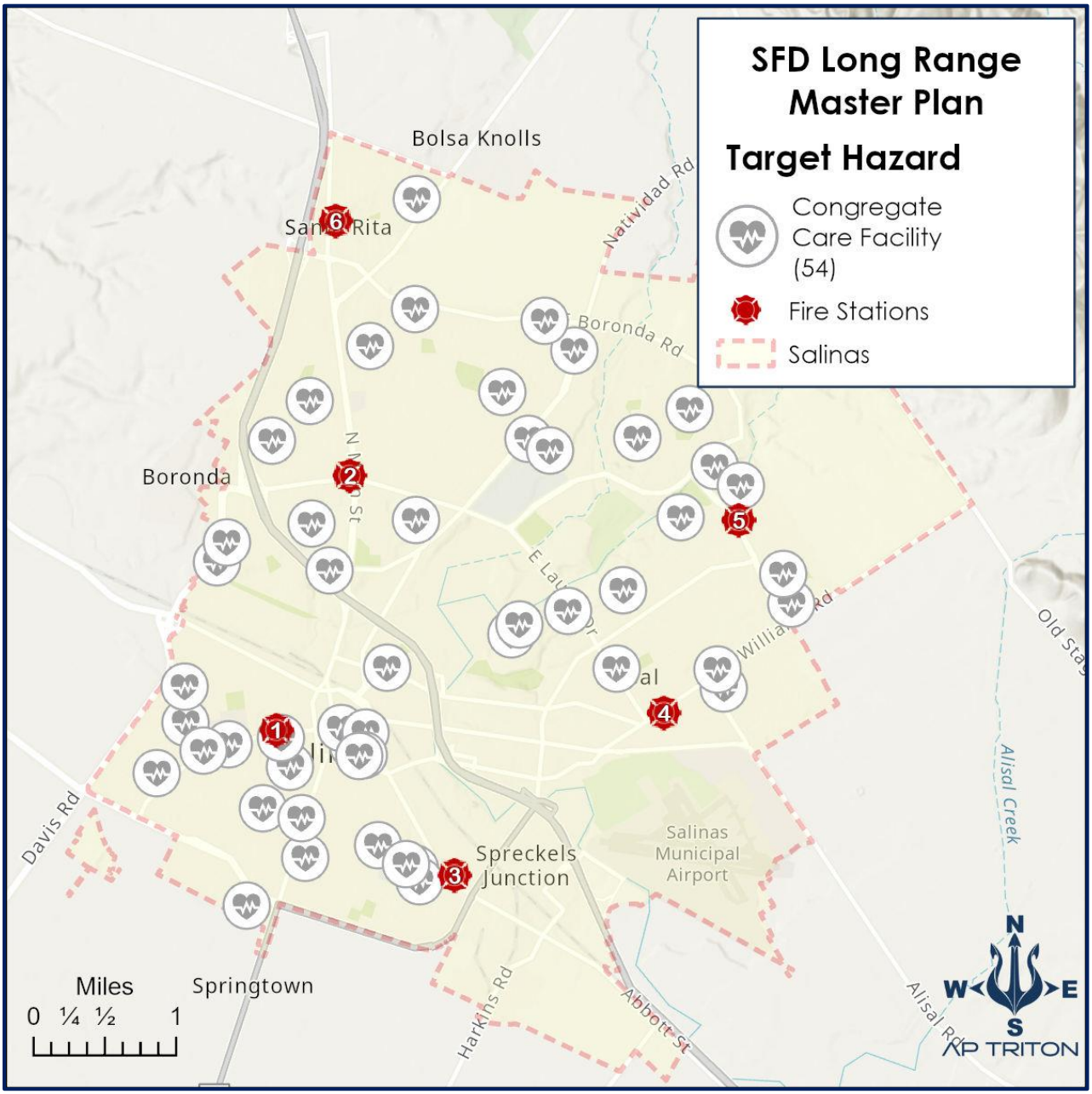


Congregate Care Facilities

As people age, additional care may require them to seek a facility to meet their needs. Depending on their mobility or cognitive conditions, they may need more assistance evacuating the building. Staff should have plans for removing the occupants or patients during an emergency. These locations require additional fire protection systems to protect the occupants, like a hospital. Special locking arrangements for areas where patients with dementia or Alzheimer's are living are allowed to prevent them from leaving the facility, per the California Fire Code.

The next figure provides the location of congregate care facilities in the SFD response area.

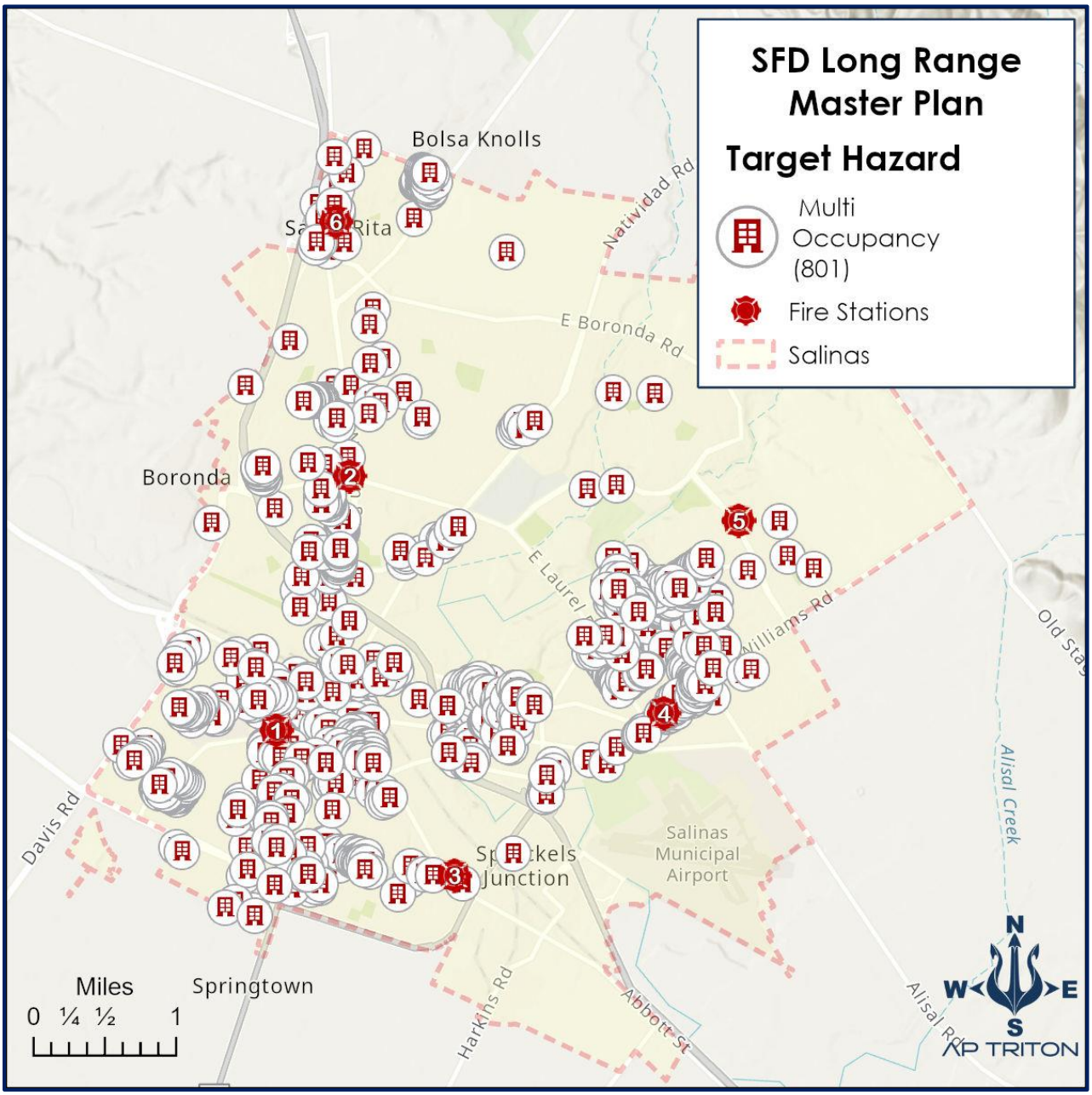
Figure 121: Congregate Care Facilities



Multi-family Occupancies

Although multi-family housing has fewer fires caused by electrical or heating malfunctions, the risk of cooking fires is twice the rate of other building fires.[27] Updated building and fire codes now require these buildings to have a residential fire sprinkler system installed and interconnected smoke alarms in all bedrooms, hallways, and floors. These fire protection systems are designed to provide enough time for the occupants to evacuate the building. The following figure shows the locations of multi-family dwellings in Salinas.

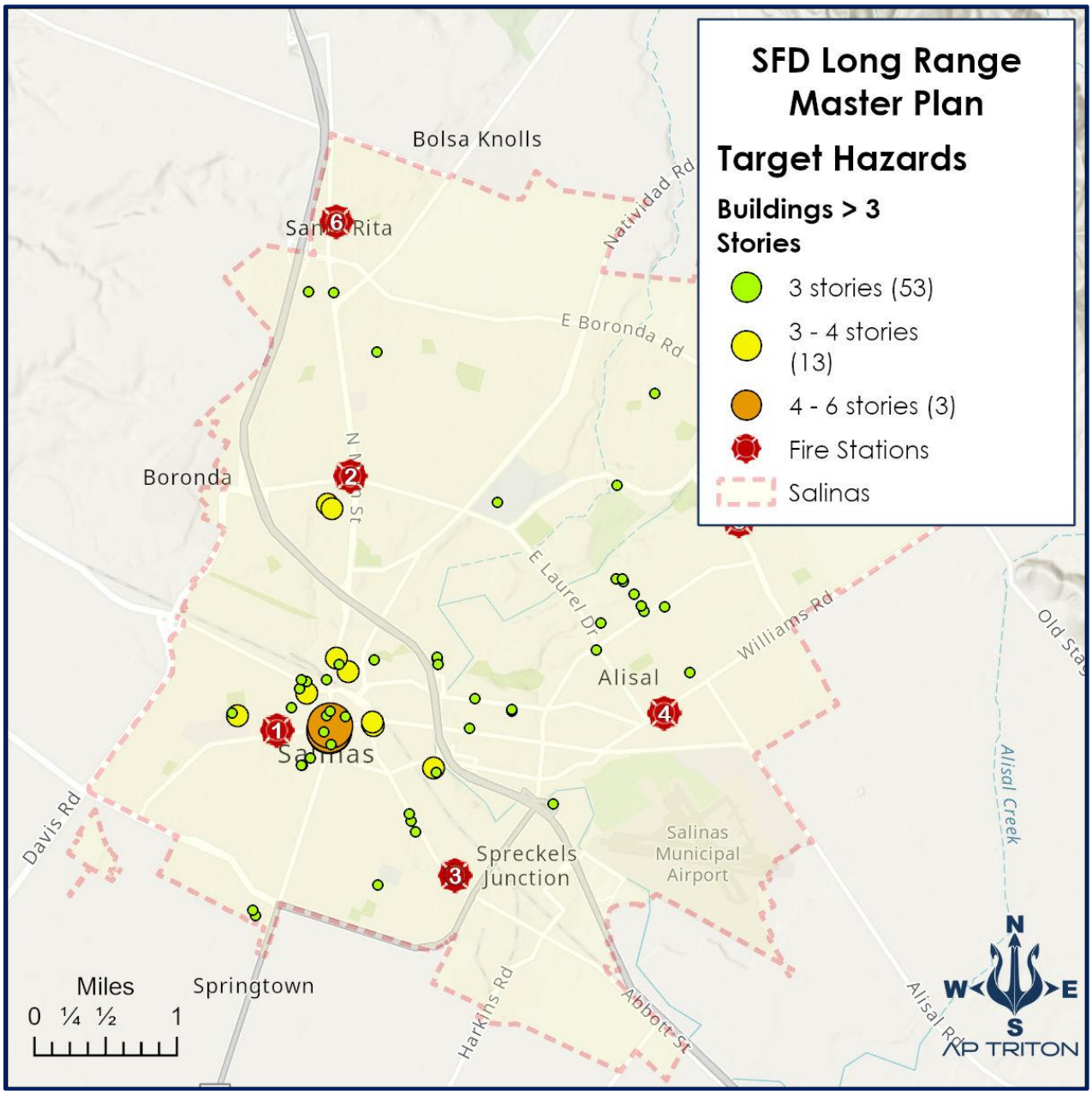
Figure 122: Multi-family Occupancies



Buildings Three or More Stories in Height

Structures three or more stories in height require a response of an aerial apparatus with elevated master stream capabilities. The Insurance Service Office (ISO) reviews the coverage area for a ladder truck for all buildings within 2.5 miles. A ladder truck may be necessary to access these higher buildings' upper floors or roofs since most ground ladders cannot reach these heights. The following figures display the location of buildings over three or more stories in height.

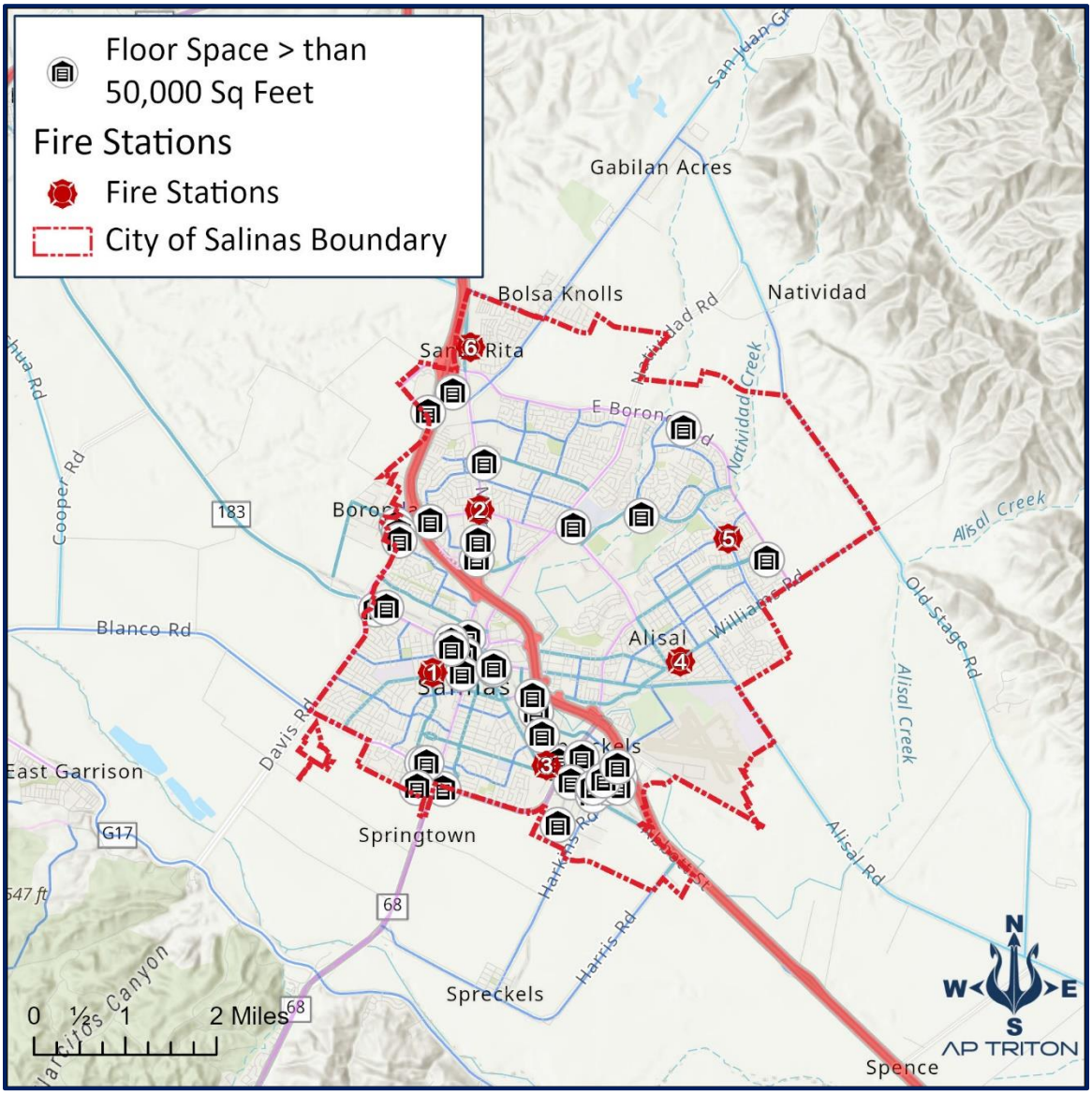
Figure 123: Buildings Three or More Stories in Height.



Large Square Footage Buildings

Large buildings, such as warehouses, strip malls, and large "box" stores, need greater volumes of water for firefighting and require more firefighters to advance hose lines long distances into the building. Although the number of large square footage buildings is low within the SFD response area, the fire flow may be greater for smaller buildings because of construction type, distance to exposures, and lack of built-in fire protection systems such as fire sprinklers. The next figure is based on data from ISO and shows locations for buildings 50,000 square feet and larger.

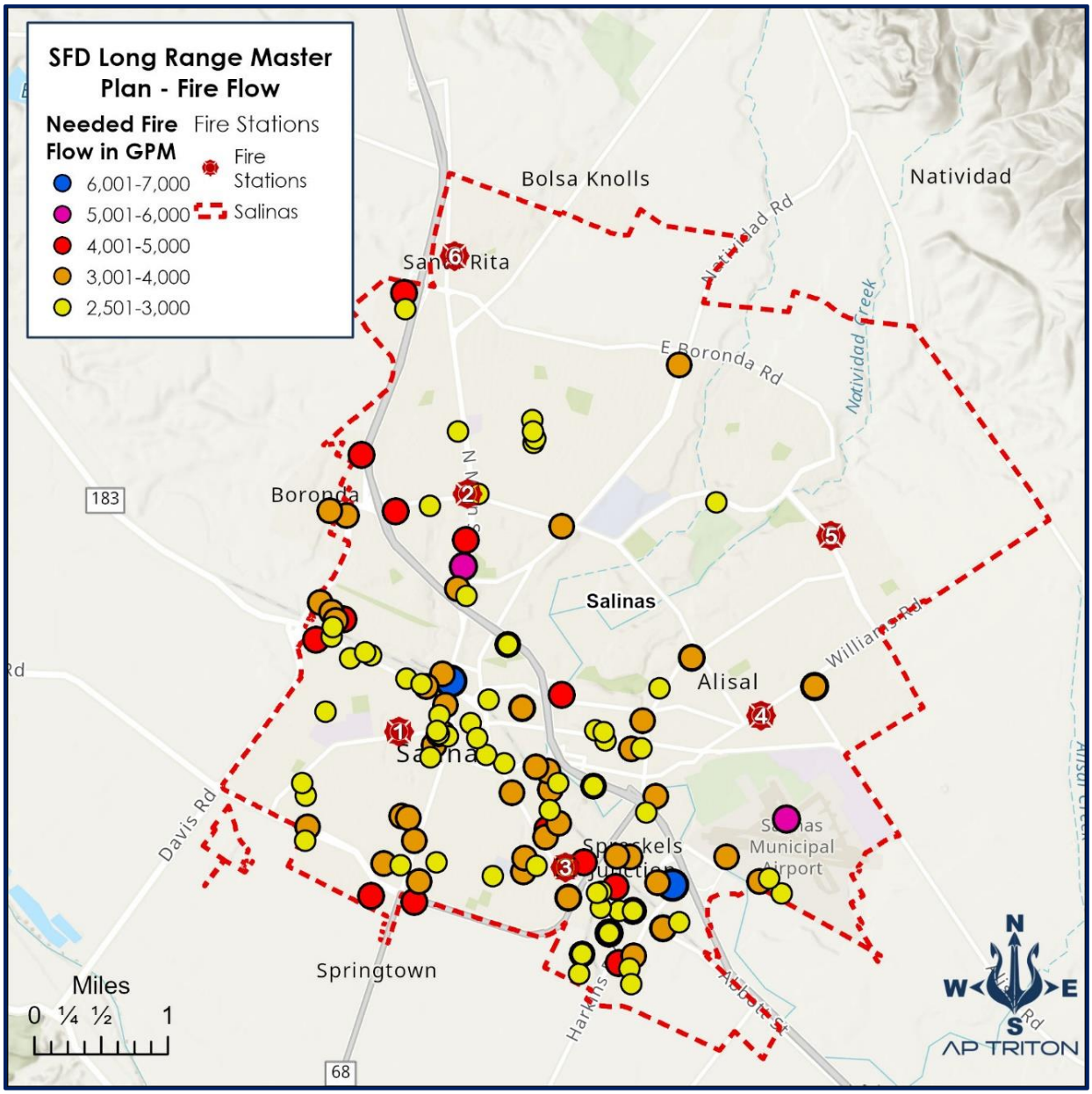
Figure 124: Buildings 50,000 Square Feet & Larger



Large Fire-Flow Occupancies

Other buildings may require a higher amount of water to extinguish a fire. These occupancies can present a problem if the needed water is less than what is available from the water supply from hydrants or other water sources. The following figure shows the occupancies with a needed fire flow greater than 2,500 gallons per minute.

Figure 125: Fire-Flow Greater than 3,000 Gallons per Minute



Environmental Hazards

All communities are continually threatened by physical hazards daily. Hazards can range from wildfires, earthquakes, flooding from heavy rains, or droughts. Mitigation plans provide public and emergency responders with information to understand the risks and prepare for an event.

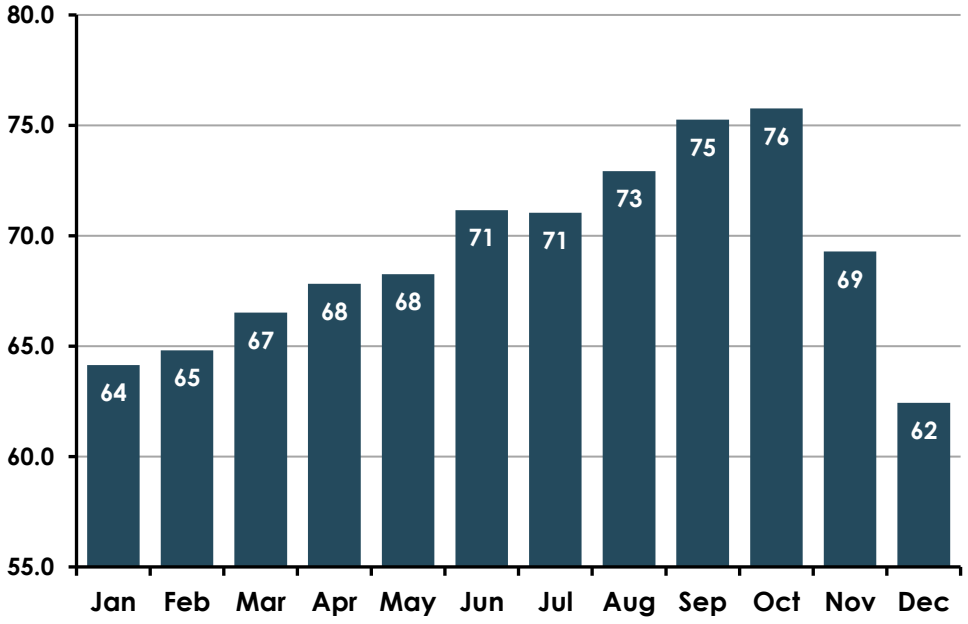
Weather Conditions

The climate can affect SFD year-round and impact emergency response. Whether it is a thunderstorm or other weather event, SFD must respond when requested.

Temperature

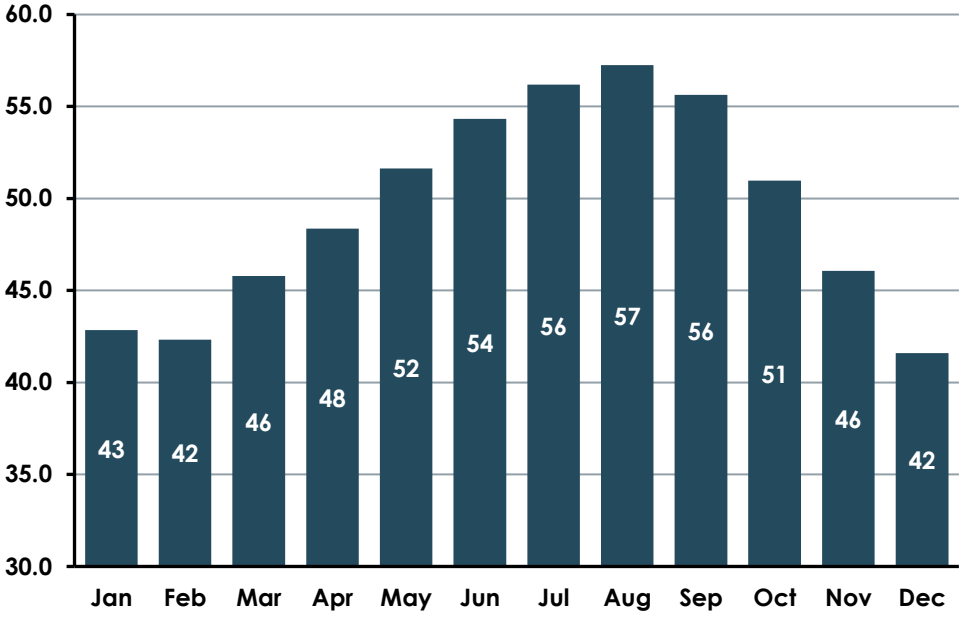
Weather conditions in an area can impact the fire department and the entire community during the year.[28] When temperatures are high, they affect firefighters during extended incident operations and require rehabilitation to prevent heat exhaustion. The average high temperatures range from a low of 62° F during December to a high of 76° F in October. The following figure provides the average monthly high temperature.

Figure 126: Average Daily High Temperatures (2011–2021)



The average daily low temperature occurs in December at 42°, and the warmest is during August at 57°. The following figure shows the average daily low temperatures.

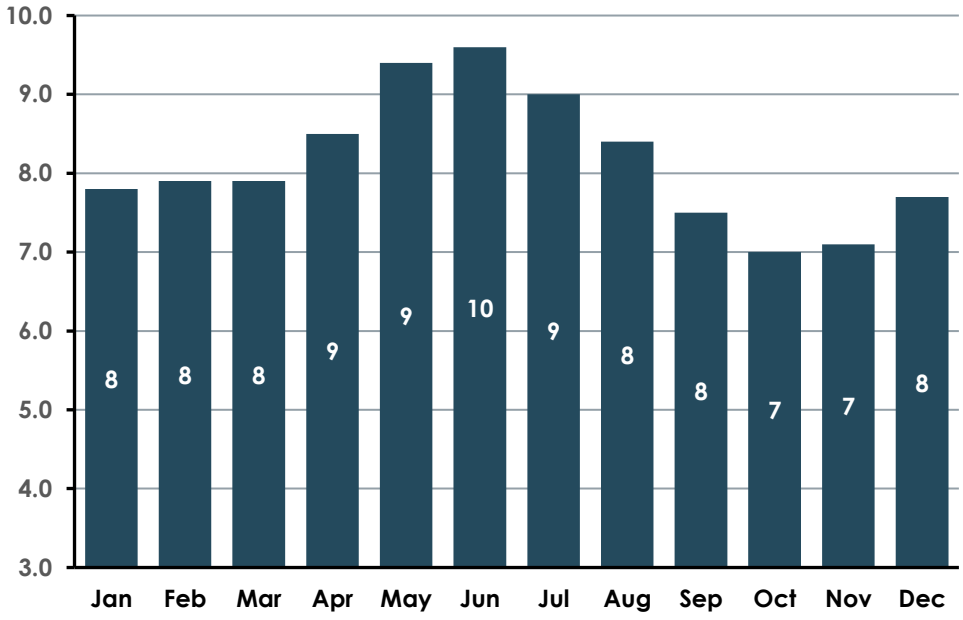
Figure 127: Average Daily Low Temperatures (2011–2021)



Winds

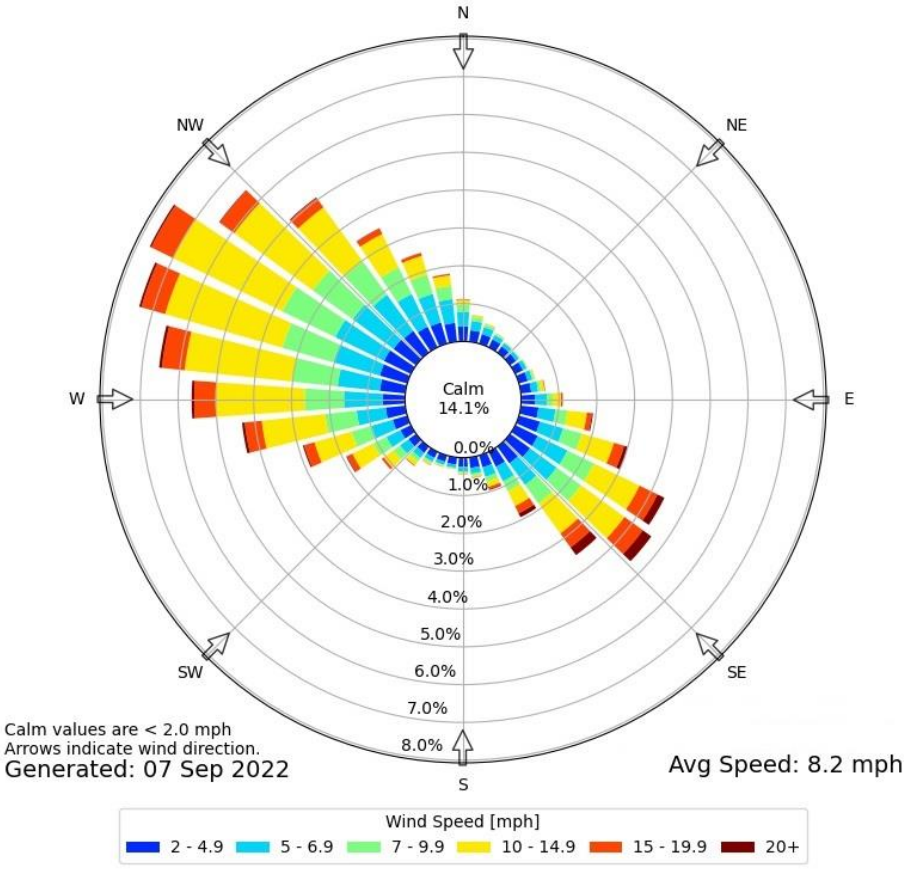
Wind speed and direction influence how SFD manages events such as a wildfire or hazardous materials incident. The highest average winds occur between May and August of each year.[29]

Figure 128: Average Monthly Wind Speeds (2011–2021)



The prevalent winds are from the west and southeast, as shown in the following figure from the wind rose from the NWS Salinas Airport reporting station.

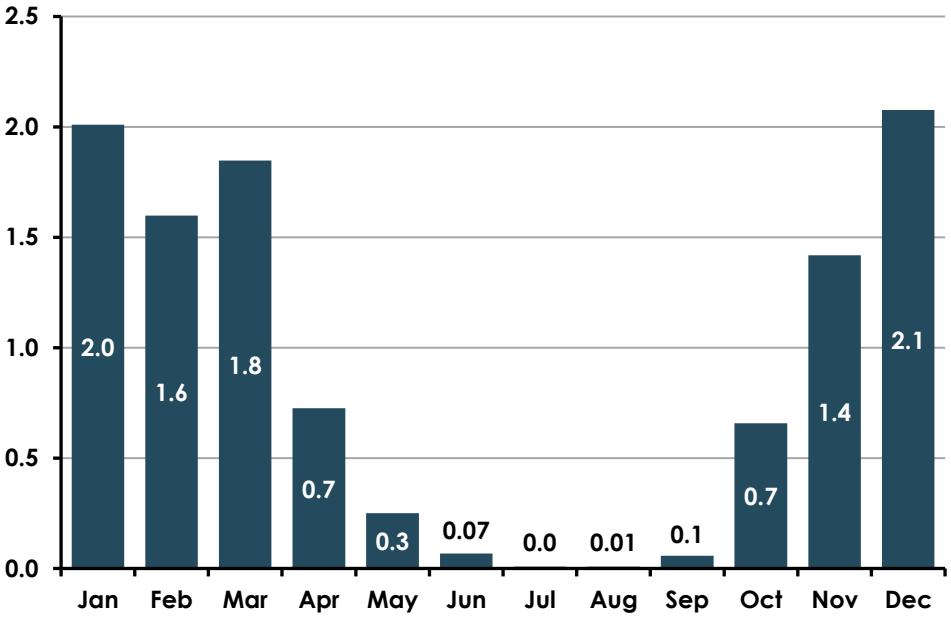
Figure 129: Wind Rose—Salinas Airport



Precipitation

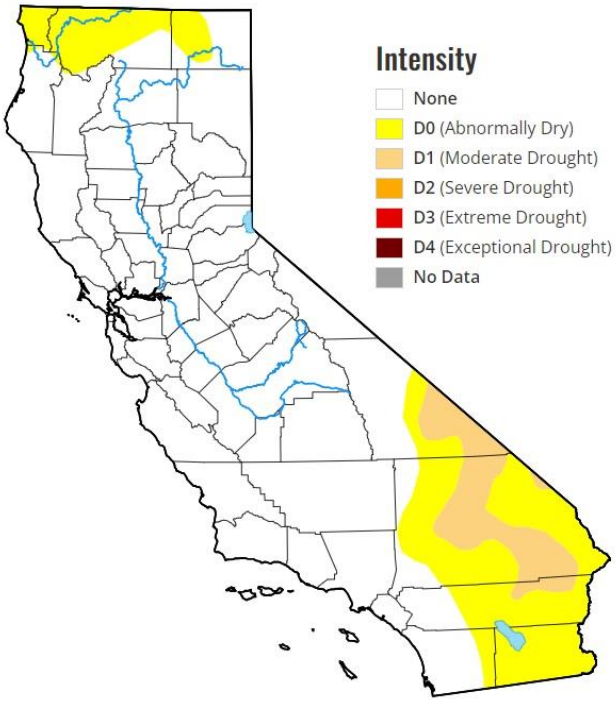
The lack of precipitation for an extended period creates problems in a community. Drought increases the hazards of wildland fires as the vegetative moisture content decreases and generates higher combustible fuels. Insufficient rainfall affects the ability to grow crops and maintain landscaping. The months with the highest precipitation occur between November and March, as shown in the following figure.

Figure 130: Average Monthly Precipitation



Recent precipitation from the "atmospheric rivers" affecting the United States' west coast has improved the drought conditions in Salinas, as seen in the following figure.[30]

Figure 131: Drought Conditions (August 17, 2023)



Physical Hazards

A physical hazard is generally described as a natural disaster or weather event that affects the community. The event may last a few hours or extend for a lengthy period, such as a heatwave or drought. The National Weather Service (NWS) issues advisories, watches, and warnings for these hazards when conditions exist or are in the immediate forecast. Although Salinas was not affected by these disasters, Monterey County does experience many different events. The following figure provides the type and number of disaster declarations in Monterey County since 1967.

Figure 132: Federal Disaster Declarations in Monterey County

Type	Number	Percent
Biological	2	7%
Coastal Storm	1	3%
Drought	1	3%
Earthquake	1	3%
Fire	7	23%
Flood	8	27%
Freezing	3	10%
Severe Storm	6	20%
Tsunami	1	3%

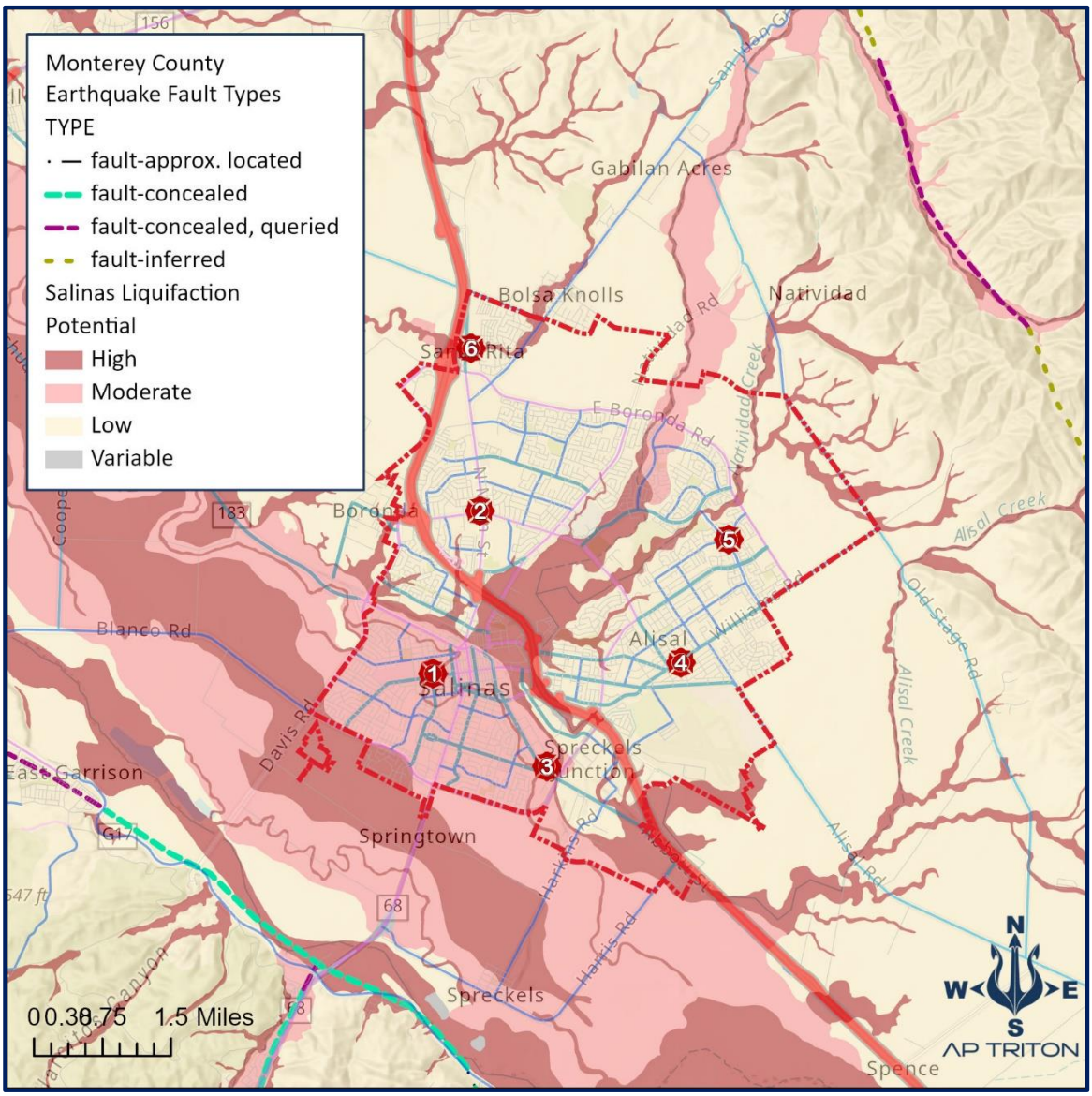
Earthquakes

The risk of an earthquake is high in Salinas, and the degree of risk is 13.6 out of 16 in the 2022 County of Monterey Multi-Jurisdictional Hazard Mitigation Plan (HMP). The faults with the highest impact on Salinas are the San Andreas and Calaveras Faults. Two other older faults, King City and Gabilan Creek, are in the city but not expected to produce seismic activity.

The HMP states that the entire city population is potentially exposed to direct and indirect impacts from earthquakes. Critical infrastructures, such as roads, utilities, and employment centers, will impact the population. More than 32,000 residential and non-residential buildings are vulnerable to earthquake damage and are valued at $12.4 billion.

Liquefaction during an earthquake creates additional concerns based on the soil type. When an earthquake occurs, the shaking causes the soil to become loose, and if there is high water content, the building or structure's foundation may fail and collapse. Most damage from an earthquake in Salinas will occur because of liquefaction. Parts of the city filled in because of development are at the highest risk.

Figure 133: Earthquake Faults & Liquefaction

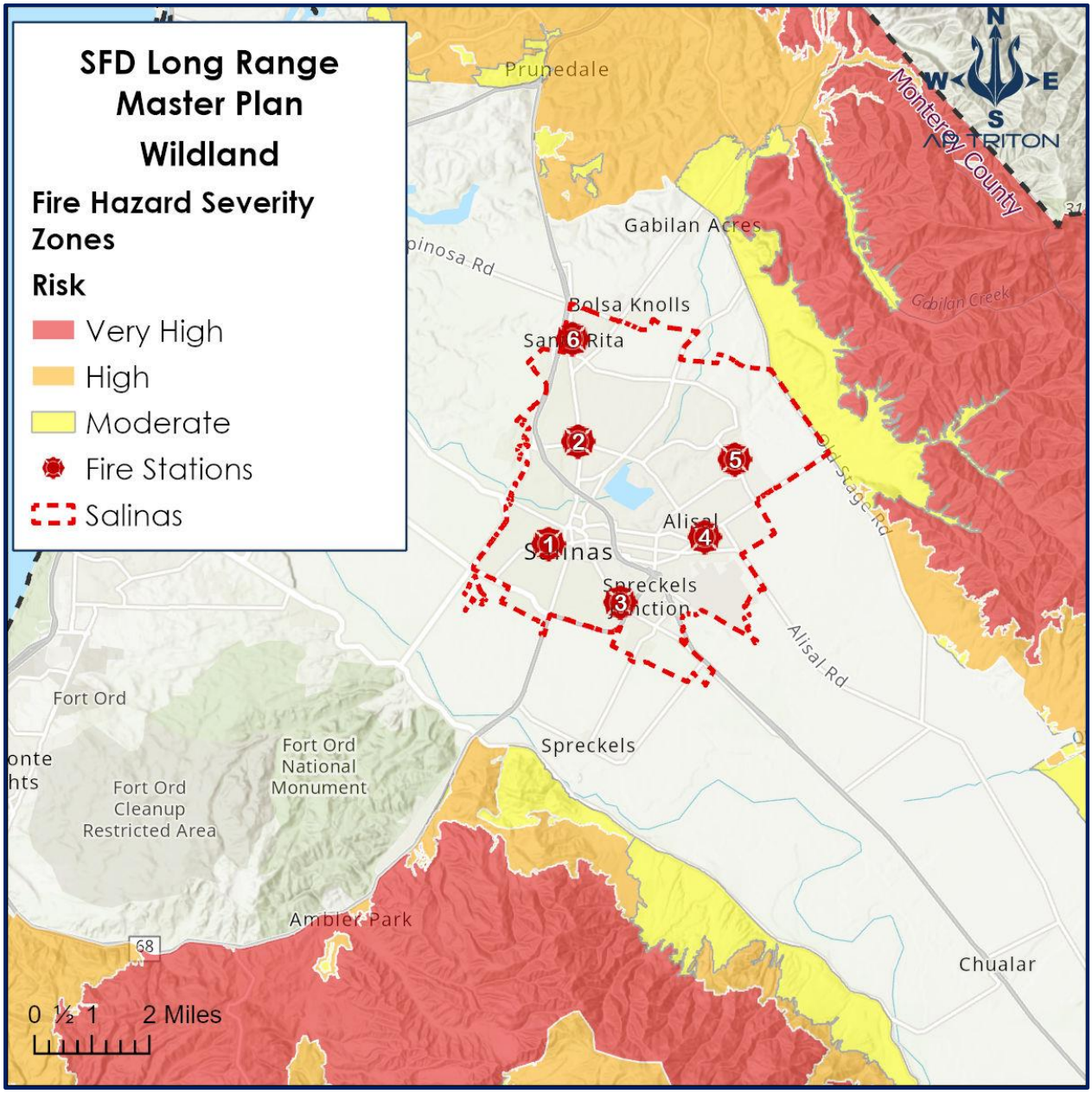


Wildland Fires

Although the wildfire risk in Salinas is moderate, the HMP states that more than 30,000 residents are in a moderate fire hazard severity zone. The urbanization and agricultural uses surrounding Salinas create this lower risk. The highest risk occurs west of Salinas in the foothills and ranges. CAL FIRE classifies these areas as moderate, high, and very high zones. The City's sphere of influence and future annexations may increase the risk in Salinas. The primary risk in Salinas is at the Natividad Creek Park, along either side of Freedom Pkwy. Small grass fires could impact SFD during dry conditions, extending to structures based on the type of vegetative materials around the building.

The City's Code Enforcement Division administers a weed abatement ordinance. The ordinance states: *"No person owning or otherwise in control of any real property within the city shall permit or allow any weeds or grass which bear seeds of a windborne or downy nature, or which attain such a large growth as to become a fire menace when dry, or which are otherwise noxious or dangerous, to grow, stand or remain upon such real property or upon any street or sidewalk in front of such real property. Any hazardous conditions are determined by the fire chief of their authorized representative."*[31] The following figure shows the fire hazard severity zones near Salinas.

Figure 134: Wildland Fire Hazard Severity Zones



Flooding

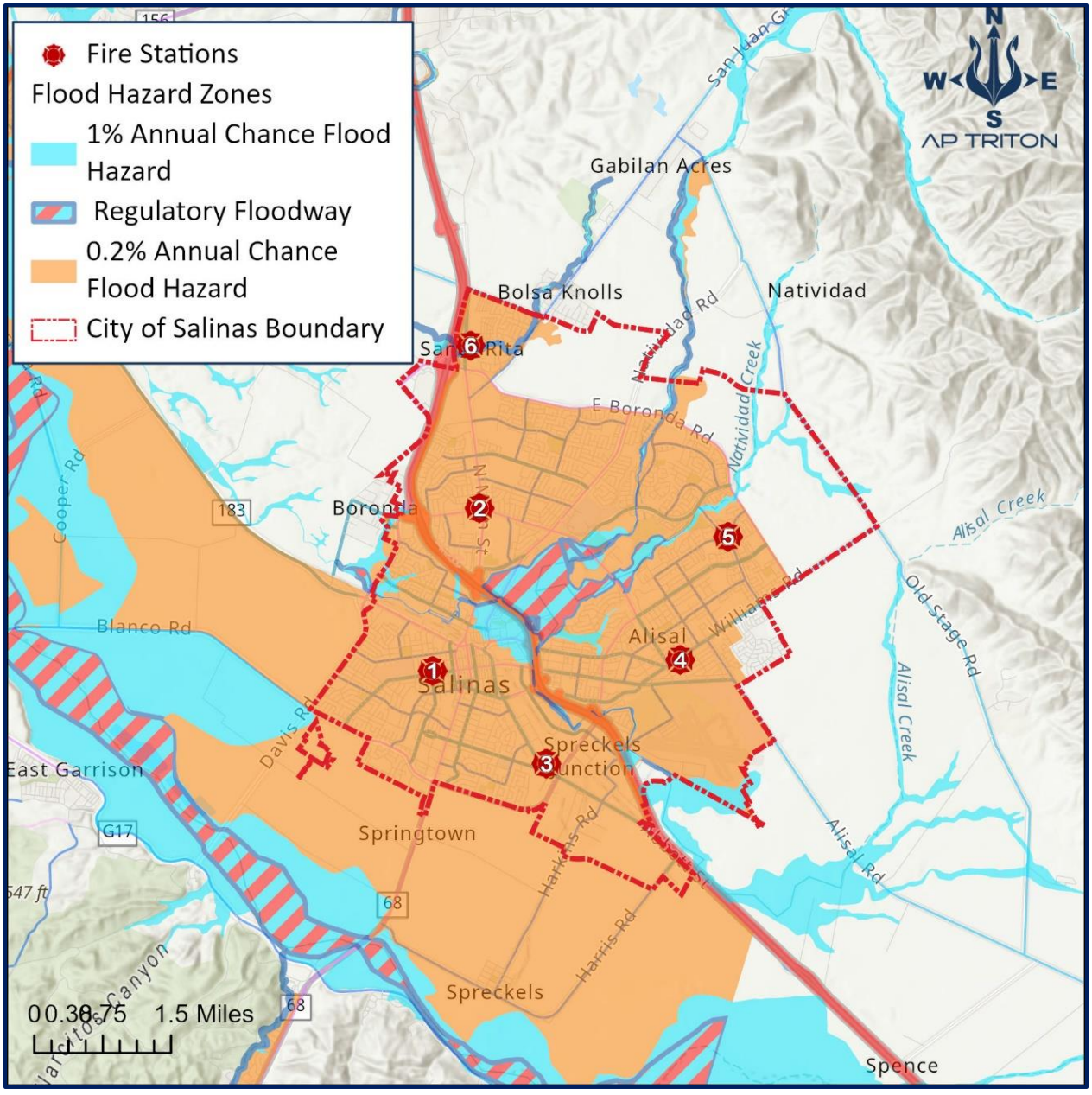
Flooding can occur because of varying factors that can impact the response by emergency services. The terrain, impervious surfaces, rainfall amounts, a breached dam or levee, or insufficient infrastructure to contain runoff can increase the chance of a flood event. Heavy rainfall after an extensive wildfire event can cause debris flows or a landslide when the fire destroys all the vegetative shrubs or plants. Climate change and its potential impact will affect flooding in the future based on how quickly the sea rises.

Portions of Salinas fall within the Federal Emergency Management Agency (FEMA)classified flood zones. According to FEMA's website, "AE," regulatory floodway areas are along the creeks and streams originating in the Gabilan Mountains, including the Alisal, Natividad, Gabilan, and Santa Rita Creeks. The HMP states that more than 130,000 residents in Salinas are located in Zone X and subjected to during heavy rain events.

- "AE" designation is considered "Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods." and is further defined as a 26% chance of a flood occurring in 30 years. Base flood elevations (BFE) are created from a detailed hydraulic analysis.
- "A" designation is a flood zone within the 100-year floodplain, but a detailed hydraulic analysis has not been performed.
- "X" is a moderate risk zone that lies within the 0.2% annual-chance floodplain. No BFEs are provided.

According to the U.S. Corps of Engineers inventory, there are no levees to mitigate or prevent flooding in Salinas. The following figure shows the location of FEMA flood zones.

Figure 135: Flood Hazard Zones



Dam

The San Antonio and Nacimiento dams can affect small portions along the city's south side, according to the dam inundation areas in the HMP. A failure of the San Antonio Dam in extreme southern Monterey County would impact more than 8,800 residents. This earthen dam for San Antonio Lake has a maximum storage of 350,000 acre-ft of water. The Nacimiento Dam, in northern San Luis Obispo County, would expose approximately 10,500 during a failure. The maximum capacity for Nacimiento Dam is 470,000 acre-ft.[32]

Critical Infrastructure

Critical infrastructure and key resources explain what is crucial for a community to function in a modern economy. Critical infrastructure is defined as a sector "whose assets, systems, and networks, whether physical or virtual, are considered so vital to the United States that their incapacitation or destruction would have a debilitating effect on security, national economic security, national public health or safety, or any combination thereof." There are sixteen defined Critical Infrastructure Sectors:[33]

- Chemical Sector
- Commercial Facilities Sector
- Communications Sector
- Critical Manufacturing Sector
- Dams Sector
- Defense Industrial Base Sector
- Emergency Services Sector
- Energy Sector
- Financial Services Sector
- Food and Agriculture Sector
- Government Facilities Sector
- Healthcare and Public Health Sector
- Information Technology Sector
- Nuclear Reactors, Materials, and Waste Sector
- Transportation Systems Sector
- Water and Wastewater Systems Sector

All these sectors may not be in Salinas; each community must determine critical infrastructure locations and develop pre-incident plans for responding personnel.

Other buildings to consider as target hazards could include occupancies with a potential for a significant loss of life, such as places of public assembly, schools and childcare centers, medical and residential care facilities, and multi-family dwellings. Other considerations include buildings with substantial value to the community—economic loss, replacement cost, or historical significance—that, if damaged or destroyed, would have a significant negative impact.

Highways & Roads

Emergency personnel need a transportation network to respond efficiently to an incident. A delayed response can occur without a system of interconnected roads and streets. Many of the streets in Salinas are on a grid system, while others are winding and interspersed with cul-de-sacs with only one access point. Interconnectivity provides multiple access points to a location if another approach is unavailable.

U.S. 101 is the primary thoroughfare through the city in a north-south direction and has the highest annual average daily traffic counts. The city has a system of collector streets designed to feed traffic from residential to commercial areas. Collector streets reduce the burden of traffic on local streets designed for lower speeds or residential neighborhoods. Major collector streets include North and South Main Street, East Alial Street, East and West Laurel Drive, Natividad Road, and Williams Road.

The following figure shows the average annual daily traffic counts for vehicles and trucks from Caltrans.

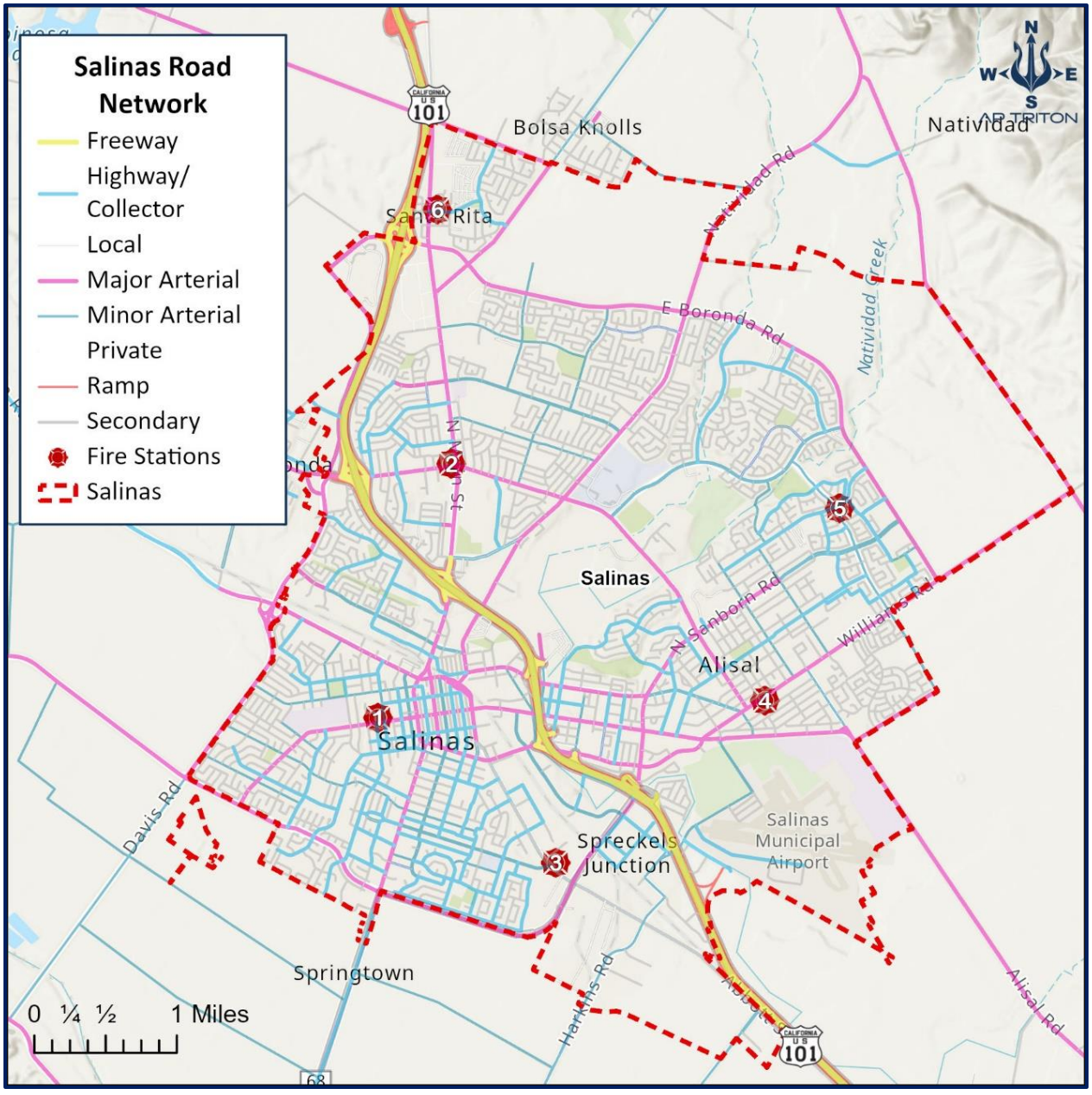
Figure 136: Average Annual Daily Traffic Counts[34]

Location	Annual Average Daily Vehicle Count	Annual Average Daily Truck Counts
US 101 at E Market St	77,000	N/A
US 101 at Airport Blvd	44,500	6,230
Abbott St at John St	15,300	N/A
W Blanco at S Main St	35,500	N/A

The City of Salinas Traffic and Transportation Engineering Department collects traffic counts at each signalized intersection. The highest counts are along South Main Street, West Laurel on both sides of US 101, North Davis Road at West Market Street, North Main Street at East Boronda Road, and Natividad Road and E Boronda Road.

There are approximately 60 intersections equipped with traffic signal preemption devices designed to change the signal to green for emergency apparatus. This system can provide the right-of-way for SFD, reducing response times and decreasing the chance of an accident involving another vehicle. The following figure shows the road network in Salinas.

Figure 137: Salinas Road Network



Energy

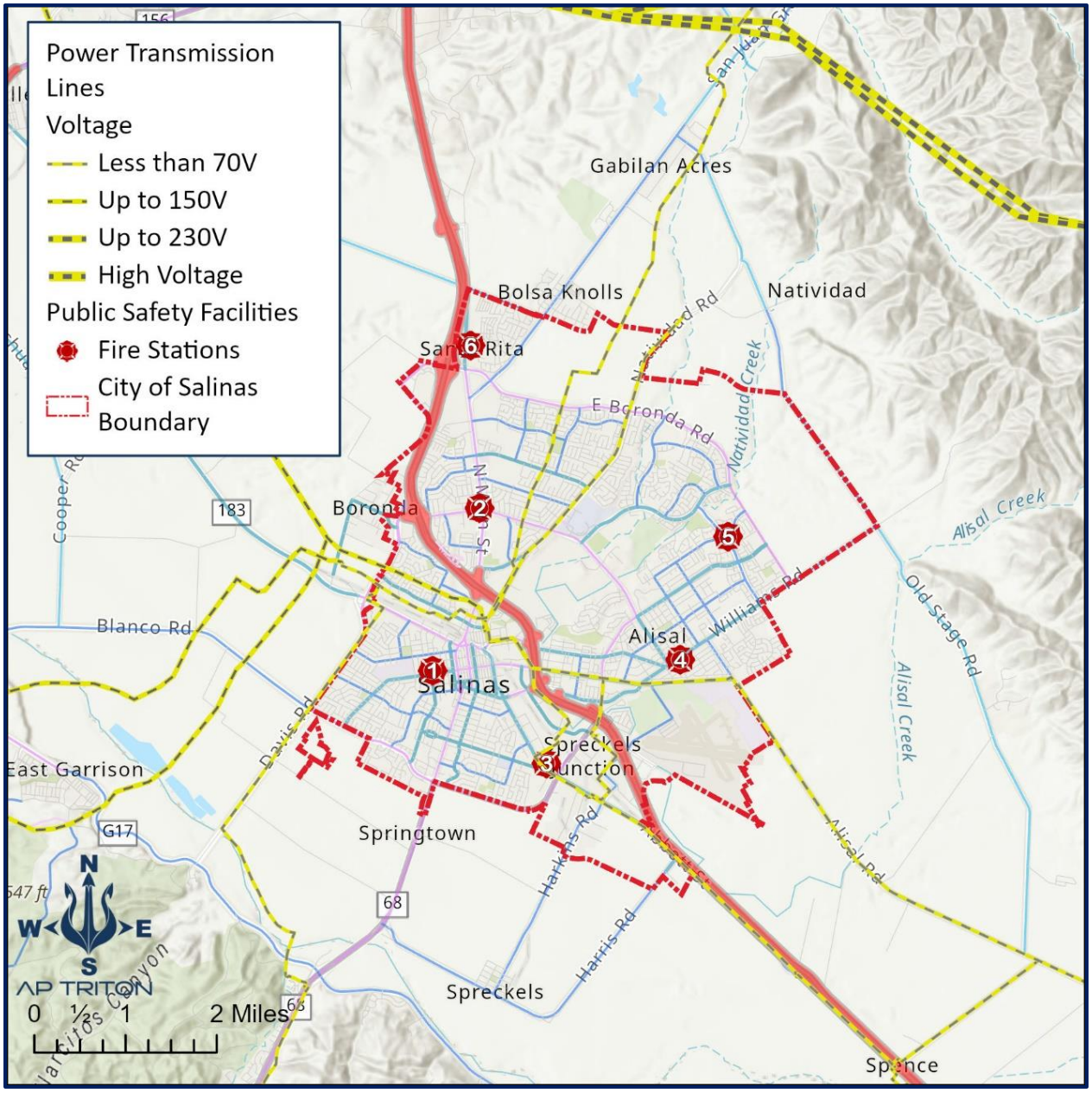
The ability to provide energy is a necessary component of a thriving community. The community depends on energy sources: electricity generation and transmission systems, fuel distribution and storage tanks, or natural gas pipelines and regulator stations. The power needs include communications to traffic signals to normal operations, which requires energy use. Pacific Gas and Electric (PGE) Company provides power and natural gas for the SFD service area.

Electricity

PGE provides electrical service for Salinas. 60-kilovolt and 115-kilovolt electrical transmission lines travel through the city for distribution and to other parts of the region. Electrical substations are at several locations in the city, including Terven Ave, Sherwood Dr, and Abbott St.[35] Substations step down the voltage in the distribution system for residential and commercial users. Emergency responders require extreme caution if an incident occurs at one of these locations. Entry by SFD personnel to a substation should not happen until representatives of PGE arrive on the scene and give clearance.

Although not common, PGE may implement Public Safety Power Shutoffs during red flag warnings. These warnings occur when high winds (> 25 mph or gusts above 45 mph), low humidity, or when PGE observes an issue that may cause a fire because of power lines causing a spark, even in locations considered at low risk. These shutoffs are usually temporary. PGE alerts customers before shutting off power, but the customer must sign up for text, phone messages, or email notifications.[36] The following figure shows the locations of High-Voltage Electrical Transmission Lines.

Figure 138: Power Transmission Lines



Natural Gas

PGE provides natural gas in the city through transmission and high-pressure distribution lines that supply service lines for commercial and residential use. PGE's natural gas transmission pipeline travels north-south through the city and branches down E Laurel Dr, N. Sanborn Rd, and Del Monte Ave to Williams Rd. Natural gas incidents are often caused by contractors who cut or damage lines during construction excavation. The following figure from PGE shows the locations of natural gas transmission pipelines.[37]

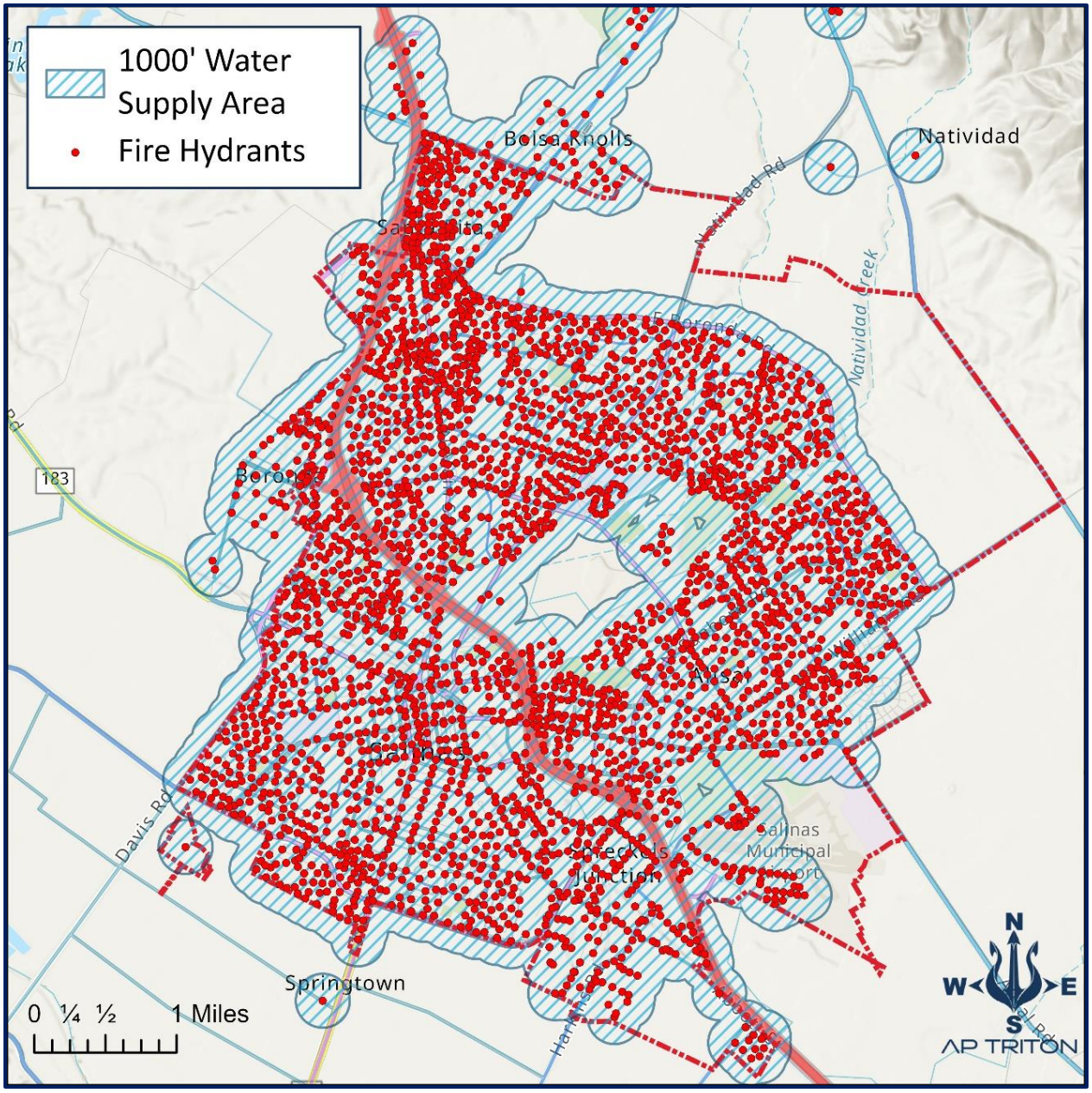
Figure 139: PGE Natural Gas Transmission Pipelines

Water

Controlling a fire becomes challenging without an adequate water supply and distribution system consisting of water storage, mains, and a fire hydrant system. A system of well-distributed hydrants and appropriately sized water mains are necessary to provide the required water for fireground use.

The California Water Service Company (Cal Water) and Alco Water serve the City of Salinas. Cal Water provides potable drinking water from 31 wells. The water is distributed from three elevated storage tanks and 300 miles of water mains.[38] The following figure shows the location of properties within 1,000' of a fire hydrant.

Figure 140: Properties within 1,000 feet of a Fire Hydrant

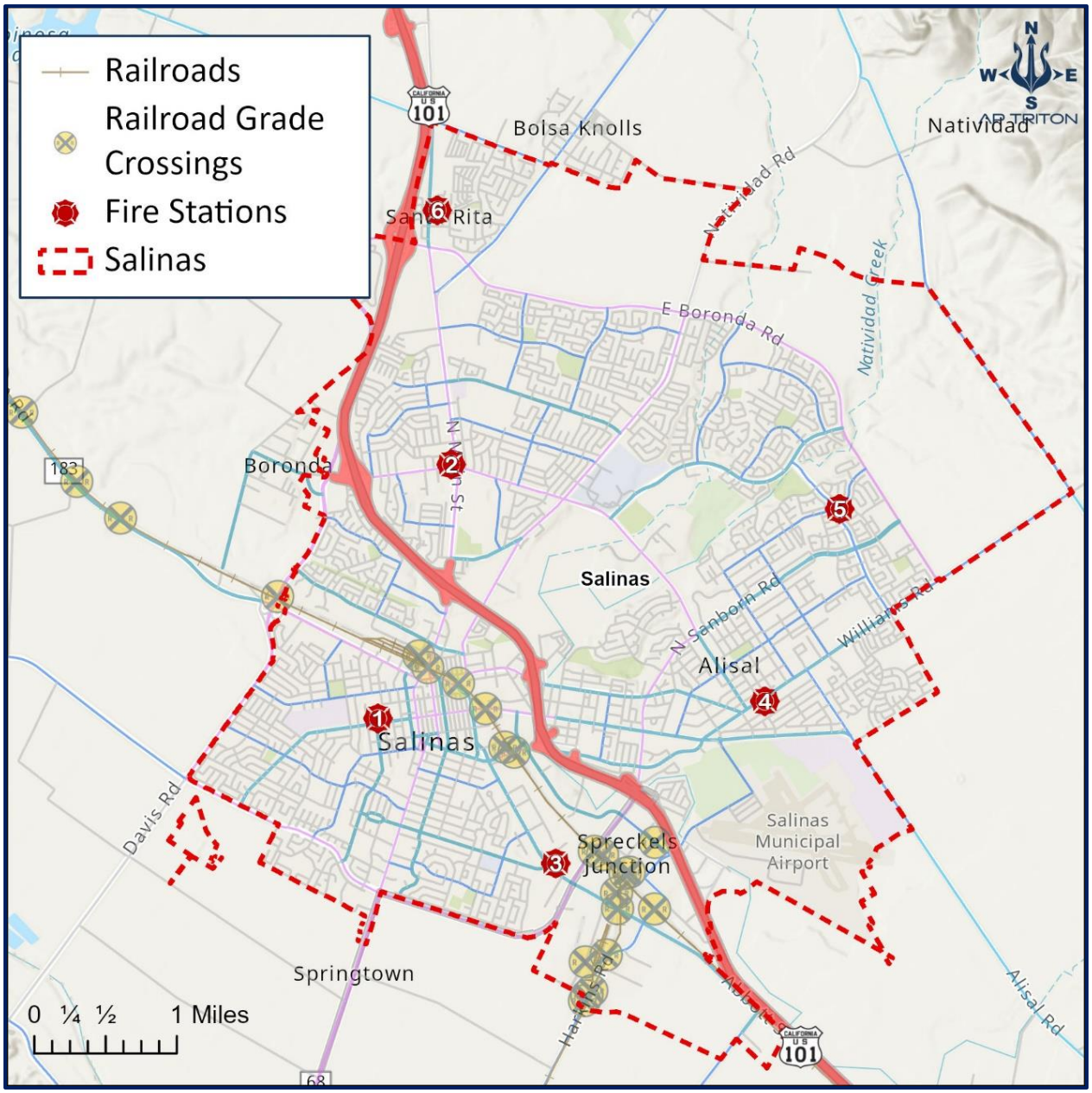


Railroads

The Union Pacific Railroad operates the primary rail line through Salinas. Amtrak (Coast Starlight) provides daily passenger service on the same rail line at the Salinas Intermodal Transportation Center. Since June 2011, there have been eight fatalities and two injuries involving a train in Salinas. Most fatality accidents have occurred near N. Main St (five) or John St (two).[39]

The number of freight trains traveling through the city is high because this is a main rail line for Union Pacific. The trains transport unknown quantities of hazardous materials and other products that may impact SFD during a derailment. The following figure shows the location of the rail line and crossings.

Figure 141: Railroads



Communication

When an incident occurs, essential facilities require a communication center to properly communicate with emergency responders. Other communication options are critical to the community, such as cellular phones, Voice over Internet Protocol (VoIP) telephone systems, or transmission lines from the local telephone company. These systems allow the public to notify emergency services of an incident. Internet services are essential for the public, commercial establishments, and emergency services to conduct daily business. Whether the internet services are through cellular access or an internet service provider, the failure of these communication systems can significantly impact emergency services and the public.

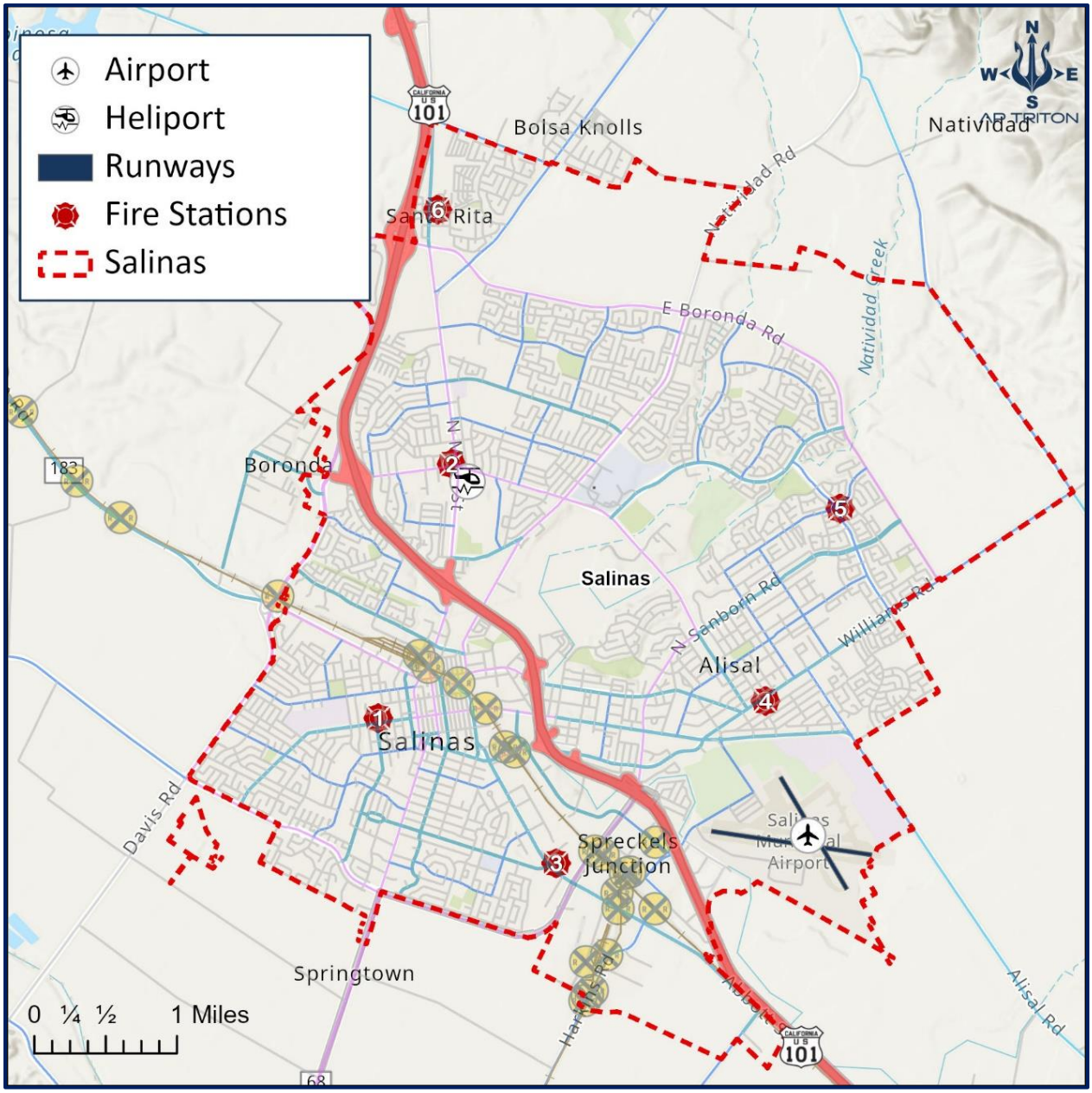
As mentioned previously in this report, the Monterey County Emergency Communications Department is the county's largest Public Safety Answering Point and dispatches for SFD and other emergency services agencies.

Airport

The Salinas Municipal Airport resides on 605 acres and is located along the southeast border of the city. The airport has two runways: Runway 8/26, 6,004' by 150', and Runway 13/31, 4,825 by 150'. The Salinas Municipal Airport's Economic Benefit Analysis states that there are approximately 165 aircraft based at the airport, and it has more than 70,000 flight operations annually.

The air traffic control tower is open for 12 hours daily and closes at 7:00 p.m. Several fixed-based operators at the airport offer fueling, maintenance, and agricultural services. SFD only provides fire protection services as needed and has no on-site presence at the airport. The following figure provides the location of the Salinas Municipal Airport and helipad.

Figure 142: Airport & Helipads



Comparison of Fire Risk in Other Communities

Fire Loss

In 2021, fire departments responded to more than 1.35 million incidents in the United States that caused 3,655 civilian fire fatalities and over 15,200 civilian fire injuries. The property damage was estimated at more than $15.9 billion. The NFPA reported that 64% of the fire deaths occurred in one- or two-family dwellings. The report stated that $648 billion of property fire losses were from wildland urban interface incidents.[40]

Fire loss can vary yearly based on the number of fires occurring or the amount of property exposed during an incident. In 2019, the fire loss per capita was $41.58, which has increased yearly since and is well above the national average. Based on the most current NFPA statistics, the below figure compares the property and contents loss for 2019–2022. As mentioned in the "Life Safety & Public Education" section, Salinas should consider hiring a Community Risk Reduction Coordinator to reduce the fire loss.

Figure 143: Property Loss per Capita (2018–2020)

Year	SFD Property Loss per Capita	U.S. Property Loss per Capita[41]
2019	$41.35	$45.58
2020	$109.71	$67.06
2021	$125.23	$48.22
2022	$291.26	N/A *

*Data for the U.S. property loss has not been released for 2022.

The number of fires per 1,000 population in Salinas varies annually compared to the national average, as shown in the following figure.

Figure 144: Fires per 1,000 Population

Year	SFD Fires per 1,000 Population	U.S. Fires per 1,000 Population[42]
2019	2.8	3.1
2020	3.9	3.4
2021	3.4	3.6
2022	2.6	N/A *

*Data for the U.S. property loss has not been released for 2022.

Intentionally Set Fires

Intentionally set fires, or in many cases considered arson, is defined as "any willful or malicious burning or attempt to burn, with or without intent to defraud, a dwelling house, public building, motor vehicle or aircraft, personal property of another.[43] SFD does not collect cause of fire data but should begin this process to determine why fires are occurring and be able to implement programs to reduce accidental and intentionally set fires.

Insurance Service Office

The Insurance Services Office, Inc. (ISO©) is an independent organization that collects and analyzes data from fire departments in communities throughout the United States to determine rates for fire insurance. According to their report, the ISO's Public Protection Classification program, or PPC, "is a proven and reliable predictor of future fire losses." Commercial property insurance rates are expected to be lower in areas with better (lower) ISO PPC Class ratings.

The ISO Fire Suppression Rating Schedule (FSRS) measures four primary elements of a community's fire protection system: *Emergency Communications* (max 10 points); *Fire Department* (max 50 points); *Water Supply* (max 40 points), and *Community Risk Reduction* (max 5.5 points) for a maximum possible total of 105.5 points. ISO then assigns a grade using a scale of 1 to 10. Class 1 represents the highest degree of fire protection, and Class 10 designates a fire suppression program that does not meet ISO's minimum criteria.

A review of the most recent evaluation by ISO, effective April 1, 2021, assigned 81.75 credits and provided the city with a classification of 2/2X. Opportunities for improvement include the following. Telecommunication received two credits out of four available. The reduction came from zero credits for Alarm Processing (needs to meet NFPA 1221) and Emergency Dispatch Protocols.

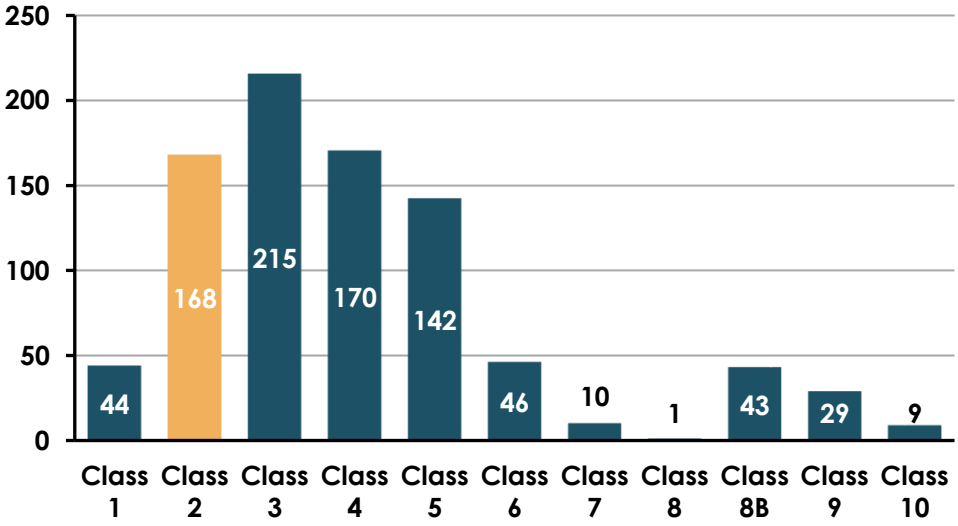
Only half the credits were received for Telecommunicator Continuing Education and Quality Assurance. Credit for Company Personnel earned 7.5 out of 15 available. A sub-category in the Training category for Pre-Fire Planning Inspections only received zero credits out of 12. 2.23 credits were earned for Inspection and Flow Testing of fire hydrants out of seven available. The below figure shows the ISO credits earned and available for the City of Salinas.

Figure 145: ISO Earned & Available Credits for the City of Salinas

ISO Feature	Earned Credit	Available Credit
Emergency Communications	8.0	10
Fire Department	38.15	50
Water Supply	32.82	40
Divergence	-1.15	0
Community Risk Reduction	3.93	5.5
Totals:	**81.75**	**105.5**

The following figure shows all the fire departments in California and the number of ratings for each classification; 168 departments have a Class 2 rating in the state.

Figure 146: California ISO Classifications



Community Risk Reduction

Triton recommends adopting a Community Risk Reduction (CRR) program that includes *"The identification and prioritization of risks followed by the integrated application of resources to improve public safety and reduce increasing call volumes."*[44] The goal is to incorporate emergency operations with prevention efforts at the fire station level. The station-level approach is preferred because risks vary from one station to another and even within a station's district. Ultimately, a CRR program examines problems and develops prevention or mitigation strategies to reduce risk and hazards.

Data collected for this master plan and continued analysis in the future creates an opportunity to determine if specific hazards are increasing or decreasing based on incident response. Risks may change as new development or demographic change occurs in Salinas, impacting service delivery.

Although SFD provides risk reduction in the community (fire code and suppression), it is not a comprehensive or coordinated effort. When developing strategies, they should include the use of the *Five E*'s:

- Education—Will education help the public—who, where, and when?
- Engineering—What engineering or technology is available to help?
- Enforcement—Is additional or more substantial enforcement needed?
- Economic Incentives—Could incentives increase compliance?
- Emergency Response—Would changes in response make a difference (personnel, training, etc.)?

Using the *Five E*'s is a method to identify a strategy or, in many cases, multiple strategies to prevent or mitigate the risk from reoccurring.

When developing a CRR plan, SFD should determine what strategies have already been implemented in the community to prevent duplication. Outside resources may be available through partnerships with community organizations such as law enforcement, nonprofits, health departments, EMS, religious, and local businesses. These groups may offer a different perspective to staff and provide additional funding and resources because of limitations within the fire department.

Preparing a CRR plan should align with the department's mission and strategic plan. Creating a plan at the station level allows personnel to engage the community they serve and provide additional information for SFD's continuous improvement process. It empowers staff to interact, learn more about their community, and take ownership of the program. Station personnel will begin to understand the importance of collecting accurate data to support their plan, developing strategies using partnerships, gaining their input, soliciting feedback from the community, and ultimately deciding what risk to prioritize.

The following figure is a basic methodology offered by Vision 20/20 to identify and analyze risks within a community. Vision 20/20 includes a coalition of national organizations and experts that exemplify how collaboration, communication, and commitment to data-based solutions can save lives and properties.

Figure 147: Community Risk Reduction Planning Process

Section III:
FINDINGS & RECOMMENDATIONS

Findings & Observations

General Findings & Observations

- The Salinas Fire Department (SFD) has an established Mission, Vision, and Values Statement.
- SFD has not developed a strategic plan identifying goals and objectives.
- SFD produces an annual report, but it has been delayed pending completion of the Master Plan.
- SFD does a good job with document control and recordkeeping.
- The number of fires in Salinas is above the national average.
- Incidents associated with the homeless population accounted for 5.1% of responses between 2020–2022.
- Fire loss in Salinas is well above the national average for a city its size.
- The total response workload has increased by 29.8% over the past seven years.
- The current Unit Hour Utilization (UHU) is higher than in 2019. All stations exceeded 10%-unit hour utilization. SFD has identified a series of incidents related to "unsheltered" persons that may account for much of this increase.
- Emergency Communications Department generally meets national call processing criteria in all classes except for fire responses.
- SFD is invested in technology and strategies to improve turnout time.
- From 2018-2022, SFD's response time at the 90th percentile was 6:44 for all call types and 6:39 for EMS incidents. This exceeds the NFPA standard.
- The City has received grants to update the traffic signal preemption system to improve response times.
- The City Council has allocated funding to purchase land for a new Fire Station 7, but the funding for construction, staffing, and equipment has not been identified.
- Traffic calming devices continue to be installed in Salinas, which increases response times.
- The City Council has authorized "over hiring" for firefighters for vacant positions to reduce overtime and provide four-person staffing on the truck companies when personnel are available.
- The only comprehensive medical exam is provided to personnel when they are hired.

- Maintenance staff are not certified as Emergency Vehicle Technicians to repair and maintain fire apparatus.
- The primary area not within 1.5 miles from a fire station with an engine company is south of Natividad Road and East Boronda Road.
- SFD is reviewing a cloud-based pre-incident planning software system.

Emergency Medical Service

- EMS workload increased by 40.3% over the last seven years.
- EMS requests are 75.8% of all responses. This has increased since the 2019 report by nearly 7%.
- Per Monterey County EMSA policy, American Medical Response (AMR) units can be reassigned or diverted to more acute level calls while responding to low-acuity calls such as Omega, Alpha, and Bravo level calls. In the event of reassignment or diversion, SFD crews are left on the scene until another AMR ambulance becomes available.
- Unit Hour Utilization is not tracked specifically to time on task when an AMR ambulance is redirected or diverted.
- AMR carries handheld/portable radios and can communicate directly with SFD units, but it is reported that it rarely happens for AMR and SFD to communicate directly.
- 56% of medical aids fall into two call types: Sick Person and Unknown Problem/Person Down.
- Information obtained during MPDS (Medical Priority Dispatching) from AMR is not consistently relayed and/or updated to SFD field personnel.
- Homeless responses are a significant obligation of SFD. Research revealed that Natividad Hospital offers comprehensive mental health services with 24-hour care.
- Medical call trends increase around 7:00 a.m. and taper off around 7:00 p.m.
- SFD's quality assurance program is managed by a 40-hour administrative captain who is responsible for several additional duties.
- Data from the organization is consistent with national trends where most emergency responses are EMS-related. The overall breakdown was 82% (2022) EMS compared to 15% Fire and 4% Other calls for service demand.

- According to the data, the volume of incident medical calls related to homeless medical aids is just above 6%.
- The Monterey County EMS Agency has been meeting with AMR to monitor performance. A Contract Compliance Working Group was formed in 2021, comprising citizen representatives, EMS agency staff, a local emergency room physician, and AMR leadership to monitor AMR's performance by reviewing various metrics.
- The Salinas City Council provides funding to train additional firefighters to become paramedics

Financial Findings

- Budget documents are extremely complex, with numbers in the detailed sections not tracking to the summary sheets. For example, FY 2023 Proposed General Fund Non-Departmental expenditures in the detailed section (page 223) were listed as $17,636,210, with General Fund and Measure E providing amounts as $6,025,610 and $171,700, respectively. The $171,700 Measure E was identified as a Community Development program, but we could not identify the costs related to the General Fund expenditures. This was prevalent throughout the review.
  - In addition, the amended FY 2022 and FY 2023 Proposed Amounts did not match the main schedule shown on page "v" of the presentation. Therefore, Triton elected to use the amounts in the detail sheets.
- The COVID-19 pandemic negatively affected the sales tax revenues of the City of Salinas, reducing revenues in the General, Measure E, and Measure G Funds for Fiscal Year 2020.
- The City's budgeted revenues continue to be strained to keep pace with the inflation-fueled growth in expenditures.
- The fire department has added a fourth position to its second ladder company as daily staffing levels allow.
- The City has a Capital Improvements Program that is reviewed and updated annually.
- The item's priority and availability of funds drive funding for each year's investment under the Capital Improvements Plan.

Facility Findings

- All fire stations show a sense of pride by the crews regarding cleanliness (inside and out) and general maintenance.
- Each station has on-site fueling capabilities, except for Station 2.
- The traffic signal preemption system is inoperative at Station 4.
- Auxiliary power systems (generators) are located at each station. However, the generator at Fire Station 1 is non-compliant with current EPA requirements.
- Facility recordkeeping is lacking.
- All stations have workout equipment located within the apparatus bay, with no physical separation between the apparatus and workout areas.
- SFD has developed a formal policy (Policy 1307) for maintaining fire station cleanliness.
- Each station needs updating from a construction, ADA, and modernization standpoint.

Special Operations

- SFD has a robust Hazardous Materials response program.
- Technical Rescue Team Policies & Procedures are current but SOGs should be established for each respective discipline.

Training Findings

- Policies and Procedures are current and available to all personnel, but Standard Operating Guidelines (SOGs) have not been completed.
- The Training Division lacks adequate administrative support.
- An annual training report should be developed.
- Training hours are broken down into various categories; however, total hours for each category were not available at the time of this report.
- An annual Training Plan and multi-year calendar are available for all personnel.

Life Safety & Public Education

- The Fire Marshal has additional responsibilities not associated with fire code enforcement.
- SFD is not meeting the state-mandated inspection schedule.
- SFD needs to develop a list of all commercial occupancies in the city.
- A defined schedule to inspect all commercial occupancies needs to be developed.
- The cause of a fire is not determined, and minimal investigations occur.
- SFD provides excellent service for new construction plan reviews and permitting.
- Public outreach and prevention activities need to be expanded.
- There is no coordinated community risk reduction program at SFD.

Introduction to Recommendations & Strategies

Based on the analysis and considering community expectations, recommendations are offered to assist SFD with long-range planning and improve the delivery of fire and emergency services to the community. Triton does not expect SFD to implement all recommendations in the short term. Some may wait until economic conditions allow their implementation. However, all the recommendations offered chart a course to improve capability and service. The recommendations are described as goals and should be implemented as funding allows. Each will improve SFD's ability to provide effective service to the community.

Recommended Short-Term Strategies

Short-term recommendations are aimed at improving the current conditions and levels of protection over the next one to two years.

Staffing Recommendations

Recommendation A-1: Implement a peak-hours Quick Response Unit to reduce unit hour utilization (UHU) for a 180-day trial period to decrease engine workload.

Description: Current UHU—the time a unit was committed to an incident as a percentage of total time on duty—is over 10% for each engine**.** Performance is measured by the ability of a unit to arrive on the scene 90% of the time. Once UHU reaches 10% for a primary responding unit, meeting 90th percentile response times becomes more challenging due to the unavailability of immediate response. Engine 1 and Engine 2 have the highest UHU at 17.8% and 17.9%, respectively.

Outcomes: Implementing a peak hour Quick Response Unit for 12 hours would reduce the workload for one of the engines with the current deployment system and determine if this could reduce peak hour workload. Increased call volume, calls involving persons experiencing homelessness, and other factors are affecting AMR. The data show that calls increase between 8:00 a.m. to 8:00 p.m. This unit would be staffed by overtime personnel.

Estimated Costs: The cost for implementation includes using an existing Unit and equipment (drug box, cardiac monitor, and many other critical inventory items). Other costs would include maintenance and fuel costs. If staffed with a firefighter/paramedic and acting officer utilizing overtime, the cost would be based on their annual salary and benefits listed at $253,398. A second option would use overhire positions.

*Note: The cost of a firefighter/paramedic is based on the annual salary and benefits and does not include pension benefits.

Figure 148: Cost of Overtime to Staff SUV

Description	Factor	Cost
Hourly rate—FF/Paramedic	$33.51	$92,342
Hourly rate—Acting Officer	$39.15	$8,242
Overtime Hourly Rate	$50.26	$107,886
Overtime Hourly Rate	$58.72	$9,630
12 hrs/day * two personnel * 180 days		$235,391
Medicare (180 days * 12 hrs per day)	.0145	$3,413
FICA	.062	$14,594
Total to Staff for 180 Days:		**$253,398**

Figure 149: Cost of Overhires to Staff SUV

Description	FF Paramedic	Engineer	Captain
Hourly rate—FF/Paramedic	$33.41	$38.53	$43.62
Hourly rate—Acting Officer	$4.18	$3.85	
Hourly rate	$37.59	$42.38	$43.62
Base Hours	2,756	2,756	2,756
Base pay	**$103,587.71**	**$116,807.55**	**$120,216.72**
Overtime pay @ 1.50	$56.38	$63.57	$65.43
Overtime hours	$164.00	$164.00	$164.00
Overtime compensation	$9,246.22	$10,426.22	$10,730.52
Total compensation	**$112,833.92**	**$127,233.77**	**$130,947.24**
FICA	$6,995.70	$7,888.49	$8,118.73
Medicare	$1,636.09	$1,844.89	$1,898.73
Workers compensation	$15,796.75	$17,812.73	$18,332.61
Pension	$13,314.40	$15,013.58	$15,451.77
Medical insurance	$25,296.48	$25,296.48	$25,296.48
Dental insurance	$2,057.28	$2,057.28	$2,057.28
Disability	$243.36	$250.44	$284.40
Life insurance	$105.60	$105.60	$105.60
Total benefits	**$65,445.67**	**$70,269.49**	**$71,545.61**
Total wages & benefits	**$178,279.59**	**$197,503.26**	**$202,492.85**
Average hourly rate (2,920 hrs)	$61.05	$67.64	$69.35
Assigned hours (180 days)	$4,320.00	$4,320.00	$4,320.00
Total Cost	**$263,756.11**	**$292,196.60**	**$299,578.47**

Recommendation A-2: Consider creating a second 56-hour shift Battalion Chief position.

Description: The size of the fire department's response area, staffing, increased risk, projected service demands, the span of control, and demands exceeds a one-battalion chief service delivery configuration. The on-duty battalion chief supervises six engines and two truck companies for eight apparatus.

Outcomes: An additional shift battalion chief will allow a span of control that enhances accountability and service for the fire department's response area, personnel supervision and evaluations, and emergency response duties.

Estimated Financial Cost Total Salary & Benefits: Three additional 56-hour Battalion Chief positions are approximately $650,000.

Recommendation A-3: Implement an annual medical examination program for all Operational Firefighters.

Description: The only medical examinations required are for new firefighter candidates. These initial examinations determine if the potential employee has any physical problems that may not allow them to function during fireground operations or other physical activities. Initiating comprehensive annual physicals for all personnel could assist the medical provider contracted by SFD identify health-related illnesses/injuries that could impact a firefighter's career.

Outcomes: NFPA 1582*: Standard of Comprehensive Occupational Medical Program for Fire Departments* was developed to provide guidance for medical examinations for firefighters. The standard states that it provides information and guidance for physicians and other health care providers responsible for fire department occupational medical programs. The medical requirements are intended to be part of an evaluation to ensure that candidates and current members are capable of performing their required duties and reduce the risk of occupational injuries and illnesses.

Costs: Program costs may vary due to the comprehensive nature of the examination. Approximate costs range from $300 to $500 per employee. However, these costs may be negotiated with the provider depending on the number of personnel enrolled and neighboring/regional fire department provider partnerships.

Recommendation A-4: Add a Registered Nurse/Nurse Educator to oversee a Continuous Quality Improvement Program

Description: Continuous Quality Improvement (programs take time and dedicated staff to review patient care, network with hospitals for patient follow-up information, collect system data and provide an educational program to improve the system. SFD utilizes an administrative captain as the Department's Designated Infection Control Officer. As seen during the COVID-19 pandemic, the Cal/OSHA requirements can change quickly and significantly impact operations. Having someone dedicated to keeping up with these standards is critical.

Outcomes: Employing a registered nurse as part of the fire department team is valuable and provides stability to the EMS Division. They build relationships with the hospital staff, the public health department, the Medical Director, and the LEMSA. Their advanced medical training allows them to provide high-quality continuing education and function as the Designated Infection Control Officer, providing immunizations such as annual influenza vaccines, TB testing, and other health and wellness care.

Estimated Cost: Contract employees can range in price and be paid on an hourly use model. Costs could range from $30,000 to $40,000 annually based on a $50.00/hour employee and 16-20 hours per week. However, seeking a full-time contract nurse could cost as much as $244,943.76.

Recommendation A-5: SFD should increase the use of a statistically based quality management program.

Description: Continuous Quality Improvement (CQI) measures your current processes and creates systems to make improvements. CQI can be considered a wheel with many spokes supporting it. Currently, the department does not track patient outcomes. CQI as vital to address improvement needs in the system and individually. The department should partner with local area hospitals to utilize the patient outcome feature in ESO to close the loop on patient treatments and provide critical feedback for paramedics in the field.

Outcomes: Relaying MPD information efficiently and timely increases the overall situational awareness of firefighters in the field and provides company officers with critical information to aid in decision-making. A good statistically based CQI program will ensure performance measures are tracked, which provides quantifiable feedback to key performance indicators.

Estimated Cost: This should be a no-cost item and part of the ESO suite of services. A training and education program must be developed to bring the hospital staff on board with how the system works.

Recommendation A-6: Put greater emphasis on improving the number of medical calls received by Medical Priority Dispatching (MPD) and ensuring critical information is efficiently relayed to field units.

Description: According to a report submitted to the Emergency Medical Care Committee, which came from the Contract Compliance Working Group (CCWG), AMR dispatchers effectively use the MPD 74% of the time, the highest it has been for over a year. However, the information obtained by AMR dispatchers while performing MPD is not routinely transferred to SFD personnel. Furthermore, SFD personnel are not active participants in the CCWG, and reporting is not provided to SFD. The need for more information-sharing amongst stakeholders should be improved.

Outcomes: Information can be shared and disseminated promptly by becoming active participants in the CCWG.

Estimated Cost: Staff time.

Recommendation A-7: SFD and AMR should explore options to improve field-level communications.

Description: According to the questionnaires and interviews with SFD personnel, SFD crews, and AMR crews can communicate directly via handheld radios, but it is not customary.

Outcomes: Real-time information is a critical safety practice for first responders. In addition, timely information is generally best done verbally. If AMR properly trains its personnel to use the fire department radios, verbal communication would be strengthened exponentially.

Estimated Cost: Staff time to train on radios.

Recommendation A-8: SFD should explore drafting a reasonable ambulance (ALS/BLS) bid to provide ambulance services within the city boundaries when the current contract expires in 2025.

Description: The passage of AB1705 allows public safety agencies to participate in the Public Provider Ground Emergency Medical Transport (PP-GEMT) Intergovernmental Transfer Program (IGT) program to provide increased reimbursements to emergency medical transports provided by eligible public GEMT providers. This program adds to the fee-for-service for contracted Medi-Cal plan subscribers.

Providers are eligible to participate in the PP-GEMT-IGT program if they meet all the following criteria:[45]

- Provide GEMT services to Medi-Cal beneficiaries;
- Are enrolled as a Medi-Cal provider for the period being claimed; and
- Are owned or operated by the state, a city, county, city and county, fire protection, special district, community services district, health care district, or a federally recognized Indian tribe.

Additional benefits to controlling ambulance transport include participating in a Community Paramedicine/Alternate Destination program. AB1544 establishes the Community Paramedicine or Triage to Alternate Destination Act of 2020, which permits local emergency medical services agencies (LEMSAs), with approval by the Emergency Medical Services Authority, to develop programs to provide community paramedic (CP) or triage to alternate destination (TAD) services in one of the following specialties: 1) providing directly observed tuberculosis therapy; 2) providing case management services to frequent emergency medical services users; 3) providing hospice services to treat patients in their homes; and, 4) providing patients with transport to an alternate destination, which can either be an authorized mental health facility or an authorized sobering center.

Outcomes: In 2025, the current contract awarded to AMR will expire, allowing SFD to submit a bid for such services. Should SFD be awarded the contract, many opportunities will open, including significant cost recovery through the PP-GEMT program.

Estimated Cost: Further research is needed to determine the cost of submitting a bid to the County to become the contracted transport ambulance service. Hardware purchases include multiple ambulances, including EMS supplies and equipment, estimated at $307,000 per ambulance (this includes an automatic battery-operated gurney, drug box, cardiac monitor, and many other critical inventory items). Annual operating costs include insurance, fuel and maintenance, data connection, BLS and ALS supplies, uniforms, and certifications, which total approximately $70,000. Many start-up costs will be recovered as the program moves through implementation.

Recommendation A-9: SFD should consider implementing a first responder fee to recover a portion of the costs incurred in sending a paramedic-staffed engine company on emergency medical calls.

Description: California State legislation allows for agencies to recover the costs of providing services. This cost recovery may be used to mitigate the cost of providing a fire apparatus of other unit staffed with qualified firefighters responding to a medical emergency.

Outcomes: The cost of providing first responder service with fire department apparatus and personnel is significant annually. In FY 2021, approximately 68% of SFD's call volume was in response to medical emergencies. Therefore, the cost to respond to a paramedic-staffed and ALS-equipped fire apparatus is a significant burden on the fire department's budget. Through the implementation of a first responder fee, a portion of these costs may be recovered.

Estimated Cost to Implement: The cost to implement such a program could be either internal staff time to analyze the applicable costs, develop the fee structure, and create the Fee Ordinance for the City Manager or obtain the services of an independent consultant to perform 3those services.

Recommendation A-10: Determine if the Traffic Signal Preemption System can become Operational.

Description: The current traffic signal preemption system at Station 4 is inoperative.

Outcomes: SFD should determine why the electrical system is impacting the use of the traffic signal preemption system. When responding from the station, the preemption system can reduce the chance of an accident between vehicles and emergency apparatus.

Estimated Cost: The City has received a grant to upgrade the existing traffic signal preemption system. Staff time is required to determine why the electrical problems exist and when the current system can be upgraded. There may be additional costs should an outside contractor be needed.

Recommendation A-11: Improve Recordkeeping for Facilities.

Description: Although a Fire Station Cleanliness and Maintenance Policy exists (Policy 1307), there is no documented process for tracking maintenance needs that can be passed on to other shifts.

Outcomes: An easily understood and verifiable method to understand station needs and preventative maintenance performed.

Estimated Cost: Staff time. Additional costs may be incurred if a third-party vendor is selected.

Recommendation A-12: Develop a plan to build and staff Fire Station 7.

Description: The need for Station 7 continues to increase as the area north and east of the city develops. Increasing incident volume in the existing city limits is placing a burden on staff and equipment.

Outcomes: The additional station will assist in balancing incident responses across the city and reduce excessive unit hour utilization. An area near E. Boronda and Natividad Rd would provide a location to provide coverage to the existing city and where future growth will occur.

Estimated Cost: The cost of constructing a new fire station is difficult to estimate based on recent inflation and supply chain issues but can exceed $900 per square foot.

Recommendation A-13: Add one administrative team member to support the Training Division.

Description: The SFD Administrative Support staff performs various tasks in support of management and other divisions. Although each employee is flexible and capable of multi-tasking, they are frequently stretched to accomplish the range of assigned tasks and duties.

Outcomes: Adding one administrative support team member at the Administrative Analyst level will allow for dedicated support, particularly in the Training Division.

Estimated Cost: The City of Salinas HR Department lists an Administrative Analyst-I position starting salary (base salary) at approximately $5,132.00 monthly.

Recommendation A-14: Develop a strategic plan for the Department.

Description: A community-focused strategic plan that uses a systematic approach will identify critical goals and objectives that can guide the department into the future. This process should include internal and external stakeholders to ensure a collaborative and transparent opportunity.

Outcomes: Creating a comprehensive strategic plan would allow SFD to identify significant challenges the Department faces today and provide a multi-year roadmap on addressing these challenges in the future.

Estimated Cost: If an in-house strategic planning process is used, staff time to develop, produce, and distribute the plan. The cost would be approximately $18,000 to use an outside vendor.

Recommendation A-15: Develop an annual report for SFD.

Description: SFD should develop an annual report that discusses the department's profile, statistics, and the services provided and showcases SFD's accomplishments and special highlights throughout the year.

Outcomes: Creating an annual report helps to increase the level of internal communication and provides an enhanced level of engagement throughout the community.

Estimated Cost: Staff time.

Life Safety Recommendations

Recommendation A-16: Add Support Division Chief to reduce the Fire Marshal's workload.

Description: The Fire Marshal is responsible for managing the fire prevention bureau for SFD, but now has other duties such as vehicle maintenance, apparatus purchasing, apparatus equipment and maintenance work group, purchasing, and emergency planning and operations in Salinas. This position should focus on the City's fire code enforcement and prevention efforts.

Outcomes: Providing an additional staff position (division chief) will allow SFD to strategically manage the fire prevention bureau and the other support functions necessary to properly operate a growing organization and city.

Estimated Cost: The estimated cost to create a division chief position would be approximately $258,000.

Recommendation A-17: Identify all Commercial Properties and Target Hazards

Description: Identification of all commercial properties is necessary to determine if there are additional risks in the community. This process will also identify target hazards, locations with a high loss of life, or a negative impact on the community if a fire or other incident occurs.

Outcomes: Identifying these properties will assist the fire prevention bureau implement a schedule to inspect all commercial properties and locate unidentified target hazards in the city. Locating these properties allows SFD to develop proper planning (strategy and tactics) for events such as a fire or active shooter.

Estimated Cost: The costs are staff time to identify the commercial properties and target hazards.

Recommendation A-18: Institute all Operational Permits authorized by the California Fire Code.

Description: The California Fire Code allows jurisdictions to require specific operational permits to be issued when all fire code requirements are met. The City of Salinas has adopted some permits and an associated fee, but not all have been implemented.

Outcomes: Fire code enforcement would improve if all required operational permits are issued and increased revenue is anticipated.

Estimated Cost: Staff time is required to review the existing permits issued by SFD. Revenues are expected to increase, but a more thorough study by SFD is necessary to determine how many additional permits could be issued along with anticipated revenues.

Recommended Mid-Term Strategies

The mid-term strategies are progressive enhancements of the current conditions. Many will likely require three to five years to accomplish.

General Recommendations

Recommendation B-1: Maintenance staff for Fire Apparatus should be certified Emergency Vehicle Technicians.

Description: The City's vehicle maintenance facility staff, who repair and maintain fire apparatus, are not certified Emergency Vehicle Technicians (EVT). EVTs receive specific training for fire apparatus such as fire pumps, electrical systems, aerial apparatus, automatic transmissions, diesel engines, brakes, and suspension and steering.

Outcomes: Staff receiving their EVT certification will provide enhanced maintenance and repairs of fire apparatus. Establishing a definitive maintenance program based on the manufacturer's recommendation will keep the frontline apparatus in service and respond when an incident occurs.

Estimated Costs: Travel and registration costs are unknown.

EMS Recommendations

Recommendation B-2: Increase EMS training to mirror the National Registry requirements.

Description: The National Registry of Paramedics (NRP) – Paramedic National Continued Competency Program (NCCP) requires 60 hours of continuing education to recertify. This training is broken down into three components: (1) a national component, (2) a local/state component, and (3) an individual component. SFD can increase the number of EMS training hours required to mirror this National Standard with minimal cost by utilizing the built-in features of Vector Solutions, formerly Target Solutions.

Outcomes: The National Registry of Paramedics is a framework that can be implemented. The additional CME hours only strengthen field personnel's educational base. Lastly, the additional hours are a cushion for the required 48 hours and meet minimum standards for paramedics to recertify their national registry.

Estimated Cost: Staff time to schedule and provide additional CME hours. Generated classes can be updated bi-annually with minimal changes necessary once complete.

Recommendation B-3: SFD should explore options to partner with the police department, the County, and local non-profit organizations to create a response team to handle mental health cases, intoxication calls, and perform welfare checks.

Description: The Salinas Police Department implemented a Homeless Outreach Team (HOT) officer who is active with the homeless in Chinatown, and while the program is commendable, SFD could actively engage with PD in a similar program. There are numerous examples statewide of fire departments partnering with local law enforcement, county government, and private non-profit agencies to put a diverse group together to address various homeless needs.

Outcomes: SFD has an opportunity to be on the leading edge of providing services to not only the homeless population but the community at large by partnering with PD, County personnel, non-profit organizations, and local hospitals, which has proven to reduce service demand on field crews. Should SFD become a transport provider, they can take advantage of the Community Paramedicine program, where public providers have the first right of refusal.

Estimated Cost: The cost to add an administrative paramedic is $175,424.

Recommendation B-4: Develop an annual report for the Training Division.

Description: SFD's Training Division is responsible for training new firefighters and conducting in-service training for each department member. Each training activity is driven by the needs of SFD and by the regulatory requirements of external agencies. SFD should develop an annual training report which breaks down each area of training conducted by category and showcases the accomplishments of the training division.

Outcomes: The ability to provide detailed information on the type of training provided, the total hours instructed by category, and associated costs incurred. This information could help provide an in-depth analysis for budgeting purposes, grant opportunities, and public support for various training programs.

Estimated Financial Cost: Staff time.

Recommendation B-5: Determine if alternative dispatching for the fire and police departments should be considered.

Description: The Monterey County Consolidated Emergency Fire Dispatch Center (ECD) dispatches SFD and is the county's largest public safety answering point. The center is staffed by more than 35 staff, but there are currently more than 13 open positions. The center is unable to make modifications to dispatching procedures for SFD.

Outcomes: Reviewing alternatives to improve dispatching provided by ECD, could improve services for SFD and the Salinas Police Department (SPD). The following options could be considered.

- Establish an independent service level agreement with the ECD.
- Remain with the ECD and hire and train the dispatchers for Salinas.
- Operate a separate communication center for SFD and SPD.

These alternatives can provide oversight into improving the system and develop policies and procedures based on the needs of SFD and SPD. The ultimate goal is to improve service to the community, SFD, and SPD.

Estimated Cost: The cost is unknown until the City determines if an alternative dispatching process should be implemented.

Recommendation B-6: Hire additional fire inspectors.

Description: There is currently no defined schedule to inspect all commercial occupancies in Salinas other than what the California Office of State Fire Marshal requires. Without a schedule, occupancies may have fire code violations that pose a risk to their occupants.

Outcomes: Establishing an inspection schedule based on risks will enhance the building's occupants' safety and responding SFD personnel, reducing community fire and life safety risks.

Estimated Financial Cost/Savings: The costs are staff time to identify all commercial properties in Salinas.

Recommendation B-7: Institute a robust fire investigation program.

Description: Engine companies are responsible for most fire investigations, except for injuries, a death, or significant loss. Minimal fire investigation training is provided, and incendiary fires are not tracked.

Outcomes: An enhanced fire investigation process will provide more focus on the origin and cause of a fire. This information can be used to create prevention or mitigation programs to reduce the number of fire, whether intentionally set or caused by an accident, such as a pot of food on a stove. Creating an intervention program with other community partners if the fire involves a juvenile would improve interaction in the community and reduce other fires the individual may set.

Estimated Costs: Travel costs and time away from SFD to attend a Juvenile Firesetters course would be necessary.

Recommendation B-8: Enhance Fire and Life Safety Programs and develop a Departmental Community Risk Reduction (CRR) Plan.

Description: The current fire and life safety programs are primarily available by request, and the rate of fires per 1,000 population is higher than the national average.

Outcomes: An enhanced fire and life safety program is designed to use data from SFD and other sources to develop specific programs to reduce risks in the community. Developing a CRR Plan that examines all risks, not just fires, would improve safety and allow SFD to become more of a community partner.

Adding a CRR Coordinator and changing the current fire marshal's job responsibilities to allow proper fire prevention division management would permit SFD to integrate the entire organization into the plan. Implementing CRR should involve the SFD operations division and other City departments. A dedicated Coordinator could assist in an organized effort to reduce risk by integrating the entire city.

Estimated Cost: Staff time is required to implement a CRR Plan. There is an unknown cost to hire a CRR Coordinator since that position does not exist within SFD; it is anticipated to cost $100,000.

Recommended Long-Term Strategies

Financial Recommendation

Recommendation C-1: Develop a Capital Improvement and Replacement Plan.

Description: There is a significant need for facility upgrades, remodels, or reconstruction. This plan should include station needs, fully defined costs, and priorities established for each station. The plan should allow for continuity over the next 10–15 years of operations, regardless of management or leadership changes. In addition to changes and replacements, a capital plan for expensive system replacement and maintenance should be developed.

Outcomes: A detailed roadmap for facilities improvement initiatives.

Estimated Cost: Staff time.

Section IV: APPENDICES

Appendix A: Risk Classifications

The following are the risk classifications determined by incident type.

Fire

Low Risk

These incidents are considered low in risk and are minor in scope and intensity. It requires a single fire apparatus and crew to manage fires involving passenger vehicles, fences, trash or dumpster, downed power lines, residential or commercial alarm investigations, or an odor investigation.

Moderate Risk

These incidents are the first alarm response needed to manage a moderate fire risk incident. These incidents include smoke in a building, small outside building fires, commercial vehicle fire, a single-family residence, lightning strike to a building, automatic fire alarm at a high-risk occupancy, or a hazardous materials pipeline fire.

High Risk

These incidents are a second alarm response needed to manage a high fire risk incident. These incidents include smoke in a high-life hazard property (school, skilled nursing, etc), single-family residence with injured or trapped victims, multi-family residential building, or a moderate-sized commercial/industrial occupancy.

Maximum Risk

A third alarm response is needed to manage a maximum fire risk incident. These incidents include a hospital, assisted living facility, fire in an apartment building, high-rise building fire, a large commercial or industrial occupancy, hazardous materials railcar or storage occupancy. Incident assignments will include additional command staff, recalling off-duty personnel, mutual aid assistance for other critical tasking needs.

EMS

Low Risk

A single EMS unit can manage a low-risk EMS incident involving an assessment of a single patient with a critical injury or illness, no-life threatening medical call, lift assist, or standby.

Moderate Risk

A two-unit response is required to control or mitigate a moderate risk EMS incident. It involves assessing and treating one or two patients with critical injuries or illnesses or a motor vehicle crash with 1-2 patients.

High Risk

A multiple-unit response is required to control or mitigate a high risk EMS incident. It involves 3-8 patients with injuries ranging from minor to critical. Patient care will involve triage, BLS, ALS treatment, and a coordinated transport of patients.

Maximum Risk

A multiple unit response is required to control or mitigate a maximum risk EMS incident. It involves more than nine patients with injuries ranging from minor to critical. Patient care will involve triage, BLS, ALS treatment, and a coordinated transport of patients. If this is an active shooter incident, the response may require a casualty collection area unit to treat patients, not in the hot zone.

Technical Rescue

Low Risk

A single fire unit can manage a low-risk technical rescue incident involving rescues that are minor in nature, such as a child locked in a vehicle, elevator entrapment, or minor mechanical entrapment.

Moderate Risk

A two-unit response is required to control or mitigate a moderate technical rescue risk incident. Support is not usually required from a technical rescue team. This type of incident involves a motor vehicle crash that requires patient extrication, removal of a patient entangled in machinery or other equipment, or a person trapped by downed power lines.

High Risk

A multiple-unit response is required to control or mitigate a high risk technical rescue incident. This type of incident may involve full-scale technical rescue operations ranging from structural collapse to swift water rescues. It may involve multiple motor vehicles that require extrication, commercial passenger carriers, or a vehicle impacting a building. Support is usually needed required from a technical rescue team. This incident may require multiple alarms.

Maximum Risk

A multiple-unit response is required to control or mitigate a maximum risk technical rescue incident. Support is required from a specialized technical rescue team and may have multiple operations locations.

This type of incident will involve full-scale technical rescue operations such as victims endangered or trapped by structural collapse, swift water, or earth cave-ins. This incident will require multiple alarms and may expand beyond the identified critical tasking. Recall of off-duty personnel or assistance from auto or mutual aid may occur during a disaster or when additional alarms and command staff are needed.

Hazardous Materials

Low Risk

A single fire unit can manage a low-risk hazardous materials incident involving carbon monoxide alarms and other unknown hazmat investigations without symptomatic victims, less than 20 gallons of fuel, natural gas meter incident, downed power lines, equipment or electrical problems, or attempted burning. Automatic alarms that may originate from a hazardous material.

Moderate Risk

A two-unit response is required to control or mitigate a moderate risk hazardous materials incident. Direct support is not usually required from a hazardous materials team. This type of incident involves a carbon monoxide alarm with symptomatic patients, a fuel spill 20–55 gallons, or a gas or petroleum products pipeline break not threatening any exposures.

High Risk

A multiple-unit response with a hazmat team is required to control or mitigate a high risk hazardous materials incident. Support is needed for a Level 2 hazmat incident that involves establishing operational zones (hot/warm/cold) and assigning multiple support divisions and groups. This response includes a release with 3-8 victims, gas leaks in a structure, hazmat alarm releases with victims, flammable gas or liquid pipeline breaks with exposures, fuel spills greater than 55 gallons, fuel spills in underground drainage or sewer systems, transportation or industrial chemical releases, or radiological incidents. Additional assistance may be required to expand operations past the identified critical tasks.

Maximum Risk

A multiple-unit response is required to control or mitigate a maximum risk hazardous materials incident. Support is required from an on-duty hazmat team and their specialized equipment. This type of incident involves establishing operational zones (hot/warm/cold) and assigning multiple support divisions and groups.

Examples include nine or more contaminated or exposed victims, a large storage tank failure, hazmat railcar failure, or a weapon of mass destruction incident. This incident will require multiple alarms and may expand beyond the identified critical tasking. Recall of off-duty personnel or assistance from auto or mutual aid may occur during a disaster or when additional alarms and command staff are needed.

Wildland Urban Interface

Low Risk

A single fire unit can manage a low-risk wildland firefighting incident involving a fire minor in scope, structures not threatened, and Red Flag conditions do not exist. These include low risk wildland or grass fires include an outside smoke investigation, illegal or controlled burns, or small vegetation fires.

Moderate Risk

Multiple units are needed to manage a moderate risk wildland firefighting incident involving a significant fire in brush, brush pile at a chipping site, grass, or cultivated vegetation. Red Flag conditions do not exist, and structures may or may not be threatened.

High Risk

Multiple units or alarms are needed to manage a high risk wildland firefighting incident. The level is associated with Red Flag warnings with structures that may or may not be threatened. This fire involves a significant wildfire in brush, grasses, cultivated vegetation. And woodland areas. Additional alarm assignment, command staff, recall of off-duty personnel, and mutual aid assistance may require the operations to extend beyond the identified critical tasks.

Aircraft Rescue & Firefighting

Low Risk

A single ARFF unit has the capability to manage a low-risk ARFF incident. These incidents, which require an Alert 1 response, involve standbys such as a medevac flight, refueling operations for aircraft with non-ambulatory passengers, or small aircraft on the ground with minor operational issues. The standby may be in the station or in the airport operational area.

Moderate Risk

A moderate ARFF risk is considered an enhanced Alert 1 that includes all the airport's frontline apparatus and staffing. These are staged standbys for in-flight with a mechanical or instrument deficiency but does not normally affect the aircraft landing safely. It may include a feathered propeller on a multi-engine aircraft, overheated engine, low oil pressure, or minor ice buildup.

High Risk

This is an Alert 2 (less than nine people) on an Alert 2A (nine or more people) and is considered a full airport response. This type of emergency involves inflight aircraft with an operational deflect affecting normal flight operations that an aircraft accident could occur. Examples include the loss of an engine, interior smoke or fire in the aircraft, a malfunctioning landing gear, or low hydraulic pressure. Other support agencies will be assigned to the incident, including law enforcement, EMS, and airport operations staff.

Maximum Risk

This is an Alert 3 (less than nine people) on an Alert 3A (nine or more people) and is a full airport response supported by off-site fire suppression apparatus and staffing. This type of emergency involves inflight aircraft that have been involved in an accident on or near the airport. Other support agencies will be assigned to the incident, including law enforcement, emergency management, EMS, and airport operations staff.

Appendix B: Community Survey Results

As a part of the master planning process, the Salinas Fire Department sought community input and opinions from its community. On May 3, 2023, AP Triton facilitated a virtual Community Town Hall for SFD. During the Town Hall, the purposes of this study were described, and the community was introduced to the survey, which was designed to identify the following:

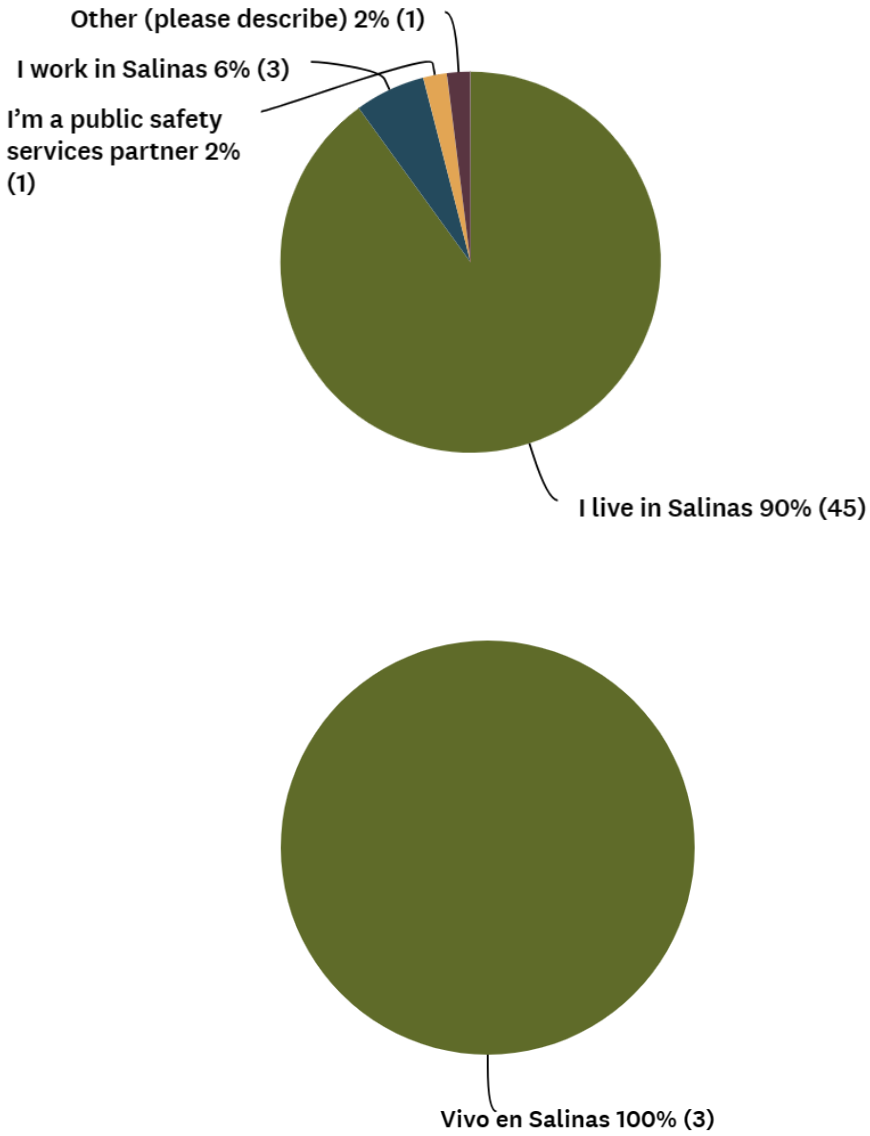
- **Service priorities.** Of the services provided by the fire department, which are more or less important to you?
- **Planning priorities.** Of the planning elements used by the fire department, which are more or less important to you?
- **Expectations.** What do you expect of your fire department? This would include such things as level of service, types of services, communication methods, first responder qualities, etc.
- **Positives.** What do you think the department does particularly well?
- **Concerns.** What concerns do you have about the department (the services it delivers or the way in which it delivers them)?
- **Other thoughts.** What other ideas do you have to share with the department as they begin this project?

The survey was anonymous, confidential, and administered in English and Spanish. There were 53 combined responses. The following summarizes the results of the surveys.

Residency of the Respondents

Respondents were asked to select which of the following best described their relationship with SFD: "I live in Salinas," "I work in Salinas," "I'm a public safety partner," or "Other (please specify)." Respondents could select multiple categories. The majority (90%) of respondents lived in the service area, 6% worked in Salinas, and 4% selected public safety services partners and/or other relationships. For all open-ended responses, please see the complete survey document.

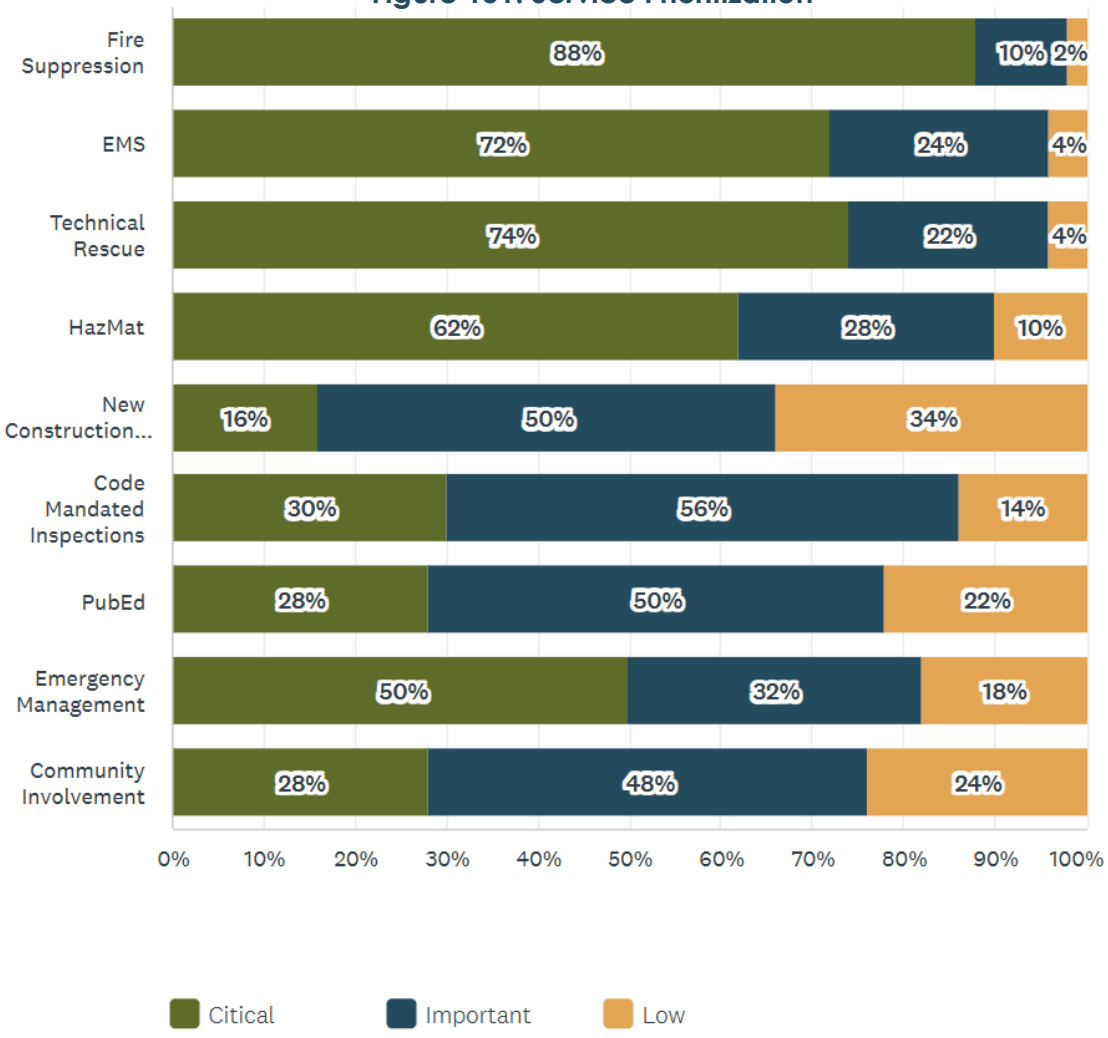
Figure 150: Relationship with the Salinas Fire Department

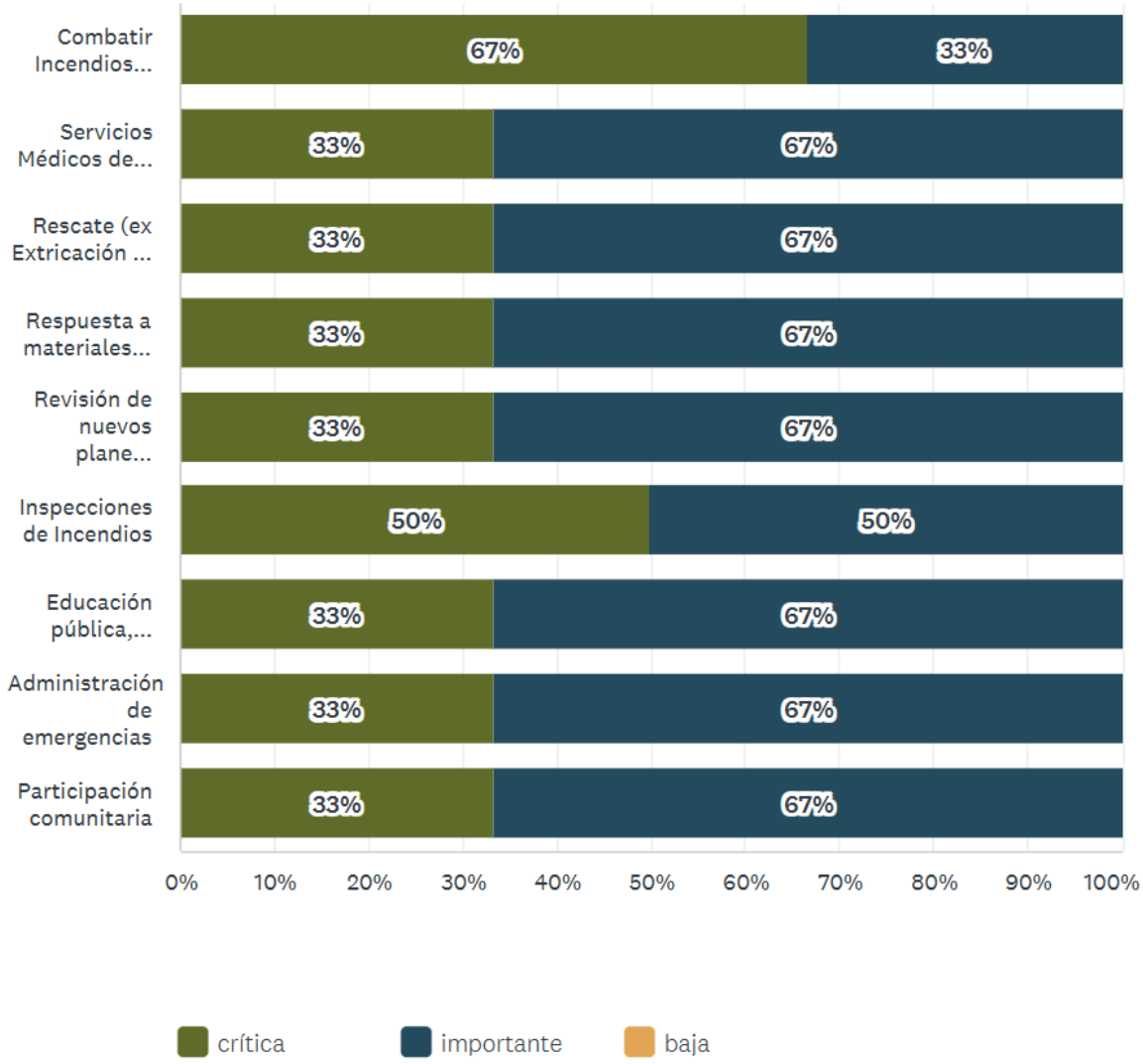


Service Prioritization

Respondents were asked to rate the following services provided by the SFD using a scale of critical priority, important priority, or low priority. They were asked to list a service in the comment field if they would like to see a service added.

Figure 151: Service Prioritization



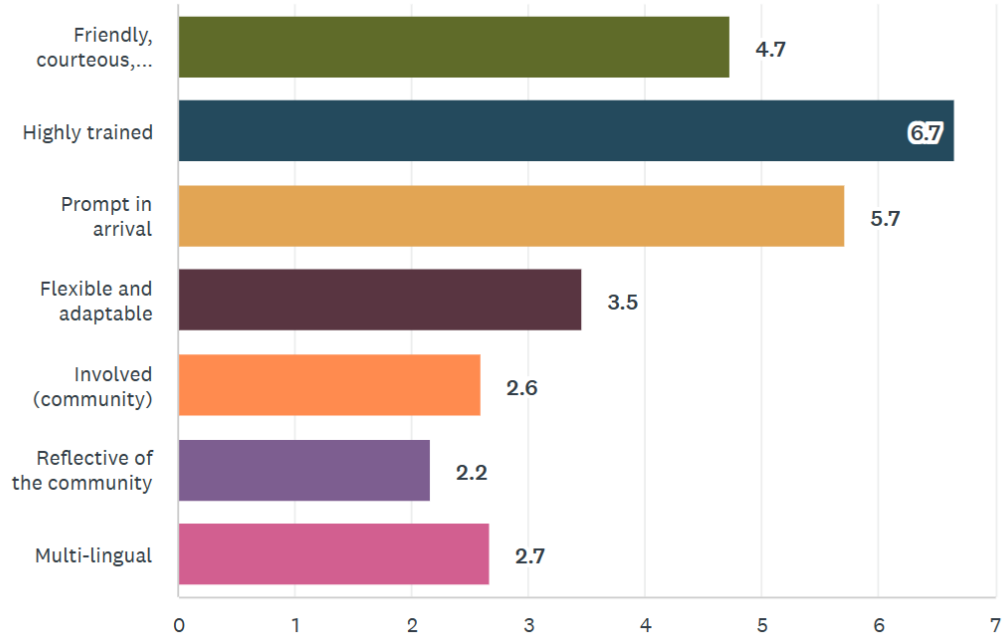


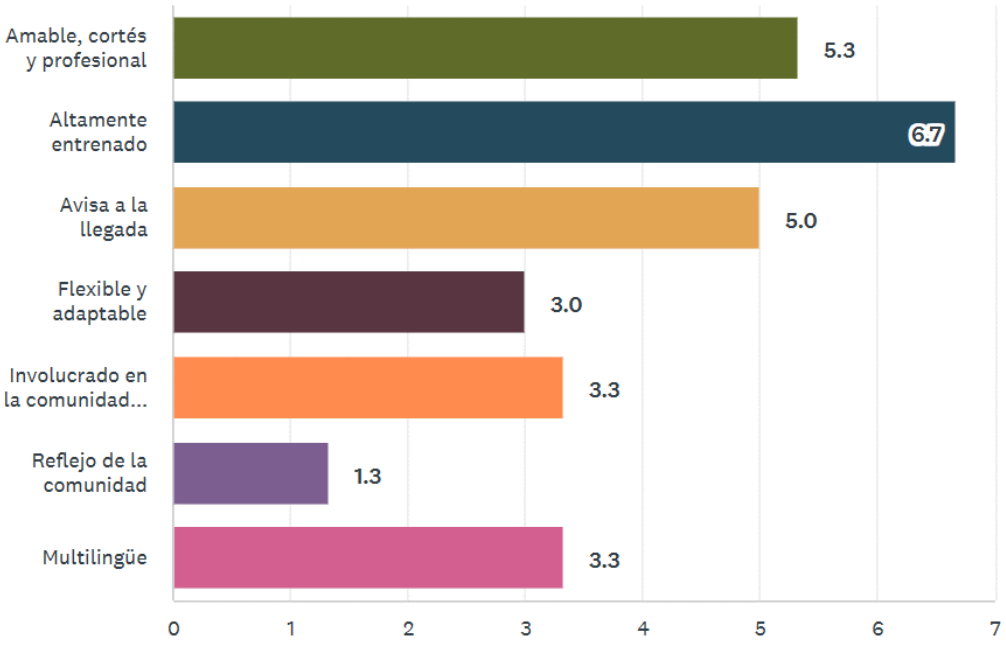
Fire Suppression, Emergency Medical Services, and Technical Rescue were the services receiving the highest prioritization. The lowest was New Construction Inspections. The remaining results are typical of most communities located throughout the United States. For all open-ended responses, please see the complete survey document.

First Responder Qualities

When asked to rank first responder qualities in the order of importance, respondents responded as follows:

Figure 152: First Responder Qualities



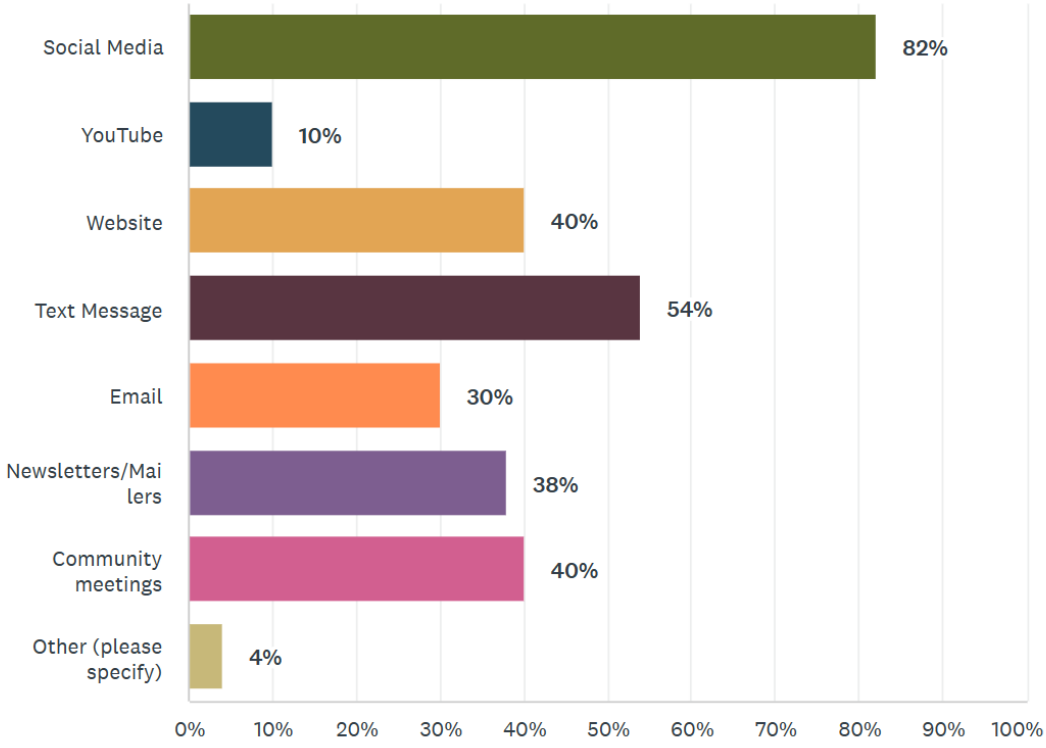


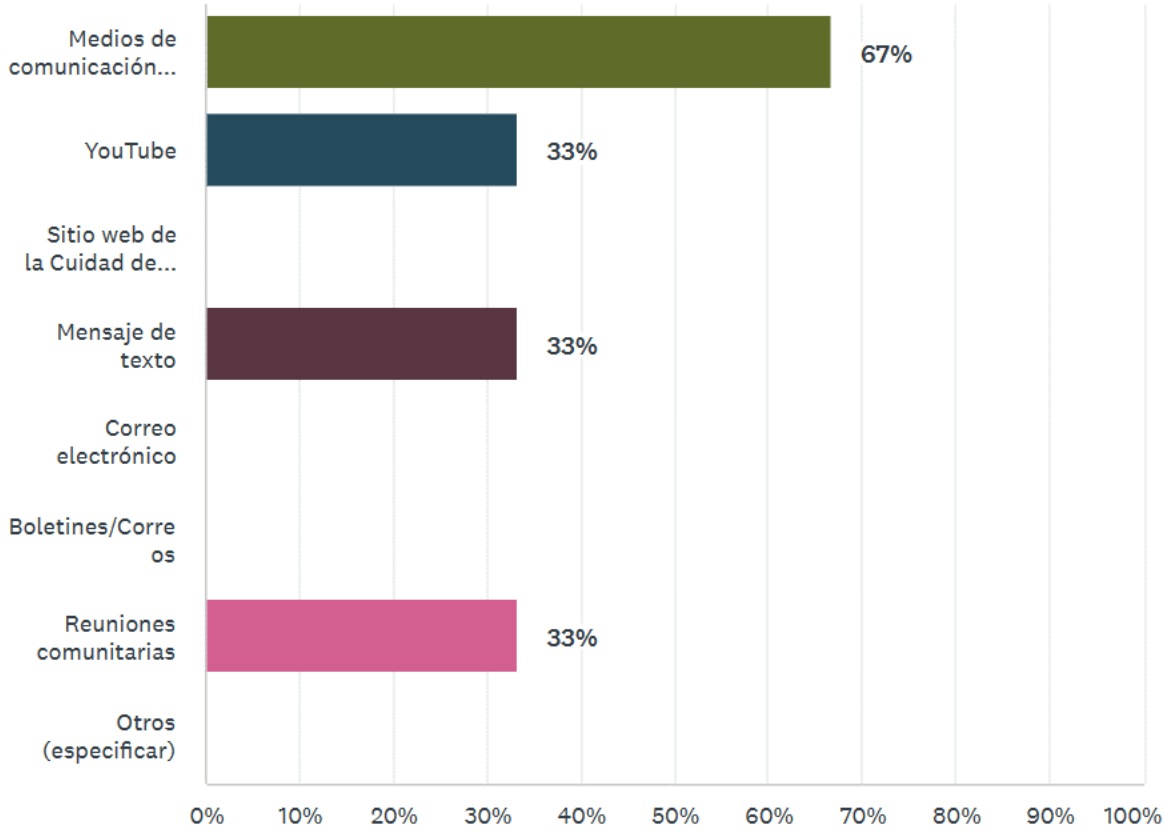
The Salinas Community wants to see highly trained first responders first and foremost. This was followed by prompt arrivals, multi-lingual, involved in the community, and lastly, reflective of the community. Salinas's response likely displays the admirable desire for equity and inclusion among all populations. For all open-ended responses, please see the complete survey document.

Communication Methods

When asked which methods the department should use to communicate information to the community regarding emergency preparedness, fire safety, and wildfire information, respondents replied as follows. Respondents were able to select more than one option.

Figure 153: Preferred Communication Methods



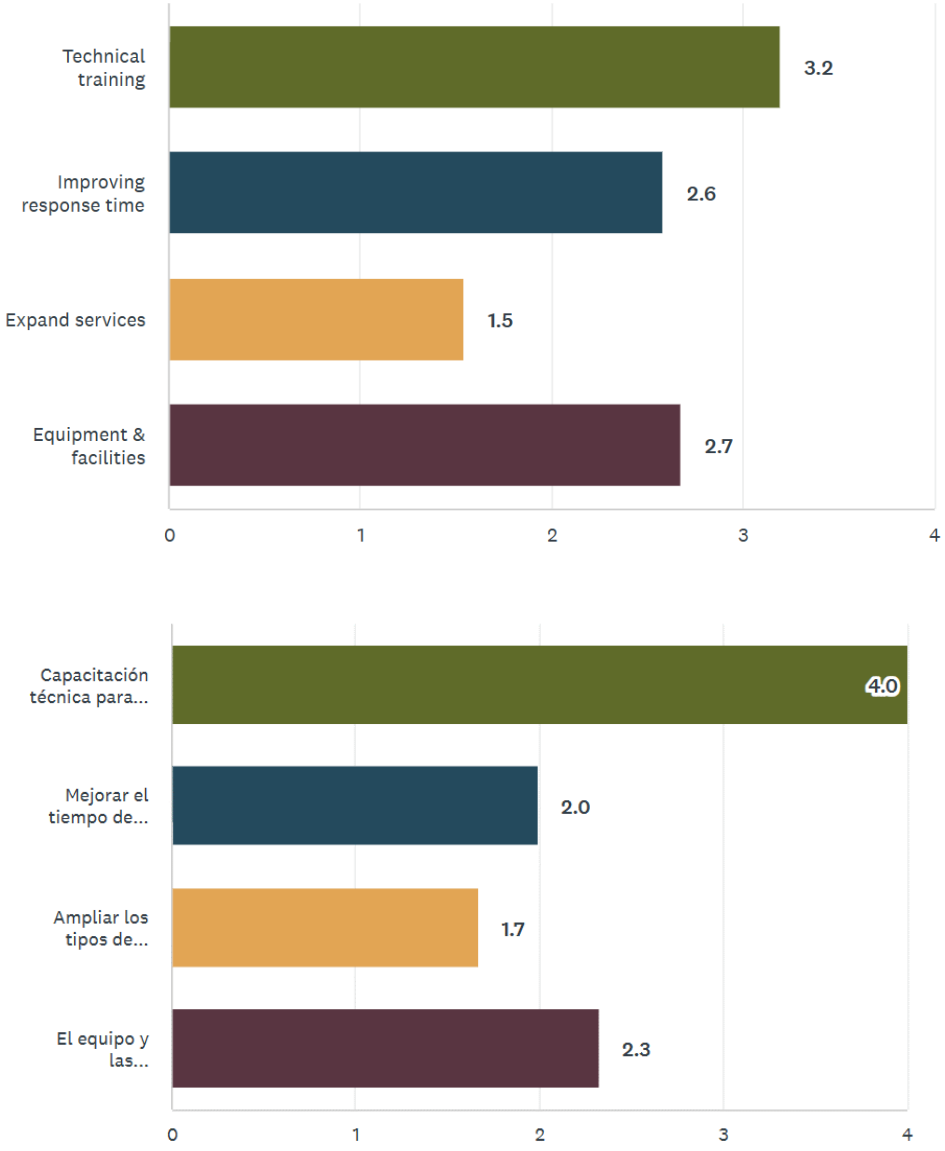


Social Media and Text Messages are preferred by over half of the community, closely followed by in-person public meetings. The department's website, and Community Meetings are preferred by 40% of the respondents, and closely followed by Newsletters/Mailers. Email was next at 30%, while YouTube was preferred by 10%. Other at 4% consisted of Local News and Television. For all open-ended responses, please see the complete survey document.

Planning Considerations

Respondents were then asked to compare each of the following elements to the others and rank the planning considerations in order of importance. The results are displayed in the following figure:

Figure 154: Planning Considerations

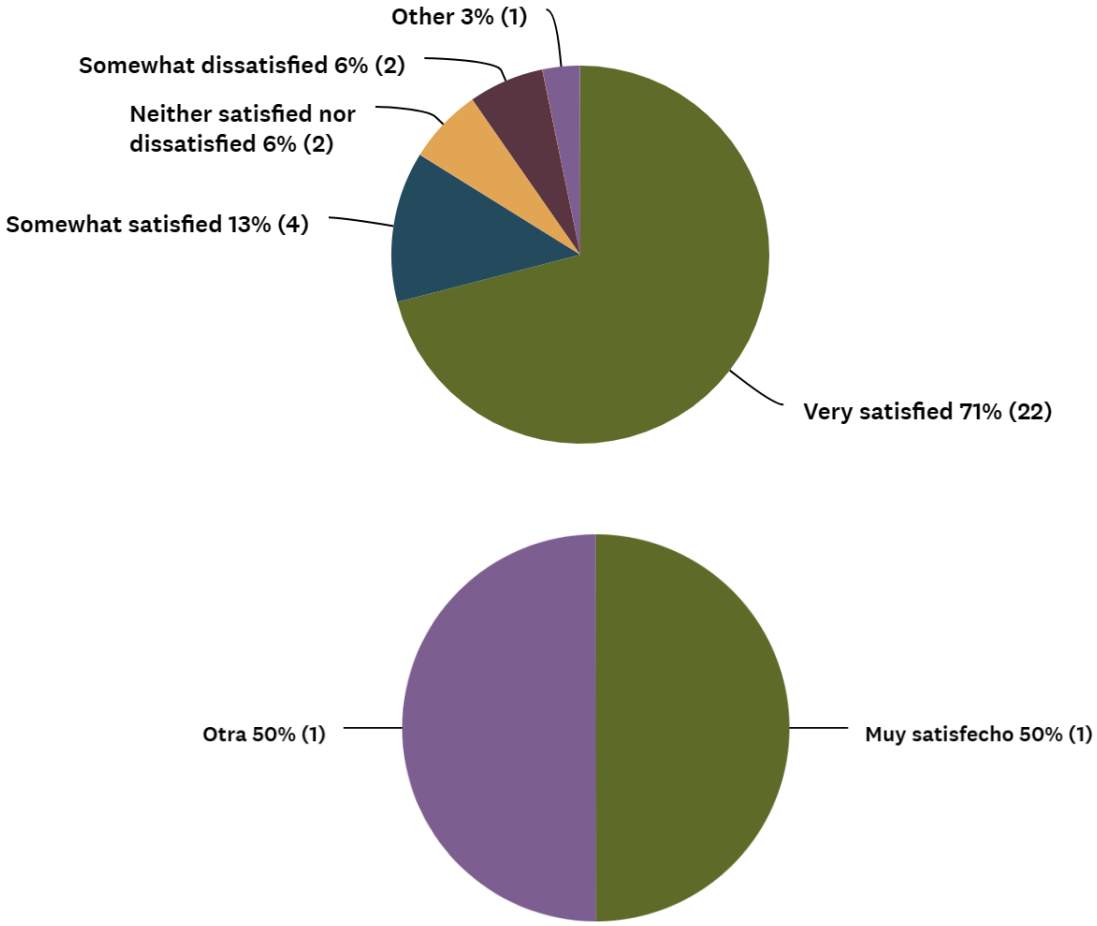


The technical training of personnel received the highest importance. Equipment and Facilities and Improving Response Times were next, followed by Expanded Services, considered the least important.

Satisfaction of Services

When asked, 71% of respondents had received services from SFD. Of those that had received services, overwhelmingly, respondents expressed great appreciation for the services SFD provides. Nearly 75% of all respondents were either somewhat satisfied or very satisfied with SFD's services. Only 6% of respondents replied as somewhat dissatisfied.

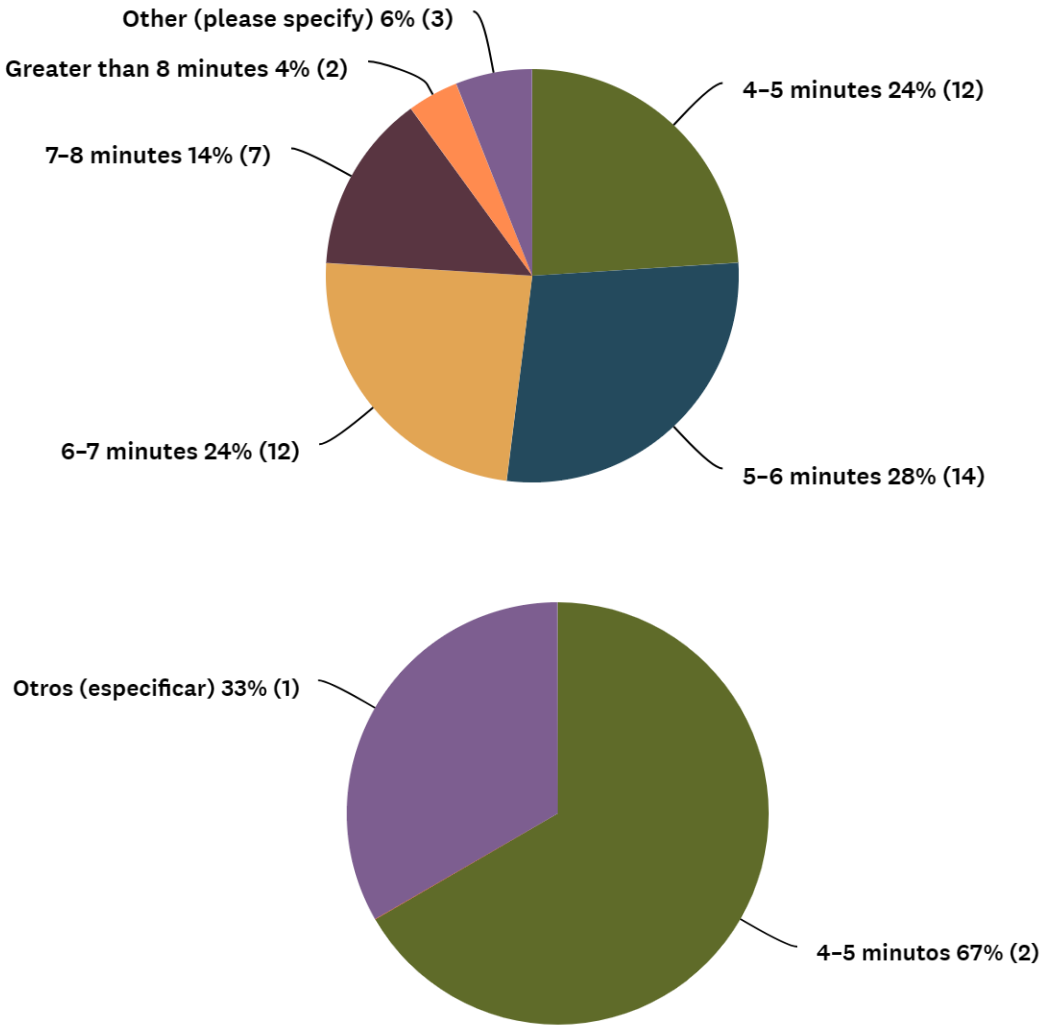
Figure 155: Satisfaction of Services



Response Time Opinions

Total response time is the amount of time a resident or business waits for resources to arrive at the scene of an emergency, beginning when they first call 911. When asked how long it should take for emergency resources to arrive after calling 911, taking into consideration call processing times, travel times, time of day, concurrent incidents, etc., 52% of the respondents believed resources should arrive in 6 minutes or less. Twenty-four percent expected services in 6–8 minutes, and the remaining respondents believed resources should arrive in 8 minutes or longer or offered a "other" response. For all open-ended responses, please see the complete survey document.

Figure 156: Response Time Opinions



Appendix C: Strategic Partners—Stakeholder Interviews

Introduction to the Stakeholder Interviews

Triton interviewed a wide variety of the fire department's internal and external stakeholders. These interviews aimed to better understand issues, concerns, and options regarding the emergency services delivery system, opportunities for shared services, and expectations from community members.

It is important to note that the information solicited and provided during this process was in the form of "people inputs" (stakeholders individually responding to our questions), some of which are perceptions reported by stakeholders. All information was accepted at face value without an in-depth investigation of its origination or reliability. The project team reviewed the information for consistency and frequency of comments to identify specific patterns and trends. Based on the information reviewed, the team identified a series of observations and recommendations and felt they were significant enough to be included in this report.

Stakeholders were identified within the following groups: Elected Officials, Department Heads, Business Community Leaders, Citizens, Chief Officers, Labor Leaders, Rank & File, and Administrative Staff.

Elected Officials, City Management & Department Heads

What strengths contribute to the success of the Fire Department (What do they do well)?

- Very responsive when fire alarms occur.
- Quality of the employees, Salinas centric, they find a way to get the job done and are consistent, professional.
- Respond effectively to fire and EMS incidents, the community likes them, know how to communicate to the residents, good outreach events.
- They have built a steady team. Shared leadership. Appreciate their understanding of the culture of the community. Cooperate with the schools for future FFs.
- Responses, extinguish fires, and well-trained.
- They have a great sense of camaraderie, and they get along well. They ask the least from all the departments,
- Great relationships in the community, helping with community events, good culture between admin and staff, does well with what they are given.

- The last two fire chiefs have brought a vision to the fire development. They have minimal administrative staff, and work collaboratively with other departments.
- The people, the individuals, and their sense of duty.

What are some areas in which you think the Fire Department could make improvements?

- Improve communication between fire inspectors and external stakeholders (no inspections in 10 years – restarted in 2023).
- Succession planning – need to get the captains and battalion chiefs to come into the administration. Over hires.
- Most in fire prevention are new, and the external plan reviewer only works on Tuesday. Need more training for site plan review, fire prevention and code enforcement work well together.
- Public outreach and education increase. Homelessness issues and the number of fires. Help the city to be more creative in helping the city.
- I think they do a pretty good job. Need more community hiring and recruiting.
- Finding ways to use smaller vehicles to respond to EMS incidents. Mobile crisis unit, more administrative staff.
- Staffing, need to ask for more money in the budget, hire more local people.
- There is not always consistency in participation when trying to coordinate with other departments.
- Use additional staffing and resources.

What opportunities, in your view, are available to improve the service and capabilities of the fire department?

- Have the Fire Department provide training for facilities, i.e., fire extinguisher training, home emergency preparedness, etc.
- Improve community outreach.
- Need a Station 7 because of the growth, increasing staffing to have the correct number of employees to provide coverage.
- Capacity to take on EMS, medical areas
- How can we work better with AMR? Expand the service and build the foundational groundwork to review EMS. Expand with the schools.
- Communication and presence not only in emergency situations, more training

- Mobile crisis, hiring administrative staff which can allow the FFs to do their job, and better handle on EMS – in-house.
- Measure G, EMS transport
- Need to focus on the General Plan update and how that can drive future budgeting and funding. Better define what they do in the plan.
- Tactical medic program, look for areas of overlap.

Please share your thoughts with us regarding staffing utilizing 12-hour shifts and peak-hour units.

- No, opposed to the idea.
- Good idea about how to be strategic about deploying resources.
- I am interested in hearing more about it.
- Does not know enough.
- I am open to the idea
- Does not know how that would work.

What do you see as the top three critical issues faced by the fire department today?

- Better interaction with businesses.
- More communication with the community.
- Staffing, Station 7, and mobile crisis unit.
- Support to homeless outreach, improve the fire department's facilities, and be more effective with scheduling.
- The number of fire stations, types of calls are dispatched to involving the homeless population, and funding.
- Facilities, EMS, Staffing
- Staffing, volume of incidents, growth for the city, and how this will be addressed with the fire department.
- Staffing, vehicle replacement plan, facilities
- Homelessness, Funding, Type of Incident (active shooter, more violence)

If you could change one thing in the fire department, what would it be?

- Better communication with stakeholders
- Upgrade their current facilities.
- Collaboration with homelessness issues, Could there be ALS transport by Salinas?
- Have the FD take on EMS and a focus on the homeless population
- I'm not sure.
- More diversity and women
- More women and the facilities to accommodate them. In leadership
- More prevention focus.
- The community needs more insight into what the fire department does. Changing public perception, the similarity between the fire and police department.

How would you describe the level of services provided by the fire department?

- There are areas that need improvement, especially with communication.
- Outstanding, I hear nothing but good things and excellent service to the community.
- Effective, hardworking, data-driven, collaborative
- Very good level of service. 9 out of 10, excellent customer service, fast, trained, diverse.
- Would like to see the FF paramedics work with a social worker.
- Very high level of service
- Really good. They have a good reputation in the community.

Doing very well, holding their own, unified group

Business, Community Groups, Community Members, & Volunteers

Can you please describe your expectations of the Fire Department?

- When we call, they're always available.
- We love the fire department – they take things seriously and always do their best.
- They provide sound, professional service to the community in a timely manner.
- They need to be available, understand external stakeholders, and be flexible in dealing with outside organizations.
- Excellence in customer service, fast response times, noise pollution
- Expect a full-service fire department. They have been good community citizens, need to have a serious conversation about institutional change.
- They are fantastic. Do a great job.
- Work closely with them, provide electric vehicle training, and preserve life and property.
- When we need their assistance, but usually because of an EMS response. The relationship is very good but superficial.
- Be available and equipped to assist with all types of calls.
- A diverse fire department, more open to the community, full-time community risk reduction coordinator
- Integrity, treating the community with respect, working as a team.
- Prompt response and be professional, able to educate the public.
- They can get to a location and get there quickly enough to contain it. Able to get to emergencies.
- Respond as soon as possible, medical response – they were their quickly, domestic violence

Which of these expectations is not being met to your satisfaction?

- They are all being met for me.
- No, not all expectations are being met. They need to be flexible in working with organizations in regard to rules and requirements.
- Dissatisfied about sending a fire truck to an EMS call. The customer was not notified after they had a fire.
- Maybe consider EMS transport.

- Very quick to respond, multijurisdictional responses – collaborative, excellent communication.
- Have not had a training relationship but would like to see more interaction. Tour their facility (electric buses).
- Equipped and staffing, leadership culture.
- Not enough public outreach and risk reduction.
- There are a lot of people who don't understand fire safety and cannot speak English, more outreach on the north side.
- Fire inspections – The process is not clear about the costs and better coordination. Be a part of the check-off list, but is much better.

What do you think the Fire Department is doing particularly well?

- I have not had a lot of interaction; however, they are always friendly when I see them.
- Being available anytime. They are very professional and passionate.
- They do their job well – very cordial and helpful.
- Their equipment appears to be extremely good. They describe very well how they spend Measure G money
- They respond in a timely fashion, well-trained,
- More code enforcement, working with the police strategically.
- Training them up and train them out, maintaining their equipment and facilities very well, quick responses.
- Very professional, potentially park differently at the transportation station.
- When they are called, they show up and have a good community presence, and people tend to stay.
- Training academy is good and looking outside of the box to do other things.
- Experiences have been good and respectful.
- Responding to fires
- Very quick at responding. Increased their community presence.
- Response time, good reputation, a part of the community, Interaction with YWCA

Are there services that you think the department should be providing that they are not providing now?

- Working more with community stakeholders, i.e., providing training with various types of emergency plans and safety training.
- I believe they are doing everything that is expected of them.
- More engagement with the external stakeholders and being flexible with their needs.
- Proactively collaborate with code enforcement on weed abatement.
- PD may go to an event, but the FD does not show up at all.
- Child passenger safety seat checking station.
- Timely notification to the community at large when there is a fire or disaster with more public information.
- Helping the church be better prepared, classes about fire prevention, and how to make the building more active.
- Providing information on other services available to those in need,
- More partnerships and community outreach.
- None that I know about.
- Identify possible risks to power outage, trees falling, fires because of homelessness, language appropriate,

Are there services the department is providing that you think should be discontinued or done differently?

- None that I can think of.
- I don't think so.
- Don't think they should run on calls that don't involve fire. Need to be judicious with use of their sirens.
- No. Who should be providing EMS?
- More promotion of programs they offer.
- Are all the EMS calls necessary?
- Nothing discontinued. More training and better equipped.
- There seems to be double coverage when there are FD paramedics and AMR paramedics.

When you dial 9-1-1 to report an emergency, how long should it take for help to arrive?

- No more than 5 minutes.
- Within minutes, depending on what the department is doing at the time.
- Everyone would like to say as soon as possible, but as long they respond safely.
- 3-5 minutes
- Within 10 minutes
- 5-15 minutes. Depending on where the incident is located.
- 3-4 minutes
- Five minutes or less
- 10 minutes
- Under five minutes

Do you believe that expectations should change depending on where in the community you are located?

- When you choose to live in rural areas, emergency services will take longer.
- I don't believe so.
- Yes, but they still need to respond safely and promptly.
- No, it should be the same.
- The same level of service.
- Depending on the geography, the downtown area may need more attention.
- No, it should be the same within reason within the city limits
- The same everywhere.

Do you believe the Fire Department's first arriving response units are staffed and equipped to take appropriate actions given the emergency?

- Yes, absolutely. They need to have all the tools to do their job.
- Yes, they seem to be well-staffed and equipped.
- I hope so; I always see them training.
- They seem to be, yes. I haven't seen them unable to take care of a situation.
- Yes. They have a mixed bag of response vehicles.
- Yes, for FD, but not for private paramedic response seems to be a problem.
- At times. Need additional staffing.

- I'm not sure, but I think so.
- Making sure all the equipment is working, Fire stations are maintained,
- We hope so.

Labor Leaders, Rank and File, Chief Officers, & Administration

What strengths contribute to the success of the fire department? (What do you do well)

- The people who have been here a long time.
- The staff share a lot of knowledge.
- The standards and values set forth by the department.
- The drive – our personnel are very goal-driven.
- Very proud of the department – they care.
- The commitment of the employees.
- Honest group of people engaged in the community.
- Our greatest strength is the size of the department, and the demonstrated caring.
- Our people are the ones that make the wheels turn. Being able to have a workforce reflective of the community. More invested in the community. Aggressive firefighting. Set the example in the area (Monterey County)
- We do well based on the resources allowed.
- Very service-oriented. Try to work within the framework of the code.
- The people – the strongest FF force in the county, refocus on the people, customer service is second to none, do more with less, commitment, smaller programs being handled at the line level by motivated people, relationship among the line personnel, good communication from admin, management is setting goals as labor.
- Ground-up workers, not a lot of administrative staff, must do things independently.

What are some areas in which you think the department could make improvements?

- Better record-keeping for all divisions.
- Written policies and procedures for administration.
- Increase staffing for all divisions.
- Provide the ability to keep up with the workload.
- Be more transparent with data.
- Better community outreach – There is a lack of marketing for the department.

- There is a lack of longevity for management within the department.
- Communicate more with other city departments.
- Suppression is solid – Administration is lacking standardization.
- Increase staffing levels in administration.
- Look into the facilities – no upgrades in years.
- Facilities have outlived their life expectancy.
- Increase staffing levels – from top to bottom.
- We are just fulfilling the mission – unable to engage with other programs, i.e., training, prevention programs, community outreach, etc.
- Response times, we have been talking about Fire Station 7 for a long time, no capital plan for the new fire station, fire problem, fire inspections.
- Staffing, Career ladder for fire prevention staff, staffing in the fire marshal's office,
- Behind in completing inspections – only doing state-mandated. Need to look at fire investigation, only doing origin and cause.
- Staffing, 23 personnel on duty with 6000 incident responses, and now 24 personnel are on duty and call volume has tripled, which is not sustainable. Cannot finish assigned projects because shift personnel are busy responding to calls, facilities, Recruitment – people leave because of pay and benefits.
- Build admin staff, unable to keep up with OSHA, training, call volume, attrition, always on the catch-up mode, admin people need to be able to do the things not getting done. There is only one training office and three shift coordinators.

What opportunities, in your view, are available to improve the service and capabilities of the fire department?

- Provide ambulance transport.
- Increase fire prevention staff – provide more services.
- We do great with what we have for our size; however, we need more revenue.
- Being closer to the community – providing outreach and public education.
- Increase revenue through grant opportunities.
- Develop a greater public outreach program.
- Have a better social media campaign and develop a new website.
- Develop a consistent program for marketing.

- Initiate a fire-based transport program.
- Develop a systems-status plan; it's hard to continue doing what we're doing with what we have.
- Partnerships, mobile crisis unit, developing response policies.
- Staffing for operations and fire marshal's office
- Receptive council and understanding the FDs issues – may have an opportunity to increase the inspectors. Three FT and 1 PT plus the Fire Marshal. Don't do much public education. Using Streamline for inspections.
- SAFER grant, Station 7, social media, limited ability to take on new projects.
- Readjust call types, Station 7 needs to be built.

What do you see as the top three critical issues the fire department faces today?

- Lack of staffing.
- Doing more with less.
- Personnel turnover – losing institutional knowledge at the Chief's level.
- Not being flexible in maximizing value – "It's the way we've always done it".
- The staff doesn't always feel appreciated.
- Personnel takes on too many projects (administration and line personnel).
- Individuals have their way of doing things – need a standardized approach.
- No administrative procedures for Administration.
- No career ladder for Fire Prevention – lack of succession planning.
- We don't have adequate resources (apparatus) for a city our size.
- Having inexperienced personnel – fast-moving promotions.
- Resolving the unhoused issue throughout the city and the resulting increase in call volume.
- Lack of mentoring for each position.
- Revamp the promotional process – need to attract the right candidates.
- Staffing, facilities
- Staffing, pay for the fire inspectors.
- FD is way behind on its needs, Thin on administrative abilities – unable to administer the programs, and not doing commercial inspections.

- Staffing, equipment (fleet), facilities, addressing homelessness.
- Admin staff, better facilities, additional staffing.

Please share your thoughts/ideas regarding alternative staffing and dynamic deployment to enhance staffing levels.

- I'm not opposed to it, but must evaluate the program and personnel needed.
- It's hard enough to fill line positions; how would we find people to staff this program?
- We need to look at each aspect of the program.
- Opening up Station 7, city council has been open to over hiring, administrative captain was added in this year's budget, would like to add two more captains.
- Increase the speed of hiring a new fire inspector, keeping jobs local.
- Look at different schedules based on when a business is open. This could help with weekend events.
- Priority dispatching, fire department clinic – staffed by others, reduce the calls or increase staffing,
- Still averaging fires, squads would require a culture change (officer and FF).

If you could change one thing in the fire department, what would it be?

- Being more interconnected with each other – working collectively and collaboratively.
- Develop Administrative personnel through mentoring and succession planning.
- We need to market everything we do for our community to foster the recognition we deserve.
- To deliver a consistent marketing campaign.
- We need to have more administrative support.
- There are many things. Need to be fully staffed, and the high number of EMS responses.
- Need a career ladder for the fire inspectors.
- Efficiency – Improving bureaucracy.
- Need FF recognition, change the perception that we will always be there – the fire department needs to grow – the workload has changed, but staffing has remained the same.
- Building out the admin staff

On a scale of 1-10, how would you rate the level of emergency services provided by the fire department? Please provide a 1 sentence reason for that score.

- 7 – always room for improvement
- 8- great for our size
- 8- very professional, passionate, and knowledgeable.
- 8 – we do good things, but there is always room for improvement.
- 8- we do a great job with the amount of staffing we have and the number of calls we run.
- 9 – the pride within the department is great!
- 6-7, spread thin. Prevention efforts.
- 8 – We provide a good level of service
- 9 – Good response times, but need additional staffing
- 8-9 – People on the back of the truck are more educated and have better training. The service response is very good.
- 8-9 – but should be a five.
- Services are limited to six.
- 8 – The ability to staff and run the call volume. Seeing units out of service at the same time.

Appendix D: Glossary of Acronyms

ACA – Affordable Care Act

ACLS – Advanced Cardiac Life Support

ADA – Americans with Disabilities Act

AED – Automated External Defibrillator

ALS – Advanced Life Support

AMR – American Medical Response

APCO – Association of Public Communication Officers

APOT – Ambulance Patient Off-Load Time

APP – Advanced Practice Provider

ARPA – American Rescue Plan Act

AVL – Automatic Vehicle Location

BC – Battalion Chief

BLS – Basic Life Support

CAD – Computer Aided Dispatch

CAL FIRE – California Department of Forestry and Fire Protection

Cal OSHA – California Occupational Health and Safety Administration

CCR – California Code of Regulations

CCWG – Contract Compliance Working Group

CE – Continuing Education

CEQA – California Environmental Quality Act

CIP – Capital Improvement Plan

CPAT – Candidate Physical Agility Test

CPF – California Professional Firefighters

CPSE – Center for Public Safety Excellence

CP – Community Paramedic

CQI – Continuous Quality Improvement

CRR – Community Risk Reduction

CWPP – Community Wildfire Protection Plan

ECD – Monterey County Emergency Communications Department

EMD – Emergency Medical Dispatch

EMT – Emergency Medical Technician

EMS – Emergency Medical Services

CA-EMSA – State of CA Emergency Medical Services Authority

EMSAAC – EMS Administrators' Association of California

EMSCC – Emergency Medical Services Communications Center

EMDAC – EMS Medical Directors Association of California

EOA – Exclusive Operating Area

EOP – Emergency Operations Plan

ePCR – Electronic Patient Care Report

ERF – Effective Response Force

EVT – Emergency Vehicle Technician

FAA – Federal Aviation Administration

FEMA – Federal Emergency Management Agency

GEMT – Ground Emergency Medical Transport

GF – General Fund

GIS – Geographical Information Systems

HOT – Homeless Outreach Team

ISO – Insurance Services Office

JPA – Joint Powers Agreement/Authority

HMP – County of Monterey Multi-Jurisdictional Hazard Mitigation Plan

LEMSA – Local Emergency Medical Services Agency

LMS – Learning Management System

LNP – Licensed Nurse Practitioner

LRA – Local Responsibility Area

MDC – Mobile Data Computer

MFR – Medical First Responder

MPDS – Medical Priority Dispatching

NCCP – Paramedic National Continued Competency Program

NENA – National Emergency Number Association

NFIRS – National Fire Incident Reporting System

NFPA – National Fire Protection Association

NRP – National Registry of Paramedics

NWCG – National Wildfire Coordinating Group

NWS – National Weather Service

OA – Operational Area

OEM – Office of Emergency Management

OES – Office of Emergency Services

PALS – Pediatric Advanced Life Support

PDA – Priority Development Areas

PGE – Pacific Gas and Electric

PHTLS – Prehospital Trauma Life Support

PPC – Public Protection Classification

PPE – Personal Protective Equipment

PP-GEMT – Public Provided Ground Emergency Medical Transport

PSAP – Public Safety Answering Point

RMS – Records Management System

SFD – Salinas Fire Department

SPD – Salinas Police Department

SFM – State Fire Marshal

SFT – State Fire Training

SOG – Standard Operating Guideline

SOI – Sphere of Influence

SRA – State Responsibility Area

TAD – Triage to Alternate Destination

UAL – Unfunded Actuarial Liability

UHU – Unit Hour Utilization

WMD – Weapons of Mass Destruction

WUI – Wildland Urban Interface

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