



CITY OF KINGSBURG FIRE DEPARTMENT

Strategic and Master Plan

Prepared by



FireStats

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This report is dedicated to the firefighters and support staff who daily serve the citizens and visitors of the City of Kingsburg.



SECTION I

Evaluation of Current Conditions

Description of Community Served



The Kingsburg Fire Department (KFD) is organized as a city department. It is responsible for emergency services within the city and surrounding area. In addition, it participates in a robust automatic and mutual-aid system throughout Fresno County. The City of Kingsburg, located in the San Joaquin Valley in Fresno County (**Figure 1**), has a rich history as a Wild West outpost for outlaws and cattlemen that grew into a farming community settled by people of Swedish descent. Today, Kingsburg is a charming, diverse agricultural town with a Swedish flair.

The area's first known residents, the Nutununtu tribe, first encountered Europeans in 1773 when the Spanish soldier Pedro Fages explored the area and named the Kings River "Rio de los Santo Reyes," or River of the Sainted Kings. In 1871, the Southern Pacific Railroad built a train depot in Kingsburg and named it Kings River Switch.

The small settlement answered to several different names until the postal authorities and the *Fresno Weekly Expositor* reported the name Kingsburg in 1875. By the late 1870s, the first Swedish settlers settled in Kingsburg. The Swedish colony mainly consisted of sober, hardworking men who began to replace stockraising with farming. This transition is credited with ending the Wild West atmosphere in the late 1910s. In 1908, Kingsburg incorporated, and the citizens voted the saloons out in the same election. In 1921, a survey showed that 94 percent of the population within a 3-mile radius of Kingsburg was of Swedish descent.

The city's Swedish heritage is prominently reflected in its architecture and cultural events. Many of its original buildings and homes feature a distinctly Scandinavian design characterized by ornate woodwork and colorful facades. The town has diligently preserved this historical charm, making it a picturesque example of early Swedish American influence in California.

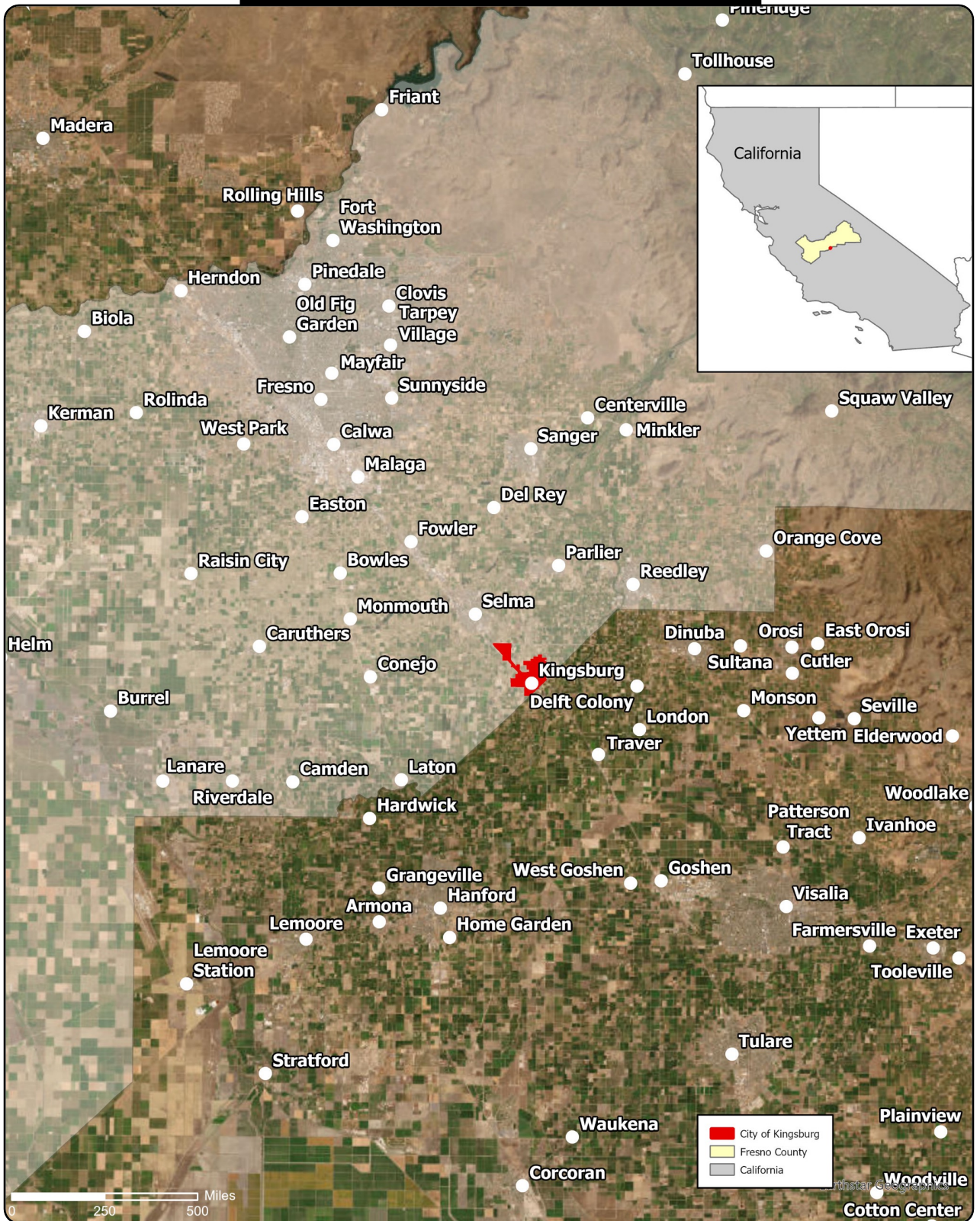
One of Kingsburg's notable landmarks is Kingsburg Historical Park, which offers a glimpse into the city's past through preserved buildings, exhibits, and artifacts. The park is a testament to Kingsburg's commitment to maintaining its historical integrity and educating visitors about its roots.

Today, Kingsburg is a vibrant city with a population of approximately 13,000. It offers a mix of small-town charm and modern conveniences, making it a desirable place to live for many families and individuals. Kingsburg is a family-friendly, safe community that prides itself on civic leadership and community engagement. It's known for its well-maintained parks, highly rated schools, and friendly community atmosphere.

The Kings River offers summer recreation, such as fishing, boating, jet skiing, and rafting. The Kings River Golf & Country Club boasts beautiful river views and a championship 18-hole course.

Kingsburg also benefits from its location in the San Joaquin Valley, which provides easy access to the larger metropolitan areas of Fresno and Visalia. This proximity allows residents to enjoy a quiet, suburban lifestyle while still having access to the amenities and opportunities offered by nearby cities.

Figure 1. Geographical location of the City of Kingsburg



Overview of the Kingsburg Fire Department



The City of Kingsburg was incorporated in 1908. By 1911, the city had completed its waterworks system, including 24 fire hydrants and a pump house. With fire protection in mind, the city council acquired two hose carts, a combination hook-and-ladder truck, axes, crowbars, and lanterns. A mass meeting was held on January 12, 1912, which led to the formation of the volunteer fire department, with 19 initial members. The first significant test of the department's capabilities came six months later during the G.E. Carlson tank house fire. The volunteers successfully utilized their equipment, as reported by *The Recorder*: "Small streams from the tank were first turned on and helped check the flames around the lower part of the tank."

In 1918, the city acquired a Ford truck with ladders and hoses, although it lacked a pump, limiting its effectiveness. The first significant upgrade came in 1924 with the purchase of an American LaFrance truck equipped with a pump. The department acquired a Van Pelt fire engine in 1946 and another truck in 1954.

The department expanded by starting an ambulance service when the local mortuary ceased providing emergency transport services in 1951. It purchased emergency medical equipment and introduced emergency medical technician (EMT) training. In 1987, the department trained its first paramedic and hired the first full-time firefighter.

Beyond its official duties, the fire department has been a vibrant part of the Kingsburg community. Firefighters build and decorate floats for parades, consistently winning accolades. Additionally, Santa Claus arrives in Kingsburg via fire truck each Christmas, with children enjoying rides and festive activities provided by the firefighters.

The Kingsburg Fire Department serves a residential population of approximately 13,000 over 3 square miles. It boasts a team of highly trained and dedicated professionals equipped with state-of-the-art technology and resources. The department's mission extends beyond fire suppression to encompass various services, including emergency medical response, rescue operations, hazardous materials (HazMat response), fire prevention, and community education.

As of 2024, KFD is authorized to employ 17 uniformed career personnel and one non-uniformed administrative support person. **Figure 2** illustrates the KFD service area geographically.

Legal Basis and Governance

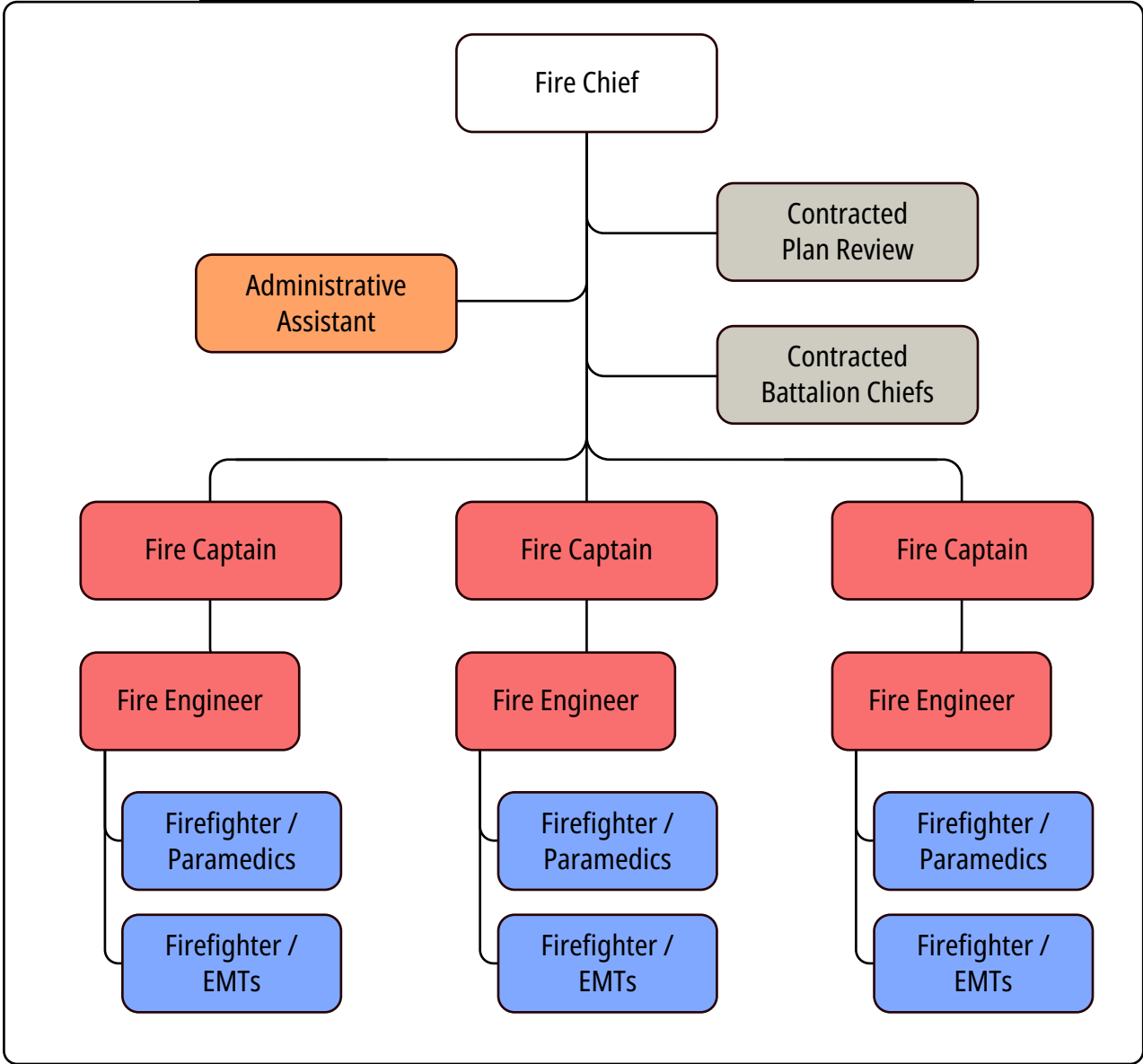
The city was officially incorporated in 1908 as a charter city. It now operates as a council-manager form of local government. The five-member city council is elected at large with five specific election districts. Each member serves a four-year term, with elections held every two years, alternating between three and two members elected. Each council member rotates through the position of mayor. The city manager and city attorney are appointed by the city council, as are members of the city's boards and commissions.

Governance and Authority

The city manager and city attorney report directly to the city council. The city manager oversees the department heads and the entire city's operations. The city operates under California's legal statutes and local municipal code.

The city manager supervises the fire chief. **Figure 3** illustrates the current organizational structure of KFD.

Figure 3. Organizational Structure of Kingsburg Fire Department (2024)



Description and Review of Services Provided



The KFD currently deploys its one fire engine (two-person staffed) and two rescue ambulances from a centrally located fire station. The department maintains a daily minimum staffing of six personnel. In September 2022, the Insurance Services Office (ISO) assigned the city a Class 2 Public Protection Classification (PPC™) rating.

KFD provides traditional fire suppression, emergency medical transport, first-responder-level HazMat response, technical rescue operations, new construction plan review through a contractual arrangement, and a limited role in public education and fire prevention activities. The department contracts with Fresno County Fire Protection District (FCFPD) for battalion chief coverage.

For emergency medical services (EMS) incidents, KFD provides advanced life support (ALS) medical first-response service using a paramedic assessment (PA) engine. The department also provides ALS-level transport with its rescue ambulance (RA) as part of the regional ambulance agreement. **Table 1** outlines KFD’s emergency services capabilities.

Table 1. Kingsburg Fire Department Emergency Service Capabilities

Service	General Resource/Asset Capability	Staffing and Capability per Shift
Fire suppression	<ul style="list-style-type: none"> • 1 Type-1 engine • 1 Type-6 fire engine for wildland response – cross-staffed 	<ul style="list-style-type: none"> • 2 personnel (1 captain and 1 fire engineer)
Emergency medical Services	<ul style="list-style-type: none"> • 2 rescue ambulances – ALS-equipped 	<ul style="list-style-type: none"> • 2 firefighter/paramedics and 2 firefighter/EMTs
HazMat response	<ul style="list-style-type: none"> • No HazMat unit 	<ul style="list-style-type: none"> • 18 personnel trained to first-responder awareness level
Technical rescue	<ul style="list-style-type: none"> • No urban search and rescue (USAR) unit 	<ul style="list-style-type: none"> • 18 personnel trained to the first awareness level and 5 personnel trained to USAR standards

Industry and Community Trends



The City of Kingsburg's commitment to community safety is commendable. Its strategy to maintain a safe environment for its citizens includes a full-service career fire department. Whether a community provides its own service or contracts with a larger organization, it represents a significant financial investment. In addition, rapid inflation in expensive specialty equipment makes Kingsburg's commitment even more significant.

One of the most challenging trends in the fire service is the rapid increase in expenses. Since 2020, labor shortages, supply chain issues, and market pressures have increased the cost of fire apparatus at an alarming, unprecedented rate. These pressures have also pushed back the delivery dates from order to 36 months or longer. Although there is some evidence that the situation is improving, it is unclear whether or when the problem will be resolved. For the near term, agencies should plan for a 10 percent inflation rate in apparatus costs.¹ Prudent organizations should expect similar inflation rates for other capital expenditures, such as radio systems, personal protective equipment, and specialty medical gear.

Labor costs are also likely to increase in the foreseeable future. A limited pool of applicants and an increasing need for more firefighter positions, coupled with an increase in retirements, are likely to continue to put pressure on base and competitive wages for firefighters. California might see a significant decrease in applicants as the California Department of Forestry and Fire Protection (CAL FIRE) adjusts to an increase in the minimum staff per apparatus and fewer hours worked per firefighter in a standard workweek. This will cause CAL FIRE, a substantial employer of firefighters, to increase its recruiting and retention efforts, reducing the available applicant pool for other agencies and enticing firefighters to move from their current organizations.

In 2023, Columbia Southern University identified seven emerging trends in the fire service, including:²

1. Advances in technology, such as the use of drones, thermal imaging, and wireless connectivity
2. Staffing shortages
3. Increased emphasis on wellness
4. The use and adoption of alternate energy sources by the agencies and the hazards these new energy sources bring
5. Increased awareness, severity, and occurrences of wildfires in rural communities
6. Importance of community engagement
7. New building materials and the hazards they introduce

Several experts and researchers agree with this list of emerging trends and have identified additional trends, such as reduced revenue, which affects discretionary spending; expanded operational responsibilities; and focus on sustainability, inclusiveness, partnerships, and culture.^{3,4} Most of these trends and ideas conflict with

¹ www.fireapparatusmagazine.com/magazine/2024-outlook-improvement-but-not-out-of-the-woods/.

² www.columbiasouthern.edu/blog/blog-articles/2023/february/emerging-trends-in-the-fire-service/.

³ www.fireengineering.com/commentary/fire-service-megatrends-2023-and-beyond/.

⁴ www.iafc.org/membership/iCHIEFS/iCHIEFS-article/the-21st-century-fire-and-emergency-services.

immediate financial constraints, even those that could improve an organization's future financial position. For example, improved firefighter safety, health, and wellness should reduce workers' compensation claims and the overtime needed to cover absenteeism. However, direct correlation is difficult to prove without investing in better data capture methodologies.

Investing in technology, such as drones, robotic adjuncts, improved situational awareness technologies, data, and analytic systems, could enhance organizational effectiveness. It could reduce overall staffing and/or ensure staffing is in prime geographic locations to improve efficacy and efficiency. Smaller agencies that do not have an abundance of human resources might not find an improvement in efficiency, but they could see enhanced operational effectiveness.

The key trends for emergency medicine appear to be based on integrative medicine. According to the EMS Agenda 2050 plan, one key principle is that people receive comprehensive quality care in a place that is the most effective, convenient, and comfortable. Other concepts in this document include the recognition of EMS systems as an integral piece of public health and healthcare. Emergency medicine clinicians will be an essential part of the healthcare delivery system, with access to patient medical records and history. EMS will interface directly and seamlessly with specialists and experts and extensively use technology for field monitoring and communications. This will necessitate a higher skill level and a broader scope of practice for the emergency clinician of the future. The concept of on-scene medicine and reduction of transportation to receiving facilities for only the sickest or critically injured is predicated on effective dispatching or primary medical contact systems that can provide immediate direction and access to immediately required medical aid adjuncts.⁵ Desk nurses, artificial intelligence algorithms, and drone delivery of medications and tools might accomplish this. Until that system is in place, the first responder system could transform into a basic aid delivery system. Then, definitive care would be delivered by more advanced clinicians when they arrive.

The community's makeup and trends are also variables that need to be evaluated as fire departments change and grow over time. As people return to city living, there is increasing pressure on cities to grow and become more sustainable. This includes more green space, public transportation, mixed-use land use and zoning, and less focus on the automobile. Reducing infrastructure for automobiles could result in fewer and smaller streets.⁶ Reduced access for large fire apparatus might pressure the industry to incorporate smaller firefighting vehicles or alternative modes of transportation, including aviation and drones. Vehicles utilizing alternative fuel sources, including electricity, will also shape the apparatus and the hazards responders face.

These trends will require emergency agencies to adopt a flexible approach to staffing, technology, policies, and funding. A culture of change adoption and an emphasis on prevention will enable fire and emergency medical agencies to anticipate and react to the changing environment. Because the lead time to transform the industry can be excessive due to the culture and the capital costs of equipment and training, early adopting organizations will weather the changes with fewer disruptions to community services.

⁵ www.ems.gov/assets/EMS-Agenda-2050.pdf.

⁶ kbs.com/insights/the-new-urban-era-trends-and-transformations-in-city-living/.

Strategic Planning



Strategic planning is an intentional process by which an agency or organization surveys the industry trends, customers' needs and wants, current and future available resources, and current and future capabilities of the agency to identify any performance gaps. When gaps are identified, the agency can determine the organizational objectives, supporting goals, and critical tasks necessary to rectify the performance gaps. After the process, the agency possesses a planning document that helps it focus organizational resources on measurable outcomes and prevent inefficient and counterproductive activities. The strategic planning process provides additional value when a broad array of stakeholders reaches a consensus on organizational performance gaps and potential solutions. Team effectiveness is enhanced through the power of a shared vision and goals.

Methodology

The strategic planning process included reviewing key agency documents and the most current performance data, as well as conducting two days of on-site meetings with the fire chief, firefighters, agency support staff, and community stakeholders between September 7 and 9, 2024.

On September 7, the agency hosted a "town hall" style meeting, during which a 17-member group of internal and external stakeholders completed a strategic visioning process. The process included a review of the value of strategic planning; evaluation of the community stakeholders' perception of the KFD before and after the facilitated process; analysis of the agency's strengths, weaknesses, opportunities, and challenges (SWOC); and critique of the agency's desired strategic planning statements for final inclusion in a strategic plan.

After the process, the stakeholders derived three key themes:

- 1 How do we continue to improve on saving lives, property, and the environment before and during emergency events?
- 2 How do we meet the increasing service demands over the coming years?
- 3 How do we better explain our services and demonstrate our value to our community?

From these critical themes, members of the agency's command, line, and administrative staff developed a list of 11 strategic objectives supporting the three themes:

- 1.1. Improve survivability for victims of fire, HazMat release, entrapment, and other crisis events.
- 1.2. Improve survivability of patients who experience acute medical emergencies.
- 1.3. Improve firefighter safety and survival.
- 2.1. Reduce financial and legal risk and liability to the Kingsburg Fire Department and the City of Kingsburg.
- 2.2. Improve efficiency within the current budget process.

2.3. Prepare the agency for future economic downturns.

2.4. Prepare for population growth within the jurisdiction.

3.1. Promote a positive agency reputation within the community.

3.2. Mitigate fire-related damage to allow occupants to remain in the impacted structure after suppression operations.

3.3. Provide downward pressure on fire insurance costs within the community.

3.4. Provide value to the community beyond the 9-1-1 response.

To track progress over time, the group identified 13 outcome measurements and 36 unique supporting goals to report performance and prepare the KFD to meet the community's needs and expectations.

Agency Status Analysis

SWOC analyses are designed to help an organization assess itself to determine its current state of effectiveness, identify future competitors, anticipate changes, and plot survival trajectories. Stakeholders were asked to develop a broad list of items from each category, which was then summarized as follows:

STRENGTHS

(things the agency does particularly well, competitive advantages, preparedness investments that are paying off, etc.)

- Good customer service
- Good community relations and high level of trust
- Good fire and EMS equipment
- Good relationships with surrounding fire and other emergency service agencies
- Support from the Community Emergency Response Team (CERT)
- Support from the Kingsburg Healthcare District
- Low cost of service (cost is 30 percent below the regional average of other fire/EMS agencies)
- Professional appearance of equipment and personnel

WEAKNESSES

(things the agency does not do particularly well, competitive disadvantages, blind spots, lack of preparedness, liabilities, etc.)

- Need to improve communication (internal and external)
- Poor location of fire station 2
- Suboptimal response coverage in the northeast quadrant of the city

- Problems with recruitment and retention of employees
- Prioritization by the city of Healthcare District funds to the fire department versus EMS functions
- Lack of support staff
- Limited support for volunteer, CERT, and Firefighter Explorer programs
- Outdated policies and procedures
- Need to update radio systems
- Suboptimal cardiac survival percentage (i.e., lower than the national average)
- The scope of care for paramedics to provide is too broad



OPPORTUNITIES

(things the agency should explore that would improve its mission, service delivery, efficiencies, reputation, and survivability as an organization)

- Expanded public education in the schools and the community at large
- Provision of regional disaster training
- Improved response times
- Additional staff for the fire prevention program
- Expanded Hands-Only CPR instruction to the public
- Improved cardiac survival percentage
- Provision of home safety inspections



CHALLENGES

(things that threaten to undermine the agency's mission, service delivery, efficiencies, reputation, and survivability as an organization)

- Abuse of the EMS system and its impact on service levels
- Maintaining service levels over time
- Achieving adequate levels of funding
- Unfunded mandates and liabilities
- Employee recruitment and retention
- Limited ability to provide public education
- Communicating service-level impacts to the community
- Anticipated or historical economic downturn

Strategic Objectives, Outcomes, and Goals

STRATEGIC OBJECTIVE

A statement that creates an overall vision and goal that helps an organization focus on achieving a desired outcome.

OUTCOME

A statement describing an activity's result or end state. The outcome is often the most critical category for evaluating agency effectiveness.

SUPPORTING GOAL

An incremental step(s) needed to accomplish a higher level desired outcome.

This strategic plan sometimes repeats outcomes and supporting goals because the same solution can meet multiple strategic objectives. For example, rapid turnout times can help improve the outcomes of thousands of responses. Some of the efforts listed below concentrate on fire-related problems, whereas others focus on emergency medical problems. In the end, rapid turnout times benefit both categories.



Figure 4. Supporting goals help an agency achieve higher level, desired outcomes, which bring the agency closer to its strategic objectives.

THEME 1

HOW DO WE CONTINUE TO IMPROVE ON SAVING LIVES, PROPERTY, AND THE ENVIRONMENT BEFORE AND DURING EMERGENCY EVENTS?

Strategic Objective 1.1 Improve Survivability for Victims of Fire, HazMat Release, Entrapment, and other Crisis Events.

Outcomes

- Annual growth rate of structure fire instances maintained at or below annual population growth rate (percent of structure fires lower than the percentage of the population growth year over year)
- Limit vegetation fires to 1/4 acre or less for 90 percent of wildland/grass fires
- Zero civilian deaths due to fire (structure fires/accidental/unintentional)

Supporting Goals

- Ensure emergency 9-1-1 calls for service are processed within 1 minute and 45 seconds for 90 percent of incidents (verification of address at secondary public safety answering point [PSAP] to alert-alarm handling).
- Hold turnout times within 1 minute and 40 seconds for 90 percent of fire and rescue incidents (unit alert to wheels rolling).
- Monitor and report turnout time performance quarterly (rolling 90- and 365-day, by unit and shift).
- For first suppression capable unit arrival at structure fires, HazMat releases, and other crisis events, require personal protective equipment (PPE) within 8 minutes and 30 seconds for 90 percent of incidents (verification of address at secondary PSAP to unit arrival).
- Develop a “room of origin” containment outcome measurement.
- Develop an output measurement for the time interval between contact with an entrapped victim and extrication of the victim (emergent calls, patient contact to patient extricated).
- Inspect 90 percent of state-mandated occupancies annually.
- Inspect 90 percent of commercial fire-protection systems annually.
- Inspect 75 percent of high-risk occupancies annually.
- Inspect 35 percent of moderate-risk occupancies annually.
- Inspect 35 percent of low-risk occupancies annually.
- Develop strategies to improve the quality and quantity of incident data reporting by officers and paramedics.
- Time stamp “water on fire.”
- Time stamp “primary search complete.”

- Time stamp “extrication complete.”
- Time stamp “patient/victim contact.”
- Maintain unit hour utilization below 25 percent for all units (annually).



Strategic Objective 1.2

Improve Survivability of Patients Who Experience Acute Medical Emergencies.

Outcomes

- Annual growth rate of medical aid requests for service at or below annual population growth rate (percent of emergent medical aid calls lower than the percentage of population growth year over year)
- Cardiac survival rate at or above the national average (CARES and Utstein Survival Reports)

Supporting Goals

- Ensure emergency 9-1-1 calls for service are processed within 1 minute and 45 seconds for 90 percent of incidents (verification of address at secondary PSAP to alert - alarm handling).
- Hold turnout times within 1 minute and 30 seconds for 90 percent of emergency medical incidents (unit alert to wheels rolling).
- Ensure first advanced life support (ALS) capable unit arrival within 8 minutes (suburban) or 12 minutes (rural) for 90 percent of emergency medical incidents (verification of address at secondary PSAP to unit arrival).
- Keep CPR compression rate at or above 90 percent for 90 percent of cardiac arrest incidents.
- Ensure bystander CPR participation rate is at or above the national average.
- Partner with community agencies to offer bystander Hands-Only CPR training.



Strategic Objective 1.3

Improve Firefighter Safety and Survival.

Outcomes

- Annual growth rate of structure fire instances maintained at or below annual population growth rate (percent of structure fires lower than the percentage of the population growth year over year)
- Limit vegetation fires to 1/4 acre or less for 90 percent of wildland/grass fires
- Zero firefighter line-of-duty deaths
- Annual employee injury rate below 20 percent of total allocated staffing (less than three reportable injuries per year)

Supporting Goals

- Ensure emergency 9-1-1 calls for service are processed within 1 minute and 45 seconds for 90 percent of incidents (verification of address at secondary PSAP to alert-alarm handling).
- Hold turnout times within 1 minute and 40 seconds for 90 percent of fire and rescue incidents (unit alert to wheels rolling).
- Monitor and report turnout time performance quarterly (rolling 90- and 365-day, by unit and shift).
- For first suppression capable unit arrival at structure fires, HazMat releases, and other crisis events, require PPE within 8 minutes and 30 seconds for 90 percent of incidents (verification of address at secondary PSAP to unit arrival).
- Develop a “room of origin” containment outcome measurement.
- Develop an output measurement for the time interval between contact with an entrapped victim and extrication of the victim (emergent calls, patient contact to patient extricated).
- Inspect 90 percent of state-mandated occupancies annually.
- Inspect 90 percent of commercial fire-protection systems annually.
- Inspect 75 percent of high-risk occupancies annually.
- Inspect 35 percent of moderate-risk occupancies annually.
- Inspect 35 percent of low-risk occupancies annually.
- Develop strategies to improve the quality and quantity of incident data reporting by officers and paramedics.
- Time stamp “water on fire.”
- Time stamp “primary search complete.”
- Time stamp “extrication complete.”
- Time stamp “patient/victim contact.”
- Maintain unit hour utilization below 30 percent for all units (annually).
- Analyze the security of all agency facilities (station harding, such as video cameras, security fencing, and limiting access).
- Analyze equipment and inventory security for all vehicles.

THEME 2

HOW DO WE MEET THE INCREASING SERVICE DEMANDS OVER THE COMING YEARS?

Strategic Objective 2.1

- ① **Reduce Financial and Legal Risk and Liability to the Kingsburg Fire Department and the City of Kingsburg.**

Outcomes

- Zero firefighter line-of-duty deaths
- Annual employee injury rate below 20 percent of total allocated staffing (less than one reportable injury per year)
- Zero substantiated cases of harassment or discrimination
- Zero cases requiring formal disciplinary action (action above written reprimand)

Supporting Goals

- Analyze the security of all agency facilities.
- Analyze equipment and inventory security for all vehicles.
- Develop a system of reviewing and updating all policies every three years.
- Provide liability reduction and harassment prevention training to all employees annually.
- Update and maintain a two-year training plan.
- Update succession planning and professional development policies.
- Improve the quality and accuracy of report writing by officers and paramedics.

Strategic Objective 2.2

- ① **Improve Efficiency within the Current Budget Process.**

Outcomes

- Annual growth rate of structure fire instances maintained at or below annual population growth rate (percent of structure fires lower than the percentage of the population growth year over year)
- Annual growth rate of medical aid requests for service maintained at or below annual population growth rate (percent of emergent medical aid calls lower than the percentage of population growth year over year)
- Cost per capita equal to or below the regional comparative average

Supporting Goals

- Provide liability reduction and harassment prevention training to all employees annually.
- Pursue grant opportunities with a positive return on investment (Staffing for Adequate Fire and Emergency Response [SAFER], Assistance to Firefighters Grant [AFG], etc.).
- Maintain fleet quantity and reliability.
- Maintain a score of 21 points or lower for all frontline fire apparatus (American Public Works Association [APWA] vehicle replacement score).
- Maintain a score of 30 points or lower for all reserve fire apparatus (APWA vehicle replacement score).
- Improve the efficiency of the workers' compensation treatment program.
- Improve return-to-duty processes.
- Invest in station improvement projects that provide economic savings measured in lower ongoing maintenance and utility costs.
- Develop a cost recovery fee for fire department functions due to unfunded state mandates, illegal activities, and negligence.

Strategic Objective 2.3 Prepare the Agency for Future Economic Downturns.

Outcomes

- Develop an operational cost and service “step-down/cost-cutting” plan that provides a progressive rate of savings within one year of implementation

Supporting Goals

- Develop an annual budget that establishes the required capital outlay for funding new equipment and ambulances.
- Set aside any remaining funds after each fiscal year in a "rainy day" fund to manage potential fiscal emergencies.
- Develop a spending plan and budget for when the Kingsburg Healthcare District grant funds expire in three years.

Strategic Objective 2.4 Prepare for Population Growth within the Jurisdiction.

Outcomes

- Annual growth rate of structure fire instances maintained at or below annual population growth rate (percent of structure fires lower than the percentage of the population growth year over year)

- Annual growth rate of medical aid requests for service maintained at or below annual population growth rate (percent of emergent medical aid calls lower than the percentage of population growth year over year)
- Cardiac survival rate at or above the national average (CARES and Utstein Survival Reports)

Supporting Goals

- Ensure emergency 9-1-1 calls for service are processed within 1 minute and 45 seconds for 90 percent of incidents (verification of address at secondary PSAP to alert-alarm handling).
- Hold turnout times to within 1 minute and 40 seconds for 90 percent of fire and rescue incidents (unit alert to wheels rolling).
- Monitor and report turnout time performance quarterly (rolling 90- and 365-day, by unit and shift).
- For first suppression capable unit arrival at structure fires, HazMat releases, and other crisis events, require PPE within 8 minutes and 30 seconds for 90 percent of incidents (verification of address at secondary PSAP to unit arrival).
- Develop a “room of origin” containment outcome measurement.
- Develop an output measurement for the time interval between contact with an entrapped victim and extrication of the victim (emergent calls, patient contact to patient extricated).
- Inspect 90 percent of state-mandated occupancies annually.
- Inspect 90 percent of commercial fire-protection systems annually.
- Inspect 75 percent of high-risk occupancies annually.
- Inspect 35 percent of moderate-risk occupancies annually.
- Inspect 35 percent of low-risk occupancies annually.
- Develop strategies to improve the quality and quantity of incident data reporting by officers and paramedics.
- Time stamp “water on fire.”
- Time stamp “primary search complete.”
- Time stamp “extrication complete.”
- Time stamp “patient/victim contact.”
- Maintain unit hour utilization below 30 percent for all units (annually).
- Hold turnout times within 1 minute and 30 seconds for 90 percent of emergency medical incidents (unit alert to wheels rolling).
- Ensure first ALS capable unit arrival within 8 minutes (urban) or 12 minutes (rural) for 90 percent of emergency medical incidents (verification of address at secondary PSAP to unit arrival).
- Keep CPR compression rate at or above 90 percent for 90 percent of cardiac arrest incidents.
- Ensure bystander CPR participation rate is at or above the national average.
- Partner with community agencies to offer bystander Hands-Only CPR training.

THEME 3

HOW DO WE BETTER EXPLAIN OUR SERVICES AND DEMONSTRATE OUR VALUE TO THE COMMUNITY?

Strategic Objective 3.1 Promote a Positive Agency Reputation within the Community.

Outcomes

- Cost per capita equal to or below the regional comparative average
- Employees represent the demographic makeup of the community (per census data)
- Score of 90 percent or higher on Citizen Satisfaction Survey
- ISO PPC Class 3 rating or better

Supporting Goals

- Implement a Citizen Satisfaction Survey process.
- Meet with external strategic planning stakeholders annually to review progress and refine the agency's community services.
- Review and update the KFD website at least annually.
- Develop a community engagement plan.
- Develop quarterly and annual reporting processes.
- Deliver presentations to community groups.
- Partner with community agencies and the CERT program to perform an annual smoke alarm installation program that targets specific areas of the community.
- Continue to support and expand the opportunities for minorities and disadvantaged youth throughout the Kingsburg High School area through the Firefighter Explorer program.

Strategic Objective 3.2 Mitigate Fire-Related Damage to Allow Occupants to Remain in the Impacted Structure after Suppression Operations.

Outcomes

- Annual growth rate of structure fire instances maintained at or below annual population growth rate (percent of structure fires lower than the percentage of the population growth year over year)

Supporting goals

- Ensure emergency 9-1-1 calls for service are processed within 1 minute and 45 seconds for 90

percent of incidents (verification of address at secondary PSAP to alert-alarm handling).

- Hold turnout times within 1 minute and 40 seconds for 90 percent of fire and rescue incidents (unit alert to wheels rolling).
- Monitor and report turnout time performance quarterly (rolling 90- and 365-day, by unit and shift).
- For first suppression capable unit arrival at structure fires, HazMat releases, and other crisis events, require PPE within 8 minutes and 30 seconds for 90 percent of incidents (verification of address at secondary PSAP to unit arrival).
- Develop a “room of origin” containment outcome measurement.
- Develop an output measurement for the time interval between contact with an entrapped victim and extrication of the victim (emergent calls, patient contact to patient extricated).
- Inspect 90 percent of state-mandated occupancies annually.
- Inspect 90 percent of commercial fire-protection systems annually.
- Inspect 75 percent of high-risk occupancies annually.
- Inspect 35 percent of moderate-risk occupancies annually.
- Inspect 35 percent of low-risk occupancies annually.
- Develop strategies to improve the quality and quantity of incident data reporting by officers and paramedics.
- Time stamp “water on fire.”
- Time stamp “primary search complete.”
- Time stamp “extrication complete.”
- Time stamp “patient/victim contact.”
- Maintain unit hour utilization below 30 percent for all units (annually).



Strategic Objective 3.3

Provide Downward Pressure on Fire Insurance Costs within the Community.

Outcomes

- Annual growth rate of structure fire instances maintained at or below annual population growth rate (percent of structure fires lower than the percentage of the population growth year over year)
- Limit vegetation fires to 1/4 acre or less for 90 percent of wildland/grass fires
- ISO PPC Class 3 rating or better

Supporting Goals

- Ensure emergency 9-1-1 calls for service are processed within 1 minute and 45 seconds for 90 percent of incidents (verification of address at secondary PSAP to alert-alarm handling).

- Hold turnout times within 1 minute and 40 seconds for 90 percent of fire and rescue incidents (unit alert to wheels rolling).
- Monitor and report turnout time performance quarterly (rolling 90- and 365-day, by member or officer).
- For first suppression capable unit arrival at structure fires, HazMat releases, and other crisis events, require PPE within 8 minutes and 30 seconds for 90 percent of incidents (verification of address at secondary PSAP to unit arrival).
- Develop a “room of origin” containment outcome measurement.
- Develop an output measurement for the time interval between contact with an entrapped victim and extrication of the victim (emergent calls, patient contact to patient extricated).
- Inspect 90 percent of state-mandated occupancies annually.
- Inspect 90 percent of commercial fire-protection systems annually.
- Inspect 75 percent of high-risk occupancies annually.
- Inspect 35 percent of moderate-risk occupancies annually.
- Inspect 35 percent of low-risk occupancies annually.
- Develop strategies to improve the quality and quantity of incident data reporting by officers and paramedics.
- Time stamp “water on fire.”
- Time stamp “primary search complete.”
- Time stamp “extrication complete.”
- Time stamp “patient/victim contact.”
- Maintain unit hour utilization below 30 percent for all units (annually).
- Identify cost-effective measures to maintain or improve ISO classification.
- Partner with community agencies and the CERT program to perform an annual smoke alarm installation program that targets specific areas of the community.
- Ensure all fire hydrants in the jurisdiction are maintained annually.
- Develop a list of fire-restoration companies to provide to fire victims to minimize further property damage.



Strategic Objective 3.4

Provide Value to the Community Beyond the 9-1-1 Response.

Outcomes

- Score of 90 percent or higher on the Citizen Satisfaction Survey
- ISO PPC Class 3 rating or better

Supporting Goals

- Meet with external strategic planning stakeholders annually to review progress and refine the agency's community services.
- Review and update the KFD website at least annually.
- Develop a community engagement plan.
- Develop quarterly and annual reporting processes.
- Deliver presentations to community groups.
- Explore expanding the department's social media outreach.
- Explore a "Fire Ops 101" program for interested community leaders and media.
- Identify cost-effective measures to maintain or improve ISO classification.
- Continue to support community events (parades, Toys for Tots, etc.)
- Partner with community agencies and the CERT program to perform an annual smoke alarm installation program that targets specific areas of the community.
- Provide fire safety education in the schools.
- Continue to partner with local high schools to provide students with community service opportunities with the fire department.
- Increase the number of new employee applicants from the local community.

Management Components



Effectively managing today's fire service is a complex undertaking. A progressive fire department must address multiple significant elements, including maintaining a stable, qualified workforce, meeting increasing health and safety concerns and community expectations, ensuring an appropriate and timely emergency response to serve its community, and providing stewardship over constrained financial resources.

In addition to these challenges, managing a fire department requires attending to fundamental organizational elements, including developing statements to describe the department's mission, vision, and core 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 the agency's efforts in these areas.

KFD Foundational Elements

The Kingsburg Fire Department's mission, vision, and core values are:

MISSION STATEMENT

The mission of the Kingsburg Fire Department is to protect lives, property, and the environment from fires, emergency medical incidents, and disasters through preparedness, prevention, education, and emergency response.

VISION STATEMENT

The Kingsburg Fire Department will be a premier fire, rescue, and EMS agency within California's Central Valley.

CORE VALUES
Excellence
Ingenuity
Commitment
Service

Communication

KFD has established effective internal and external communication avenues, which are critical to department success.

Internal Communication

The KFD manages its internal communication in several ways, including regularly scheduled staff meetings and semiannual department-wide meetings. KFD has an open-door policy for all communication needs, and the department's chain of command has been clearly identified.

Other standard methods of internal communication include utilizing the department's email system (all personnel have a department email address), Plan-It (a Microsoft planning app), and department memos.

External Communication

Communication with the public is achieved primarily through the City of Kingsburg's and the KFD's websites and social media platforms, including Facebook and Instagram. Administrative staff and other city social media managers provide and monitor content on these platforms to ensure the public receives department news, details of events, and other information.

Reporting and Recordkeeping

KFD utilizes *Lexipol*®, a third-party provider of public safety solutions, for department policies. These policies are reviewed annually, and *Lexipol*® makes any necessary revisions and updates. The last formal review of department policies occurred over three years ago. When documents are updated or otherwise revised, the department conducts training on policies as needed or as required for all personnel. Policy documents are available to all personnel through the department's internal platform.

Incident response data are entered and maintained electronically using *ImageTrend* software. Cloud-based programs allow KFD to meet the National Fire Incident Reporting System (NFIRS) requirements via a single reporting platform.

Periodic reports, including management and operational reports and financial requests, are provided to the city manager and elected officials. At the time of this study, KFD had not produced an annual report showcasing the department's goals, objectives, accomplishments, or response statistics. KFD cites the lack of administrative support staff as the primary reason for not providing this information.

The city's human resources division maintains personnel records, including applications, background checks, and workers' compensation documents.

Training data, including daily and company training records and various fire, EMS, and other certifications, are collected and archived within the *Vector Solutions* program. All KFD personnel can access their training files as needed.

Additional records maintained and archived internally by KFD include self-contained breathing apparatus (SCBA), ladder, hose, and apparatus pump testing documents.

Document Control and Security

Document Control

KFD maintains strict policies for document control. Hard copy files are secured in locked file cabinets within the administrative office in the fire station. Records are also stored electronically on desktop and laptop computers. Personnel can access computers and associated software at workstations in the fire station. Passwords are required to access department computers, and files are backed up internally through servers.

Facility Security

KFD's facility security is achieved using a master-level keyed system. Offices within the station can be secured with a conventional key. Remote transmitters in each vehicle and apparatus activate the apparatus bay doors. Of note, the rear of the fire station is not secured and is open to the public, which is a safety concern for the KFD employees.

Critical Issues and Future Challenges from Internal Assessment

A key goal of the internal assessment was to identify any critical issues and future challenges that could affect the ability of KFD to achieve its strategic goals. Issues were identified in the areas of staffing, retention, facility needs, and sustainability of services.

Staffing

The KFD responds from just one fire station with only six personnel on duty per 48-hour shift. These constraints limit the critical tasks that can be accomplished during an incident, and the department relies heavily on surrounding fire departments through the regional automatic-aid system. Without these agreements, the department could not manage its current volume of calls.

The current administrative staffing, consisting of one administrative assistant and the fire chief, is insufficient to address all the duties and responsibilities of a modern fire department's administrative division. Many of the department's programs lack the necessary personnel, management, and oversight to be successful. For example, the functions of the community risk reduction program needed to be reduced, which creates a gap in meeting the community's needs and desires.

Retention

Personnel retention has been a problem for the KFD since the department transitioned from volunteer to career firefighters. During interviews, many staff members stated that the department was effectively a training ground for personnel to get experience, only to go on to test with other, larger departments in California. One of the main retention issues is that most personnel want to work on a fire engine rather than an ambulance. Therefore, employees are often focused on how many years they will be required to respond to emergencies in the ambulance. KFD has improved the incentive plan, added additional training opportunities, and implemented wage increases to improve retention.

Facility Needs

The current fire stations are well-maintained and adequately outfitted. Both fire stations have ample bedrooms and bathrooms to accommodate both genders. The stations have air extractors, PPE

washing machines, and driers. Station 2 has a fresh air compressor for filling SCBA bottles. Station 2 also has a training room that accommodates up to 30 students. The two stations require significant annual maintenance, and additional funds are needed to properly maintain both facilities.

Staffing and Personnel



An organization's most significant asset lies in its people, and its people also typically comprise its most substantial financial cost. Thus, organizations must prioritize managing human resources to achieve maximum productivity while ensuring high employee job satisfaction. Consistent management practices, a safe working environment, equitable treatment, the opportunity for input, and appropriate recognition are vital components of job satisfaction.

The size and structure of an organization's staffing depend on its specific needs and funding. The agency's needs must directly correlate with the community's expectations and the available revenue stream. A staffing structure that works for one entity might not work for another. This section provides an overview of KFD's staffing configuration and management practices.

Department staffing can be categorized into two distinct groups: administration and operations. The administrative section typically works behind the scenes to provide the support the operation's personnel need to deliver effective emergency responses. Operations is the staffing citizens usually equate with the fire department: uniformed responders.

Administrative and Support Staffing

The administrative and support functions are diverse, and the list of tasks can be extensive. Organizational planning, coordination, asset management, program evaluation, and overall direction are typical administrative and support staff functions.

Only two (2) full-time equivalent (FTE) employees provide administrative and support services to the department. The fire chief is KFD's senior executive administrator, who reports directly to the city manager. The fire chief manages four subordinates, which is within established practices. The subordinates include the three shift captains and the administrative assistant. Providing oversight for three shifts and the administrative assistant leaves the fire chief little time for higher level administrative responsibilities. **Table 2** lists each FTE position and the staffing count for the administrative functions.

Table 2. Administrative Staff Working Full-Time Equivalent Hours

Position	Number of FTE Staff
Fire chief	1
Administrative assistant	1
Total FTEs	2

As is typical for many fire service organizations, administrative and support staff serve in multiple roles to perform varying job responsibilities concurrently. KFD operates with a single civilian administrative assistant position and support from other departments within the City of Kingsburg. The fire chief and administrative assistant are responsible for developing and managing the budget, purchasing, asset tracking, ambulance billing, general office and clerical support, human resources,

records management, public education, and fire prevention. They are also tasked with the responsibilities of planning, organizing, directing, coordinating, and evaluating KFD's various programs. The city provides human resources, finance, and legal functions for the KFD, with input from the fire department staff.

Two FTE administrative positions to oversee a department of 20 personnel is inadequate for all the required legal, human resource, training, education, and reporting mandates. As a result, many administrative functions are not being performed, such as annual reports, training reports, workers' compensation reduction programs, and community risk reduction programs. The administrative staff must focus on maintaining the day-to-day operation instead of five-year forecasting, risk reduction, and strategic planning.

Disaster Preparedness Staffing

The City of Kingsburg's Emergency Management Program is overseen by the KFD fire chief, who reports to the city manager, who is also the city's emergency manager. The program prioritizes annual training plans and drills, ensuring that Emergency Operations Center (EOC) staff are well-prepared and compliant with National Incident Management System (NIMS) standards and certification requirements.

The emergency manager assigns specific roles for disaster response and recovery, which are supported by proactive measures, such as shelter worker/manager training and cost recovery workshops. Each department's active involvement fosters a comprehensive approach to addressing all hazards.

The Emergency Management Program also actively engages in regional planning and maintains current protocols, such as the Fresno County Hazard Mitigation Plan, Emergency Operations Plan, Damage Assessment Plans, Recovery Plans, and Notification Plans.

The program's activation levels align with the California Governor's Office of Emergency Services (Cal OES), underscoring a commitment to responsive emergency management practices.

Emergency Response/Operations Staffing

An adequate and professionally trained staff of emergency responders is necessary to maximize the use of the appropriate emergency apparatus and equipment to mitigate emergency incidents. Insufficient operational staffing at an emergency scene decreases the effectiveness of the response and increases the risk of injury to all individuals involved.

Because Kingsburg has only one fire engine, additional personnel are needed for initial fire assignments. Other scenarios that require additional resources include mass-casualty incidents and explosions. For this reason, fire departments like KFD must rely on a robust mutual-aid and automatic-aid plan for assistance.

Operations personnel are assigned various duties to meet the department's emergency response objectives. They are also responsible for additional collateral duties to support the response mission. KFD contracts with the Fresno County Fire Protection District to provide operational battalion chief coverage for each shift and an extra fire engine staffed with two personnel for structure fire responses.

Table 3 lists the FTE position counts for the operations division.

Table 3. Operations Staff Working Full-Time Equivalent Hours

Position	Number of FTE Staff
Captain	3
Fire engineer	3
Firefighter/paramedic	6
Firefighter/EMT	6
TOTAL FTEs	18

Firefighter Staffing

KFD staffs one station, 24 hours per day, every day of the year, with a total operations staff of three captains, three fire engineers, six firefighter/EMTs, and six firefighter/paramedics. KFD utilizes a three-shift system with five personnel on duty daily: A-Shift, B-Shift, and C-Shift. The shifts work a 48/96-hour schedule on a 24-day Fair Labor Standards Act (FLSA) cycle. Work shifts begin at 8 a.m. and end at 8 a.m. the following day.

On-duty fire suppression personnel staff, one first-out Type 1 ALS-staffed fire engine, and two ALS rescue ambulances respond from the city's downtown fire station. Additional units can be cross-staffed, depending on the type of incident and apparatus needed. Engine company minimum staffing levels are one captain and one engineer. The rescue ambulances are staffed with one firefighter/paramedic and one firefighter/EMT. KFD also has access to several surrounding agencies for additional incident staffing using current automatic-aid agreements.

Table 4 lists the primary and cross-staffed apparatus for station 1.

Table 4. Station 1 Apparatus and Staffing Levels

Station	Apparatus	Minimum On-Duty Staffing
Station 1	Medic engine 141	2
	Rescue ambulance 501	2
	Rescue ambulance 502	2
	Truck 141	Cross-staffed
	OES Type 6	Cross-staffed
	Total Daily Staffing	6

Fire Suppression Capabilities

The KFD provides a wide range of responses to structure fires, including single-family dwellings, multi-family dwellings, commercial buildings, and industrial occupancies. Additionally, it responds to high-hazard structures, such as institutional facilities, schools, nursing homes, assisted living facilities, and congregate housing. Other fire-related responses involve mobile property, such as passenger vehicles, road freight, rail freight, recreational vehicles, dumpster and rubbish fires, and heavy equipment fires. Within the realm of fire suppression, service-level objectives are designed to prevent the occurrence of flashover — a critical point in a fire's growth that significantly heightens its threat to life and property.

Firefighters encounter a diverse array of conditions at fire incidents, ranging from early-stage outbreaks to situations in which the fire has engulfed the entire structure. This variability in conditions complicates efforts to compare the capabilities of different fire departments. A standard reference point must be established to facilitate meaningful comparisons, ensuring that assessments are conducted under equitable conditions.

Determining apparatus staffing levels is a challenging task. Leaders must decide what risks their crews are likely to face and what level of risk the community is willing to accept. Several noteworthy publications help agencies determine adequate staffing, including the National Fire Protection Association (NFPA) Standard 1710: *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*. This NFPA standard recommends staffing and deployment of career organizations.

The National Institute of Standards and Technology, which studies fire and EMS incidents, also provides direction. Occupational health standards typically consider crew entry into a hazardous environment unsafe without an equal number of equipped and capable personnel outside the hazard zone. Therefore, no one person goes in alone. However, this rule may be suspended if an emergency rescue is required.

The first 15 minutes is the most crucial period in fire suppression. How effectively and efficiently firefighters perform during this period significantly affects the overall outcome of the event. In fact, this general concept applies to fire, rescue, and medical situations. One can break down the critical tasks performed at a fire into two key components — life safety and fire flow. Life-safety tasks are based on the number of building occupants and their location, status, and ability to take self-preservation action. Life-safety tasks involve search, rescue, and evacuation of victims. The fire-flow component involves delivering enough water to extinguish the fire and create an environment within the building that allows firefighters to enter.

The number and types of tasks that require simultaneous action will dictate the minimum number of firefighters required to combat different fires. Numerous simultaneous tasks must be completed to control an emergency effectively. However, without adequate personnel to perform concurrent action, the incident commander must prioritize the tasks and complete some in chronological order rather than concurrently. These tasks include:

- Command
- Scene safety
- Search and rescue

- Fire attack
- Water supply
- Pump operation
- Ventilation
- Back-up/rapid intervention

A department's ability to respond with the needed numbers of trained personnel quickly enough to be effective is critical to achieving successful incident outcomes.

Establishing staffing levels is a determination made at the community level based on risk, capability, and citizen expectations. Decisions are guided by national recommendations, such as those in the NFPA Standard 1710. **Table 5** outlines the staffing tasks for single-family dwelling incidents.

Table 5. Example of Tasks and Staff Requirements Defined in NFPA 1710

Position	Number of FTE Staff
Captain	3
Command	1
Apparatus operator	1
Handlines (2 members on each)	4
Support members	2
Victim search and rescue team	2
Ground ladders/ventilation	2
Aerial operator (if ladder used)	
Initial rapid intervention team	4
Total Required	16

The KFD's response and deployment standards align with suburban population density, historical service demand, and industry best practices. The department's critical task analysis considers property and life risk, categorizing tasks into fire-flow and life-safety components.

Fire-flow tasks involve getting water on a fire, contingent on building characteristics. In contrast, life-safety tasks revolve around the occupants⁷ number and location, status, and ability to self-preserve. Successful emergency response hinges on coordinated teamwork, addressing tasks such as fire attack, search and rescue, ventilation, backup lines, pump operation, water supply, command, and safety within a goal of 10 minutes after the arrival of the first-due unit.

Establishing the resource levels needed for various emergencies is a uniquely local decision. Factors influencing local decisions for incident staffing include financial resources, availability of resources

⁷ National Fire Protection Association Standard 1710: *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (2020)*.

from surrounding departments, the type of equipment operated, training levels of responders, operating procedures, geography, traffic, the nature of buildings, and other risks. **Table 6** shows the critical tasks necessary at low-risk (e.g., dumpster, vehicle, and small grass fires) and moderate-risk (e.g., single-family residence) fire suppression events.

Table 6. Critical Tasks Necessary at Low-risk EMS and Moderate-risk Fire Suppression Events

Low-Risk EMS Incident		
Task	Personnel	Company
Command, pump, and attack line	2	1st Engine or truck
Total	2 Fire personnel	1 Fire apparatus or truck
Moderate-Risk Fire Incident		
Task	Personnel	Company
Attack line	2	1st and 2nd Fire engine
Pump operator	1	1st Fire engine
Primary search and rescue	2	4th Fire engine
Water supply/sprinkler	1	2nd Fire engine
Back-up attack line/utilities	2	3rd Fire engine
Command	1	Battalion chief
EMS	2	Rescue ambulance
Total	11 Fire personnel	4 Engines, 1 battalion chief, and 2 ambulances

For a moderate-risk fire, such as a single-family residence with a 2,500-square-foot residence, industry standards recommend a minimum of 16 firefighters to complete the necessary critical firefighting tasks. The Fresno County Emergency Communications Center dispatches four fire engines, one rescue ambulance, and one battalion chief, totaling 11 personnel, for these types of fires. KFD does not have adequate responding units or personnel to meet NFPA 1710 standards for a moderate-risk fire. Of the 11 responders required, KFD can provide four personnel and only if the ambulance is not already committed to medical transport. KFD can provide only 25 percent of the effective firefighting force required to work a single-family structure fire.

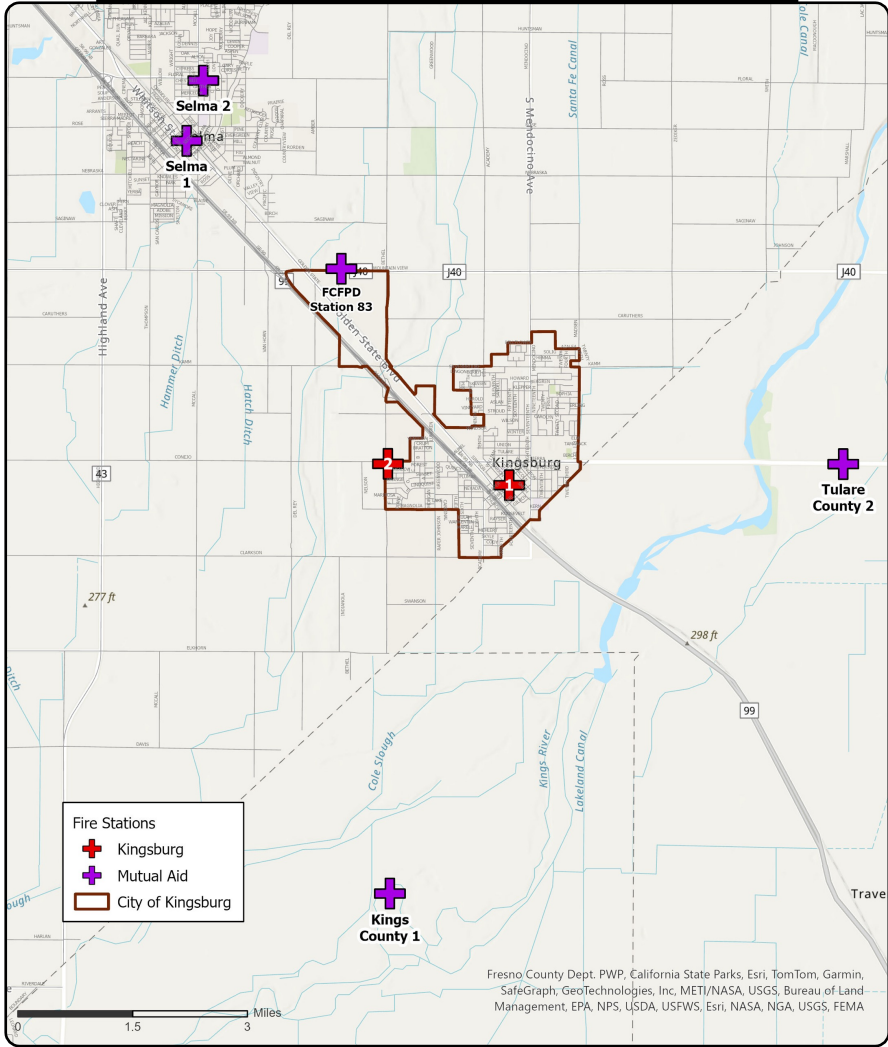
For this reason, KFD relies heavily on the surrounding fire departments to respond to any incident that requires more than one fire unit's response or four personnel to mitigate the emergency.

Table 7 shows the most common fire department resources needed through automatic-aid agreements to complete a first-alarm assignment for a structure fire. **Figure 5** shows KFD's primary automatic-aid resource locations.

Table 7. KFD Primary Automatic-Aid Resources

Department Name	Station #	Number of Engines	Number of Staff
Fresno County Fire	E83	1	2
Selma Fire Department	E111	1	2
Tulare County Fire	E2	1	1
Fresno County Fire	E71	1	2
Kings County Fire	E2	1	1

Figure 5. KFD Primary Automatic-Aid Resource Locations



Human Resources Policies, Rules, Regulations, and Guidelines

Human resources encompasses the administrative and support functions designed to balance the employer's and employees' needs and requirements. The fire service relies heavily on its people to accomplish its mission. Therefore, effectively managing, supporting, and organizing human assets is critical for successful service delivery. Successful organizations must be committed to the human resources function and documented policies and programs.

The human resources function requires agencies to maintain specific compliance documentation and meet compensation, tax, and benefits obligations. Successful agencies also actively manage the employment life cycle and provide and oversee employee health and safety programs. The KFD maintains staff, systems, and procedures designed to accomplish and enhance human resource functions, and the Human Resources Division of the City of Kingsburg assists with these functions.

Complex organizations such as fire agencies operate under several rules that originate from both internal and external forces. Federal, state, and local laws are examples of external forces, whereas internal forces include operations and resource management. Internal requirements/rules are typically documented in written policies, contracts, orders, memos, and guidelines. There can be minor to severe consequences when documented internal requirements are broken.

Emergency services organizations must comply with government-mandated regulations. City, state, county, and federal laws apply to the organization, its employees, and specific firefighter and medical personnel functions. Rules that apply directly to KFD are primarily dictated by state and federal law, although local ordinances and code adoption play a role. An analysis of these laws is outside the scope of this report, and KFD and the city should rely on periodic legal reviews to ensure compliance.

Some agencies are subject to civil service rules, which are local, state, or federal laws that govern the employer-employee relationship. In addition, KFD utilizes the *Lexipol*® documentation system, which offers generic policies with civil service-type content.

Labor Contracts

KFD has signed a memorandum of understanding (MOU) between the local firefighters union and the department. The MOU operates like a contract authorized under the Meyers-Miliias-Brown Act, a California state law. The International Association of Fire Fighters (IAFF) Local 4291 — Kingsburg Firefighters Association represents the sworn members of KFD. The MOU is primarily concerned with compensation, working schedules, and benefits for the members.

Policies

Policies, a formal type of rule, are written for specific situations and include words such as “shall” and “will” to indicate the required actions of the organization's members. The KFD's policies are specific to the agency and are Lexipol-vetted generic legally required documents. These policies are reviewed annually, and Lexipol® makes any necessary revisions and updates. The last formal review of department policies occurred over three years ago.

Personnel Reports and Recordkeeping

The City of Kingsburg and KFD maintain employee files (i.e., documents and information) in their records management systems. Electronic records are stored in various computer systems, such as Vector Solutions, Springbrook, and Plan-It. Hard copy files are physically secured with limited unsupervised access. In addition, the various electronic records management systems store other data,

such as attendance, payroll, training, and miscellaneous daily information. These systems are secured utilizing standard information technology processes.

Compensation Systems

KFD's compensation system is based primarily on position and seniority. Compensation includes hourly and annual salaries, various paid and unpaid leave programs, health and life insurance, retirement benefits, and recognized holidays. The MOU between the local firefighter's union and the department defines this compensation for members of the IAFF Local 4291.

Disciplinary Process

The City of Kingsburg has documented disciplinary processes developed by the city that meet current law. The MOU between IAFF Local 4291 and the city defines this process and references the disciplinary procedural steps under the Firefighter's Bill of Rights.

Mental Health Services

KFD provides mental health services through the city employee assistance program (EAP).

Recruitment, Application, and Testing Processes

KFD's hiring process includes a qualification review, reference review, background check, and interview. Firefighters are also required to undergo physical and written testing. During the probationary period, KFD utilizes a skills evaluation process and performance evaluation for probational operational personnel. The probationary period for all original appointments and promotions is 12 months.

Health and Wellness Programs

KFD requires new firefighter applicants to complete a medical examination based on NFPA Standard 1582: *Standard on Comprehensive Occupational Medical Program for Fire Departments*.

Fire service organizations function in an inherently hazardous environment, requiring all reasonable precautions be taken to limit exposure and provide consistent medical monitoring. Therefore, wellness programs must include education on multiple topics, including healthy lifestyles, illness and injury prevention, and, most recently, an emphasis on cancer prevention and mental health support.

Specific types of cancer rates continue to increase among firefighters, as scientifically proven by educational institutions such as the University of Miami's Sylvester Comprehensive Cancer Center. Therefore, fire service organizations must take a proactive approach toward protecting their members. When PPE is exposed to products of combustion, it becomes an exposure pathway for cancer-causing carcinogens. KFD provides each member with two sets of PPE and an extractor to decontaminate exposed items to mitigate this hazard. The department has also installed a diesel exhaust mitigation system to reduce employees' exposure to carcinogens when in use.

The fire service industry has recently emphasized the need for agencies to support the mental health of first responders. Notable increases in diagnosed post-traumatic stress disorders and suicide rates have driven this increased awareness of the need for mental health support. Critical incident stress debriefings (CISD) are provided to address this issue within KFD. Like most organizations, an EAP is available to KFD members through the city's insurance provider.

KFD provides each fire suppression employee with an annual medical examination, which includes a treadmill stress EKG, hearing and vision testing, blood work, cancer screening, and assessment by a physician assistant. This program aims to identify potential medical issues early and reduce the time an employee might need leave from work.

Capital Facilities and Equipment



Trained personnel, apparatus and vehicles, firefighting and emergency medical equipment, and fire stations are the essential capital resources that a fire department needs to carry out its mission. No matter how competent or numerous the firefighters are, the KFD cannot perform its responsibilities effectively without the appropriate capital equipment for operations personnel. The essential capital assets for emergency operations are facilities, apparatus, and other emergency response vehicles. This section of the report assesses these essential assets.

Facilities

Fire Stations Functions

Fire stations play an integral role in delivering emergency services for several reasons. A station's location largely dictates response times to emergencies. A poorly located station can mean the difference between confining a fire to a single room and losing the structure. It can decrease an individual's chances of survival from sudden cardiac arrest.

In addition to the optimal station location, fire stations must be designed to adequately house equipment and apparatus, as well as meet the organization's and its personnel's needs.

Fire stations should be closely examined to ensure their structure is adequate in size and function. Examples of common fire station functions 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
- Storage and cleaning of apparatus and equipment, including decontamination and disposal of biohazards
- Administrative and management offices, computer stations, and office facilities
- Public meeting space

Fire Stations Features and Condition

The department reviewed each station to the applied rating criteria in **Table 8** to determine the condition of each station.

Table 8. Criteria for Rating Fire Station Condition

Rating	Description
Excellent	Like new condition. No visible structural defects. The facility is clean and well-maintained. The 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 on the building interior. The roof and apparatus apron are in good working order, absent any significant full-thickness cracks, crumbling of the apron surface, or visible roof patches or leaks. The building design and construction match the building’s purposes. Age is typically less than 20 years.
Fair	The building appears structurally sound, with a weathered appearance and minor to moderate nonstructural 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. It is showing increasing age-related maintenance but with no critical defects. Age is typically 30 years or more.
Poor	The building appears cosmetically weathered and worn with potential structural defects, although not imminently dangerous or unsafe. Large, multiple full-thickness cracks and crumbling concrete on the apron may exist. The roof has evidence of leaking and has been repaired numerous times. 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. The age is typically greater than 40 years.

Figures 6 and 7 describe the various features of KFDs Stations 1 and 2.

Figure 6. KFD Station 1



	Structure	
	Date of original construction	1961 and remodeled in 2006
	General condition	Good
	Seismic protection	N/A
	Auxiliary power	Yes
	ADA compliant	Yes
	Number of apparatus bays	Drive-throughs: 3 Back-ins: 0 <i>Total bays: 3</i>
	Total square footage	6,500
	Facilities	
	Sleeping quarters	Bedrooms : 4 Beds: 7 Dorm beds: 7
Maximum staffing capability (total number of staff that can be housed at the station)	7	
Bathroom/shower facilities	5	
Gender segregation (Y/N)	Bahtrooms: Y Showers: Y Bedrooms: Y	
Exercise facilities	Good	
Kitchen facilities	Good	
Individual lockers assigned	Yes	
Training/meeting rooms	No	
Washer/dryer/extractor	Yes	
Safety and Security		
Station sprinkler system	Yes	
Smoke and and carbon monoxide detection	Yes	
Decontamination/biohazard disposal	No	
Security system	No	
Apparatus exhaust system	Yes	
<p>Address/physical location</p> <p>1460 Marion St. Kingsburg, CA 93631</p>		
<p>General Description</p> <p>The fire station was originally used by volunteer firefighters at their monthly training meetings. It was converted into a station that needed to accommodate three fire personnel daily. It was a joint-use facility with the Kingsburg Police Department (KPD). In 2006, the station was expanded into the area originally housing the police department. In addition, the administrative and living areas were significantly improved.</p>		

Figure 7. KFD Station 2

	Structure	
	Date of original construction	2005
Address/physical location 1880 S. Bethel Ave. Kingsburg, CA 93631	General condition	Good
	Seismic protection	N/A
General Description The fire station was built to house fire personnel during the significant remodel of Station 1 in 2006. Station 2 was also built to fill the need for a fire station on both sides of the Union Pacific rail line. It is in good condition and has modern-day fire service accommodations.	Auxiliary power	Yes
	ADA compliant	Yes
	Number of apparatus bays	Drive-throughs: 2 Back-ins: 0 <i>Total bays: 2</i>
	Total square footage	3,500
	Facilities	
	Sleeping quarters	Bedrooms : 3 Beds: 7 Dorm beds: 7
	Maximum staffing capability (total number of staff that can be housed at the station)	7
	Bathroom/shower facilities	2
	Gender segregation (Y/N)	Bahtrooms: Y Showers: Y Bedrooms: Y
	Exercise facilities	Good
	Kitchen facilities	Good
	Individual lockers assigned	Yes
	Training/meeting rooms	Yes
	Washer/dryer/extractor	Yes
	Safety and Security	
	Station sprinkler system	Yes
	Smoke and and carbon monoxide detection	Yes
	Decontamination/biohazard disposal	Yes
	Security system	No
	Apparatus exhaust system	Yes

The fire stations were evaluated utilizing a checklist based on the NFPA's Standard 1500: *Fire Department Occupational Safety, Health, and Wellness Program*.

The stations were clean and well-maintained. During the tours, the fire personnel demonstrated a strong sense of ownership and pride in their facilities, where they perform much of the maintenance themselves.

Station 1 lacks adequate storage space for all the required medical and firefighting equipment. The department uses Station 2 as its primary logistics center and has two external storage units. Additionally, there is inadequate office space to accommodate both administrative and operational divisions.

Unfortunately, fire stations are targets for thieves, so both stations need to implement additional security measures. Because of the glass in the station roll-up doors, it is very easy to determine when crews are present. Stations today require security fencing around the parking lots and patio areas with additional lighting. Another necessary security measure is exterior video cameras with cloud-based recording to ensure that anyone entering the fire station is captured on video recordings.

Facility Replacement

The City of Kingsburg does not appear to have a long-range facility replacement or repair plan, which is a cause for concern. In addition, it is not apparent that a maintenance schedule or capital improvement plan is in place in the city. However, the importance of such a plan cannot be overstated. Regularly scheduled maintenance and replacement of specialized equipment are critical to ensure the fire stations are in good condition and capable of fulfilling service expectations. Plans for updating, repairing, and replacing structures and systems, such as heating and air conditioning, generators, roofs, driveways, parking areas, security gates, paint, carpet, and small appliances can in the long run keep costs down and buildings in service longer. In addition, establishing a facility replacement and maintenance plan will enable the city to more effectively plan for ongoing service from each station.

Apparatus and Vehicles

Fire apparatus, ambulances, and other emergency response vehicles must be reliable and function appropriately to transport operations personnel and equipment rapidly and safely to incident scenes. In addition, they must be adequately equipped and function appropriately to ensure the delivery of high-quality emergency services.

As a part of this study, the KFD provided a complete inventory of its fleet (suppression apparatus, command and support vehicles, specialty units, etc.). For each vehicle listed, KFD rated its condition utilizing the criteria described in **Table 9**.

Table 9. Criteria for Rating Apparatus and Vehicle Condition

Component	Criteria for Point Assignment	
Age	Assign one point for every year of chronological age based on the date the unit was initially placed into service.	
Miles/hours	Assign one point for every 10,000 miles or 1,000 hours.	
Service	Assign 1, 3, or 5 points based on the service type received (e.g., a pumper would be given a five because 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 points assigned.	
Reliability	Assign 1, 3, or 5 points, depending on the frequency with which a vehicle goes in for repair (e.g., a 5 would be assigned to a vehicle in the shop two or more times per month on average, whereas a 1 would be assigned to vehicles in the shop on average once every three months or less).	
Point Ranges	Conditions 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 KFD maintains one frontline Type 1 structural engine and cross-staffs a ladder truck and Type 6 engine, which Cal OES owns. In addition, KFD maintains three Type I ambulances, keeping one in reserve. **Table 10** shows KFD's frontline inventory.

Table 10. Inventory of KFD Frontline Apparatus and Ambulances (2024)

Unit	Type	Manufacturer	Year	Condition	Status
Engine 141	Type 1	Smeal	2019	Good	Frontline
Engine 142	Type 1	Smeal	2004	Poor	Reserve
Engine 143	Type 1	Smeal	2004	Poor	Reserve
Truck 141	Type 1	Smeal	2005	Poor	Cross-staff
RA 501	Type 1	Freightliner	2020	Good	Frontline
RA 502	Type 1	Freightliner	2018	Good	Frontline
RA 503	Type 1	Freightliner	2015	Fair	Reserve
OES 1615	Type 6	HME Ahrens-Fox	2020	Excellent	Out-of-county wildland requests

KFD also maintains two Type 1 engines in reserve, which the department received from another agency after the units served their required life spans. The department has one rescue ambulance reserve. A new Type 1 Smeal fire engine is on order and expected to be delivered in spring 2025, as well as a new rescue ambulance, which is expected to be delivered in summer 2026.

Table 11 lists KFD's frontline command, utility, and staff vehicles.

Table 11. KFD Frontline Command and Other Vehicles (2024)

Unit	Type	Manufacturer	Year	Condition
Chief 140	Command	Ford F-150	2022	Excellent
Utility 141	Command	Ford F-250	2021	Excellent
Chief 140	Command	Ford F-250	2019	Good
CERT	Utility	Chevy Tahoe	2001	Poor

Apparatus Maintenance and Replacement Planning

No piece of mechanical equipment or vehicle can be expected to last indefinitely. As apparatus and vehicles age, repairs become more frequent and complex. Parts can become more challenging to obtain, and downtime for repair and maintenance increases. Because of the critical nature of fire suppression, EMS, and other emergency responses to a community, downtime is one of the most frequently identified reasons for apparatus replacement.

Most communities develop replacement plans because of the expense of fire apparatus and ambulances. 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. However, it may be more effective to establish a life cycle for planning purposes, such as developing replacement funding for various types of apparatus. Conversely, the department could apply a different method, such as a maintenance and performance review, to determine replacement dates, which is potentially more cost-effective.

Some fire departments utilize the *economic theory of vehicle replacement* as a conceptual model. The theory states that, as a vehicle ages, the cost of capital diminishes, and its operating costs increase. The combination of these two costs produces a total cost curve. This theory suggests that the optimal time to replace any apparatus is when the operating costs begin to exceed the capital costs. This optimal time might not be a fixed point but a time range.

Shortening the replacement cycle to this window allows an apparatus to be replaced at optimal savings to the fire department. However, when an agency does not promptly replace equipment, the overall reduction in replacement spending can quickly increase maintenance and repair expenditures. Therefore, fire officials who assume that deferring replacement purchases is a sound tactic for balancing the budget need to understand two possible outcomes of that decision:

- Costs are transferred from the capital budget to the operating budget.
- Overall fleet costs can increase.

Figure 8 represents the *Economic Theory of Vehicle Replacement*.

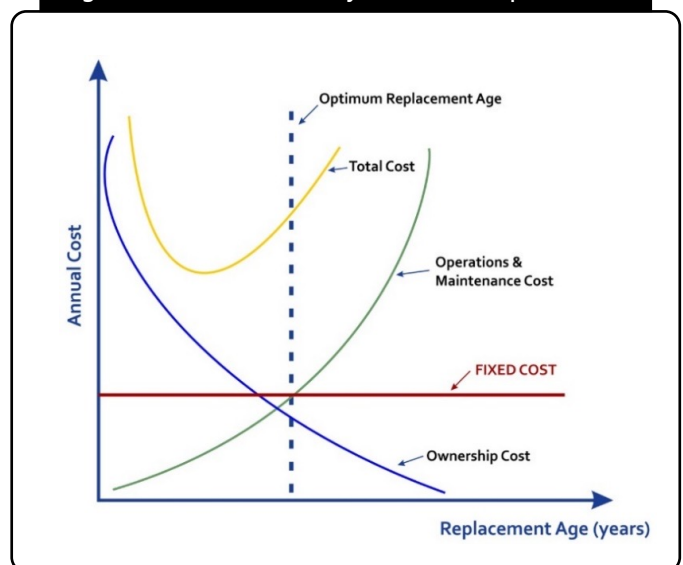
Despite its net effect on current apparatus and vehicle costs, deferring replacement purchases increases future replacement spending needs. The deferral can also affect operational capabilities, including the safe and efficient use of apparatus.

Future Apparatus Serviceability

An essential consideration for fire departments is the cost of replacing major equipment in the future. Apparatus service life can be predicted based on vehicle type, call volume, age, and maintenance considerations.

NFPA Standard 1901: Standard for Automotive Fire Apparatus recommends placing fire apparatus 15 years or older into reserve status

Figure 8. Economic Theory of Vehicle Replacement



and replacing apparatus 20 to 25 years or older. This is a general guideline, and the standard recommends using the following objective criteria to evaluate the life span of fire apparatus:

- Vehicle road mileage
- Engine operating hours
- Quality of the preventive maintenance program
- 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 artistry by the original manufacturer
- Quality of the components used in the manufacturing process
- Availability of replacement parts

It is important to note that age is not the only factor in evaluating serviceability and replacement; vehicle mileage and engine pump hours must also be considered. For example, a two-year-old engine with 250,000 miles might need replacement earlier than a 10-year-old engine with 2,500 miles.

The fire department's best practice for determining apparatus replacement costs is to utilize the original costs of the vehicles. The data in **Table 12** apply to a 15-year life expectancy for each engine, 20 years for the quint or water tender, and 10 years for the ambulances. The City of Kingsburg currently has \$950,000 set aside for a new Type 1 fire engine and \$185,000 for a new rescue ambulance (a total of \$1,135,000 compared with the estimated \$2,074,535 needed).

Table 12. KFD Estimated Costs and Year to Replace Frontline Apparatus (2024)*

Apparatus	Replacement Cost⁸	Current Cash Requirements	Future Cash Requirements	Replacement Year⁹
Engine 141	\$1,160,095	\$386,700	\$773,395 ¹⁰	2034
Engine 142	\$950,000	\$950,000	\$0.00	2025
RA 501	\$464,567	\$185,827	\$278,740	2030
RA 502	\$433,346	\$260,008	\$173,338	2028
RA 503	\$365,000	\$292,000	\$73,000	2026
TOTALS	\$3,373,008	\$2,074,535	\$1,298,473	

*Note: Dollar amounts are intended as estimates and only for discussion purposes. The exact costs to replace vehicles and apparatus will depend on their type and configuration.

⁸An estimate using a 5 percent inflation rate.

⁹Based on typical estimated life expectancy.

¹⁰Possibly earlier due to mechanical issues.

Capital Medical Equipment Inventory

KFD maintains three ZOLL® X Series Monitors/Defibrillators on its frontline apparatus and ambulances, as well as three Stryker Power-PRO XT-powered ambulance cots.

Emergency Medical Services and Transport

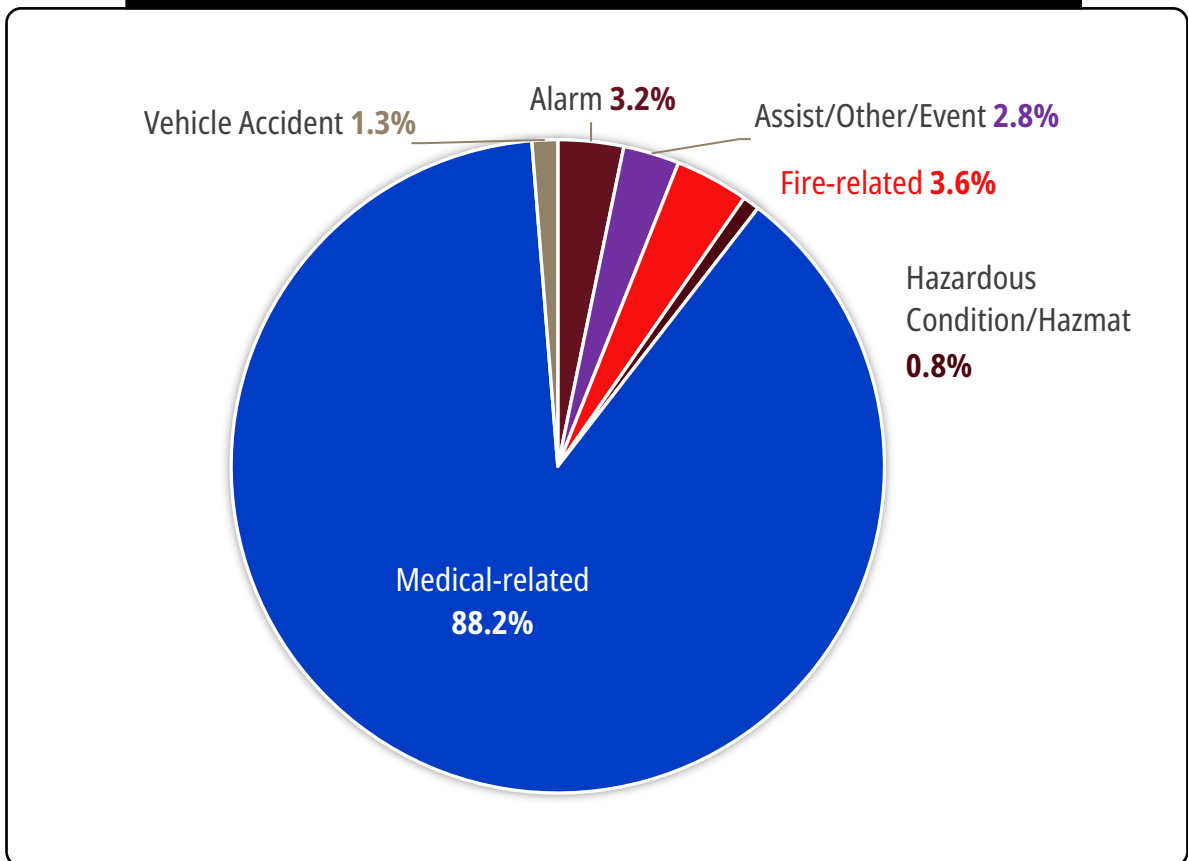


Kingsburg Fire Department is an all-hazard fire and rescue agency providing services to the City of Kingsburg and, through aid agreements, the surrounding communities. EMS calls comprise approximately 88 percent of the responses. The department staffs one fire station using a combination of firefighter/EMTs and firefighter/paramedics. KFD staffs one ALS-equipped engine and two ALS-equipped rescue ambulances daily. In total, KFD employs 11 licensed paramedics and seven certified EMTs. KFD provides ground emergency medical transport to the Central California EMS Agency (CCEMSA) Zone K.

Patients are primarily taken to one of the following hospitals: Adventist Health Selma (referred to as Selma District), Clovis Community Medical Center, Fresno Community Hospital (Level I Trauma and Burn Center), or Adventist Health Hanford Hospital.

Figure 9 shows the breakdown of KFD calls by type (i.e., EMS calls versus other types, such as fires, vehicle accidents, good intent, hazardous conditions, etc.). EMS calls account for 88 percent of the call volume, with other call types accounting for 22 percent.

Figure 9. Kingsburg Fire Department Incident Distribution by Type (2018–2023)



KFD offers the community the FireMed paramedic subscription program, which equated to approximately \$20,000 annually in cost recovery during fiscal year (FY) 2023. The department has also received significant financial support from the Kingsburg Healthcare District (KHCD). This support includes funding 50 percent of the personnel to staff the second ambulance. The partnership with KHCD resulted in several significant accomplishments between 2021 and 2023 relative to EMS, including, but not limited to:

- In 2021, the KHCD funded a replacement rescue ambulance.
- In 2022, the KHCD funded community CPR training, automatic external defibrillators, adding LUCAS devices (mechanical chest compression devices), and PulsePoint software.
- In 2023, the KHCD funded the replacement of the department's EKG monitors.
- In 2024, the KHCD funded the three paramedics on the second ambulance for another three years.

KFD has provided EMS ground emergency ambulance transportation services since before June 1, 1980, and it retains its California Health and Safety Code (HSC § 1797.201) rights. Essentially, HSC § 1797.201 is a crucial element of California's legislative framework, ensuring that prehospital EMS is maintained at a consistent level. As of June 1, 1980, this code mandates that counties enter into written agreements with cities or fire districts that provide EMS, thereby safeguarding the continuation of these vital services. Furthermore, it allows the administration of EMS to remain with the cities and fire districts providing the services, unless a public hearing determines a necessary reduction in services. This provision underscores the importance of collaboration and continuity in delivering EMS to communities.

Medical Control and Oversight

The California Code of Regulations, Title 22, Division 9, Chapter 4, Section 100170 requires that fire departments be provided with medical control and oversight.

KFD coordinates local EMS system oversight and regulation with the department's medical director. Medications and controlled substances are ordered and tracked under the medical director's medical license. CCEMSA provides regional management and regulation, and the California Emergency Medical Services Authority (EMSA) provides state oversight and regulation.

Compliant with HSC §1797.109, KFD EMTs recertify through a local EMS agency (LEMSA). EMTs must achieve their required continuing medical education (CME) hours and work with the LEMSA to recertify biannually. Alternatively, agencies can become a certifying entity, which allows EMT recertifications to be conducted in-house. The initial work to become a certifying entity can be daunting; however, once established, the distinction can be easily maintained and allow for greater oversight and control within the local system, thus reducing the time it takes to recertify EMTs. Either recertification method can be justified; the decision is a matter of agency preference.

System Integrity Regarding Credentialing and Licensure

As a minimum job requirement, KFD requires all operations employees to possess a valid California driver's license, high school diploma, and EMT and CPR certification. Within the two-year certification

cycle, EMTs must earn at least 24 hours of CME specific to their skill set and established scope of practice, including each county's expanded scope.

KFD offers in-house training scheduled, facilitated, and delivered by subject matter experts within the organization. Additionally, KFD personnel utilize Vector Solutions, a robust learning management system (LMS) that allows an agency to set up systems to track and manage mandatory training hours. State regulations require paramedics to earn 48 hours of CME during their two-year licensure cycle. This training is achieved parallel to the EMT's CME hours. Training includes all on-duty personnel and is a value-added service to the department's EMT members, as the subject matter is often taught at the ALS level, thereby raising the level and competency of basic life support (BLS) medical care throughout the organization.

KFD manages and tracks its required training hours using Vector Solutions. Paramedic licensure is completed through EMSA. The EMS coordinator or training officer tracks EMTs and paramedics' required hours and training through the LMS.

Many advanced-level training opportunities exist for EMTs and paramedics, such as the Prehospital Trauma Life Support (PHTLS), Advanced Cardiac Life Support (ACLS), and Pediatric Advanced Life Support (PALS) programs. These programs are not required as a condition of employment but enhance EMS care to the community.

First Responder ALS System

The KFD operates an ALS system integral to its mission of protecting life, property, and the environment. This system is staffed by highly trained paramedics who provide emergency critical care. The ALS service includes life-saving procedures, such as cardiac monitoring, intubation, intravenous therapy, and medication administration, ensuring that patients receive the best possible prehospital care. The ALS system is part of a broader EMS plan that encompasses training, communications, and coordination with other agencies to provide a cohesive and effective response to emergencies.

KFD provides ALS ground emergency medical transport using its own ambulances. Since 1951, KFD has transported patients in city-owned and operated ambulances, maintaining the city's right to provide EMS under HSC § 1797.201.

The KFD offers ambulance transport services within the city limits and throughout CCEMSA's Zone K. KFD ambulances support neighboring communities, such as Selma, Dinuba, Fowler, Parlier, Reedley, and Sanger.

Medical Priority Dispatch System

The primary public safety answering point (PSAP) is a dispatch call center operated and staffed by the Fresno County Sheriff's Office, to which emergency 9-1-1 and non-emergency calls are routed. Fresno County EMS Communications is the secondary PSAP; it handles all emergency medical calls for service, both emergency and non-emergency). All EMS communications dispatchers are trained and certified in emergency medical dispatching (EMD) by the International Academics of Emergency Dispatch. Fresno County Emergency Communication Center (ECC) is the primary dispatch center for the Kingsburg Fire Department. All fire-related emergency calls are routed from the Fresno County Sheriff's

dispatch to ECC.

EMS Communications uses the Medical Priority Dispatching System (MPDS) to assess the patient's complaint and disposition and determine the necessary response type. Once enough information is gathered (promptly), the appropriate resources are dispatched. This reduces the number of resources assigned to an emergency and determines whether the emergency apparatus responds Code 3 with lights and sirens or Code 2 without emergency lights. Using the MPDS reduces the risk of potential motor vehicle accidents with responding apparatus and keeps vital resources available for more critical emergency incidents.

EMS Communications uses ProQA software for the MPDS process to receive emergency calls, assess their nature and severity, and dispatch the appropriate resources to the scene. While emergency units are en route, pre-arrival instructions are provided to the caller to help stabilize the patient and, when appropriate, begin treatment. The speed and accuracy of EMD can significantly affect the outcome of a medical emergency, making it a critical component of the EMS system.

The Fresno EMS Communications Center is governed by several CCEMSA policies that detail criteria and requirements for the designation of an EMS/EMD Communications Center. The dispatch center meets the following American Society for Testing and Materials (ASTM) standards:

- *Standard Practice for Emergency Medical Dispatch*
- *Standard Practice for Training Instructor Qualification and Certification Eligibility of Emergency Medical Dispatchers*
- *Standard Practice for Emergency Medical Dispatch Management*

EMD begins the lifesaving process by providing pre-arrival instructions to the caller, essentially turning the caller into a first responder. The International Academies of Emergency Dispatch defines response determinants in nonlinear response levels based on capability (BLS vs. ALS), single vs. multiple resources, and response priorities based on the general acuity of the patient and the resources needed. Furthermore, according to Fresno County EMS policy, an ambulance response is subject to reassignment to a higher-level call when specific conditions exist.

EMS Capabilities

The department delivers first responder medical care at the BLS and ALS service levels. EMS calls remain the predominant emergency call type within the city.

The department strategically aligns member staffing, certifications, and equipment deployment to meet the city's diverse fire, rescue, and EMS demands. The fleet includes two ALS ambulances, each staffed by a firefighter/EMT and a firefighter/paramedic. The department's only staffed fire engine functions as a full-time ALS unit, comprehensively equipped with advanced respiratory equipment, cardiac monitors, cardiac medications, and intravenous therapy supplies.

EMS services encompass a spectrum of activities, including first response, rescue, treatment, transportation, and reporting. EMS providers manage approximately 2,000 calls annually. Responses cover a wide range of medical emergencies, such as cardiac and respiratory issues, difficulty breathing, childbirth, cardiac arrest, stroke, and trauma.

The city's 9-1-1 primary PSAP collects basic medical information and forwards calls to the Fresno EMS Communications Center for ambulance dispatching. EMS requests are categorized as either BLS or ALS, with all priority EMS requests receiving both a fire first-responder ALS unit and a rescue ambulance.

Critical Task Analysis: EMS

Low-Risk: Medical responses are priority 3, low-acuity medical aid calls as determined by MPDS. Examples include leg pain, illness, and ground-level falls (**Table 13**).

Table 13. Critical Task Necessary at a Low-Risk EMS Incident (Priority 1 and 2 EMS Calls)

Task	Personnel	Company
ALS or BLS	2	1st Ambulance
Total	2	1 Rescue ambulance

Moderate-Risk: Medical responses are priority 1 and 2 high-acuity medical aid calls as determined by MPDS. Examples include traumatic injury, CPR with AED application, uncontrolled bleeding, severe allergic reactions, severe respiratory distress, and altered mental status (**Table 14**).

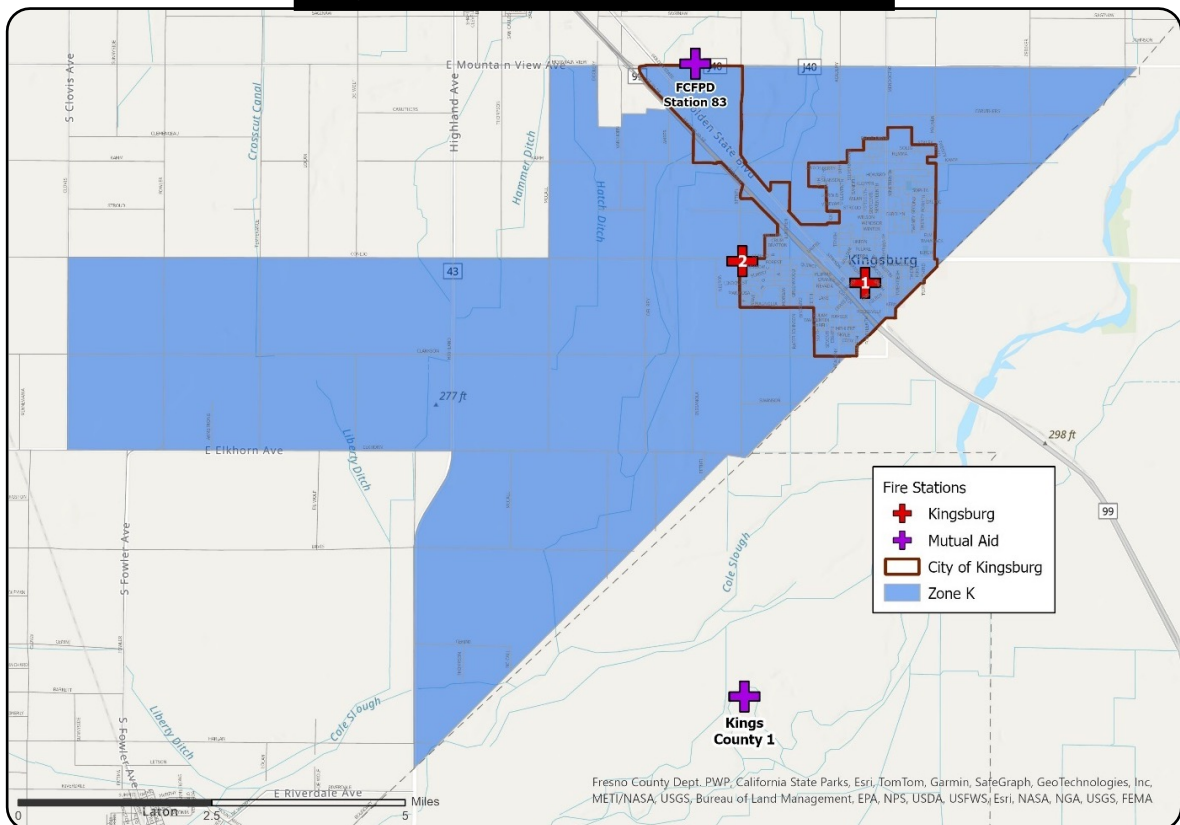
Table 14. Critical Tasks Necessary at a Moderate-Risk EMS Incident (Priority 1 and 2 EMS Calls)

Task	Personnel	Company
Command and patient assessment	2	1st Engine
ALS or BLS	2	1st Ambulance
Total	4	1 Fire apparatus and 1 ambulance

Ambulance Service Zone K

The Kingsburg Fire Department has provided ambulance service to the City of Kingsburg and surrounding area since 1951. The KFD has an ambulance provider contract with CCEMSA to provide service to Zone K (**Figure 10**).

Figure 10. KFD Ambulance Service Area Zone K



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 customers' 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 handling an emergency incident or performing day-to-day operations, logistics is critical to an organization's success. The individual or group managing logistics aids in successful operations by providing support and services. Specific to EMS, logistical support and services are often responsible for ensuring that field personnel have all the proper tools and equipment required to do their jobs, including repair, maintenance, and equipment replacement.

KFD's EMS section is overseen by a shift fire captain, who functions as the EMS coordinator for the department. The EMS coordinator is supported by a contract medical director who assists in education and quality improvement/quality assurance.

Life Safety Services and Public Education



The KFD does not currently have a robust life safety and community risk-reduction program, primarily due to the lack of staffing dedicated to this program. Yet fire prevention and life safety code enforcement are pivotal in ensuring community safety. Offering fire and life safety education to the public to reduce emergencies and training community members to respond appropriately during crises is vitally important. A comprehensive fire and life safety program would align with the department's core mission and demonstrate fiscal responsibility by preventing fires and minimizing human suffering. Currently, these functions are being completed by contract or 56-hour fire suppression personnel, the department's administrative assistant, and shift personnel.

A fire department must recognize the importance of fire prevention and public education. In addition, understanding its role in community planning is essential, especially in areas with diverse zoning, including wildland-urban interface and residential and commercial properties. The effectiveness of a life safety program relies on a thorough review and analysis of these aspects.

Table 15 outlines the fundamental components of an effective life safety program and the necessary elements required to manage each component effectively.

Table 15. Life Safety Program Components and Their Necessary Elements

Component	Necessary Elements
Fire code enforcement	<ul style="list-style-type: none">• Proposed construction and plans review• New construction inspections• Existing structure/occupancy inspections• Fire-protection systems design review and inspection• Defensible space inspections
Public education	<ul style="list-style-type: none">• Public and school fire safety education• Specialized education• Community risk reduction and injury prevention
Fire cause investigation	<ul style="list-style-type: none">• Juvenile fire-setter intervention• Fire cause and origin determination• Fire death investigation• Arson investigation and prosecution

A structured life safety and community risk-reduction program ensures that the fire department is well-equipped to address the diverse challenges posed by different property types and zoning, contributing to the overall safety and well-being of the community.

Fire and Life Safety Code Enforcement

Preventing fires is the most efficient strategy in fire management. A robust community risk-reduction program that is tailored to locally identified risks and informed by pertinent codes and ordinances is a proactive measure to curtail property loss, save lives, and mitigate the potentially devastating impact of incidents on a community's economy.

This strategic approach minimizes fires and fosters a resilient and secure community environment by addressing potential risks and adhering to established safety measures and guidelines.

Table 16 lists the various code enforcement activities that KFD provides.

Table 16. KFD Code Enforcement Activities

Code Enforcement Activity	KFD
New construction consultations	Yes
Fee-based inspections and reviews	No
Maintenance of hydrant flow records	Yes
Key-box entry program	Yes
Occupancy inspections	No
Construction plan reviews for fire systems	Yes
Sign-off on new construction	Yes
Special risk inspections	Yes
Company inspections (pre-plan)	Yes

The city officially adopted the 2022 California Fire Code. The department has contracted with an external vendor to manage new construction plan reviews, but it does not manage the required new construction inspections. The department has two 56-hour shift employees to oversee and provide new construction inspections and the annual fire inspection program. These individuals are trained to the California State Fire Training certification track as Fire Inspector 2s.

KFD's inspections of commercial buildings and properties allow it to educate the public and business owners about fire safety and the importance of complying with the fire code. This education is intended to explain to the property or business owner why the fire department is conducting these inspections and the importance of having a fire-safe occupancy.

In 2019, the department developed the Building Safety and Fire Education (BSAFE) program. Prior to that, the department had not completed commercial life safety business inspections for the previous ten years. BSAFE was designed for biennial self-inspection by business and property owners of International Building Code (IBC) Group B and Group M occupancy classifications. In 2020, the department sent letters to 238 inspectable businesses within the city using the BSAFE program. Only 27 completed self-inspection forms were received during the first two years of program implementation, and several were incomplete. The department then inspected five of the 27 businesses that completed the self-inspection form and identified violations. At the same time, the COVID-19 pandemic struck the nation, and priorities shifted to medical response and prevention. As a result, no further mailings were conducted for the BSAFE program. Unfortunately, due to current call volume and other responsibilities, the department does not have adequate staff to perform all of the commercial occupancy inspections and the required state-mandated inspections performed by 56-hour shift personnel.

In 2023, of the required state-mandated annual inspections, the department completed only the school occupancies. The mandated inspections are primarily for multi-family residents with more than four units, churches, and schools. The school inspections were completed by on-duty fire suppression personnel assigned to the fire engine or rescue ambulance. The department did not inspect other business occupancies because of limited staff.

Figure 11 shows the KFD's inspectable occupancies. Although California does not require inspections of all commercial occupancies, **Figure 12** outlines examples of occupancy types by California Building Code (CBC) classification and the associated risks used to determine when they should be inspected.

Figure 11. KFD Inspectable Occupancies

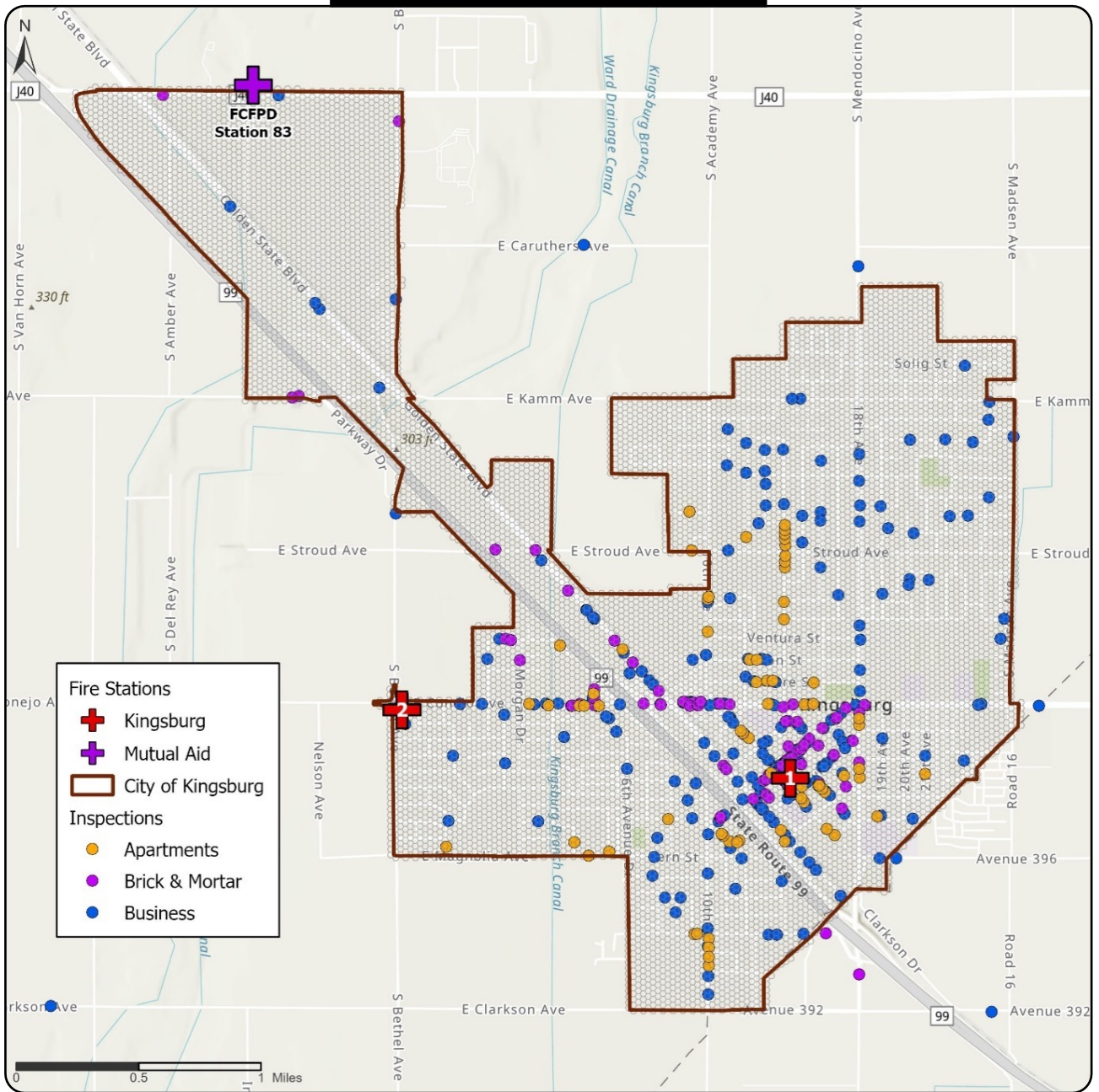


Figure 12. Occupancy Classifications

Risk	CBC Classification	Examples
High	A-1, A-2	Nightclubs, restaurants, theaters, airports/cruise ship terminals
	A-3, A-4, A-5	Arenas, museums, religious buildings
	H-1, H-2, H-3, H-4, H-5	Hazardous materials sites (Tier II)
	B	All government and 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 facilities
	M	Strip malls, closed-air shopping malls, big box stores
	R-1, R-3	Hotels, motels, dormitories, apartments, board and 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 businesses, offices <3 stories
	F-1	Businesses for fabrication or manufacturing of combustible materials
	M	Mercantile
	I-2, R-4	Foster group homes, assisted-living homes
	S-1	Storage of combustible materials, car repair facilities, hangars
Low	F-2	Businesses for fabrication or manufacturing of non-combustibles
	R-1, R-2	1- and 2-family dwellings, foster homes
	U	Barns, silos, and other unclassified buildings

Most fire departments inspect publicly assessable occupancies annually or every other year. This allows department personnel to preplan the building in case of an emergency, confirm its compliance with the fire code, and ensure that the business has proper permits or licenses. NFPA Standard 1730, *Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations*, provides a minimum inspection frequency, as shown in **Table 17**.

Table 17. NFPA Minimum Inspection Frequency

Occupancy Risk Classification	Frequency
High	Annually
Moderate	Biennially
Low	Triennially
Critical infrastructure	Per authority having jurisdiction

KFD does not have a preplan process for new or existing structures. Preplans provide vital information to responding firefighters, such as location of exits, utilities, special hazards, and building construction. Having preplans is essential when agencies have many responding units from outside agencies. These agencies do not have an opportunity to see these structures during fire prevention activities; unfortunately, they usually only see the inside of these structures when confronting an emergency under stress.

Fire and Life Safety Public Education Programs

A fire department's critical function is to prevent and mitigate unintentional injuries or fires, and educational programs provide the best opportunity to reduce fires and injuries in the community.

A fire and life safety program for risk reduction requires a coordinated approach that involves partner organizations in the community that can provide the same or similar services. These partnerships allow KFD to become a community partner and build relationships to reduce risks. In addition, developing a fire and life safety program requires a continual review of incident data to determine the types and frequency of responses.

Table 18 lists examples of public education programs that fire agencies currently deliver.

Table 18. Public Education Programs

Public Education Programs	KFD
Distribution of annual fire prevention report	No
Carbon monoxide alarm installations	No
CPR courses	Yes
Curriculum used in schools (FISE)	No
Exit drills in the home (EDITH)	No
Eldercare and safety	No
Community Emergency Response Team (CERT) training	Yes
Fire extinguisher use	Yes
Injury prevention	No
Juvenile fire-setter program	No
Publications available to the public	Yes
Smoke alarm installations	Yes

The department offers only limited formal public education programs and needs more coverage for critical topics such as smoke alarm installation, fire safety programs in schools, fire extinguisher training, and CPR courses. Although there is currently no formal school curriculum, fire crews do actively participate in school programs and conduct tours of fire stations. The department participates in several community events and seeks opportunities to interact with larger community groups. Without dedicated personnel primarily responsible for community risk reduction, there are limited opportunities to expand public education offerings.

Fire Investigations

The cause of a fire can be intentional, unintentional, equipment failure, an act of nature, under investigation, or undetermined. The National Fire Incident Reporting System (NFIRS) requires documentation of the types of ignitions for all fires, and this information is necessary for fire investigations.

Determining the origin and cause of fire allows KFD to develop prevention programs that reduce future incidents. These programs use data to review the cause of a fire and show trends of potential

problems within the community. Data such as name, age, and gender can identify a specific person or group to target prevention programs, such as a juvenile fire-setter.

Engine company officers are responsible for identifying fire origin and cause, with the exception of fires involving injury, death, or significant fire loss. Company officers receive minimal fire investigation training as outlined in the California State Fire Training Company Officer certification track. KFD does have a limited number of certified fire investigators, but not one assigned to each shift or available 24 hours a day. KFD is part of the Fresno Investigation Task Force. It works with the Kingsburg Police Department and the Fresno County Sheriff's Department on suspicious and criminal fire investigations.

Communications and Dispatch



Many years ago, the Kingsburg Police Department dispatched KFD units. The KPD only had one dispatcher on duty per shift, and maintaining this level became difficult. The department contracted dispatch services to the Fresno County Sheriff's Office, which is now the primary PSAP for the City of Kingsburg. There, 9-1-1 calls are answered and then transferred to two secondary PSAP dispatch centers based on the emergency caller's information. The Fresno County EMS Communications provided dispatch for all KFD resources until August 2022. Then, the department contracted with Fresno County Emergency Communications Center to provide dispatch. At the same time, Fresno EMS Communications was still the primary secondary PSAP answering point for all medical responses.

If the caller reports a medical emergency, the 9-1-1 call is transferred to the Fresno County EMS Communication Center in Clovis, CA. This dispatch center is accredited and staffed with Fresno County and American Ambulance employees. All EMS calls are put through an MPDS question-and-answer protocol to determine the appropriate resource to send and whether they require a priority Code 3 response with lights and sirens.

If the 9-1-1 caller reports something other than a medical emergency, the call is transferred from the Fresno County Sheriff's Dispatch Center to the Fresno County Emergency Communications Center (ECC). This dispatch center is located in Fresno, CA, and is operated by the California Department of Forestry and Fire Protection (CAL FIRE), under contract with the Fresno County Fire Protection District. It is the primary dispatch for KFD units. The department's primary automatic-aid resources, such as Selma E111 and Fresno County E83, are dispatched from this location. The department currently pays \$78,000 annually for dispatch services, and the current contract expires on June 30, 2025.

Dispatch Concerns

Several concerns exist with the secondary dispatch centers serving the KFD. Fresno County ECC requires the department to be dispatched on their District 2 channel. However, due to the locations of the repeaters for this channel, coverage is not even throughout the city, and it is worse inside large structures. In addition, the arrangement requires company officers to monitor two channels when first arriving on emergency incidents with several fire units responding. The contractual cost for this service has doubled in the past two years of this agreement, and it is predicted to increase upon renewal. Another concerning issue is the delay in dispatching resources to medical calls. The department is alerted by EMS communication approximately 15 to 20 seconds before Fresno ECC alerts the fire apparatus.

Before August 2022, EMS Communications was used to dispatch both the fire units and rescue ambulances. Units were dispatched on the ambulance rural channel, along with multiple other agencies and ambulances throughout the county. It was challenging to communicate with dispatch during fire incidents because the single dispatcher needed to dispatch ambulances while simultaneously remaining in communication with the incident commander. The cost for EMS Communications to dispatch KFD fire units was only \$9,000 annually.

Having two separate secondary PSAP centers makes data analysis more difficult for the department. The computer-aided dispatch (CAD) data from both agencies must then be blended into one data line for each emergency incident. Unfortunately, both dispatch centers do not use the same street address data list, and calls are input at different times because of the delays between dispatch centers.

Special Operations Programs



Through the years, KFD has added special operational responses to the list of other services it provides to the community. These responses include hazardous materials (HazMat) and technical rescue responses. Assuming these emergency response capabilities developed from an increasing need, associated risks to responders, and some similarities to fire incident mitigation. This section describes KFD’s limited HazMat and technical rescue capabilities.

HazMat Response

Hazardous materials are common in most, if not all, communities across the United States. Since the 1970s, it has become standard for fire departments and districts to respond to and mitigate HazMat events. Each agency must try to match the level of service to the risk associated with their areas of responsibility, utilizing sound fiscal and risk-management policies. Although no agency should ignore this risk, each can choose among several approaches to a response. Agencies can take a non-active role, just being aware of the hazard and contacting agencies to manage any incidents by training their responders to the awareness level. Alternately, they can take a response and defense stance, whereby responders are moderately equipped and trained at the operational level to defend people and property without entering the hazardous zones. Still other agencies choose to equip and train their responders to enter the dangerous zones directly, utilizing specialized equipment and technician-level training. Agencies also have the option to take any combination of these three approaches.

General Risk

Like most communities nationwide, KFD communities have a low to moderate HazMat risk. They face small quantities of HazMat, generally in private dwellings and mercantile businesses, and more significant amounts, primarily through the road and highway system. **Figure 13** shows City of Kingsburg HazMat occupancies.

Training and Response Capabilities

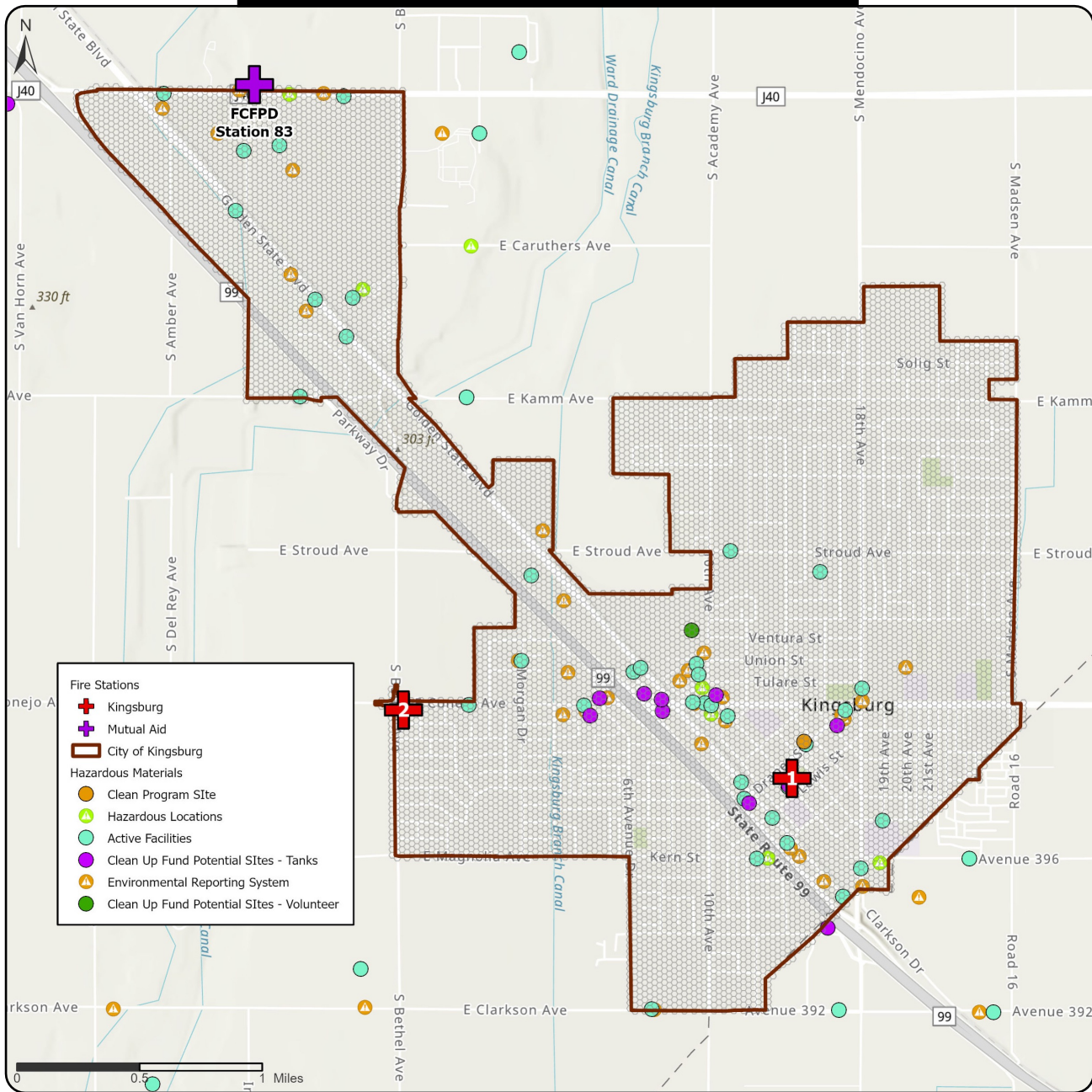
KFD trains and equips its responders with defensive tactics in mind. All responders receive HazMat training and are certified at the HazMat First Responder operations level. The apparatus's equipment includes limited absorbent materials and gas monitoring. Extended or specialized response requires outside assistance from the City of Fresno, City of Clovis, or Fresno County, which staffs either a Type 1 or 2 HazMat team.

The department’s training program meets the minimum qualifications for first responders, following national requirements and guidelines. **Table 19** shows the capabilities of KFD fire suppression personnel for HazMat response.

Table 19. KFD HazMat Response Capabilities

Hazardous Materials Capabilities	KFD
Annual hazmat training hours	8 hours/year
Staff certified at the awareness level	Yes
Staff certified at the technician/specialist level	1
Staff certified as Hazmat Safety Officer	0
Staff certified as Hazmat Incident Commander	3
Partnership with regional agency/auto-Aid	Yes

Figure 13. City of Kingsburg Hazardous Material Occupancies



Technical Rescue

Another area of specialized response typically part of the fire service's responsibility is the ability to rescue people from dangerous situations. Historically, the fire service was responsible for getting people out of harm's way during fires. These rescues eventually transformed into the need to remove victims from any hazardous situation, some of which required specialized equipment and training. Collectively, this specialty became known as technical rescue.

General Risk

Like other suburban areas in California, KFD's general risk is its roadways and wilderness, as well as post-earthquake. A common risk is a patient requiring vehicle extrication after a motor vehicle accident. Situations in areas more inland in the hillsides might require a high-angle or low-angle rescue approach. Any built-up area can be subject to building collapse, requiring confined space or below-grade rescues, especially after an earthquake.

High-Angle and Low-Angle Rescue

Rescuing a victim from an elevated or below-grade situation can require a high-angle or low-angle rescue approach. In high-angle rescues, the entire weight of the rescuer and/or victim typically is suspended perpendicular to the ground. When rescuers use a low-angle rescue technique, the victim and responders are hoisted out of a situation with the assistance of ropes. In a low-angle rescue, the weight-bearing is accomplished by direct or indirect ground contact. KFD personnel are trained to the operations level, or incident support level for high-angle and low-angle rescues.

Collapse, Confined-Space, Trench, and Below-Grade Rescue

Building collapses, extrication from limited mobility and a potentially hazardous atmosphere, trench collapses, and below-grade rescues require additional equipment and training. Understanding the physics and balance of rubble and earth during the collapse of buildings or trenches requires special training. The collapse scenario hazards, equipment, and human limitations of confined- and below-grade responses also require additional equipment. KFD personnel are minimally trained for building and trench collapse and confined-space rescues.

The Office of the State Fire Marshal of California does not list technical rescue among the standardized and recognized certifications. This leaves the level of hazard and certification up to the responding agency. NFPA Standard 1006: *Standard for Technical Rescue Personnel Professional Qualifications* does specify 20 rescue specialties, each of which is broken into the awareness, operations, and technician levels.

The department's training program meets the minimum qualifications for first responders, following national requirements and guidelines. Due to the limited on-duty personnel, technical rescue currently requires outside assistance, even if the department has members trained at the appropriate level. **Table 20** shows the capabilities of KFD fire suppression personnel for technical rescue response.

KFD relies on assistance from the region's urban search and rescue (USAR) teams for confined space, structural collapse, swiftwater, and wilderness rescue. The department can expect the following USAR units through auto-aid: the City of Fresno, Clovis, and Fresno County Fire.

Table 20. KFD Technical Rescue Response Capabilities

Hazardous Materials Capabilities	KFD
Annual hazmat training hours	8 hours/year
Staff certified at the awareness level	Yes
Staff certified at the technician/specialist level	1
Staff certified as Hazmat Safety Officer	0
Staff certified as Hazmat Incident Commander	3
Partnership with regional agency/auto-Aid	Yes

Training and Continuing Medical Education



Training and CME programs are fundamental to the success of the fire and rescue profession. Annually, approximately 100 firefighters suffer line-of-duty deaths (LODD). According to the U.S. Fire Administration, nationwide there were 96 firefighter fatalities in 2022 and 141 in 2021. The causes of firefighter LODDs are varied and include sudden cardiac death, cancer, trauma, and a notable increase in suicide linked to job stress. Although some LODDs are unforeseeable, many could be prevented through comprehensive training and education programs.

The National Institute for Occupational Safety and Health (NIOSH) investigates each LODD. It has identified five recurrent themes in these fatalities:

1. Improper risk assessment
2. Lack of incident command
3. Inadequate accountability
4. Insufficient communications
5. Failure to adhere to standard operating procedures/guidelines

A practical and organized training plan can address these themes, potentially reducing the incidence of predictable deaths in fireground operations. Ongoing training and education are critical to safeguarding firefighters' lives.

General Training Competencies

General training competencies are crucial in reducing and ideally eliminating firefighter LODDs. Firefighters utilize diverse skill sets in the performance of their duties. Over the years, firefighter training competencies have continuously expanded, introducing new professional skills to the firefighter's repertoire each decade. For instance, paramedics were integrated into the field in the 1970s, wildland fire response and HazMat response in the 1980s, urban search and rescue and technical rescue in the 1990s, weapons of mass destruction response in the 2000s, and response to hostile events such as active shooter incidents in the 2010s. The fire service has evolved into an all risk/all hazard response profession.

The COVID-19 pandemic is a prime example of this evolution, with fire departments nationwide becoming pivotal in emergency management, including vaccine administration and response.

KFD is a full-service fire and rescue agency, providing fire, EMS, limited HazMat response, wildland-urban interface firefighting, and limited technical rescue services. Training requirements for KFD personnel vary based on their certification levels, and the necessary training to maintain service proficiency is diverse. It can be categorized into five primary areas: development, policy, safety, fire-based, and EMS.

NFPA has established several standards for training and certifying fire personnel. These standards provide minimum recommendations for firefighters, fire officers, prevention staff, fire investigators, public education staff, and other specific positions.

KFD adheres to these NFPA standards and meets requirements set by California State Fire Training, a division of the California State Fire Marshal’s Office; the California Division of Occupational Safety and Health; the California Department of Motor Vehicles; the National Wildfire Coordinating Group. This adherence is critical for the district’s response to wildland and interface incidents.

Furthermore, KFD implements policies and procedures developed and adopted by the department, ensuring a comprehensive and well-rounded approach to training and operations. **Table 21** outlines the general training, competencies and systems used for training in the KFD.

Table 21. KFD General Training Competencies

Training Competencies	KFD
Incident command system	FIRESCOPE California
Accountability procedures	National Incident Management System (NIMS) and Fresno County Operations Area Policy
Training SOPs	Internal
Recruit academy	Internal – 80 hours
Special rescue training	External – voluntary basis
HazMat certifications	HazMat awareness/first responder operations
Vehicle extrication training	Internal, California State Fire Training certification
Driving program	No, only California State Fire Training Driver Operator for the rank of engineer or employees acting in this role
Wildland certifications	FF1, FF2, Red Cards (all ops), annual RT130
EMS operations	Internal, Vector, CCEMSA

Training Administration, Schedules, and Facilities

KFD lacks a training facility and relies on neighboring agencies’ facilities. However, it offers adequate training equipment and supplies, including a training room, as shown in **Table 22**.

The training curriculum is varied, encompassing manipulative, didactic, and computer-based (Vector Solutions) elements. Formal lesson plans are either produced in-house or sourced from commercial vendors. **Table 23** details the type and frequency of training programs conducted by KFD.

Table 24 lists the annual training hours delivered by the department in 2023, along with the funds allocated for training. In 2023, KFD trained 18 members, totaling 3,618 fire-related training hours and 262 EMS-related training hours, totaling 3,880 training hours.

Table 22. FFD Training Facilities and Resources

Facilities and Resources	KFD
Adequate training ground space	No
Adequate office space	No
Training building/tower	No
Burn room at the training building	No
Live fire props	No
SCBA obstacle course	No
Computers and simulations	Yes
EMS equipment assigned to training	Yes

Table 23. KFD Training Programs and Tracking

Training Provided	KFD Program
Manipulative skills and tasks	Limited to probationary period
Fire training hours requirements	240 hours per year
EMS training hours requirements	EMT 12 hours and paramedic 24 hours annually
Annual training hours tracked	Tracked in Vector Solutions
In-house or commercial	All in Vector Solutions
Night drills	No night drills
Multi-agency drills	Annually indicated
Disaster drills	EOC drills in 2023
Pre-fire planning included	None

Table 24. KFD Annual Training Hours and Training Budget (2023)

Description	KFD
Fire Training Hours Delivered	3,880 total hours (18 members)
Fire Training Budget	\$29,200

Training Program Goals and Objectives

A 56-hour shift captain is assigned as the department's designated training officer and provides program oversight. The department has no designated 40-hour staff position for training or EMS. Traditionally, the training captain develops and maintains a training plan under the direction of the fire chief. Their responsibilities include maintaining, reviewing, and updating the training plan annually to meet all mandated training requirements. KFD maintains an annual training calendar to identify and schedule training topics throughout the year.

KFD mandates that its crews participate in at least two hours of company-level training per 48-hour shift, including CME. Consequently, if each firefighter engages in two hours of training per shift, they will accumulate approximately 240 hours of training annually. This approach should ensure consistent and comprehensive skill development and knowledge retention among firefighters with proper oversight and control.

Training Administrative Support and Maintenance of Training Records

An on-shift fire captain manages KFD's training division. Each member has a training file containing hard copies of professional certificates. In addition, KFD utilizes Vector Solutions as its LMS and an online training program to facilitate company-level training delivery. A shift captain is the EMS coordinator who oversees CME at KFD. All sworn members of KFD are either EMTs or licensed paramedics in California.

Vector Solutions also maintains and tracks each member's training hours and stores those records digitally. Following the city's records retention policy, training files are retained for at least seven years after separation from the agency.



SECTION II

Community Risk Assessment

Environment



Kingsburg, California, enjoys a moderate year-round climate characterized by infrequent freezing temperatures in winter and moderate summer heat. Summer highs generally reach approximately 90 degrees Fahrenheit (32 Celsius), often accompanied by dry conditions. Winters are mild, with occasional cooler days and precipitation. Situated close to the Sierra Nevada mountain range, Kingsburg receives more rainfall than other parts of California and experiences an occasional snowfall in winter. Overall, this climate fosters an inviting environment for outdoor pursuits and exploration for much of the year.

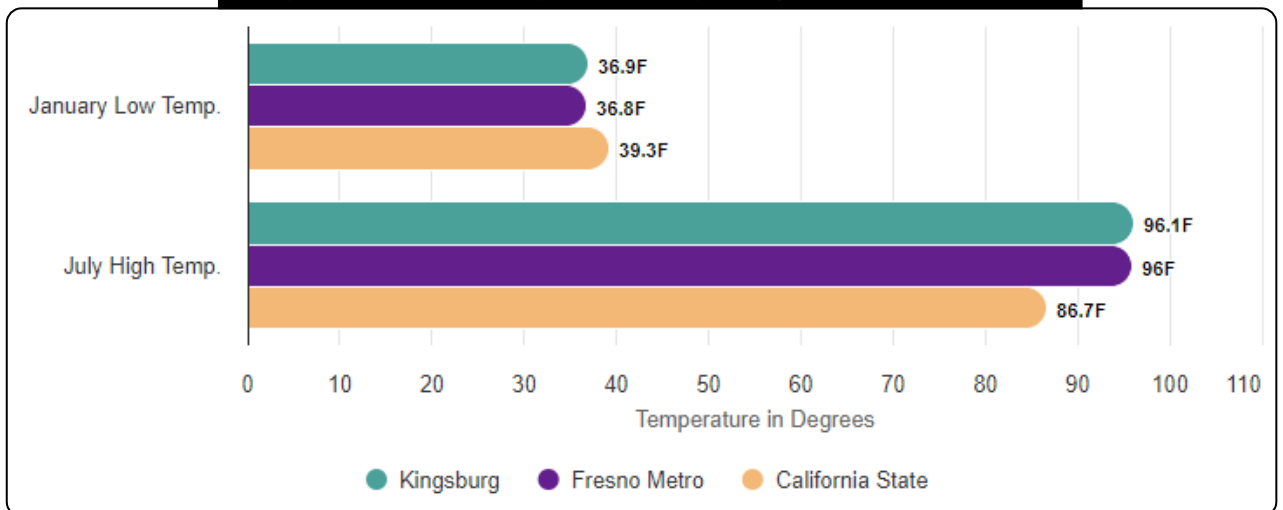
Weather

Kingsburg experiences a mild climate with relatively low precipitation, ample sunshine, and moderate temperature extremes throughout the year (**Figures 14–18**). Kingsburg gets some precipitation, on average, 43 days per year.

Weather Highlights

- ☀️ Summer high: The July high is approximately 96 degrees F.
- ❄️ Winter low: The January low is 37 degrees F.
- ☁️ Rain: Average of 11 inches of rain a year.
- ❄️ Snow: Average of 0 inches of snow a year.¹¹

Figure 14. Annual Average Low and High Temperatures (2004–2022)



¹¹ <https://www.bestplaces.net/climate/city/california/kingsburg>.

Figure 15. Monthly Average High Temperatures (2004–2022)

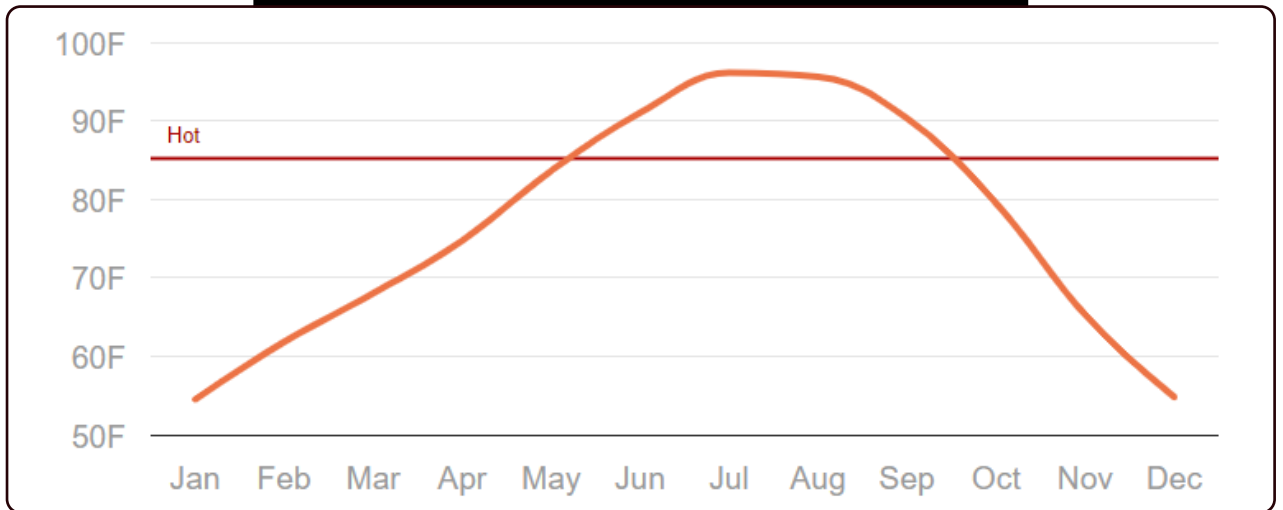


Figure 16. Monthly Average Low Temperatures (2004–2022)

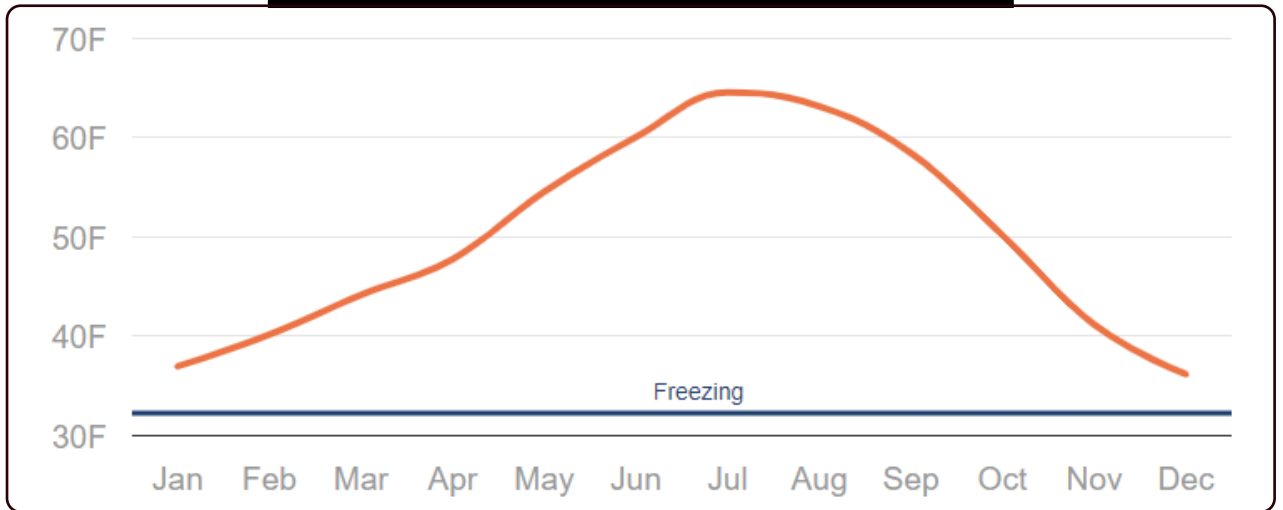


Figure 17. Monthly Humidity Percentage (2004–2022)

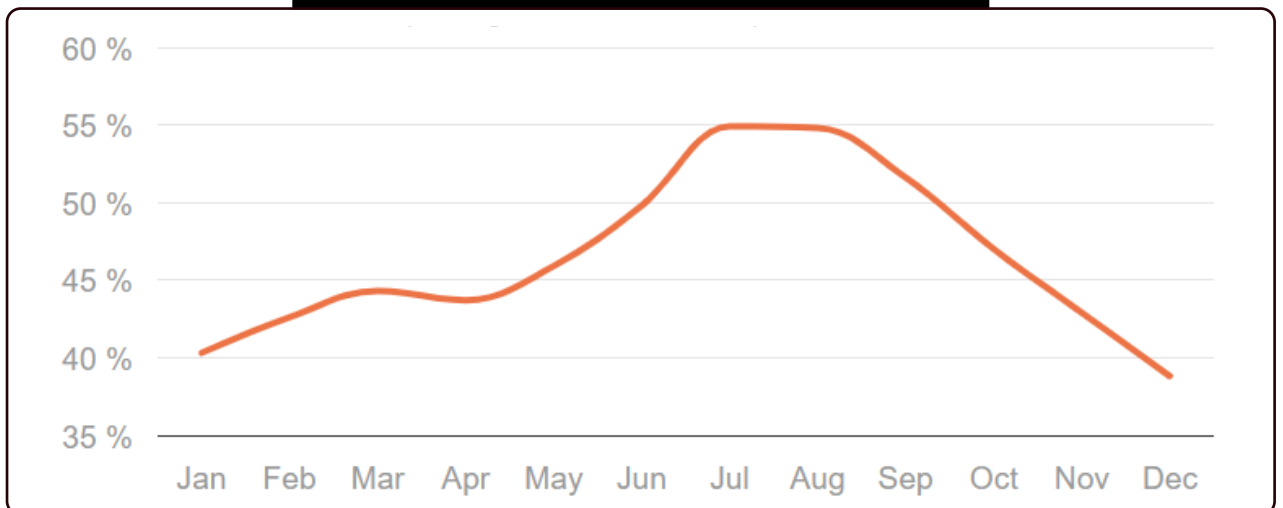
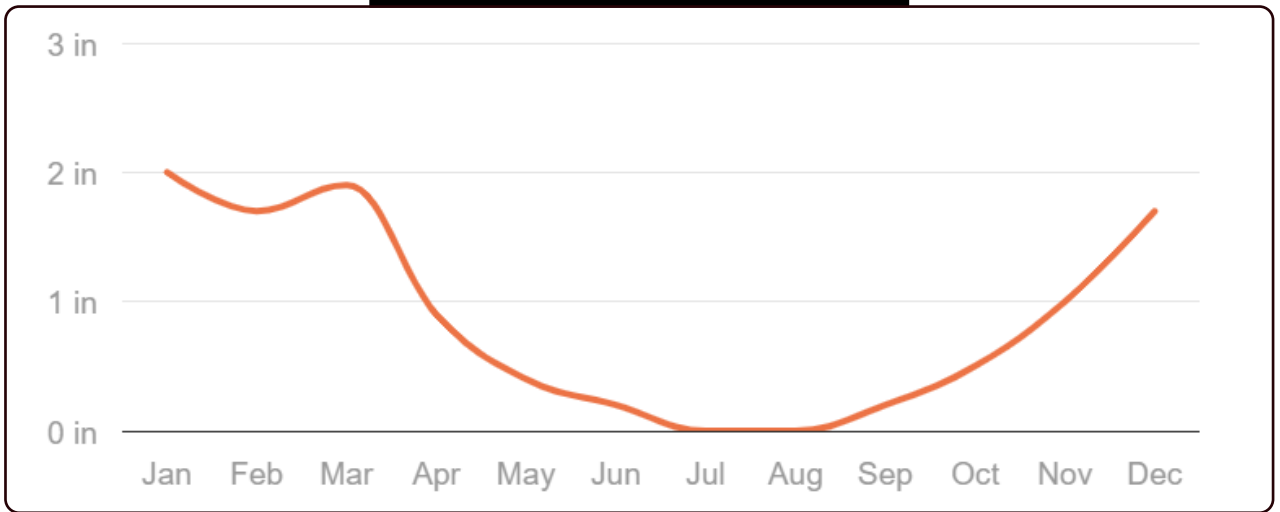


Figure 18. Monthly Rainfall (2004–2022)



Topography

The topography within 2 miles of Kingsburg is essentially flat, with a maximum elevation change of 39 feet and an average elevation above sea level of 297 feet. Within 10 miles is essentially flat (121 feet). Within 50 miles contains only modest variations in elevation (11,033 feet).²

The area within 2 miles of Kingsburg is covered by cropland (79 percent) and artificial surfaces (21 percent). Within 10 miles, it is cropland (94 percent), and within 50 miles it is cropland (54 percent) and grassland (23 percent).

¹² https://weatherspark.com/y/1488/Average-Weather-in-Kingsburg-California-United-States-Year-Round#google_vignette.

Community Characteristics



Risk factors influence the types of services a community provides. Hazard identification is the process of recognizing the natural and human-caused events that threaten a community. The degree to which a community exhibits certain social conditions, including poverty levels, vehicle access, and the number of individuals in a household can affect the community's ability to prevent suffering and financial loss in the event of a disaster. These factors help describe community risk.

A community's demographic and structural risk assessment is based on numerous factors, including socioeconomic status, household composition, minority status, language, population density, housing types, local land use, development, and geography. These factors affect the number and type of resources — personnel and apparatus — necessary to control and mitigate emergencies. The community's risk assessment provides relevant information to help public officials and agencies better prepare their communities to respond to emergency events and help them recover faster. Key data about risk in Kingsburg include:

- Population density is a risk factor, and demographics present another unique risk. For example, approximately 18 percent of the population is age 65 or older, and about 4.6 percent of citizens do not have medical insurance.
- The physical characteristics of the area and the resultant natural hazards are risk factors. For example, KFD is located near Highway 99 and significant agricultural farmland.
- Land use and zoning risk can be characterized as low (e.g., agricultural or low-density housing), moderate (e.g., small commercial and office), or high (e.g., significant commercial, industrial, and high-density residential).

Population and Demographics

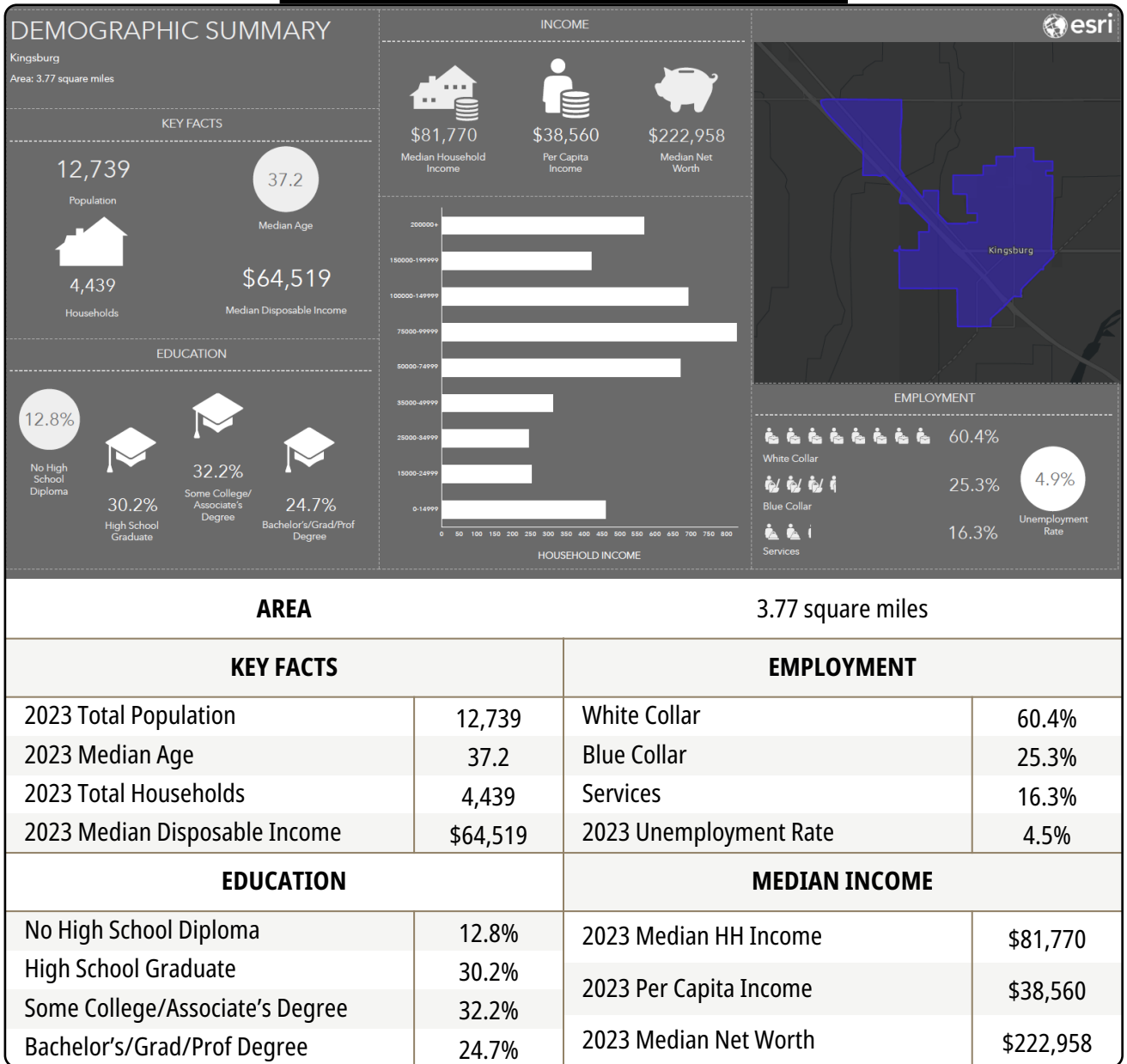
Based on the U.S. Census data from the American Community Survey, the KFD has seen a gradual increase in population.³ As a result, the fire and EMS response area's population increased from 9,199 in 2000 to 12,380 in 2020 and then to 13,204 in 2024. The highest density is in the downtown area of the city. This population density correlates to the areas with the most frequent fires and EMS incidents in the service area. **Figure 19** illustrates the population trends and key population indicators for Kingsburg.

Population and demographics can influence the type of services provided in a community. In addition, social conditions such as poverty, the locations of high-risk areas, and housing types can affect the service delivery provided by the KFD. The demographic information provided in this report offers guidance for operations and public interaction. It is also vital to apply a general understanding of the community to development of programs and strategic initiatives.

The largest ethnic groups in Kingsburg are Hispanic, comprising 5,974 of the total population, and white (non-Hispanic), comprising 5,371 of the total population.

¹³ www.census.gov/data.html.

Figure 19. KFD Demographic Summary (2023 Data)¹⁴



Housing

Although housing is not considered a significant risk compared with income and age, it can provide risk information for selected housing types, such as older multi-family apartments built before fire sprinkler requirements and vacant homes. Housing types vary in a community and can provide insight into ownership, the age of the house, and the number of units in the building. The City of Kingsburg has 4,415 housing units, nearly 71 percent of which are owner-occupied.

Very few occupancies are vacant in the city. Vacant structures can pose a risk to the fire department

¹⁴ ESRI – Community Analyst Information 2023.

and community if they are not secured to prevent entry. If the building is not maintained, its structural integrity can degrade and present problems during a fire. Vandalism can create additional problems for the fire department and law enforcement.

At-Risk Populations

Specific populations are at higher risk of fires and other unintentional injuries, and these incidents directly affect service delivery. Several factors place groups of people in higher risk categories in urban and suburban areas. NFPA identifies the following groups as being at higher risk of injury or death in a fire:

- Children under 5 years of age
- Adults over 65 years of age
- People with disabilities
- People with a language barrier
- People in low-income communities

Information from the U.S. Census data identified several groups in Kingsburg that fall into these categories.¹⁵ These groups are more likely to need additional emergency services, specifically EMS.

¹⁵ www.census.gov/data.html.

Physical Assets Protected



The risks associated with residential and commercial occupancies increase based on the type and use of a building. Property zoning, occupancy types, and the size and shape of structures all contribute to the risks faced by the fire department.

Zoning and Land Use

Community land use officials categorize properties within a specific geographical area, often under governmental regulatory guidelines. The goal of land use regulation is to deliver socially and environmentally desirable outcomes while efficiently managing development. The City of Kingsburg's general plan includes the following guiding principles regarding land use:

- Preserve Kingsburg's distinctive, historic, small-town character.
- Enhance the quality of life and ensure the city is safe and vibrant.
- Balance the social and economic costs and benefits of urbanization through growth management.
- Facilitate community identity through the Swedish Village concept.
- Ensure development is done harmoniously with the neighborhoods while maintaining city character.

The city's predominant land use is residential, with over 93 percent of the land area zoned this way. Many commercial and other uses are found in the historic downtown area or along Golden State Boulevard. **Figure 20** illustrates the Kingsburg property parcels by zoning categories.

The importance of the zoning map becomes more apparent when a hazard classification is added to each zoning type via a hazard study (**Figure 21**). Of note, the study does not necessarily indicate the community's safety; rather, identify risks by zone type helps fire departments understand the locations of higher risks of operation. The levels of zone risk are generally identified as:

- **Low-Risk Zones:** Zones designated for open spaces, low-density residential areas, and other forms of low-intensity usage
- **Moderate-Risk Zones:** Zones allocated for medium-density, single-family residences, small commercial and office spaces, low-intensity retail establishments, and similar business activities
- **High-Risk Zones:** Zones designated for high-intensity business districts, mixed-use locales, high-density residential zones, industrial sites, storage facilities, and expansive mercantile centers

The most significant areas of risk by zone appear within the downtown area and the area along Golden State Boulevard. Single-family residential zones are the most prevalent zoning type. Depending on building density, they are considered to be either low or moderate risk.

Figure 20. Kingsburg Adopted Zoning Plan (2021)

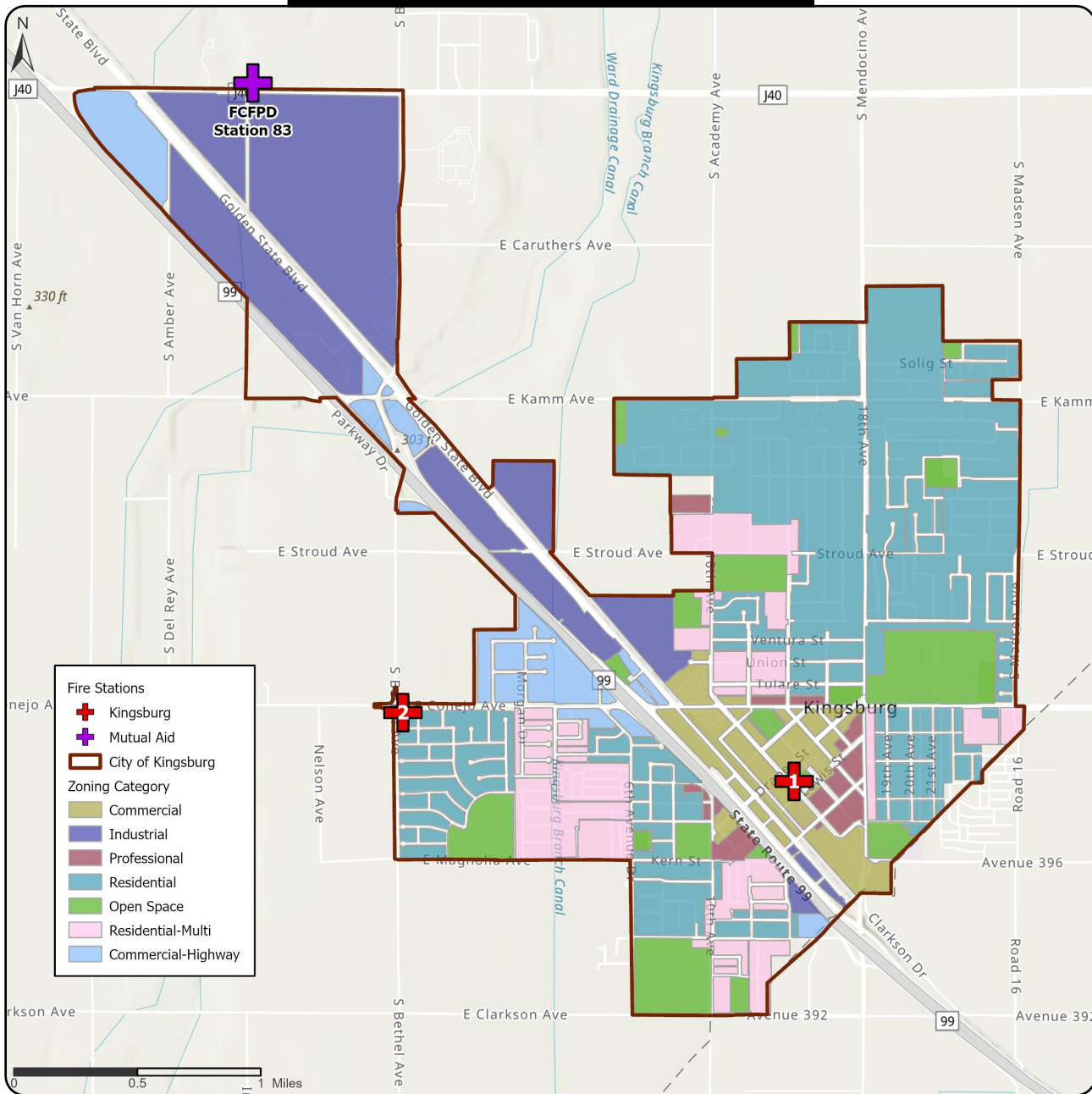
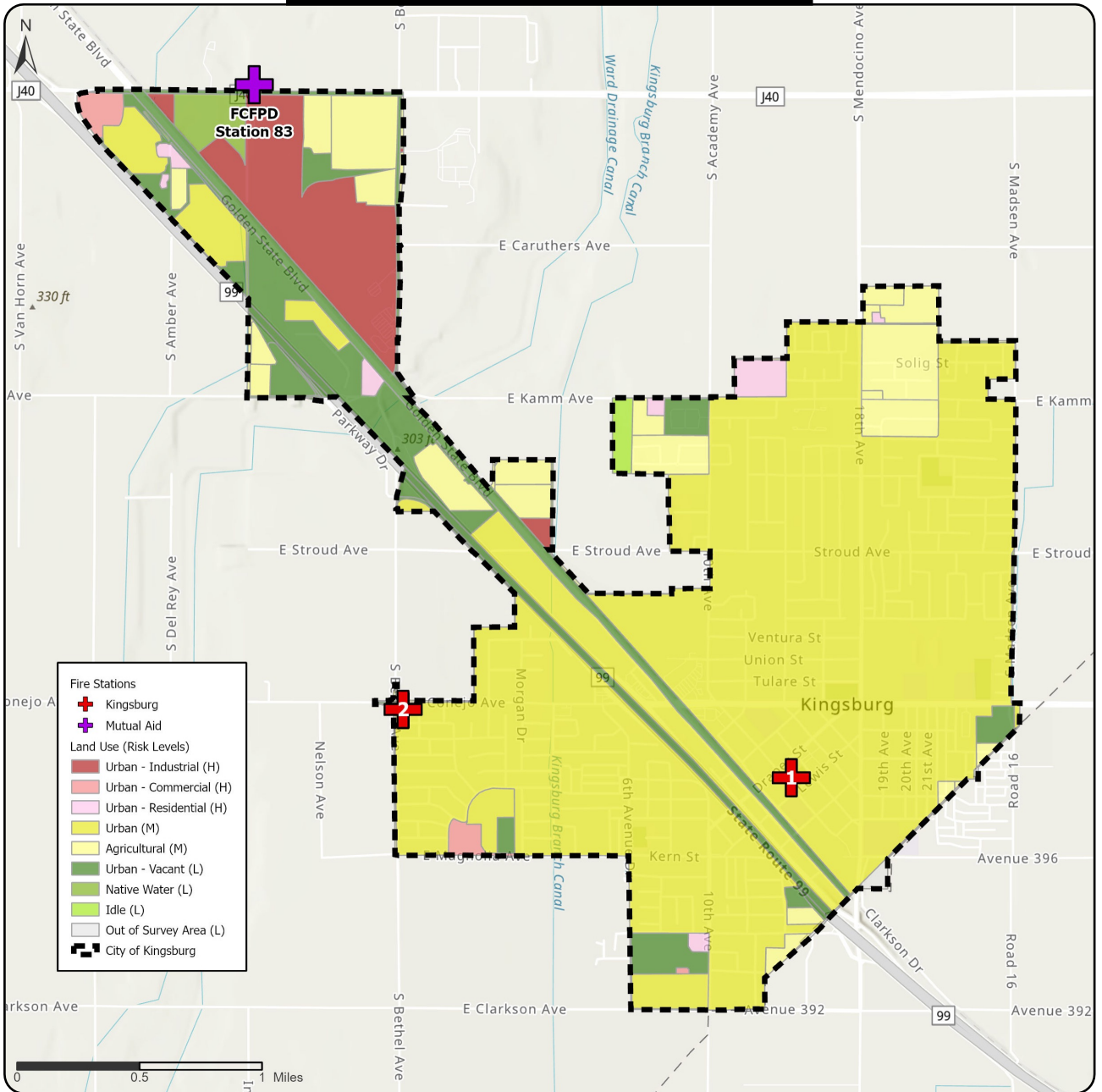


Figure 21. Kingsburg Land Use Risk by Category



Occupancy and Building Types Protected

Several factors contribute to decisions about fire department deployment. One of these is the types of occupancy risks within the area, such as commercial structures that might require inspections and pre-incident planning, as well as building size, height, and fire-flow requirements. Not all buildings have commercial occupancies. Other buildings to consider as target hazards include occupancies with a potential for a significant loss of life, such as places of public assembly, schools, childcare centers, medical facilities, residential care facilities, and multi-family dwellings. Another consideration is buildings with substantial value to the community that, if damaged or destroyed, would have a significant negative impact in terms of economic loss, replacement cost, and/or historical significance.

The fire department is responsible for inspecting commercial and large-occupant residential properties, specifically those required by the state. These include educational, institutional, and residential (e.g., R1 hotels, R2 apartments, and R3 daycares). Operations staff assigned to the engine currently complete these inspections.

California does not require inspections of all occupations. However, a comprehensive inspection program and a schedule based on each building's risk should be developed.

Hazard by Occupancy Type

The most manageable first group is to look at high-risk occupancies based on the California Building Code. These include assembly, hazardous materials, schools, institutional, high-density residential, including hotels, and any target-hazard building. **Table 25** provides examples of high-risk CBC occupancy classification.

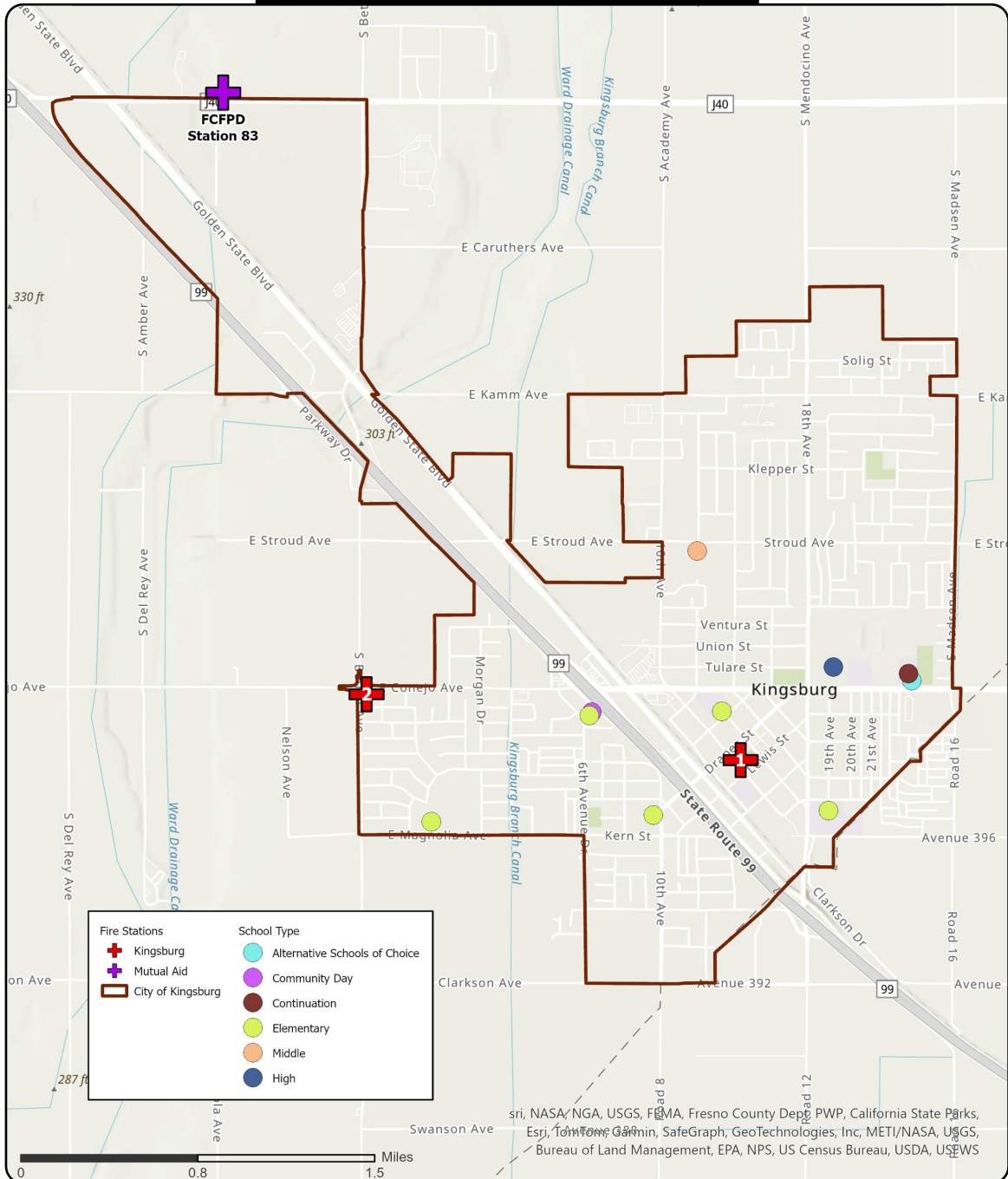
Table 25. Examples of High-Risk Occupancy Types by California Building Code Classification

Risk	CBC Classification	Examples
High	A-1, A-2	Nightclubs, restaurants, theaters, airport/cruise ship terminals
	A-3, A-4, A-5	Arenas, museums, religious buildings
	H-1, H-2, H-3, H-4, H-5	Hazardous materials sites (Tier II)
	B	All government and 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 facilities
	M	Strip malls, closed-air shopping malls, big box stores
	R-1, R-3	Hotels, motels, dormitories, apartments, board and 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

KFD does not have all of these risk types within the city. However, it does have institutional, educational, assembly, and multi-family dwellings.

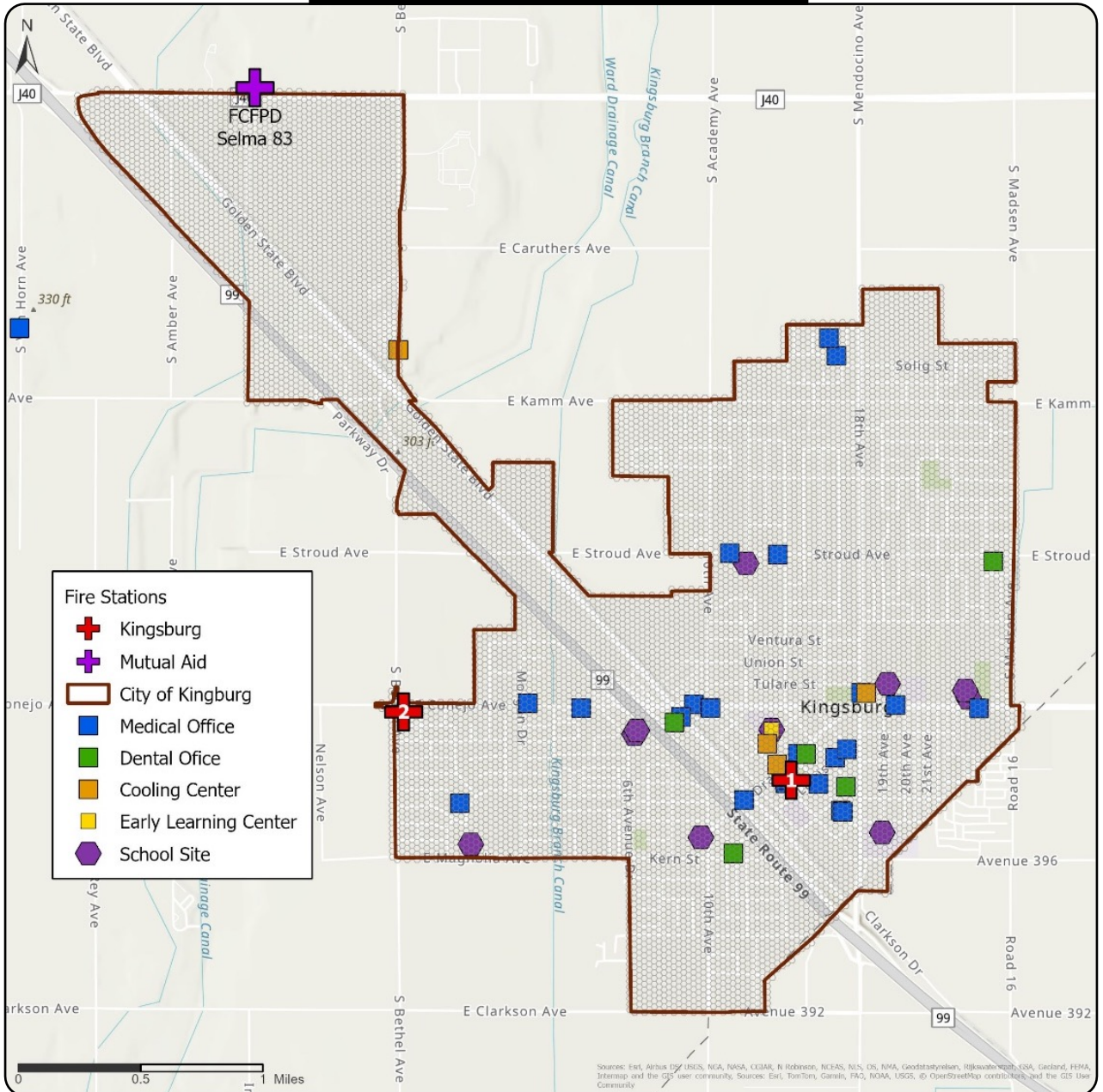
Educational occupancies are a higher risk type of occupancy because they hold large numbers of students. Some students' ages or abilities can limit their judgment and reaction during an emergency. These hazards can increase the KFD's workload and the number of respondents required. **Figure 22** shows the educational occupancies within the city.

Figure 22. Kingsburg Educational Occupancies



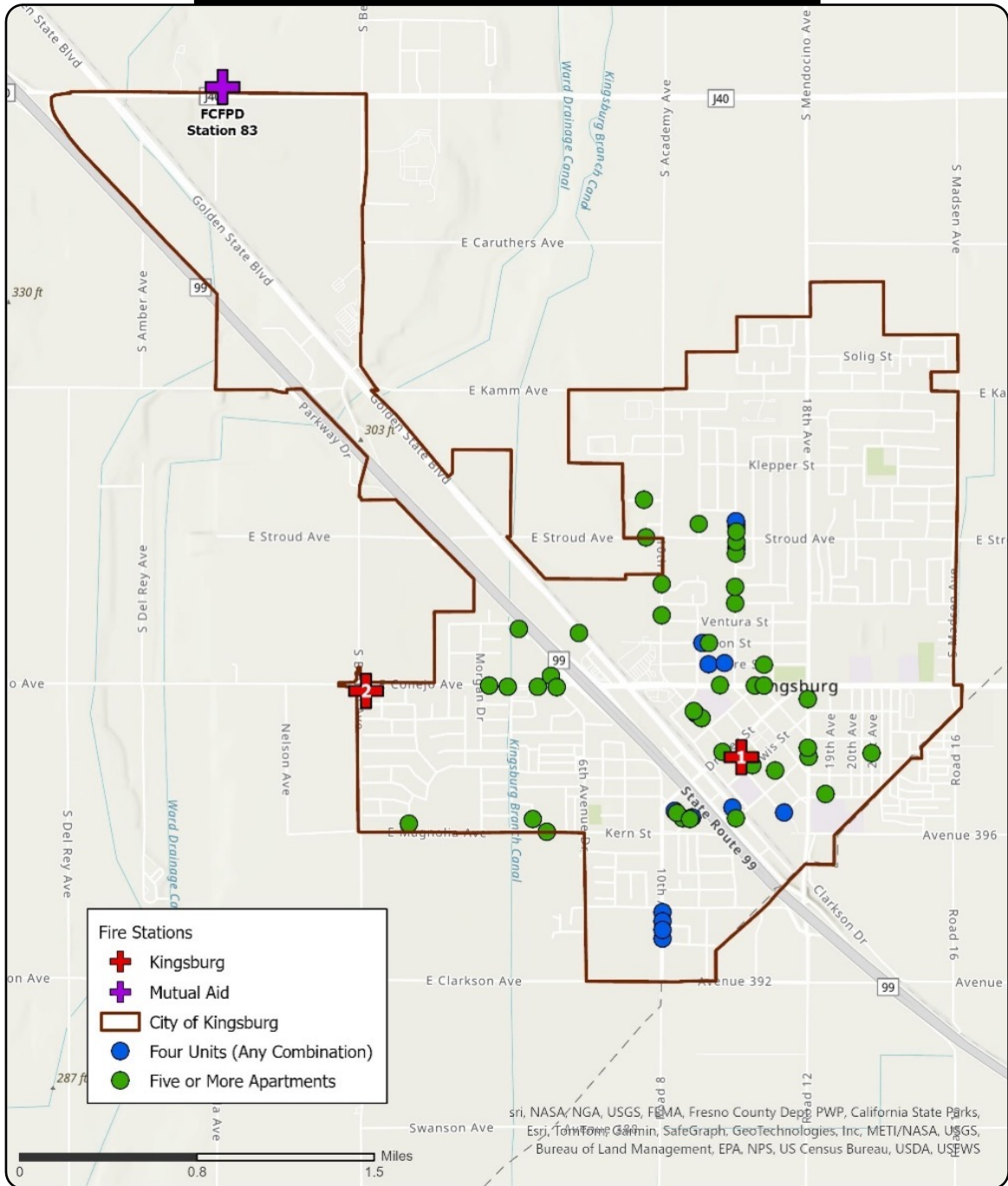
Institutional occupancy types can hold occupants who are unable to self-extricate. These occupancies in Kingsburg include skilled nursing, daycare, medical, and senior living facilities. **Figure 23** shows the locations of the institutional occupancies within the city limits.

Figure 23. Kingsburg Institutional Occupancies



The final occupancy type the KFD faces in the high-risk category is multiple-family dwellings. These buildings can require a more significant response in order to safely and effectively remove multiple people during an emergency. **Figure 24** shows the multiple-family dwellings within the city.

Figure 24. Kingsburg Multi-Family Residential Structures



Critical Infrastructure and Essential Resources

Critical infrastructure and essential resources are crucial factors in a community's functioning in a modern economy. According to the Department of Homeland Security, *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."¹⁶ There are 16 defined critical infrastructure sectors:

1. Chemical sector
2. Commercial facilities sector
3. Communications sector
4. Critical manufacturing sector
5. Dams sector
6. Defense industrial base sector
7. Emergency services sector
8. Financial services sector
9. Food and agriculture sector
10. Government facilities sector
11. Healthcare and public health sector
12. Information technology sector
13. Nuclear reactors, materials, and waste sector
14. Transportation systems sector
15. Water and wastewater systems sector
16. Energy sector

The city does not include all these critical infrastructure and essential resources. However, knowing these categories can help the city and fire department manage future risks if they move into the area.

Energy

Electrical power is essential for many daily activities, necessitating the installation of electrical lines throughout the city to form a transmission network. Electrical distribution lines are above and below ground. **Figure 25** shows Kingsburg's transmission network.

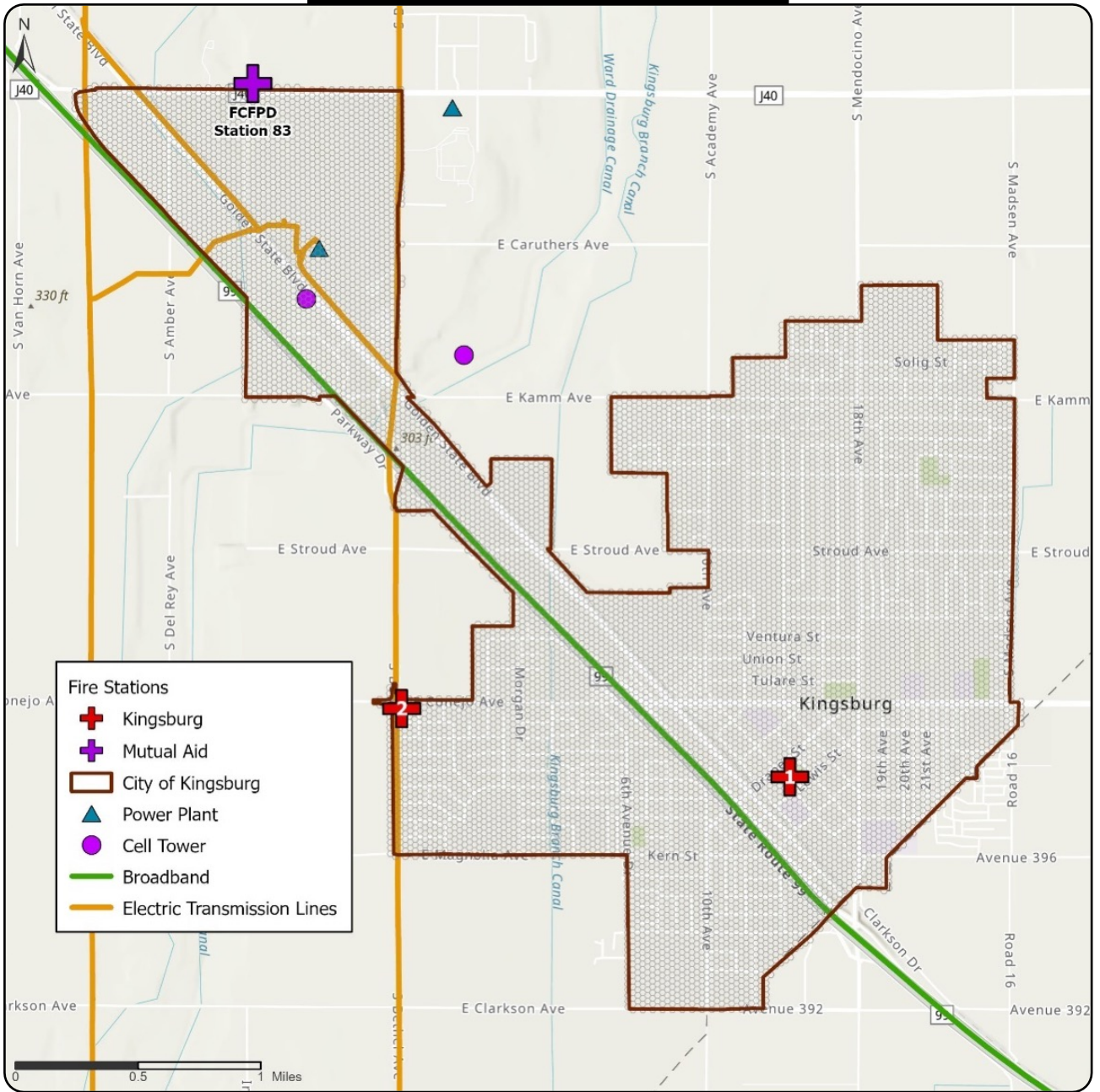
California law gives the state's investor-owned utilities the general authority to shut off electric power to protect public safety. This authority is exercised as a last resort during severe wildfire threat conditions through public safety power shutoffs. The Pacific Gas and Electric (PG&E) system risks being de-energized under heightened wildfire threat conditions.

PG&E provides gas to the city through high-pressure main distribution and service lines. Although high-pressure lines do not directly affect citizens within the city limits, the fire department must prepare for the lower-pressure hazards and, due to the robust automatic-aid agreements, should be trained and prepared to respond to the more serious dangers of the distribution line.

Analyzing the hazards associated with damage to Kingsburg's energy infrastructure is a vital aspect of an effective response strategy for future incidents involving natural gas usage and transmission.

¹⁶ *Infrastructure Security, Department of Homeland Security.*

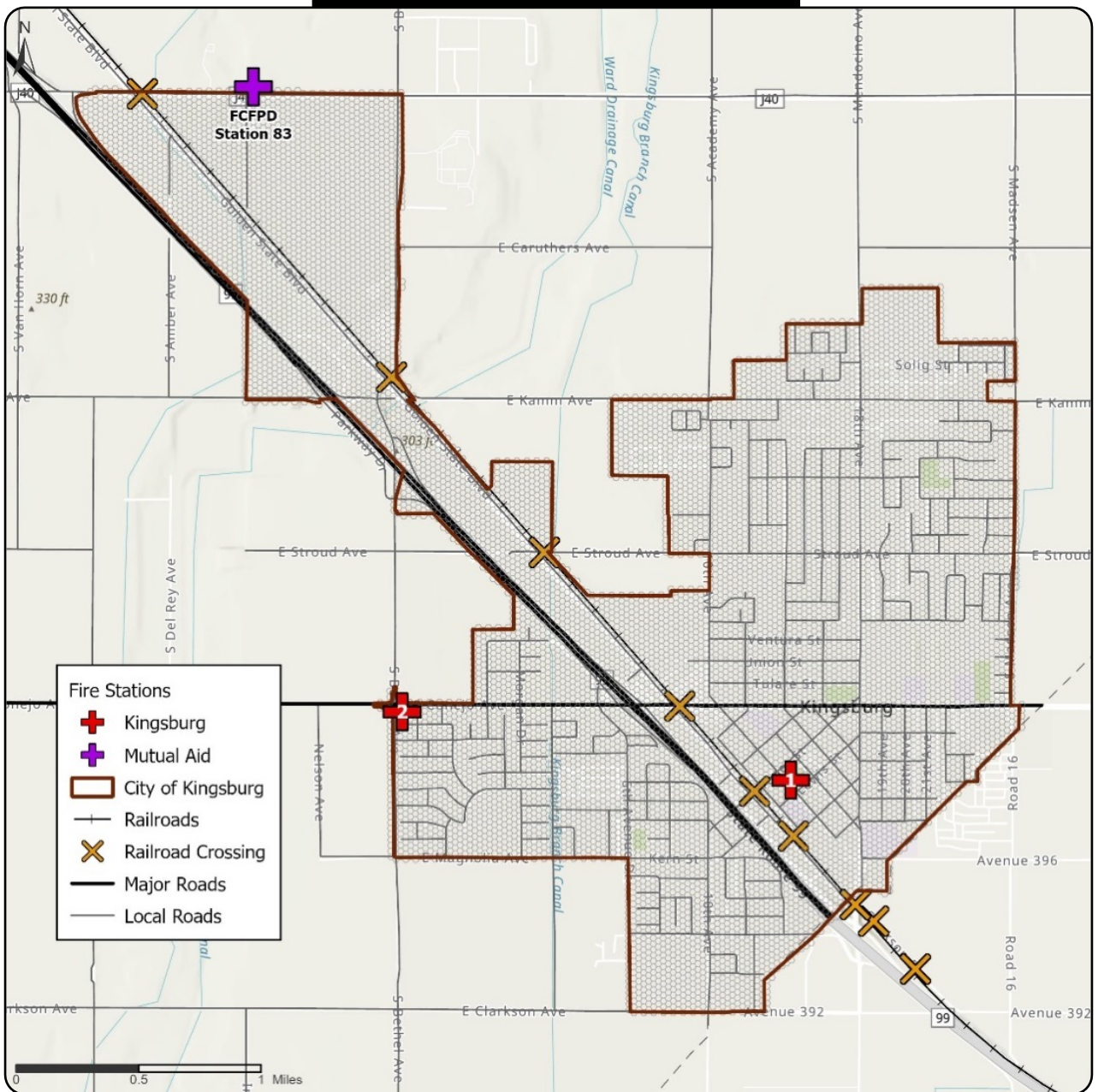
Figure 25. Kingsburg Transmission Network



Roadways

The primary transportation system risk for KFD comes from the road network that feeds the city. Three major roads, State Route 99, 18th Avenue, and Golden State Boulevard, run through the city. The primary north-to-south roadway is state Highway 99. These roads facilitate interconnectivity for emergency responders. However, numerous cul-de-sacs and dead ends can hinder response efforts, especially when these routes become impassable during an evacuation or major emergency incident. Another serious risk for citizens living in the city is the Union Pacific Railroad, which runs north and south through the middle of town. The city only has one elevated crossing, which is located at the very southern portion of the city. **Figure 26** illustrates Kingsburg's transportation network.

Figure 26. Kingsburg Transportation Network

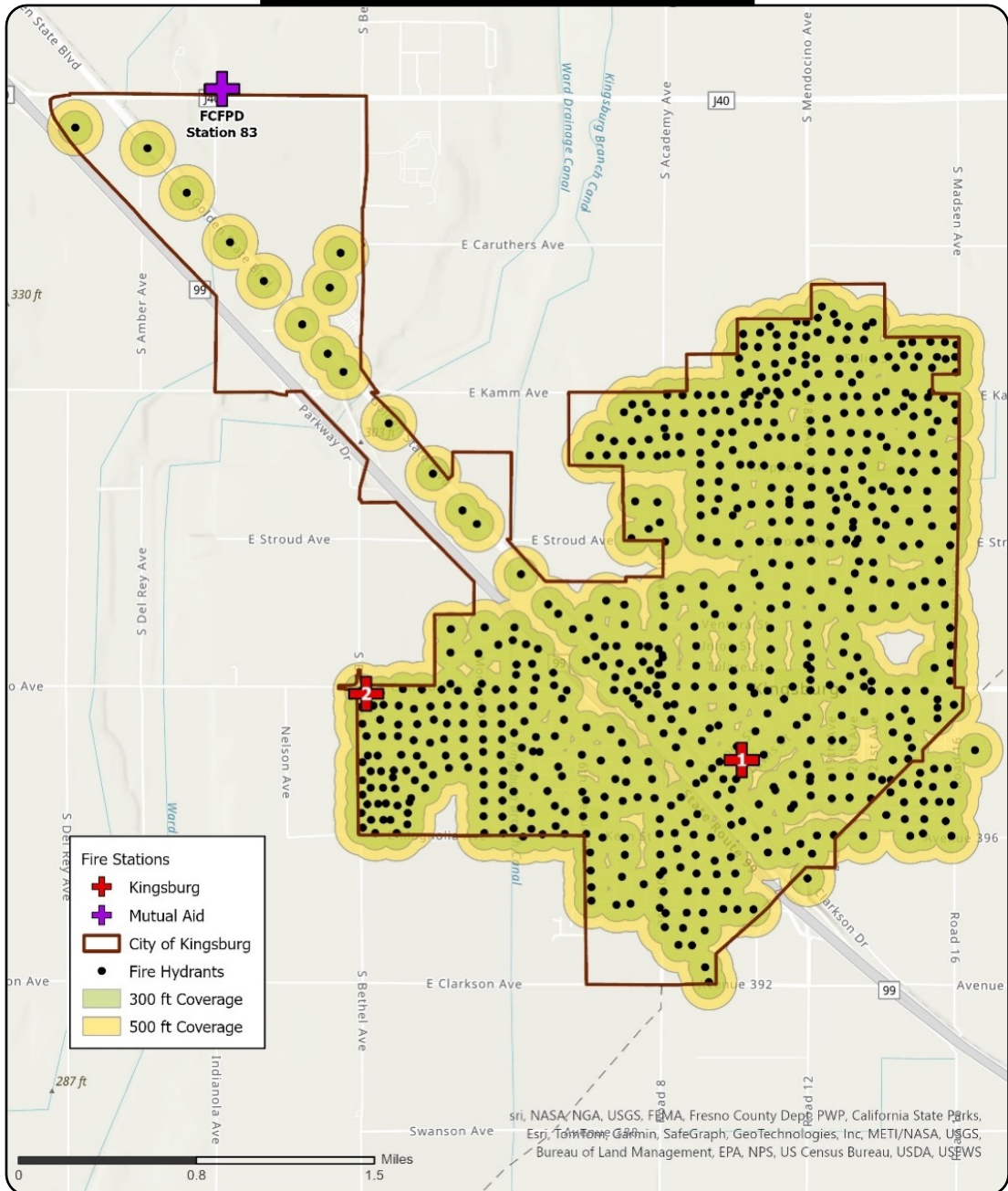


Water and Fire Hydrants

The community's water sector consists of three elements: the potable water distribution and storage system, sewer and stormwater drainage, and hydrant water systems for use during fire emergencies.

A system of well-distributed hydrants and appropriately sized water mains is necessary to provide the required water for fireground use. In addition, the periodic testing of these systems is vital to ensure they are operational and meet the necessary flow needs. The city has a well-designed fire hydrant system with a hydrant placed within 300 feet of most structures. A few areas are not within the recommended 300 feet, but for the most part, the city is well-covered by hydrants (**Figure 27**).

Figure 27. Kingsburg Fire Hydrant System



Government Facilities and Religious Buildings

The government facilities are the final segment of the critical infrastructure risk analysis for the City of Kingsburg. These facilities are essential to a community for regular operations and during emergencies. Although there are other public buildings, such as libraries and schools, here areas were considered to be government facilities: the police facility, fire stations, and city hall. **Figure 28** shows the locations of buildings listed as government facilities.

Figure 28. Kingsburg Government Buildings

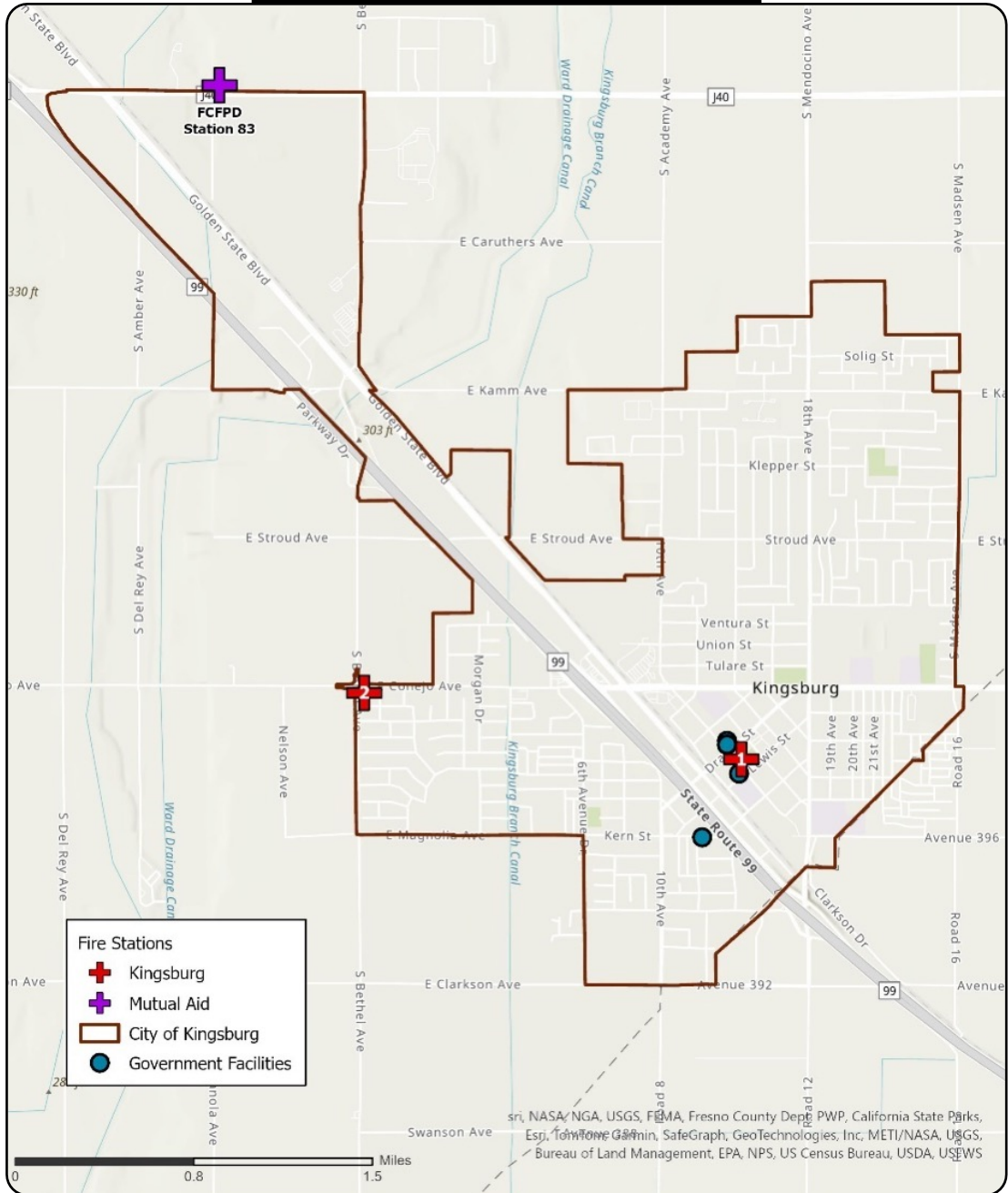
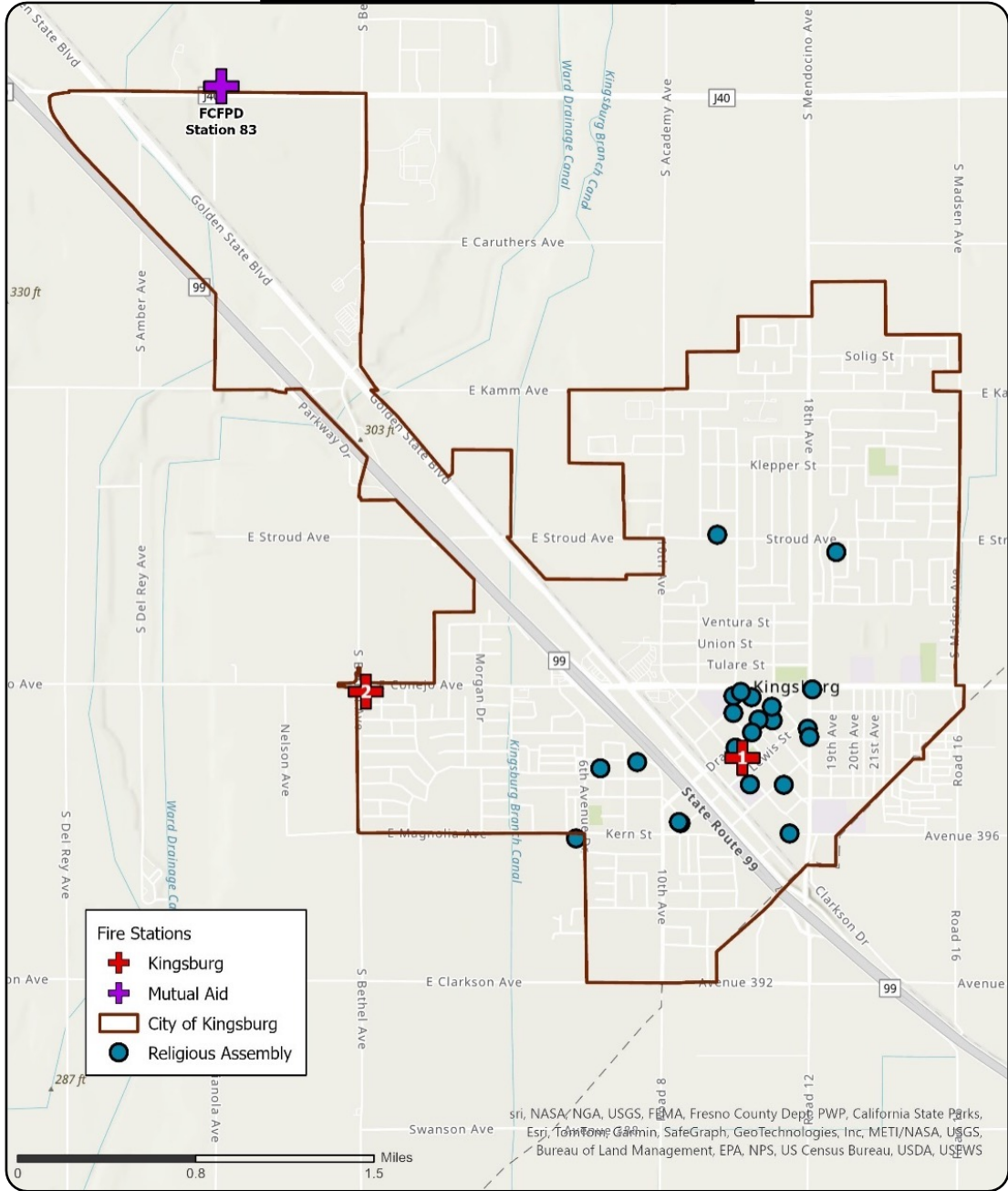


Figure 29 shows the locations of religious buildings in Kingsburg.

Figure 29. Kingsburg Religious Buildings



Threat and Hazard Assessment



Regardless of a community's size, construction, and demographics, it will typically remain safe and in stasis until something upsets that balance. Every community must prepare for and respond to events, including daily operational issues and natural disasters such as earthquakes, pandemics, and wildfires. With regard to emergency management, prevention, and response, an event can be triggered by a threat, and the severity is dictated by hazards. The Center for Public Safety Excellence (CPSE) defines a hazard as a cause of danger and peril in the community and a threat as the probability of loss or injury from peril.¹⁷

Two additional concepts are imperative when understanding risk and the potential impact on the community. One is the consequence of an event once the threat is realized, such as damage to the emotional state of the community, economic loss, or loss of a valued community asset, such as a structure with historical significance or of vital interest or attraction. The other is the impact on the responding agency or agencies during an event. The more significant an event, the more resources will likely be required, which can affect the ability of the agencies to continue to provide services and maintain a standard of cover.¹⁸

Impact and Event Complexity

It is helpful to define the complexity of a typical incident. The Federal Emergency Management Agency (FEMA) simplifies this task by typing incident complexity from 1 to 5:¹⁹

- **Type 5 incident:** Requires one or two single-unit resources. An incident commander might be designated, but the daily operational experience typically defines the units' actions. No formal incident action plan is required. An incident is contained within one operational period (usually 12 hours), and no other command and general staff positions are needed. These are the daily incidents handled by the agency's first responding units, such as engines and ambulances.
- **Type 4 incident:** These incidents are similar to type 5 incidents in many ways, but require more than one or two units. An incident commander is designated and controls unit actions; other command staff positions can be employed as needed. This incident could include a structural fire or event involving limited HazMat.
- **Type 3 incident:** This type of incident will likely span more than one operational period, will require more of the command and general staff positions, and will require a formal incident action plan. These incidents might still fall under the purview of a single jurisdiction, but typically require more resources from the surrounding area. A local emergency operations center might be activated to support the incident.
- **Type 2 incident:** This incident type requires a more extensive command and general staff presence. This warrants a formal, multiple-period incident command structure, and the incident will require additional regional, state, or national resources to mitigate it. A regional or national emergency operations center is typically needed to support these events.

¹⁷ Center for Public Safety Excellence, *Community Risk Assessment / Standards of Cover (6th Ed.)*

¹⁸ *Ibid.*

¹⁹ emilms.fema.gov/is_0200c/groups/518.html.

- **Type 1 incident:** This complex incident requires extensive support, command, and general staff. While similar in resource requirements as a type 2 incident, many more resources are needed. Typically, a type 1 incident will require more than 500 operational and incident support personnel.

The KFD can operate alone on a type 5 incident only. Still, due to the robust automatic-aid agreements in the area, the department can generally operate on type 5 and type 4 incidents as well. Due to the limited resources surrounding the City of Kingsburg, only one type 4 incident in operation in the city would severely affect the agency and community.

Therefore, this report focuses primarily on the severity of the local risks of type 4 and type 5 incidents. However, the KFD will likely be the first responding agency to an incident of any severity level, so the list of likely hazards is also addressed here.

Natural Hazards

The Kingsburg community enjoys a relatively safe geologic area in many respects. However, several types of natural hazards should be recognized and addressed. For the KFD, most natural hazard incidents are well outside the scope of operational capacity; rather, they necessarily rest in the realm of emergency management. The emergency management team addresses such incidents using emergency operations plans and continuity of operations plans.

Weather Hazards

Weather hazards for the Kingsburg community include the potential for extreme heat, thunderstorms, and the improbable but possible threat of a tornado. Cold weather events, such as snow and ice storms and hurricanes, are unlikely in the region. The Central Valley has experienced drought conditions for many of the past 10, with the most recent severe drought being in 2021. Drought can exacerbate fire conditions and jeopardize economic and social programs; however, as a single event, it will not likely be disastrous.

Water Hazards

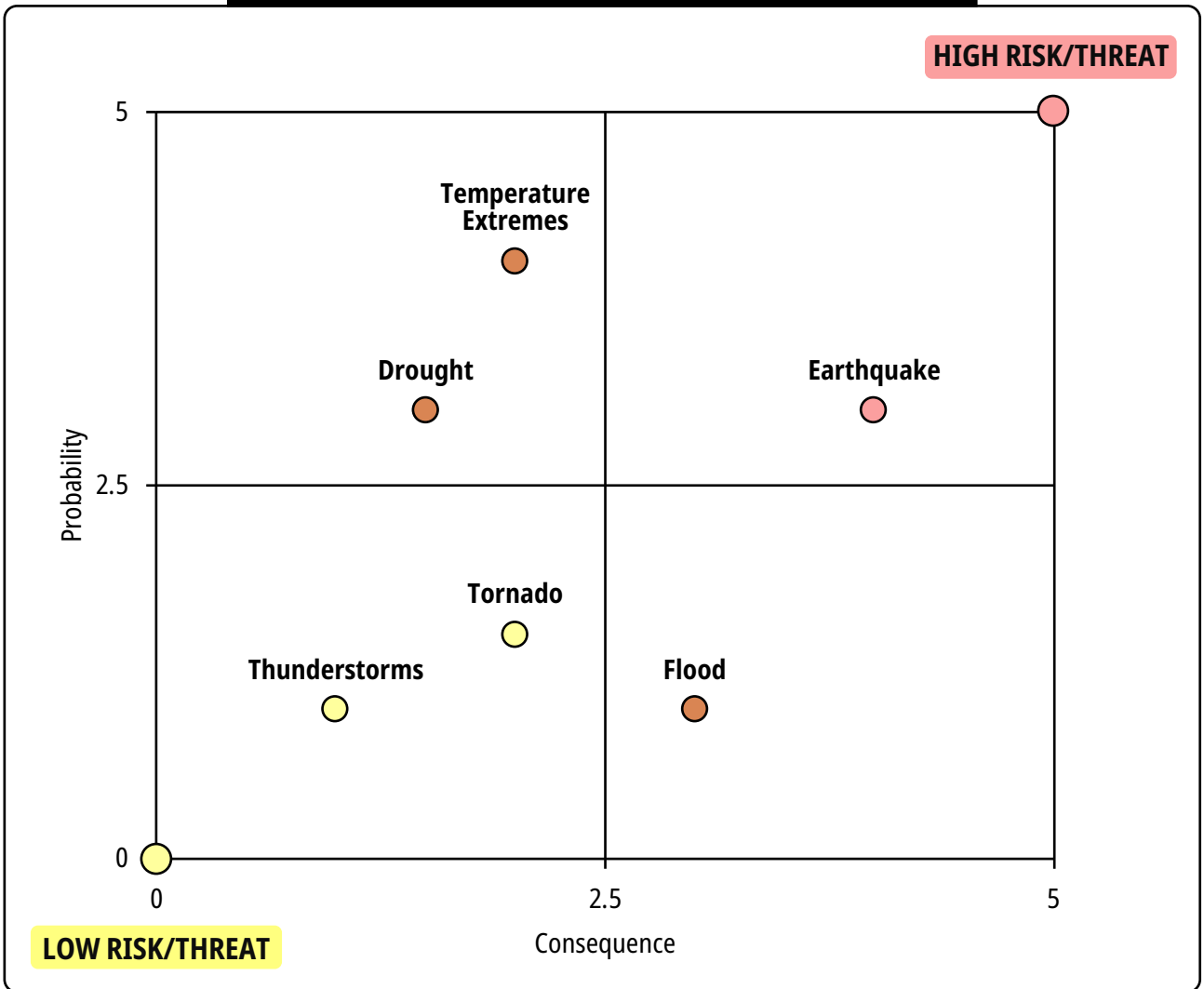
The city does have some hazards associated with heavy rains. Because of its drainage system, it will not likely experience a flood in the typical sense with deep running or standing water, but it could experience isolated areas of heavy runoff. The city is not located in the FEMA flood hazard map.

In addition to a relatively minor flood hazard, the Kingsburg community does not face the significant potential for standing dam failure. Due to its geographic location, Kingsburg will not likely experience any other severe water risks, such as a tsunami or limnic eruption. Natural sinkholes created by underlying water also do not appear to be a significant hazard.

Physiography

Physiography is the class of hazards related to the earth's physical features and the movement of land masses due to geologic phenomena. An earthquake occurs when two blocks of the earth suddenly slip past one another, creating a vibration through the release of energy in the earth's crust. The vibrations that are generated are called "seismic waves." The surface where they slip is referred to as the fault line or fault plane. Earthquakes can result in ground shaking, soil liquefaction, landslides, fissures, avalanches, fires, and tsunamis. Additionally, earthquakes can cause buildings to collapse and cause heavy items to fall, resulting in injuries and property damage. They happen anywhere and at any

Figure 31. Probability and Consequence of Natural Hazards for KFD



four categories: human, material, mechanical, and natural. Natural hazards were addressed above, and occupancies and critical infrastructure hazards were covered in the section on physical assets. However, material and human hazards require further discussion.

Material hazards are closely linked to the transportation and storage of dangerous substances. Hazardous materials can be found in hardware stores, transported along highways, and stored in many residential areas. Furthermore, during incidents such as structure fires, toxic gases and harmful substances can be released, posing significant threats to the environment and public health.

Human hazards arise from individuals' actions, inactions, and physiological conditions. Criminal behaviors such as arson and assault can harm people and damage property. Accidental incidents, such as falls and injuries from unsafe cooking practices, can also lead to hazardous situations. In some cases, a lack of timely action — such as failing to report or address a known hazard — can escalate into a serious event.

This classification of hazards helps guide KFD's preparedness and response efforts, ensuring that the community is better protected from a wide range of potential threats.

Community Comparison



Community comparison plays a vital role in understanding the dynamics and strengths of various nationwide departments. By analyzing fire departments' similarities and differences, we gain valuable insights into their deployment, staffing, performance, and ratings. This comparative approach highlights best practices and innovative solutions and fosters transparency among elected leaders and community members. While the number of fires and associated fatalities is trending upward, these figures remain considerably lower than historical highs in 1980. This context underscores the importance of understanding fire safety metrics and community preparedness, particularly as they relate to classifications from the Insurance Services Office (ISO), which provides critical insights into fire protection capabilities and can influence insurance rates and overall community resilience.

Incident Activity

In 2023, fire departments in the United States responded to more than 1.5 million fire incidents that caused 3,790 civilian fire fatalities and over 13,250 civilian fire injuries. The property damage was estimated at more than \$18.1 billion.²⁰ The U.S. Fire Administration reported that 72 percent of civilian fire deaths occurred in one- or two-family residential structures. The report stated that \$648 million in property fire losses occurred from wildland-urban interface incidents.²¹ The total number of fires and fire deaths reported are trending up. However, they are still significantly lower than the high point in 1980.

The national fires per 1,000 population averaged 4.5 nationally and 4.2 in communities the same size as Kingsburg.

Insurance Services Office Classifications

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 fire insurance rates. According to its report, the ISO's Public Protection Classification (PPC) rating "is a proven and reliable predictor of future fire losses." Commercial property insurance rates are expected to be lower in areas with better (i.e., lower) ISO PPC class ratings.

The ISO Fire Suppression Rating Schedule 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 classification 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 ISO's most recent evaluation of the KFD, effective September 1, 2022, assigned 80.27 credits and provided the city with a Class 2 rating. The number applies to any property within five road

²⁰ www.usfa.fema.gov/statistics/#lossNotes.

²¹ *Fire Loss in the United States During 2022, NFPA, November 1, 2023.* <https://www.nfpa.org/education-and-research/research/nfpa-research/fire-statistical-reports/fire-loss-in-the-united-states>.

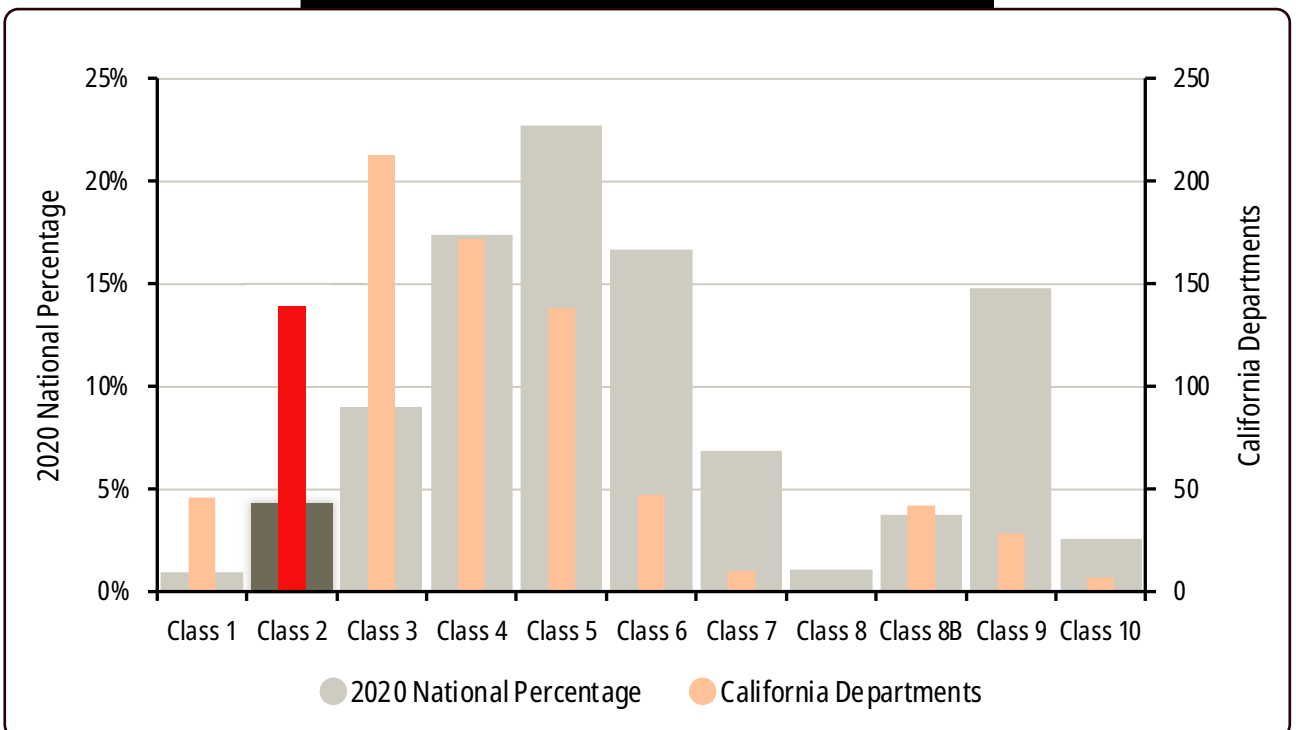
miles of a fire station with a fire hydrant within 1,000 feet or an alternate water source. **Table 26** provides the ISO credits or scoring earned and available for the City of Kingsburg.

Table 26. ISO Credits Earned and Available for the City of Kingsburg (2022 Rating)

ISO Feature	Earned Credit	Available Credit
Emergency communications	8.65	10
Fire department	35.53	50
Water supply	36.73	40
Divergence or score offset	-3.81	0
Community risk reduction	3.17	5.5
TOTALS	70.24	105.5

Only 1 percent of fire departments nationwide have earned an ISO classification of 1. In California, 46 departments have a Class 1 rating, representing 4 percent of the state's departments. KFD holds a Class 2 rating, which compares to 14 percent of the state and 9 percent of the national departments. **Figure 32** shows all the fire departments in California and the number of ratings for each classification; Class 2 is highlighted for KFD.

Figure 32. ISO Classifications Nationally and California





SECTION III

Service and Delivery Performance

Service Delivery and Performance



This section provides a general understanding of response information relevant to the KFD. It was developed to assist the department in analyzing its recent performance and creating a baseline performance expectation. KFD, the City of Kingsburg, and political leaders can use this information to understand how their decisions and policies, as well as outside pressures, affect fire department performance.

Research Data and Statistics

This section contains information developed from various sources provided by KFD. Detailed information was provided between January 1, 2018, and December 31, 2023. The data were of varied quality, requiring the creation of one dataset from the five sets provided.

Mathematical and technological methodologies must be used judiciously to evaluate something as complex as an emergency incident response. Historical instances of incorrect evaluations have led to severe consequences in deployment and operational decisions. This analysis is designed to quantify and analyze available information. It is intended to be a starting point for the agency as it seeks to improve performance. However, leaders need to understand the limitations of making decisions based solely on statistical study. They must utilize sound judgment in conjunction with proven analytics when making decisions.

Statistical Tools

This section was created using various statistical analytical tools. The fundamental tools were categorization, percentile, and regression analysis. These tools help paint a picture of historical performance and make some inferences that can help leaders identify positive and negative performance trends.

90th percentile

The time performance measures for this report use the 90th percentile, a measure that has been adopted by the fire industry. If a fire agency wishes to judge its performance against standards and 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 (CFAI) requires reporting performance measures at the 90th percentile.

The statistical reason for using the measure is that it captures performance more thoroughly and identifies trends in performance more quickly. As is true for most emergency response agencies, the time performance data used in this study has a skew, making other statistical measures less sensitive and representative. **Figure 33** provides a general example of 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 left data would underrepresent the bulk of the performance. The opposite is true when skewed right. For the KFD, most of the time-performance data is skewed to the right, as with most emergency response agencies. In this case, using the average would over-represent performance. **Figure 34** shows a sample of KFD data for travel and total response time.

Figure 33. Data Skew²²

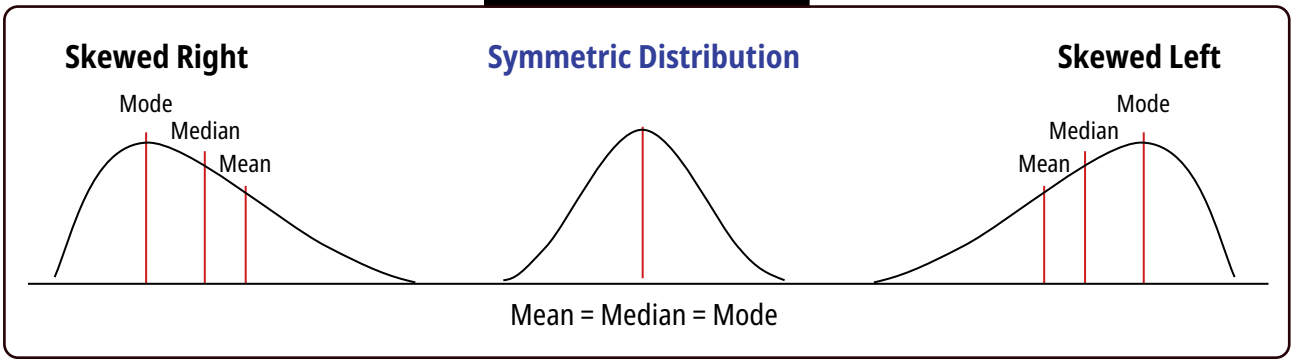
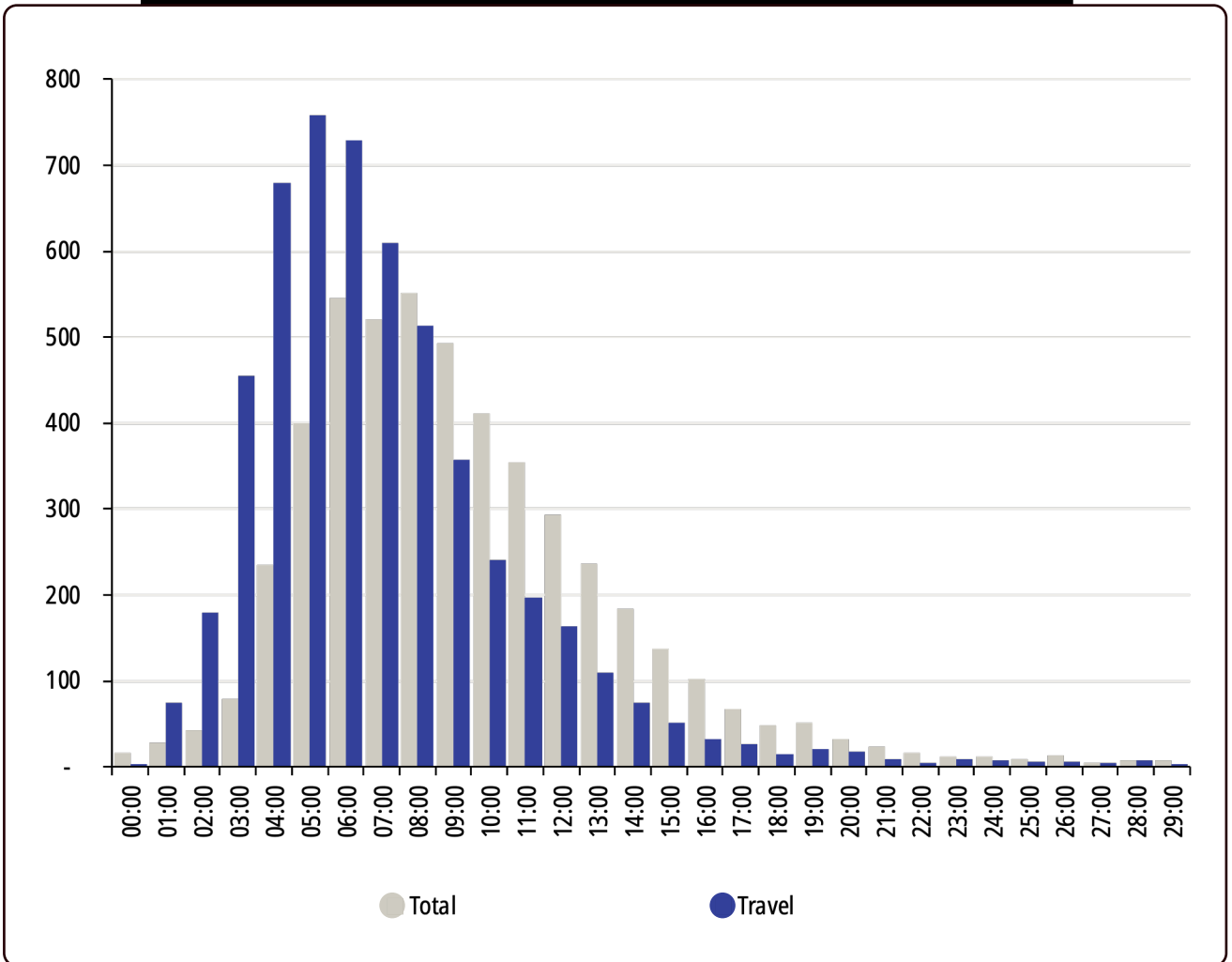


Figure 34. KFD Data Skew Example for Travel and Total Response Time (2018–2023)



²² This is a graphical representation of a Photo by Unknown Author which is licensed under CC BY-SA-NC, creativecommons.org/licenses/by-nc-sa/3.0/.

Data Discussion

Detailed data were provided from KFD's current records management system(RMS) and the CAD system. The RMS gathers detailed incident information, while CAD provides the times, geocoding, and unit information.

Data Engineering Findings

The number of incident records captured in the RMS and CAD systems was similar. One challenge was receiving the CAD data from two secondary PSAP locations. The Fresno County EMS Communications provided dispatch for all KFD resources until August 2022. Then, the department contracted with Fresno County Emergency Communications Center to provide dispatch. At the same time, Fresno EMS Communications was still the primary secondary PSAP answering point for all medical responses. This required the data to be blended and matched. Approximately 6 percent of the incident data from Fresno County ECC did not include a call completion time, slightly affecting the unit hour utilization figures.

Data Error Handling

Data collection within the various datasets 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 KFD, the information in the data fields had minimal error-prone data. Therefore, most of the data did not require statistical intervention. However, some data were excluded by formula or logic tests. The time segment math utilized a logic tree to eliminate negative and null sets. All calculable turnout time records were considered, as none exceeded 5 minutes. The maximum travel time for the first arriving unit was limited to a maximum of 20 minutes based on standard drive times from the two closest mutual-aid stations to the furthest point in the city. The maximum time on the scene for total commit time analysis was 12 hours to remove any deployments, date, and morning/afternoon errors.

Service Demand







The first dimension of the analysis is the overall system call load. Because this is a simple count of the incidents by type and location, no data were excluded after engineering. Therefore, detailed data from the three previously discussed systems were used for most aspects of this analysis, except for the volume projection.

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. **Table 27** shows the total number of responses recorded by the agency for the entire dataset and the percentage of categorized responses.

KFD and the surrounding agencies have a robust automatic-aid system. Smaller agencies must participate fully in aid programs to ensure appropriate coverage throughout the response area.

Table 27. KFD Total Incident Count (2018–2023)

↑↓ Incident Type (NFIRS Grouped)	Count	Percentage of Total Responses
 Fire (100)	564	3.6%
 Rescue-medical (300)	13,678	88.2%
 Motor vehicle accidents	197	1.3%
 Hazardous condition (400)	129	0.8%
 Service and Good Intent calls (500 and 600)	431	2.9%
 False alarm (700)	503	3.2%
Total responses	16,193	100.0%

Ambulance Responses and Transports

In 2023 the Kingsburg Fire Department ambulance responded to 1,844 emergency medical calls within Zone K. This resulted in 1,396 patient transports. The actual number of patients transported was higher, because the RMS only tracks transport and to which receiving hospital, not the total number of patients transported per incident. KFD also had 309 EMS incidents in Tulare and Kings Counties, which resulted in 282 transports. In 2023, KFD responded to 2,153 EMS incidents within its designated ambulance response areas. In 2023, KFD did require an ambulance from another agency to respond into their ambulance service area Zone K 189 times. In total, over 91 percent of calls are serviced by KFD.

Geographic Analysis

A call density analysis is helpful when determining the best locations for apparatus placement and evaluating where prevention programs would have the greatest impact. **Figure 35** geographically represents the incident density for the study period, and **Figure 36** shows the Kingsburg EMS ambulance responses during that time frame.

Figure 35. KFD Incident Density (2018–2023)

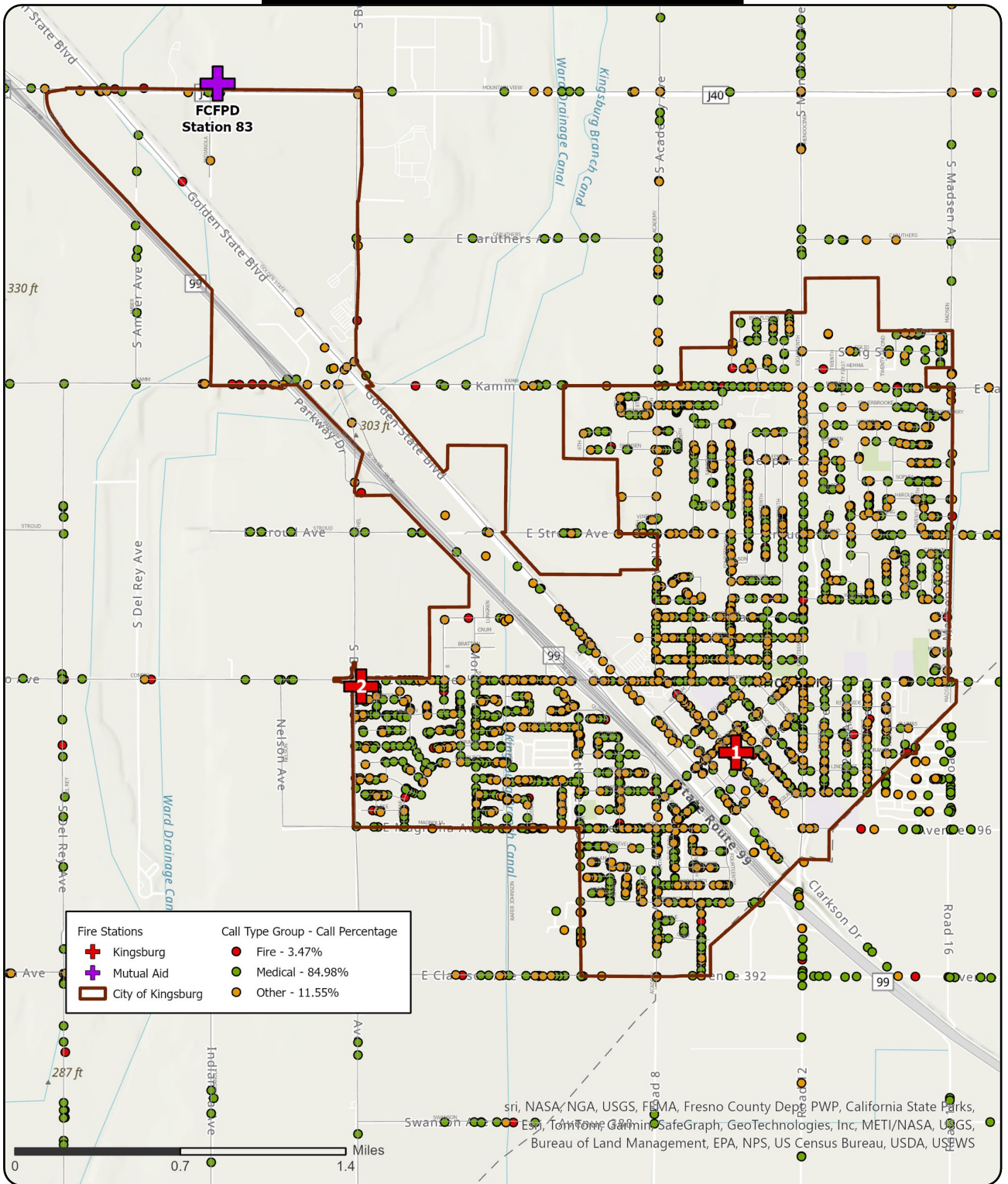
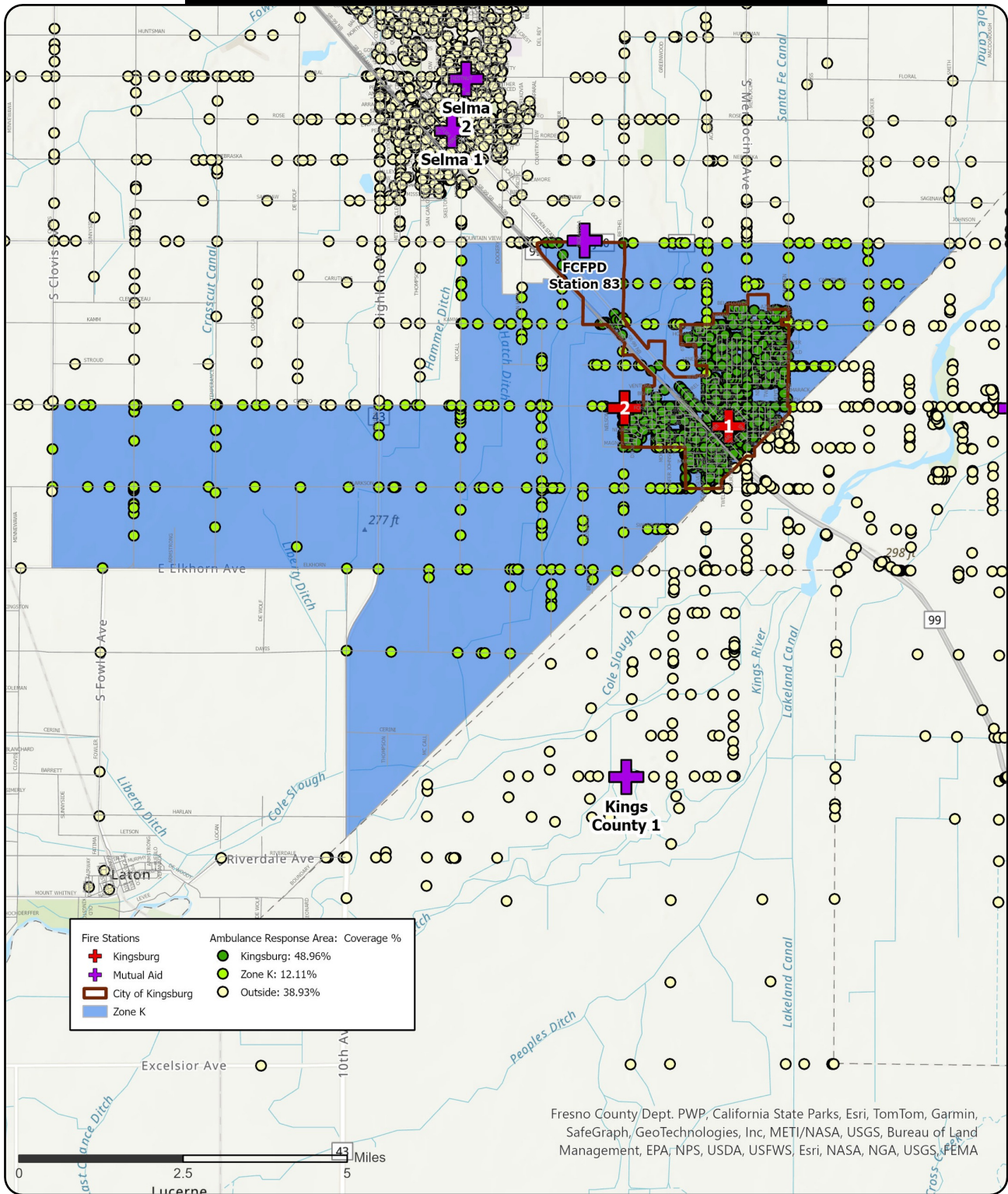


Figure 36. City of Kingsburg EMS Ambulance Responses (2018–2023)

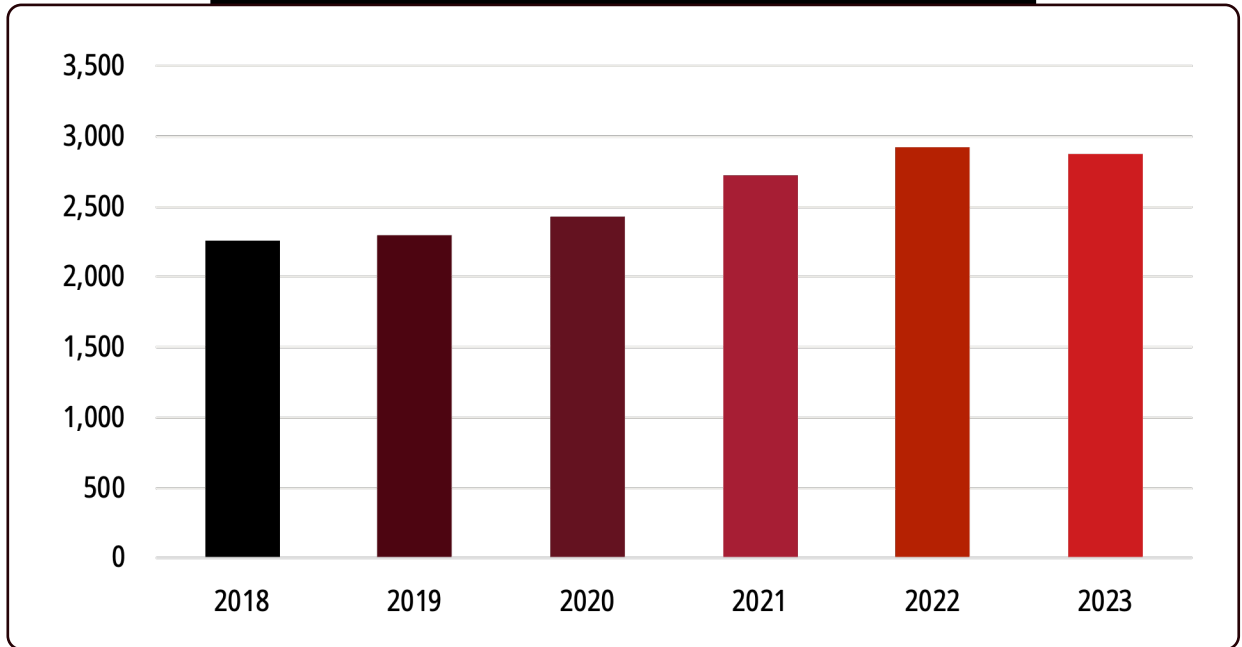


Fresno County Dept. PWP, California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS, Esri, NASA, NGA, USGS, FEMA

Temporal Analysis

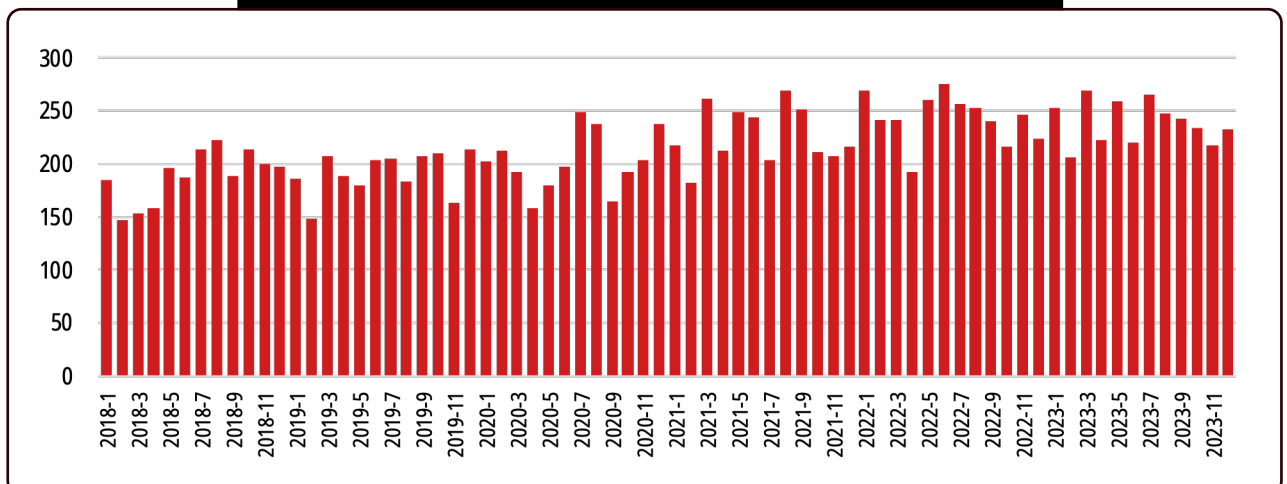
The annual incident count for KFD shows an increase in call volume over 2018. Due to the COVID-19 pandemic, many agencies witnessed significant changes in response volume in 2020 and the first part of 2021. The City of Kingsburg does not show a notable decrease in overall incident volume during these years. **Figure 37** illustrates the annual incident count, with EMS calls comprising the vast majority of the total volume.

Figure 37. Annual Incident Volume for City of Kingsburg (2018–2023)



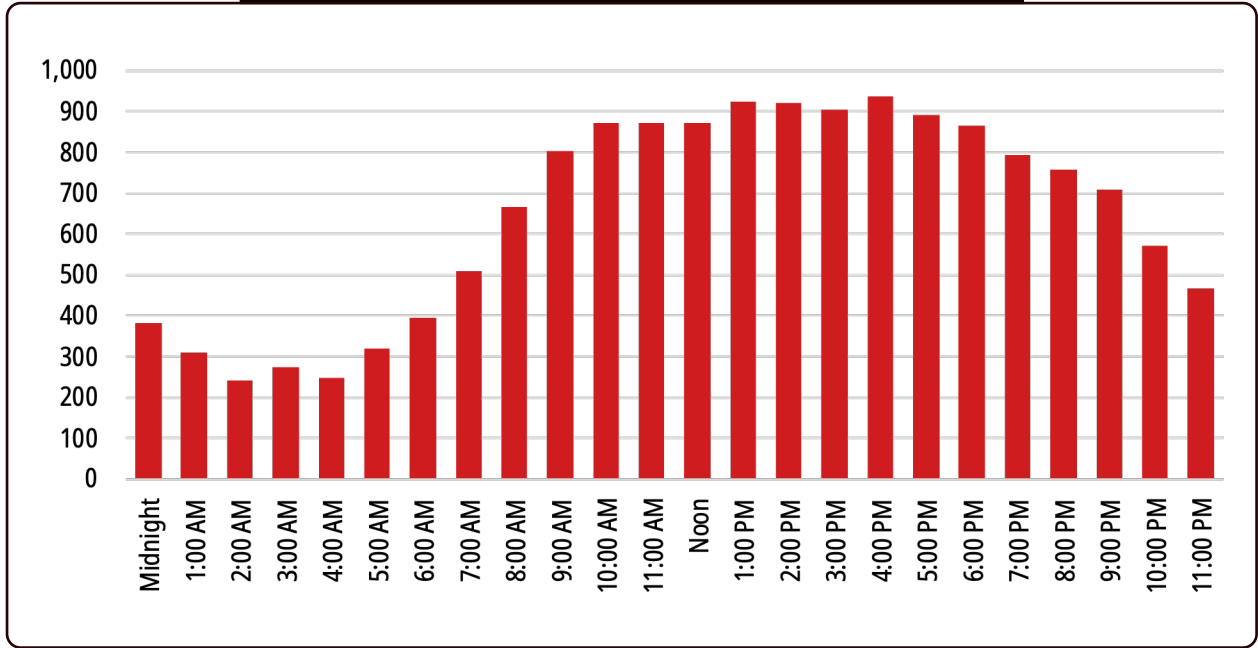
Analysis of incident volume by month, day of the week, and hour is valuable for scheduling events and adjusting staffing. Looking at volume by month can reveal seasonality of service needs, and analysis of volume by days and hours can reflect the timing of population movement and activities. **Figure 38** shows incident volume percentages by month for 2018 through 2023.

Figure 38. KFD Incident Volume Percentage by Month (2018–2023)



Another analytic dimension is to evaluate call volume throughout the hours of the day. Data on response workload by the hour typically show fire department activity higher during daytime hours, correlating with the times of day during which people are most active. This principle proved true for KFD during the analysis period. In the City of Kingsburg, the department’s activity began to increase at 6 a.m. and reached its first peak at 11 a.m. This level was generally maintained until it gradually decreased at 7 p.m., when it started to decline more rapidly (**Figure 39**).

Figure 39. KFD Incident Volume Percentage by Hour (2018–2023)



Resource Distribution

Several key performance metrics help identify the effectiveness of resource distribution. A broad allocation of resources allows for a more rapid first response to any given area. However, the first unit is only part of the deployment decision. It is critical to deploy sufficient units to respond to any incident’s volume, type, and severity. It is also essential to attempt to equalize the unit responses.

Geographic Distribution Analysis

Units and stations should be distributed in a way that allows for the best chance of reaching an incident in its earliest stages. Two primary sources of performance standards address geographic distribution: the ISO defines distance, and NFPA utilizes time as a criterion.

The ISO uses 5 miles from a fire station as its standard. There are no areas within the city that do not meet the 5-mile travel distance. ISO should classify all buildings as having fire protection coverage.

For full credit in an ISO Fire Suppression Rating Schedule, any building within the jurisdiction should be within 1.5 miles of an engine company and 2.5 miles of a truck company.²³ The City of Kingsburg has an engine at its fire station and adequate coverage for most population centers.

²³ www.isomitigation.com/ppc/technical/criteria-for-deployment-analysis-of-companie.

Figure 40 shows the ISO 1.5 mile criterion for Station 1, and Figure 41 shows the 1.5 mile criterion for Station 1 and Station 2.

Figure 40. 1.5 Mile ISO Distance, KFD Station 1

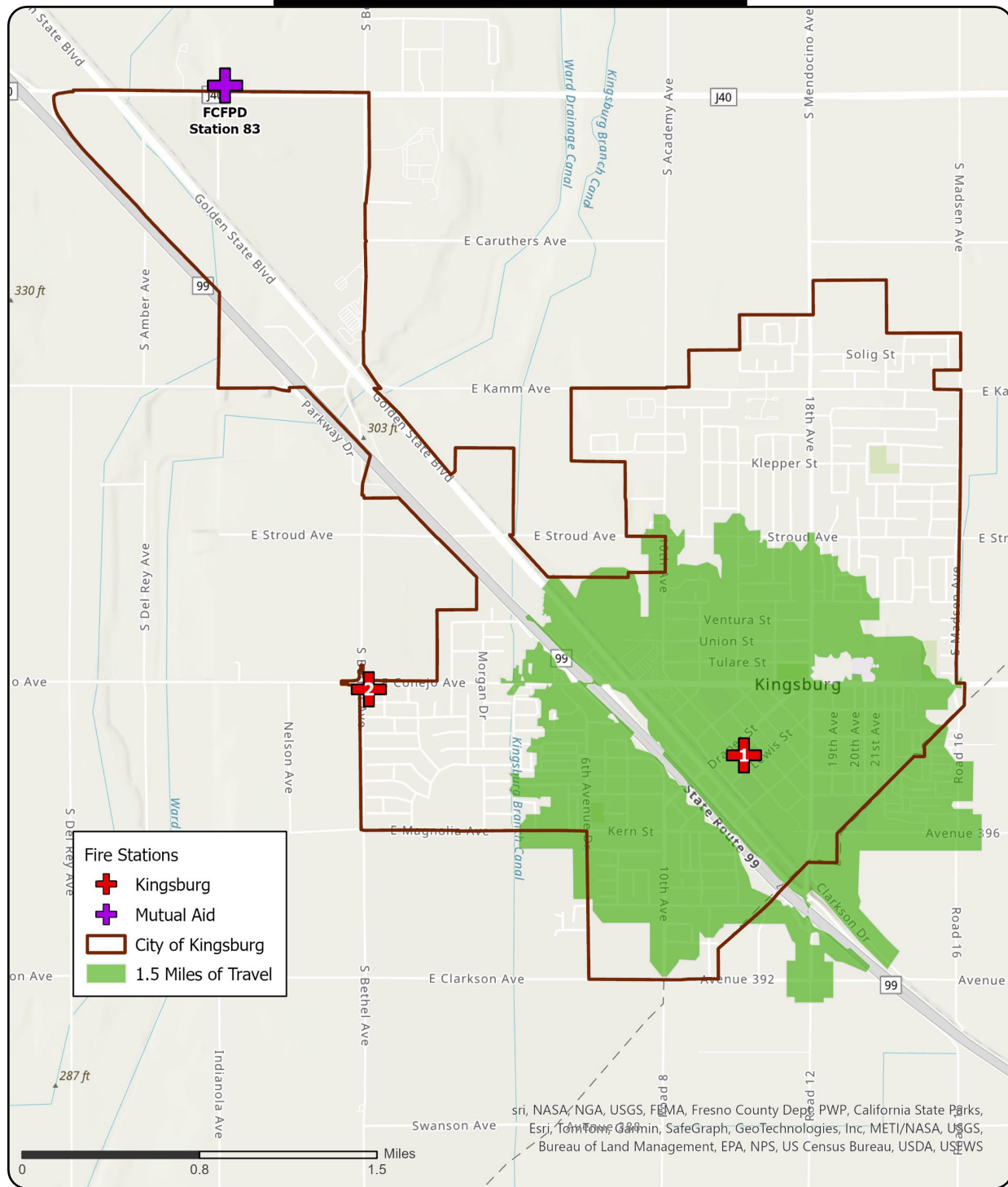
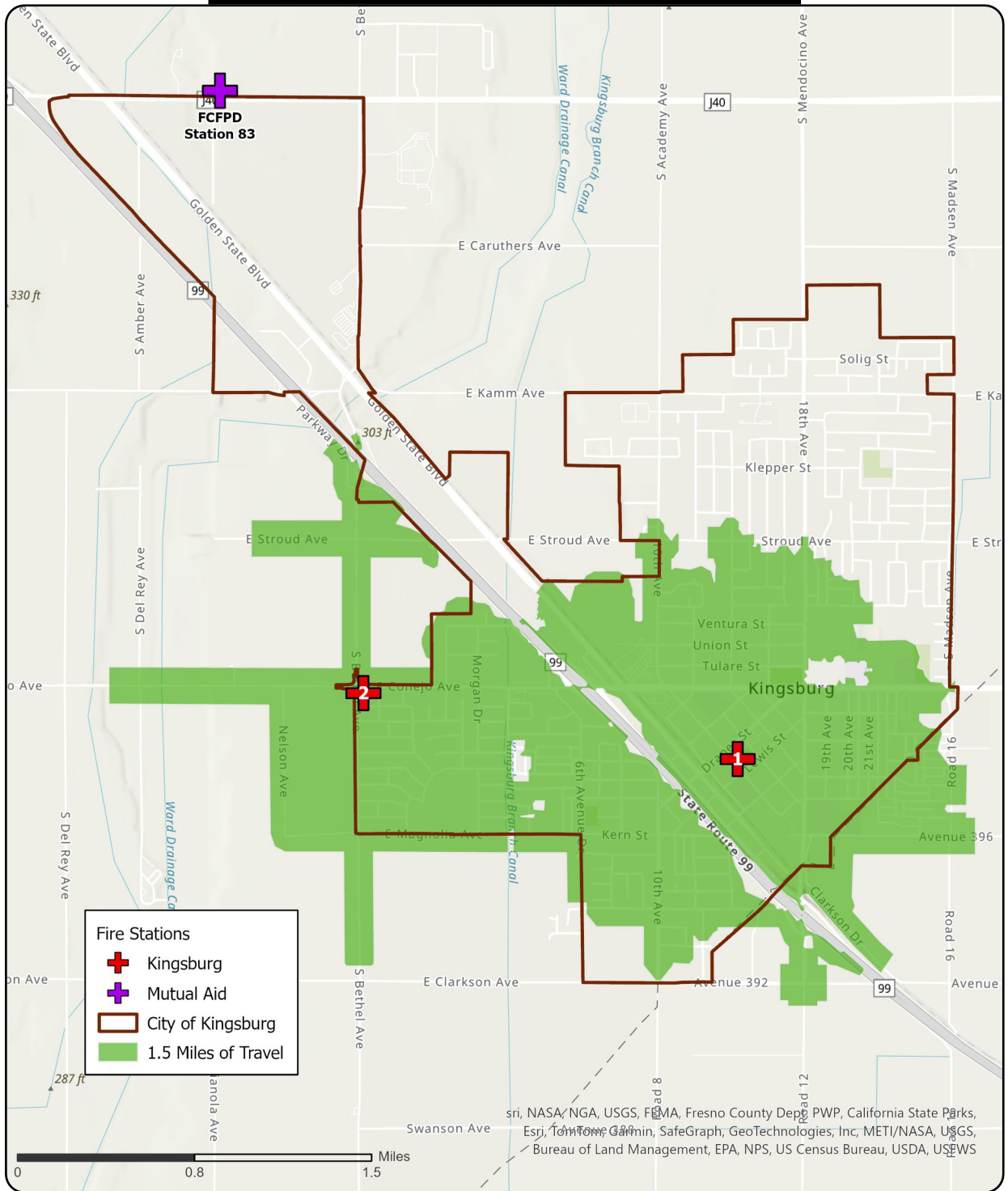


Figure 41.15 Mile ISO Distance, KFD Station 1 and Station 2



Esri, NASA, NGA, USGS, FEMA, Fresno County Dept. PWP, California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USEWS

Unit Workload Analysis

Unit workload should be balanced to maintain readiness, resiliency, and service availability. Although it is common for one unit to be busier than others, no crew should carry a load that is too heavy; in the long run, it makes personnel less effective.

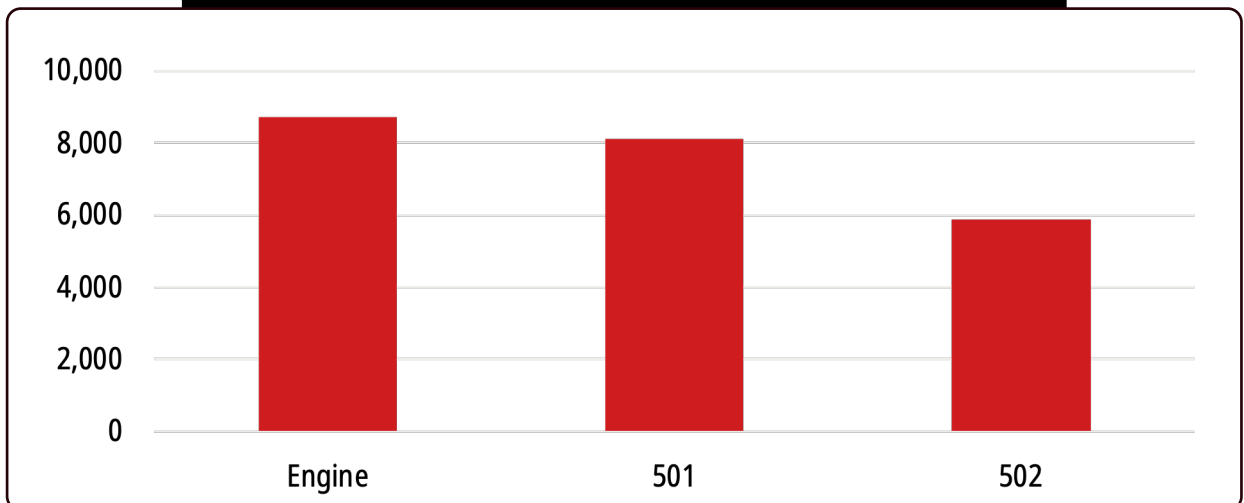
Incidents by Unit

KFD has three unique units that responded to all incidents within the incident records. The engine responded to slightly more incidents. The amount of time spent on a scene can affect firefighters' workload and the availability of resources for the next incident, as well as any concurrent incidents. The response workloads for KFD ALS ambulances and engines are shown in **Table 28**.

Table 28. KFD Engine and Ambulance Incidents by Unit and Year (2018–2023)

	2018	2019	2020	2021	2022	2023
Engine 141/142/T145	1,067	962	1,129	1,147	1,350	1,536
M501	107	1,461	1,447	1,580	1,212	1,344
M502	1,541	489	632	551	1,123	800
M503	206	18	25	144	298	339
Total Ambulance Unit Responses	1,854	1,968	2,104	2,275	2,633	2,483
Total KFD Unit Responses	2,921	2,930	3,233	3,422	3,983	4,046

Figure 42. KFD Engine and Ambulance Commitments by Unit (2018–2023)



Each incident requires a unit to remain on the scene to handle the situation. Therefore, a general idea of how long a specific crew will remain at an incident can assist operational planning. KFD's two different unit types have different incident commit times, which may be explained by the ambulances' longer times on incidents due to the need to transport. **Figure 42** shows KFD engine and ambulance commitments by unit for the engine and rescue ambulances 501 and 502.

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 versus the total time on duty during a specific time frame. The formula for this calculation is the total time committed to an incident divided by the sum of all time the unit is staffed.

$$UHU = \frac{\sum \text{Time Committed to a Scene}}{\sum \text{Time Unit is Staffed and In Service}}$$

The goal is for the primary unit at a station, typically the engine, which is the most flexible response unit, to be under 20 percent UHU. Maintaining 20 percent UHU should indicate the area has 90 percent availability for unscheduled events. However, ambulance UHU is the subject of much debate within the fire service.

Due to the ancillary work crews must accomplish and the personnel's need to rest and eat, a 24-hour shift unit should not have a UHU above 30 percent. Any 24-hour ambulance approaching 25 percent UHU should be evaluated to determine whether the crews are getting enough training, rest, and fitness time to ensure they do not burn out.

KFD has a moderately busy system, with the engine averaging 4.2 percent UHU. The two ambulances average 25.6 percent UHU, but each unit averages 12.8 percent UHU. Neither unit is approaching a cautionary UHU percentage. **Table 29** outlines the UHU for both units by year.

Table 29. KFD Unit Incident Utilization (2018–2023)

	2018	2019	2020	2021	2022	2023	Average
Engine 141/142/T111/T145	3.2%	2.9%	3.8%	4.2%	5.0%	6.1%	4.2%
M501	1.5%	18.3%	17.4%	20.1%	12.0%	12.3%	13.6%
M502	20.1%	6.2%	7.8%	7.1%	11.2%	7.1%	9.9%
M503	2.9%	0.3%	0.3%	2.8%	3.1%	3.1%	2.1%
Ambulance Total	24.5%	24.8%	25.5%	29.9%	26.3%	22.5%	25.6%
Ambulance Total per Resource	12.3%	12.4%	12.7%	15.0%	13.2%	11.2%	12.8%

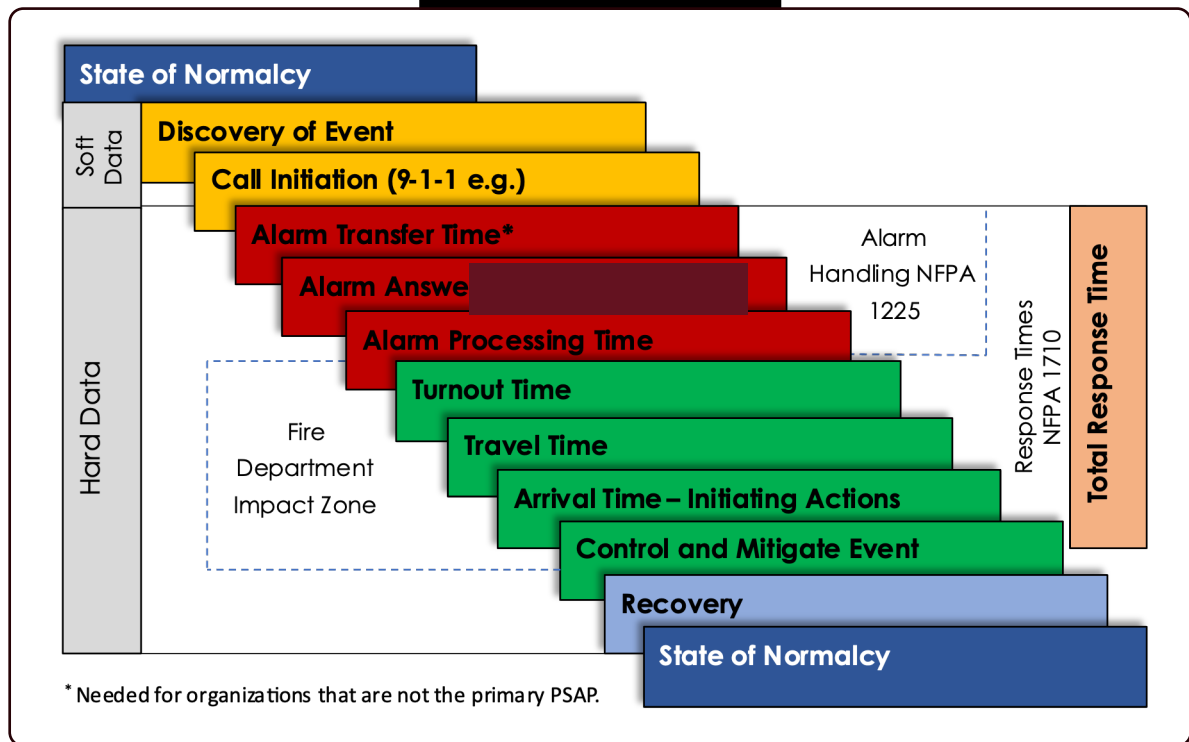
The data only show the time during which units are committed to an incident. Crews can be out of service for maintenance, training, and other events that do not appear in this analysis. Approximately one-half of a crew member's day is spent performing administrative, training, or recovery activities. For example, assuming a crew is allowed 8 hours of rest and recovery daily, 2 hours for meals, and 2 hours for station, equipment, and vehicle maintenance, those activities total 12 hours. Additional time is usually allocated for physical fitness, training, and public education. However, these tasks can be interrupted and scheduled so they do not leave the public without access to fire department responses.

Performance Review

When evaluating a system, it is valuable to have a set of objectives or standards against which to judge performance. Although national and state standards are recommended, California leaves it up to the authority having jurisdiction to adopt specific objectives and standards, with NFPA standards used for reference as appropriate. Relevant standards include the NFPA Standard 1710: *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* and portions of NFPA Standard 1225: *Standard for Emergency Services Communications*.

Evaluating overall performance requires an understanding of an incident's life cycle. 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 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. **Figure 43** identifies each time segment in the incident life cycle.

Figure 43. Incident Lifecycle



The incident data provided from KFD did not allow for analysis of all time segments in Figure 43. However, sufficient information was provided to evaluate call processing, turnout, travel, and total response times. **Table 30** outlines each time segment, the primary agency of influence, standards referenced, and benchmarks.

Table 30. KFD Incident Segment Key Performance Indicators

Incident Segment	Primary Agency Influence	Standard	Benchmark
Normalcy	Prevention	Local codes and ordinances	Community risk assessment
Discovery	Public education		TBD
Notification	Public education		TBD
Call answer ¹	Dispatch staffing, systems, policy, and training	NFPA 1225	15 seconds / 90th percentile 20 seconds / 95th percentile
Call transfer			30 seconds / 90th percentile
Call processing			60 seconds / 90th percentile (priority) ²
Turnout time	Station design, policies, and training	NFPA 1710	60 seconds / 90th percentile (EMS) 80 seconds / 90th percentile (other)
Travel time (first due)	Station location, systems, and training		4 minutes / 90th percentile
Travel time (second due)			6 minutes / 90th percentile
Travel time (effective response force)			8 minutes / 90th percentile (low or moderate risk) 10 minutes 10 seconds / 90th percentile (high risk)
Action initiation or patient contact	Station location, systems, staffing, and training		TBD
Control/mitigation			TBD
Recovery	Prevention and public education	Updated codes and ordinances	Community risk assessment
New normal	Prevention	Local codes and ordinances	Community risk assessment

¹ Applies to both PSAP and secondary answering (agency) dispatch centers.

² Non-priority incidents are exempt from NFPA 1225. Agencies are expected to set standards.

Operational Performance Analysis

Incident and dispatch data between January 1, 2018, and December 31, 2023, were carefully evaluated to determine KFD's current performance. Only priority incidents occurring within the KFD service area were included in the analysis; nonemergency requests were excluded. Performance was based on the type of incident, as reported. Three categories were used to report performance for total response time:

- Call processing
- Turnout
- Travel

Each phase of the incident response sequence was evaluated to determine current performance. This approach allowed for an analysis of each phase to identify any opportunities for improvement.

The total incident response time continuum comprises several steps, beginning with initiation of the incident and concluding with its appropriate mitigation or normalcy. KFD's response performance was compared with the national consensus standard for response performance, found in NFPA's Standard 1710: *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*, 2020 Edition. In addition, the dispatch center's performance was compared with standards from NFPA's Standard 1221: *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*, 2019 Edition.

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

Event Detection

Event detection is the time it takes for someone to discover an emergency and start activating the emergency response system. This process can entail dialing a personal cell phone, driving to a location with a fixed telephone, or hiking out of the wilderness to find someone with a radio to make the notification. This phase begins with the inception of the emergency and ends when the emergency is detected. This is mainly outside the fire department's control and not a part of the event sequence that is reliably measurable.

Notification

Notification is when the communications center receives the alarm and could include walk-in citizens, phone calls, or radio reports. Over the past decade, the community has experienced decreased reporting time on most alarms due to the proliferation of cell phones. Previously, reporting an emergency could have been delayed because of a lack of communication options. Although cell phones make reporting an emergency faster, the overall time is approximately the same because the dispatcher now must verify the caller's location. In cases in which the caller is unsure of their location, the communications center can attempt to ping the phone for a general area with escalating alarm processing times.

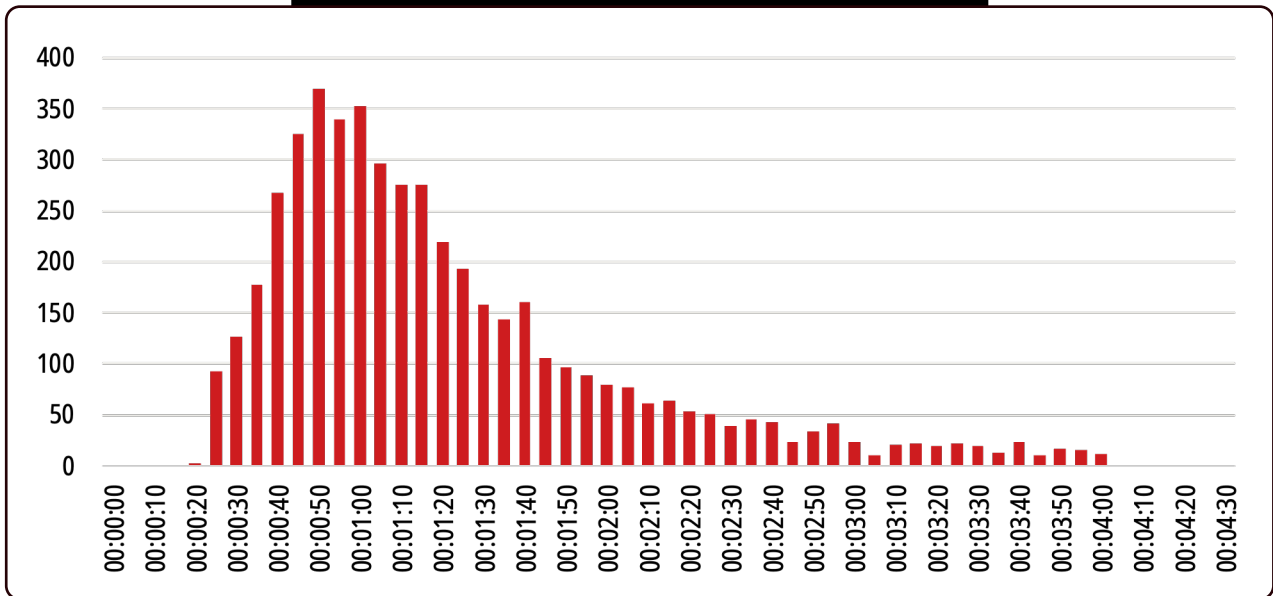
Call Processing Analysis

Call processing is the time interval from when the first notification was received to completion of dispatching the recommended units. The department's CAD system assists in recommending and

assigning the closest units to an emergency incident. Most emergency incidents are reported to the 9-1-1 center by telephone (landline or cell phone). Call takers must quickly elicit accurate information about the incident’s nature and location from the caller. Laypeople well-trained in emergencies can reduce the time required for this phase. The dispatcher must identify the correct units based on incident type and location, dispatch them to the emergency, and continue to update information about the emergency while the units respond. These steps are labeled “call processing time,” which begins when the 9-1-1 call is answered at the PSAP and ends when response personnel are notified of the emergency. NFPA 1221 standards recommend that this phase occurs within 60 seconds, 90 percent of the time.

EMD protocols help to target the correct, effective response force and provide instructions for EMS callers. They contain a specific set of questions based on the nature of the call that dispatchers must ask the caller. This can result in delaying the first unit dispatched to the incident. Many accredited agencies have discovered that there are competing interests when evaluating the usefulness of an EMD system. Using EMD, the NFPA recommended call processing time is extended from 1 minute to 1 minute and 30 seconds. **Figure 44** shows Kingsburg call processing by year during the study period.

Figure 44. Kingsburg Call Processing by Year (2018–2023)



The overall call processing time is higher than the recommended 90 seconds standard for emergency medical questioning dispatch. The 90th percentile for EMS incidents, which is the primary type of incident KFD responds to, is 2 minutes and 22 seconds.

Turnout

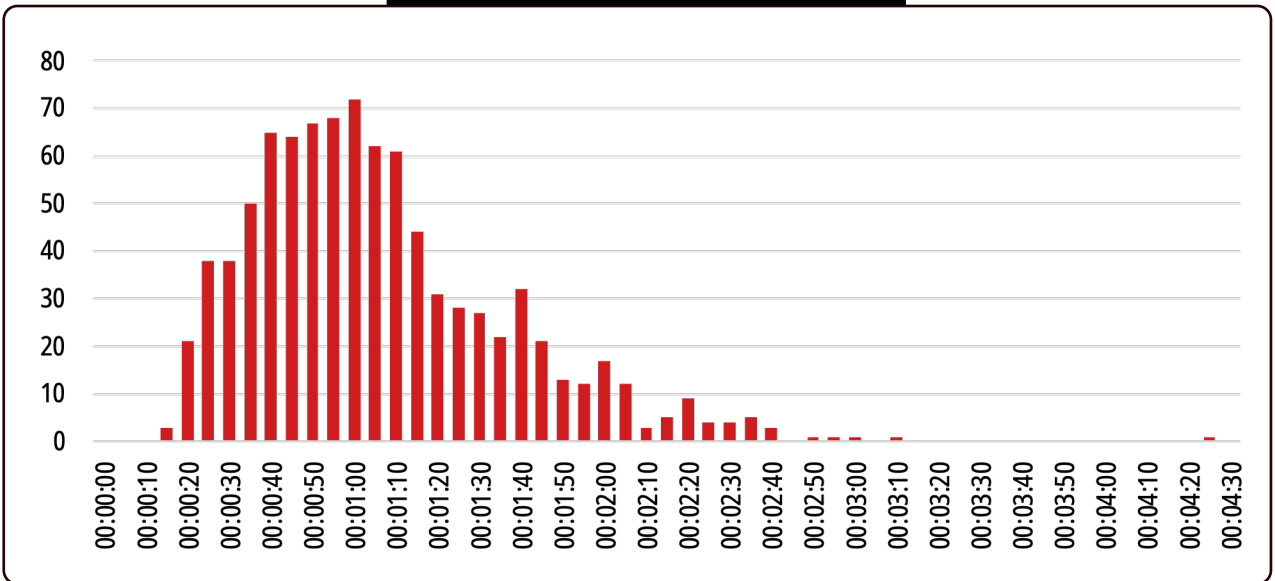
Turnout time is the time interval from notification of a station or unit to the assigned unit responding. KFD can have the most control over this phase. Station facilities are equipped with radio tone-alert activation. Turnout time is measured from the completion of alerting by dispatch to the vehicles clearing the stations and announcing “en route” on the radio or using their mobile data computers. Personnel must don appropriate equipment, assemble on the response vehicle, and begin traveling to the incident. Effective training and proper fire station design can minimize the time

required for this phase.

Newer station designs have not explicitly focused on the time it takes to get from any part of the facility to the apparatus, which has subsequently impacted turnout times. Increased emphasis on never removing a seatbelt while responding has raised levels of safety but has also impacted turnout times when responding to calls.

The performance goal for turnout time is within 60 seconds, 90 percent of the time, for priority emergency medical incidents and 90 seconds for priority emergency incidents that require responders to don protective clothing. Turnout times for all incident types exceeded NFPA standards at 1 minute and 47 seconds (**Figure 45**).

Figure 45. KFD Turnout Time (2018–2023)



Travel Time

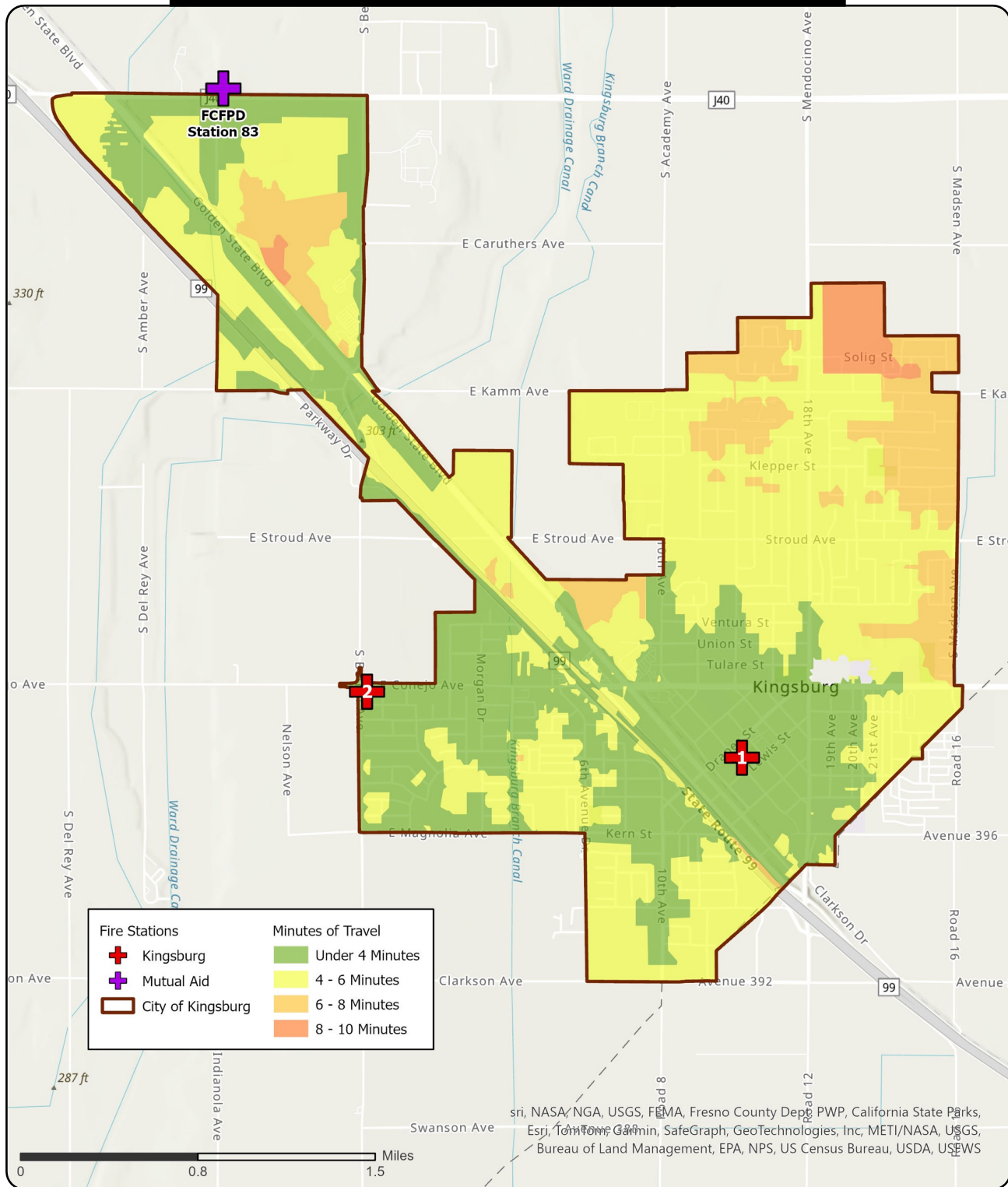
Travel time is potentially the longest of the response phases. Travel time is the time interval from when the assigned unit indicates it is en route to an emergency until that unit arrives at the emergency and goes “on-scene.” The distance between the fire station and the location of the emergency greatly influences response time. The quality and connectivity of streets, traffic, driver training, geography, and environmental conditions are also factors.

Travel time and safety have been affected by the use of traffic calming measures and traffic control preemption devices. Preemption is utilized on each emergency response to reduce the delay at traffic signal-controlled intersections. Traffic calming devices, road design standards, and gated areas of the community have the opposite effect of slowing travel time to emergencies.

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* lists several travel time requirements for apparatus. The first defined travel time is the first unit, either an engine or a truck that can operate as an engine for 4 minutes.²⁴ NFPA historically defined ALS travel time as 8 minutes.

²⁴ National Fire Protection Association. *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Departments*. 2020. [Appendix D].

Figure 47. KFD Predicted Travel Times for Station 1 and Station 2 Staffed



Figures 48 and 49 show travel times for all priority incidents and incident types. KFD's travel times to all priority incidents within the City of Kingsburg were within 5 minutes and 48 seconds (Figure 48). KFD's travel time to priority medical aids within the city limits and ambulance response Zone K were within 8 minutes and 18 seconds (Figure 49). Figure 50 shows historic travel time to the city (2018–2023).

Figure 48. KFD Travel Time Within City (2018–2023)

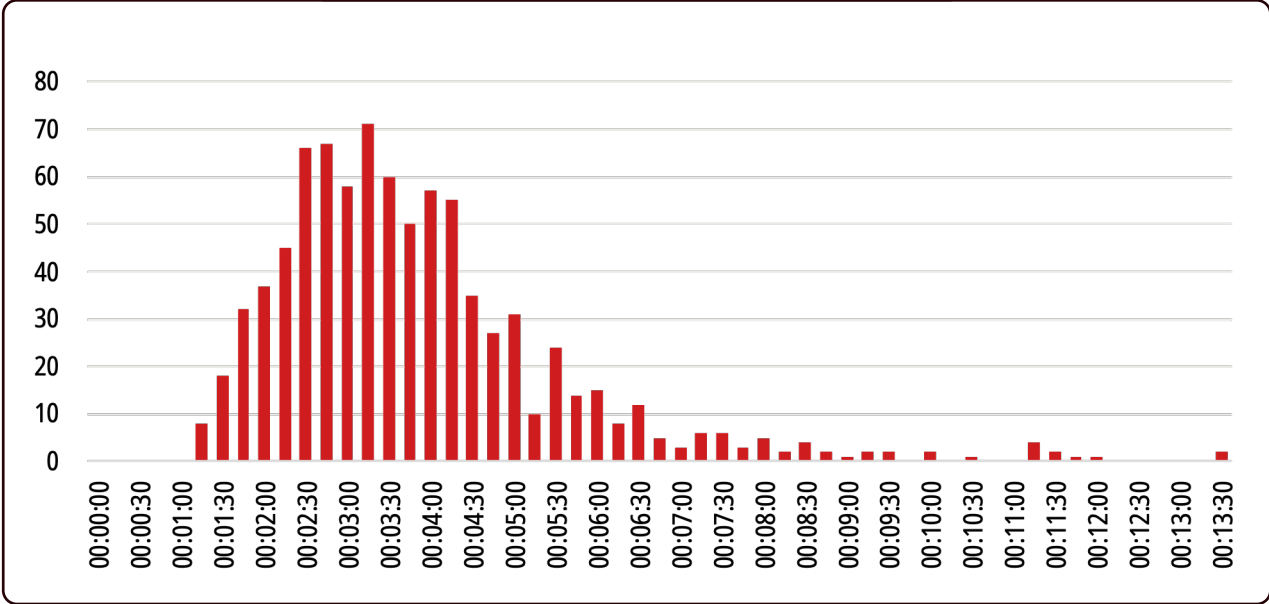


Figure 49. KFD Travel Time to the City and Zone K (2018–2023)

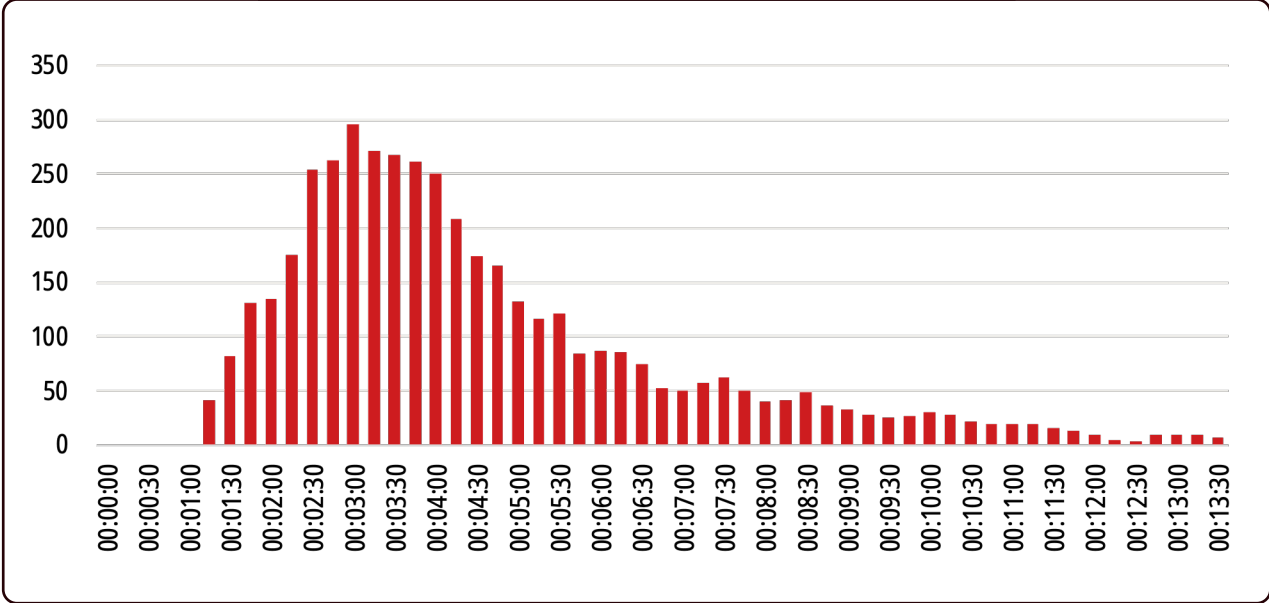
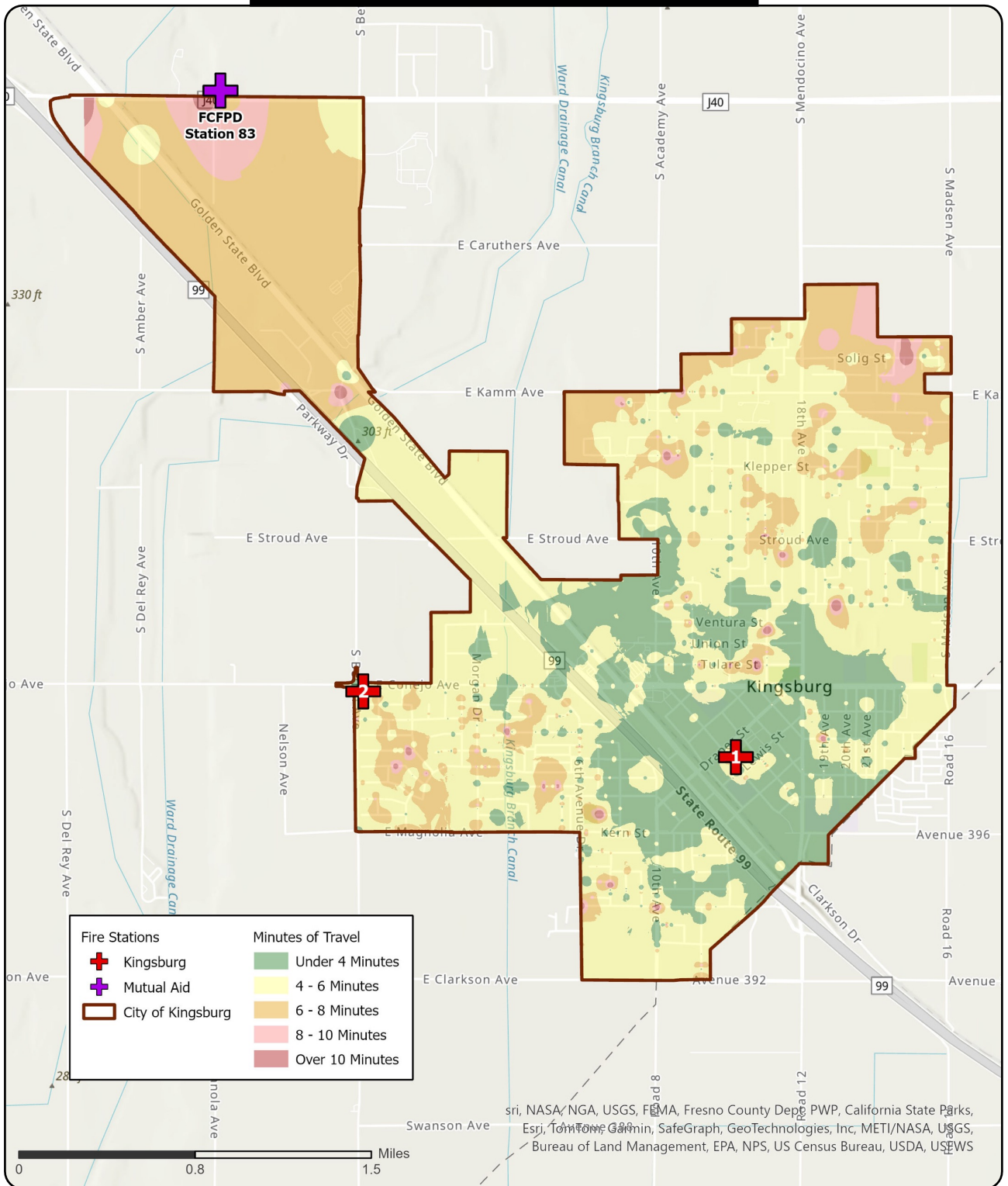


Figure 50. Historic Travel Time to the City (2018–2023)



Total Response Time

Each time segment is analyzed to understand where performance can be measured and improved. However, the primary performance measurement is the total response time. To the individual in need, response time reflects the fire department's performance. KFD's first due total response time for a structure fire and EMS incident is 8 minutes 36 seconds within the city and 11 minutes 8 seconds in Zone K. **Figure 51** shows the total response time within the city.

Figure 51. Total Response Times Within the City of Kingsburg (2018–2023)

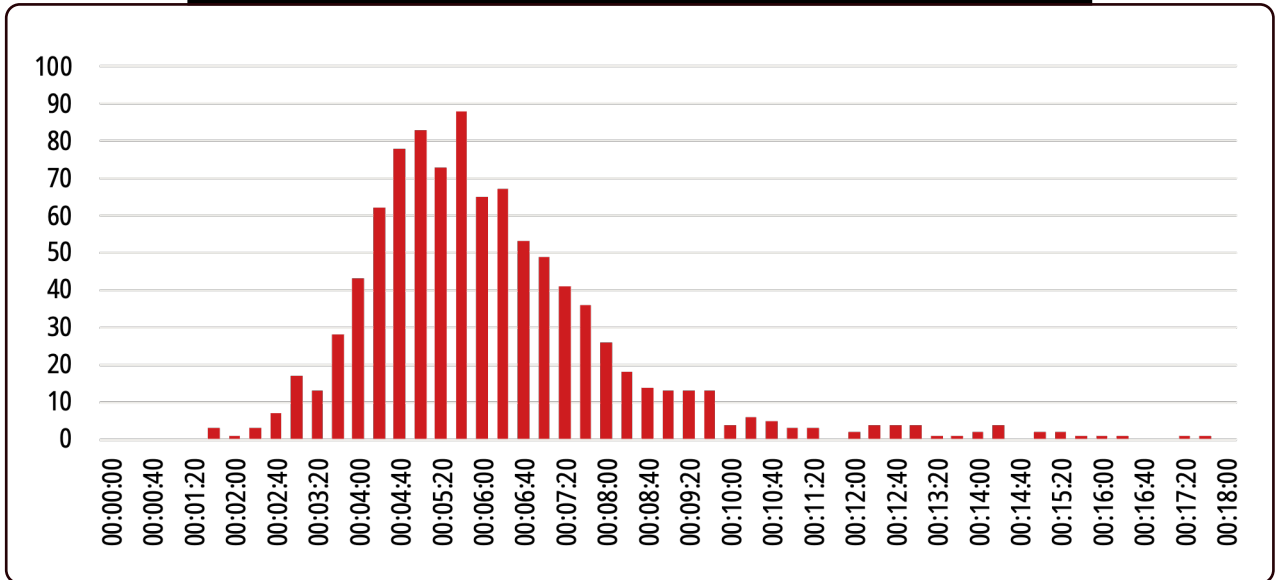
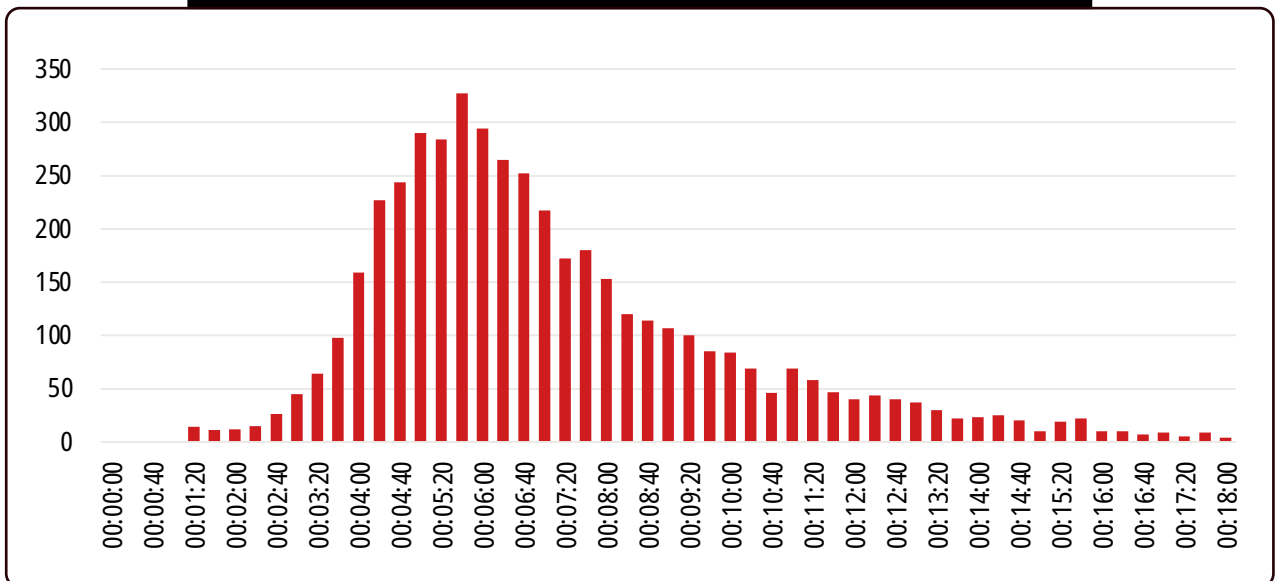


Figure 52 shows the total response times in Zone K.

Figure 52. Total Response Times to Medical Incidents in Zone K (2018–2023)



Establishment of Response Time Performance Objectives



KFD provides fire protection, first responder EMS, EMS transport, and other emergency services to the City of Kingsburg and surrounding areas. It also responds to the surrounding area through mutual- and automatic-aid agreements. The KFD has one engine and two ambulances and relies heavily on automatic-aid agreements for incidents requiring more units. Sufficient apparatus must be dispatched to complete the specific critical tasks with each type of incident and corresponding risk.

Response Time Performance Objectives

A deployment analysis based on an effective response force requires two components: the effective response force and performance objectives. The most common methodology for a fire department to evaluate itself is time analysis.

KFD has identified NFPA Standard 1710: *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* as its benchmark for time. The ambulance service contract indicates a different response time standard, but the NFPA standard is more aggressive and will, by its nature, meet any other standards. **Table 31** outlines the response time stamps indicated by the NFPA for career departments and KFD's 5-year performance.²⁵

The most significant single need for improvement for KFD is in turnout time. This can be improved through policy enforcement, crew evaluation, and improved station layout and technology. Although Fresno EMS Communications Center and Fresno County Emergency Communications Center are not directly within the management purview of the fire department, KFD can exert some influence using data requests and contractual performance language. The PSAP times will typically come from these communications centers. With cooperation, this can be a manageable time segment. Finally, travel time will be predominantly affected by the location of the fire station.

Establishing time-centric response goals is the most common and simple goal to establish. However, the city might be more accepting if KFD evaluated different metrics, such as outcomes, customer satisfaction, and other less time-driven concepts. Therefore, it will be incumbent on KFD to explore appropriate and attainable measures.

The preceding response discussion is an example to provide KFD with the information necessary to establish response standards and targets. Setting response standards and performance goals should be viewed as a strategic planning tool to mitigate community loss. In the case of KFD, it should help establish whether the current department's performance is satisfactory and identify what steps it might need to take to improve performance.

²⁵ National Fire Protection Association (NFPA) 1710 (2020) *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* and NFPA 1225 (2022) *Standard for Emergency Services Communication*.

Table 31. NFPA Response Time Compliance Requirements and KFD 5-Year Performance

Time Segment	Compliance Percentile	Benchmark	KFD 5-Year Performance
PSAP answer	90%	15 seconds	Unknown
	95%	20 seconds	
PSAP transfer	90%	30 seconds	Unknown
ECC answer	90%	15 seconds	Unknown
	95%	20 seconds	
EMS call processing (priority calls)	90%	60 seconds	2:22
Turnout time (EMS)	90%	60 seconds	1:47
Travel time (first due)	90%	4 minutes	5:48
		8 minutes	8:18
City			
Zone K			



SECTION IV

Findings and Recommendations

Overall Findings



- KFD is an all-hazards response agency but only provides technical rescue and hazardous materials response at the basic awareness level.
- Limited operational resources limit effective initial interventions at more significant incidents within the City until automatic aid units arrive.
- KFD participates fully and relies heavily on the automatic aid provided by surrounding fire departments.
- The department does not dispatch enough firefighters to a single-family structure fire, as outlined in NFPA Standard 1710.
- Incident volume increases rapidly after six in the morning and remains relatively consistent until eleven at night.
- None of the KFD units are approaching cautionary usage statistics. However, ambulance usage is steadily increasing, with longer transport times to area hospitals.
- Fire Station 1 is strategically located and provides a response system consistent with risk and demand.
- Having two secondary PSAP dispatch locations and calls routed based on call nature limits the department's ability to meet industry best practice for call processing times.
- The current dispatch contract has doubled in cost for many reasons over the past three years, although the process has not been streamlined.
- The department does not have an established benchmark response time performance for fire responses.
- KFD does not have a dedicated training facility with drill grounds.
- The three main department programs (training, EMS, and Prevention) are an ancillary duty of an on-duty operations captain.
- The two 40-hour positions in the fire department cannot complete all of the industry standard tasks along with managing the department. Administrative staffing levels are inadequate for proper oversight, planning, and managing all the required programs of the modern fire service.
- Like other city-owned properties, station maintenance is completed on an as-reported and priority-based system. There was no indication of a robust preventative maintenance system.
- There was no evidence of a capital improvement or station replacement plan. The city does not have the funds set aside for future capital needs based on equipment life span and replacement needs.
- KFD's standard operational guidelines and policies have not been consistently reviewed nor evaluated recently.
- Approximately 6 percent of the CAD, FireRMS, and ePCR data had missing or incomplete information, leading to inaccurate data analysis.

- The department has never presented an annual report to the city council, including past performance and benchmark outcome documentation.
- The community would like more public education and fire prevention from the department, but the department does not have a 40-hour staff person dedicated to meeting these expectations.
- The KFD has no defined schedule for inspecting all existing commercial occupancies
- The department does not have an administrative citation process for illegal fireworks or enforcement activities.
- KFD does not have adequate resources or personnel to complete all required functions of a Community Risk Reduction program, including data review, public education, and life safety annual inspections.
- The GIS data provided had missing and inaccurate property types, which impacted the accuracy of overall risk location evaluations. It may also inhibit the ability of the fire department to identify target hazards accurately

Recommendations



○ Recommendation 1 Place greater emphasis on the quality assurance of fire records management data inputs.

Description

Accurate documentation of events by the fire department is essential, particularly for individuals and agencies requesting information, such as attorneys, insurance companies, and property owners. Reliable and accurate performance analysis cannot be achieved without stringent quality control measures. Implementing a process for reviewing and verifying the completeness and accuracy of information is recommended. If any discrepancies are found, the document should be returned to the author for corrections.

Tracking unit performance is crucial for creating defensible reports in cases of litigation. Establishing response time objectives that align with industry-standard percentiles ensures that the fire department meets the expected performance benchmarks and maintains accountability in its operations.

↗ Outcomes

The risk of litigation for poorly written records will be reduced. An accurate and defensible analysis of performance can be completed regularly.

\$ Estimated Cost

Staff time to review individual documentation for errors and omissions. Staff time to meet with the dispatch center to resolve data errors.

○ Recommendation 2 Adopt a response time objective for each element.

Description

KFD did not communicate that they have an adopted response performance policy for each element of response time.

↗ Outcomes

After comparing NFPA 1710 with baseline results, a policy should be developed. It should be adopted by a committee within the fire department and communicated for approval to the AHJ.

\$ Estimated Cost

Staff time to develop response time objectives for each time segment in the response continuum.

○ Recommendation 3
Review incident data annually.

Description

KFD needs to evaluate demand, service types, and other information annually.

➤ Outcomes

An accurate understanding of service delivery and performance analytics.

\$ Estimated Cost

Costs will vary depending on the approach adopted. Staff time will be required at a minimum. Additional costs might include training, increased staff levels, compensation, equipment, and/or fees paid to outside vendors.

○ Recommendation 4
Begin tracking performance and outcome measurements.

Description

KFD needs to begin tracking the provided performance and outcome measurements and sharing them with the community and elected officials.

➤ Outcomes

Outcome measures will determine if a program or practice is working. Each year the City of Kingsburg approves a budget to provide funding to operate the agency. Does the funding allow the organization to develop and implement what they believe are the best strategies to improve services? Outcome measures permit the city and the fire department to determine whether program activities are beneficial. Additional reasons to develop outcome measures include:

- Identify effective practices.
- If a practice is effective, determine how is it measured.
- Identify any practices that need to be improved.
- Provide documentation to the City Council on whether funding is working.
- Assist in building transparency and understanding of the program.

\$ Estimated Cost

Staff time to review and develop a measurement system.

Recommendation 5

- **Modify response assignments so that all incident types can receive sufficient resources based on the critical task analysis.**

Description

KFD provided the number of units dispatched by incident type and defined the minimum number of personnel dispatched to emergency incidents. In a few cases, this analysis defines staffing needs that are not achievable given current resources (e.g., residential structure fires). KFD is not sending sufficient resources on the first alarm to meet the staffing needs defined in the critical task analysis. All critical tasks should be reviewed to confirm that the resources sent are consistent with risk and available internal and external resources.

NFPA 1710 and CFAI recommend the minimum emergency incident staffing for moderate-risk fire incidents be 15 personnel.

Low Risk: Minor incidents involving small fires (i.e., fire-flow less than 250 gallons per minute); single-person, non-life-threatening medical incidents; minor rescues; small fuel spills, and small wildland fires without unusual weather or fire behavior.

Moderate Risk: Moderate-risk incidents involving fires in single-family dwellings and equivalently sized commercial office properties (i.e., fire-flow between 250 gallons per minute to 1,000 gallons per minute), life-threatening medical emergencies, HazMat emergencies requiring specialized skills and equipment, and rescues involving specialized skills and equipment.

➤ Outcomes

The updated tasking should be used for automatic-aid dispatching and understanding the critical tasking risk level with the needed units.

\$ Estimated Cost

Staff time to develop the response run order protocols for reported structural fires that match the critical needs of personnel totals.

Recommendation 6

- **Review policies and guidelines annually.**

Description

Clear policies and guidelines ensure everyone in the fire department operates consistently and effectively. These documents must be regularly evaluated using a specific process to maintain relevance. These evaluations should include presentations to the staff to ensure everyone is informed and understands any updates and other changes. This practice ensures that all personnel are on the same page and can perform their duties efficiently and safely.

➤ Outcomes

Consistently updated and relevant core employment, performance, and standard operating policies and documentation.

\$ Estimated Cost

Staff time. Additional costs may apply if software solutions are purchased.

○ Recommendation 7 Evaluate staffing levels required for administrative support services.

Description

KFD should perform a time and motion study to evaluate the current needs related to administrative support of the fire department.

➤ Outcomes

Today's fire service's regulatory and statutory requirements have become complex and demanding. Appropriate administrative support frees operational staff to concentrate on maintaining operational readiness and other vital functions.

\$ Estimated Cost

Time for staff and human resources personnel to perform the studies and evaluate the results for subsequent personnel planning processes.

○ Recommendation 8 Adopt staffing levels and models that provide enough mission support and succession planning opportunities.

Description

It is evident that KFD does not have enough people in management and administrative positions to support its mission. This affects daily operations, strategic management, continuous improvement, training, and supervisory consistency. A well-designed management structure is a vehicle for succession planning for executive positions. KFD relies on captains (supervisors) to complete chief (management) level work. Training, prevention, EMS, and administration programs are negatively affected without enough management capacity. The contractual battalion chief is reliable for incident command, but this arrangement does not provide an opportunity for succession planning. In addition, if the fire chief becomes incapacitated or requires an extended absence, the department needs a plan for an acting fire chief.

➤ Outcomes

Create enough managerial positions to efficiently and effectively manage fire department business

and concurrently develop a succession plan for executive positions.

\$ Estimated Cost

Annual costs per position would be somewhere between the compensation of a captain and the fire chief. In 2023, this approximately would have equaled between \$175,000 and \$260,000 in total annual salary and benefits.

Recommendation 9

- Continue to aggressively participate and utilize the automatic and mutual-aid systems within the immediate area.**

Description

The KFD can respond and mitigate one low-risk event. However, the lack of firefighters, equipment, and specialized training and equipment makes the department heavily reliant on auto aid provided by surrounding agencies. The only way to ensure it is equitable and fair is to offer and respond as often as possible to the other agency's jurisdictions.

This commitment will require KFD to ensure it is not taking advantage of other agency's support to maintain positive relationships.

➤ Outcomes

Continued participation from and to KFD for incidents, ensuring adequate resources are available for more severe incident types.

\$ Estimated Cost

None.

Recommendation 10

- Develop a schedule to inspect all commercial occupancies.**

Description

KFD needs a defined schedule to inspect all commercial occupancies in the City of Kingsburg other than what the California Office of State Fire Marshal requires. Without a schedule, occupancies might have fire code violations that pose a risk to their occupants. Current staffing levels in the department and no 40-hour fire prevention staff make it almost impossible for the department to conduct periodic life safety fire inspections in non-state-mandated required businesses.

➤ Outcomes

An inspection schedule based on risks to enhance the safety of the buildings' occupants and responding KFD personnel, reducing community fire and life safety risks.

\$ Estimated Cost

Staff time to identify all commercial properties in the City of Kingsburg.

Recommendation 11

○ Institute an inspection and fee recovery system for performing and issuing operational permits as 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 Kingsburg 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 were issued, and increased revenue is anticipated.

\$ Estimated Cost

Staff time is required to review the existing permits issued by KFD. Revenues are expected to increase, but a more thorough study by KFD is necessary to determine how many additional permits could be issued and the anticipated revenues.

Recommendation 12

○ Develop and implement a community risk-reduction plan.

Description

KFD should identify ways to focus on the community's risk and the demands of services based on future development and growth. This can be accomplished by developing a long-term community risk-reduction plan (CRRP). This plan should include the appropriate training for the department staff.

➤ Outcomes

A CRRP will allow the department to focus on the community's risk and ensure this focus continues with future development and changes in the community. The KFD staff or an outside company can develop the CRRP.

\$ Estimated Cost

Staff time or the cost of having an outside organization develop the CRRP. Additionally, the cost of having someone come into the department and provide the CRRP training to establish the foundation for the programs and the plan.

○ Recommendation 13
Formalize, adopt, and fund a capital replacement plan.

Description

The department does not have a formal capital asset replacement plan.

➤ Outcomes

Fiscal constraints, including financial capacity and an inability to anticipate all capital expenditures that could arise in a budget cycle, introduce uncertainty and an inability to budget and plan for every contingency. The Government Finance Officers Association recommends that governments establish capital planning policies and undertake a multi-year planning and budgeting process to accumulate funding for anticipated capital needs. The plan should be specific to KFD and consider facilities, apparatus, land acquisition, and other major capital projects. Adopting a formal multi-year plan would give the city and the department a tool to properly anticipate and financially prepare for capital needs.

Although maintenance and replacement of capital projects should be funded yearly through the budgeting process, establishing a capital asset replacement plan provides additional flexibility in a strong capital asset management program.

\$ Estimated Cost

The city informally has the elements for a capital improvement/replacement plan, so the main cost to implement the plan would be staff time.



Appendix

Table 32. Central California Emergency Medical Control Committee Kingsburg Zone K Performance Report

Kingsburg Fire

Performance

	Jan/ 2023	Feb/ 2023	Mar/ 2023	Apr/ 2023	May/ 2023	Jun/ 2023	Jul/ 2023	Aug/ 2023	Sep/ 2023	Oct/ 2023	Nov/ 2023	Dec/ 2023	YTD
Metro													
Priority 1 (<=10 min./95%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Priority 2 (<=10 min./95%)	100.00	100.00	100.00	100.00	96.15	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.72
Priorities 1 & 2	100.00	100.00	100.00	100.00	98.71	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.87
Priority 3 (<=20 min./95%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Priority 4 (<=20 min./95%)													
Priority 5 (<=30 min./95%)		100.00	100.00	100.00	100.00	100.00		100.00	100.00			100.00	100.00
Rural													
Priority 1 (<=20 min./95%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Priority 2 (<=20 min./95%)	100.00	100.00	100.00		100.00	100.00	100.00	100.00	100.00	100.00	100.00		100.00
Priorities 1 & 2	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Priority 3 (<=30 min./95%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Priority 4 (<=30 min./95%)													
Priority 5 (<=30 min./95%)													

Call Volume

	Jan/ 2023	Feb/ 2023	Mar/ 2023	Apr/ 2023	May/ 2023	Jun/ 2023	Jul/ 2023	Aug/ 2023	Sep/ 2023	Oct/ 2023	Nov/ 2023	Dec/ 2023	YTD
Metro													
Request	168	123	185	142	163	137	160	126	136	126	156	148	1,770
Arrived	160	118	177	138	159	134	149	120	127	122	145	140	1,689
Transported	102	102	133	102	129	103	114	88	89	92	110	103	1,267
Rural													
Request	13	10	8	9	19	9	25	19	13	16	18	11	170
Arrived	12	9	8	9	19	8	21	18	10	14	17	10	155
Transported	9	6	6	6	15	7	20	22	9	10	11	8	129

Out of Area, but within County

	Jan/ 2023	Feb/ 2023	Mar/ 2023	Apr/ 2023	May/ 2023	Jun/ 2023	Jul/ 2023	Aug/ 2023	Sep/ 2023	Oct/ 2023	Nov/ 2023	Dec/ 2023	YTD
Request	81	94	87	68	92	76	69	117	102	94	47	77	1,004
Arrived	74	86	79	60	75	68	66	109	92	80	44	66	899
Transported	54	83	63	49	62	56	60	91	75	66	42	49	750

Outside of County

	Jan/ 2023	Feb/ 2023	Mar/ 2023	Apr/ 2023	May/ 2023	Jun/ 2023	Jul/ 2023	Aug/ 2023	Sep/ 2023	Oct/ 2023	Nov/ 2023	Dec/ 2023	YTD
Request	40	39	41	33	44	33	25	49	40	53	20	35	452
Arrived	29	28	29	20	27	22	15	35	27	38	15	24	309
Transported	26	23	25	21	19	20	21	40	27	29	14	17	282

Kingsburg Fire

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Other Providers into Kingsburg Fire

	Jan/ 2023	Feb/ 2023	Mar/ 2023	Apr/ 2023	May/ 2023	Jun/ 2023	Jul/ 2023	Aug/ 2023	Sep/ 2023	Oct/ 2023	Nov/ 2023	Dec/ 2023	YTD
Request	14	13	19	12	21	15	13	16	24	27	45	39	258
Arrived	9	9	16	9	11	9	5	13	13	23	38	34	189
Transported	6	7	15	9	10	7	4	10	9	19	29	27	152

Helicopter Providers into Kingsburg Fire

	Jan/ 2023	Feb/ 2023	Mar/ 2023	Apr/ 2023	May/ 2023	Jun/ 2023	Jul/ 2023	Aug/ 2023	Sep/ 2023	Oct/ 2023	Nov/ 2023	Dec/ 2023	YTD
Request		1				1	2	2	1	1	1	1	10
Arrived		0				0	0	1	0	0	0	0	1
Transported		0				0	0	0	0	0	0	0	0

Initial Performance

Priorities 1 & 2	Jan/ 2023	Feb/ 2023	Mar/ 2023	Apr/ 2023	May/ 2023	Jun/ 2023	Jul/ 2023	Aug/ 2023	Sep/ 2023	Oct/ 2023	Nov/ 2023	Dec/ 2023	YTD
Metro	87.34	91.66	87.75	88.05	88.46	96.42	94.20	92.59	83.67	89.65	84.00	96.87	89.83
Rural	100.00	83.33	100.00	100.00	100.00	100.00	100.00	91.66	100.00	100.00	100.00	100.00	97.53

Late Calls by Response Reason

	Jan/ 2023	Feb/ 2023	Mar/ 2023	Apr/ 2023	May/ 2023	Jun/ 2023	Jul/ 2023	Aug/ 2023	Sep/ 2023	Oct/ 2023	Nov/ 2023	Dec/ 2023	YTD
Crew-Mapping Error													1