

2021 – 2022 KERN COUNTY GRAND JURY

KERN COUNTY FIRE DEPARTMENT

21st Century Demands; 50s and 60s Infrastructure

February 14, 2022

KERN COUNTY FIRE DEPARTMENT

21st Century Demands; 50s & 60s Infrastructure

SUMMARY:

The Kern County Fire Department (KCFD) was founded in 1932. KCFD is an organization comprised of over 625 permanent employees and 546 uniformed firefighters. KCFD provides fire protection service to 8,161 square miles, with a population of over 913,000 people. Kern County is recognized as the 11th largest county by population, and 3rd largest by area in California. KCFD has an operating budget of approximately \$150,000,000, in which the Operations Division supports seven Battalions, and 47 Fire Station. Additionally the KCFD has 14 Mutual Aid Agreements with neighboring fire suppression organizations.

PURPOSE OF INQUIRY:

Pursuant to Cal. Penal Code § 925(a), the 2021-2022 Kern County Grand Jury (Grand Jury) is authorized to investigate and report on the operations, accounts, and records maintained by the Kern County Fire Department, and the related expenses the County incurs, which is then passed on to the taxpayers.

METHODOLOGY:

The Grand Jury reviewed Kern County Fire Services' Financial Statements and the 2017 Kern County Operational and Administrative Analysis Report, provided by the Center for Public Safety Management, LLC (CPSM). The Grand Jury also interviewed various members of the Kern County Fire Department and County officials, as well as reviewed the various laws, policies, regulations, historical documents, and websites. In addition, Fire Stations 11, 45, and 65 were visited and evaluated.

DISCUSSION OF FACTS:

In May 2017, the Kern County Board of Supervisors (BOS) allotted \$150,000 to CPSM located in Washington D.C. for a 241-plus page independent report (Operational and Administrative Analysis). Project staff conducted on site visits between the 15th and 19th of August in 2017. CPSM completed their analysis in December 2017, which detailed \$12.75 million in savings. By changing the way KCFD implements pay, purchases, and training, as well as promoting employees, improving facilities, and providing service to city and county airports, these savings can be achieved. The report contained 62 recommendations. Of the 62 recommendations, 55 have either been completed or are currently in progress. The CPSM report states:

The recommendations are based on the best practices derived from the National Fire Protection Association (NFPA), Center for Performance Measurement (ICMA), U.S. Fire Administration, The International Association of Emergency Managers (IAEM), and the Federal Emergency Agency (FEMA).

The Grand Jury is addressing some of the items in the report that were not implemented, as well as other issues discovered:

- Age of Stations
 - Back-up power
 - Automatic (Alarm) Fire System
 - Fire Sprinkler (Suppression) System
 - Seismic Design/Construction
- A. A significant number of KCFD facilities are well past their serviceable life. There are 15 stations in Kern County over 50 years old. Nine of those are over 60 years old with the oldest being 71 years of age. Typically, fire stations have an anticipated service life of approximately 50 years.
- B. 39 stations have a diesel exhaust removal system, seven stations do not. Only one of these seven stations is under 50 years old.
- C. In the County 18 stations have back-up power generators, 28 do not.
- D. 28 stations do not have fire sprinkler suppression systems.
- E. Cancer is a prevalent amongst Firefighters, partially due to exposure of the diesel exhaust (DE) and diesel particulate matter (DPM):

According to OSHA, short term exposure to high concentrations of DE or DPM can cause headaches, dizziness, and irritation of the eye, nose, and throat, severe enough to distract or disable both firefighters and civilians ... Prolonged exposure to DE or DPM can increase the risk of cardiovascular, cardiopulmonary and respiratory disease, and lung cancer ... (See Bibliography)

According to Firefighters Claims: Cancer caused 66 percent of the career firefighter line-of-duty deaths from 2002 to 2019. Cancer caused 70 percent of the line-of-duty deaths for career firefighters in 2016. (See Bibliography)

According to the Centers for Disease Control and Prevention (CDC) and the National Institute for Occupational Health and Safety (NIOSH): Firefighters have a 9 percent higher risk of being diagnosed with cancer and a 14 percent higher risk of dying from cancer than the general U.S. population. (See Bibliography)

- F. Station 11 (Keene) is a dual station that also houses KCFD’s only Air Operation in Kern County, which includes two Helicopters 407 (56 years old) and 408 (55 years old).



Photo provided by the Grand Jury (Keene 407 Helicopter)

- G. Station 11, due to its location, is affected by a wild animal and vermin infestation. Electrical wiring and equipment are being damaged and poses a possible health risk.
- H. Water sources such as lakes, ponds, and dip tanks are utilized by KCFD’s Air Operation and water is dispersed over the wildfires.
- I. There are five dip tanks within a 25-mile radius, utilized by the KCFD Air Operation.
- J. Station 65 (Greenacres) was built in 2012, on approximately two acres. It’s constructed and designed to be gender inclusive with individual bedrooms and private bathrooms.
- K. The exercise room at Station 65 is conveniently situated inside of the air-conditioned station.



Photo provided by the Grand Jury (Station 65 exercise room)

- L. Station 65 has an exceptionally large garage that adequately stores its fleet and apparatus with ease.



Photo provided by the Grand Jury (Station 65 Garage)

- M. Visitor and employee parking at Station 65 is adequate.
- N. Five stations are listed for future replacement:
- 57 (Frazier Park) (51 years old)
 - 56 (Lebec) (63 years old)
 - 64 (Riverview) (60 years old)
 - 45 (Edison) (63 years old)
 - 53 (Old River) (71 years old)

Of these five stations, only Station 56 has back-up power. None of these five stations have seismic design/construction or a fire sprinkler system.

- O. The Federal Government recently passed a \$1.9 trillion Infrastructure Bill that is, in part, meant for needy communities:

This Bipartisan Infrastructure Deal will rebuild America's roads, bridges and rails, expand access to clean drinking water, ensure every American has access to high-speed internet, tackle the climate crisis, advance environmental justice, and invest in communities that have too often been left behind. (See Bibliography)

FINDINGS:

The Grand Jury visited numerous Fire Stations. The conclusions are based upon or derived from the facts and observations made during the investigation.

- F1. At Station 45 the Grand Jury observed exposed rebar, a hole in the wall (approximately seven inches wide), running cracks in exterior wall outside of building near sleeping quarters, and garage walls. In the Grand Jury's opinion this indicates a potential weakness in the structure.



Photo provided by the Grand Jury (Station 45 building structure)

- F2. Station 45's kitchen did not have a Fire Ready Range Hood, fire sprinkler suppression system, or smoke detector. The nearest smoke detector is in the hallway adjacent to the bedrooms.
- F3. A fire or power outage at **any** station would disrupt the entire KCFD operations.
- F4. Station 45's exercise area is located upstairs in the Fleet Maintenance shop. This area is a major health concern. Firefighters are exposed to diesel exhaust, carbon monoxide, metallic abrasion particles, sulfates and silicates.

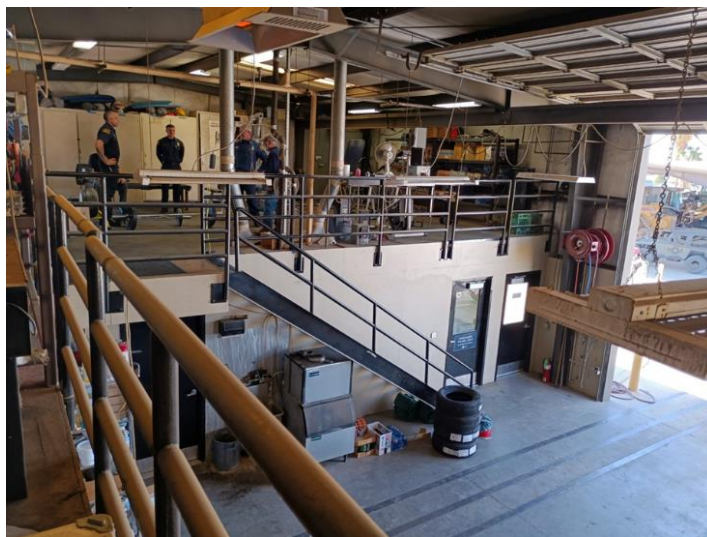


Photo provided by the Grand Jury (Station 45 exercise area)

- F5. Station 45 is unable to park their largest fire rig inside the garage. Therefore, a covered carport was added to the garage. Unfortunately, the covered structure fails to fully cover the rig and approximately one foot is exposed to the elements. Visitor and employee parking is also inadequate.



Photo provided by the Grand Jury (Station 45 garage extension)

- F6. During our visit to Station 45 (constructed in 1958), the Grand Jury observed several water damaged ceiling tiles indicating roof leaks in the kitchen, hallway, and bedrooms.



Photos provided by the Grand Jury (Station 45 water damaged ceiling tiles)

- F7. Dip tanks are a crucial resource for KCFD's Air Operation.



Photo provided by the Grand Jury (Station 11 Dip tank)

- F8. Due to the mountainous location, Station 11 has a wild animal and vermin problem.
- F9. KCFD's Air Operation generator is over 20 years old, and according to KCFD firefighters, is inadequate and unreliable.
- F10. Air Helicopters 407 and 408 are retired military surplus transports (each are over 55 years old).

COMMENTS:

KCFD's struggle has progressed to the point of apparatus and facility deterioration and staffing issues. As a facility ages, it may no longer meet the needs of an evolving workforce and community. This can negatively affect efficiency, morale, safety, security, and overall efforts to provide quality fire, rescue, and emergency medical services. These issues only hamper the ability of the department to keep up with an increasing number of requests for service.

Further, KCFD needs to be able to set a good example of good fire and health protection for the populous. Older and obsolete facilities are also expensive to maintain. When these conditions occur, typical remedies include expanding, renovating, or replacing the existing facilities.

KCFD continuously struggles to find new recruits to fill vacant positions, which leads to mandated overtime, sleep deprivation, and burn-out. In the Grand Jury's opinion, Firefighters are regularly exposed to trauma, fatalities and dangerous situations. They must find a way to separate their personal experiences from their professional responsibilities in order to be a successful Firefighter.

Fire stations are a critical community public safety asset. Fire stations do much more than simply provide a garage for apparatus and a place for firefighters to wait for a call. They are occupied 24 hours a day. The department's operations necessitate that all stations be functional, adequate to fulfill the department's core missions, and be well-maintained. A fire station should, at a minimum, provide adequate space for apparatus length and height. (CPSM report)

KCFD is aware they face many challenges. We are a family, and we need to make sure our firefighters are doing okay, physically as well as mentally. – Kern County Fire Department Official

The 2021-2022 Grand Jury would like to thank the KCFD, and County Officials for their time and hospitality.

RECOMMENDATIONS:

- R1. KCFD should, within the next 12 months, develop a comprehensive strategic plan to repair or replace all stations, 50 years and older, over the next 5-10 years. (Finding 1)
- R2. The Board of Supervisors should secure necessary funds to coincide with the comprehensive strategic plan. (Finding 1)
- R3. KCFD should install smoke detectors and Fire Ready Range Hoods in all kitchens within 12-24 months. (Recommendation #20 CPSM report) (Finding 2)
- R4. Replace Station 11's Air Operation generator with new auto start back-up generator. (Finding 9)
- R5. KCFD should request the installation of more dip tanks with reliable water for Air Operations; at a minimum one in the Rosamond area. (Finding 7)
- R6. Within the next 3-5 years, Helicopter 407 should be replaced, followed by Helicopter 408. (Finding 10)
- R7. Station 11 should contact Animal Control to request one or more feral cats to help control the vermin problem. (Finding 8)
- R8. KCFD should expand their efforts, in the next fiscal year, to reduce Firefighters' exposure to diesel exhaust and diesel particulate matter and protect Firefighters with the goal of preventing future disease by all means necessary. (Finding 4)
- R9. KCFD should apply for funding from the Bipartisan Infrastructure Bill immediately for Air Operations and Fire Stations in need of repair or replacement. (Findings 1, 2, 7, 9)

NOTES:

- The Kern County Fire Department and the Board of Supervisors should post a copy of this report where it will be available for public view.
- Persons wishing to receive an email notification of newly released reports may sign up at: www.kerncounty.com/grandjury
- Present and past Kern County Grand Jury Final Reports and Responses can be accessed on the Kern County Grand Jury website: www.kerncounty.com/grandjury

RESPONSES ARE REQUIRED PURSUANT TO CAL. PENAL CODE § 933, SUBD. (C) AND 933.05 WITHIN 90 DAYS TO:

**PRESIDING JUDGE
KERN COUNTY SUPERIOR COURT
1415 TRUXTUN AVENUE, SUITE 212
BAKERSFIELD, CA 93301**

- **FOREPERSON
KERN COUNTY GRAND JURY
1415 TRUXTUN AVENUE, SUITE 600
BAKERSFIELD, CA 93301**

BIBLIOGRAPHY:

<https://www.firechief.com/fire-products/vehicle-equipment/exhaust-removal-systems/articles/dangerous-diesel-managing-health-risks-related-to-diesel-exhaust-emissions-at-the-station-LVq8YvsEysOxDdB/>

[HTTP://WWW.CPSM.US/WP-CONTENT/UPLOADS/2019/08/KERN-COUNTY-FINAL-REPORT.PDF](http://WWW.CPSM.US/WP-CONTENT/UPLOADS/2019/08/KERN-COUNTY-FINAL-REPORT.PDF)

<https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/06/fact-sheet-the-bipartisan-infrastructure-deal/>

<https://www.firefighter-claims.com/>

Reports issued by the Grand Jury do not identify individuals interviewed. Cal. Penal Code § 929 requires that reports of the Grand Jury not contain the name of any person or facts leading to the identity of any person who provides information to the Grand Jury.

DISCLAIMER:

This report was issued by the Grand Jury with the exception of a Juror(s) pursuant to Cal. Penal Code § 916.2(a). The Juror(s) was/were excluded from all parts of the inquiry/investigation, including interviews, deliberations, and the writing and approval of this report.

Kern County Board of Supervisors
Response to Grand Jury Final Report
Kern County Fire Department – 21st Century Demands; 50s & 60s Infrastructure

Response to Findings:

The Board of Supervisors notes that the Grand Jury's findings are substantially correct.

Response to Recommendation:

R1: The Grand Jury recommends the Kern County Fire Department should, within the next 12 months, develop a comprehensive strategic plan to repair or replace all stations, 50 years and older, over the next 5-10 years.

We concur with the Grand Jury regarding the importance of ensuring that stations are in good repair and meet appropriate standards. The department has made a concerted effort to repair and maintain aging stations during the past few fiscal years. This work will continue into the foreseeable future. The department has cost estimates for replacement fire stations that exceed \$15 million each, which is cost prohibitive given the many priorities of the department. Furthermore, the department is aware that buildings very often remain in occupiable condition well beyond 50 years, especially with routine upkeep. Where station structures are damaged beyond repair, become unsafe to occupy, or no longer meet the department's mission, the department will seek to relocate or replace stations as resources are identified.

R2: The Grand Jury recommends The Board of Supervisors should secure necessary funds to coincide with the comprehensive strategic plan.

We concur with the Grand Jury regarding the importance of appropriately funding for the desired level of service to meet community needs. In recent years, the County has increased the amount of property tax share that is dedicated solely to the department's Fire Fund. The County has also continued to contribute discretionary General Fund dollars in order to prevent any reductions in service for the department. However, the Fire department faced revenue reductions that challenged the department to balance the budget and continue even basic services to residents. In this endeavor, priorities are given to mandated programs and services without jeopardizing safety of employees. Though the annual budget process, the Board continues to strategically work to address the needs of the community by allocating available funding across many departments that each provide critical services.

R3: The Grand Jury recommends that the Kern County Fire Department should install smoke detectors and Fire Ready Range Hoods in all kitchens within 12-24 months.

We concur with the Grand Jury on the importance of installing smoke detectors and other fire prevention and safety devices. The department remains committed to protecting the health and safety of the citizens and visitors of our county, as well as our Firefighters. The department will ensure all fire stations are equipped with smoke detectors in accordance with the National Fire Prevention Association (NFPA) recommendations. Fire stations serve as residence for the Firefighters during non-emergency times and are outfitted with all the same accommodations of residential housing. Fire Ready Range Hoods are generally reserved for use in commercial kitchen settings, are cost prohibitive for fire station applications and are not a current fire code requirement.

R4: *The Grand Jury recommends the Kern County Fire Department replace Station 11's Air Operation generator with new auto start back-up generator.*

We concur with the Grand Jury regarding the importance of reliable backup power systems. The department has secured multiple backup power grants in recent years. On February 15, 2022, the Board of Supervisors approved a \$1.32 million dollar generator grant from FEMA through the Hazard Mitigation Grant Program to purchase and install propane generators at fire headquarters and 32 fire stations. Many of these generators are being installed at stations that don't have backup power or with existing diesel generators secured through federal excess property. The department will continue to pursue funding opportunities that will better ensure all critical fire department infrastructure, including Station 11's Air Operations, has reliable backup power.

R5: *The Grand Jury recommends the Kern County Fire Department should request the installation of more dip tanks with reliable water for Air Operations; at a minimum one in the Rosamond area.*

We appreciate the Grand Jury's recommendation for installation of additional dip tanks. The department regularly evaluates water infrastructure relative to risk throughout the County. Where necessary to mitigate the fire risk to life and protect structures, the department will work with necessary entities to establish and maintain the appropriate water supply for emergencies.

R6: *The Grand Jury recommends within the next 3-5 years, Helicopter 407 should be replaced, followed by Helicopter 408.*

We concur with the Grand Jury's recommendation and will review the options for replacing the aged helicopters in future fiscal years. A replacement helicopter is estimated to cost \$14 million. Capital replacement of this magnitude requires careful planning and prioritization among the other needs of the department.

R7: *The Grand Jury recommends Station 11 should contact Animal Control to request one or more feral cats to help control the vermin problem.*

We appreciate the Grand Jury's recommendation regarding vermin at Station 11. The department currently uses pest control services for various facilities and will evaluate and implement the most effective and appropriate pest control methods to address the vermin issue described at station 11.

R8: *The Grand Jury recommends the Kern County Fire Department should expand their efforts, in the next fiscal year, to reduce Firefighters' exposure to diesel exhaust and diesel particulate matter and protect Firefighters with the goal of preventing future disease by all means necessary.*

We concur with the Grand Jury's recommendation and the department will enhance efforts to mitigate Firefighters' exposure to diesel exhaust and diesel particulate matter. The department is committed to retrofitting existing extractors during the current and future budget years and will continue to look for ways to mitigate exposure.

R9: *The Grand Jury recommends the Kern County Fire Department should apply for funding from the Bipartisan Infrastructure Bill immediately for Air Operations and Fire Stations in need of repair or replacement.*

We appreciate the Grand Jury's recommendation and the department will review the Bipartisan Infrastructure Bill and evaluate how funding might be made available at the county level.

COMPL_GJ FIRE B