

STANDARD of COVER





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EXECUTIVE SUMMARY

Fire District 1's fundamental role is to provide emergency medical, fire suppression, rescue and prevention services that will preserve and protect both life and property in our communities. Over the years we have sought and incorporated efficiencies and services in response to changing demands.

Our employees are proud of what they do and who they serve. The fire service has historically faced the issue of how to adequately define the service it provides for the community it protects. The ability to precisely explain our roles is sometimes overly general, vague or even idealistic. In response, this document is designed to explain the details of what we do along with the how and why we operate. Rather than resting on traditional statements, we will present standards based on achieving measurable outcomes, and our performance will be measured according to those standards.

The term "Standard of Cover" (SoC) is defined as "those adopted written policies and procedures that determine the distribution, concentration and reliability of fixed and mobile response forces for fire, emergency medical services, hazardous materials and other technical responses." We begin with a description of how we began and how we have grown. Each jurisdiction we serve will be described as well as a few unique facts.

The balance of this report will describe how we deliver our services. Some key components are:

- Current agency goals
- Services provided
- How we staff and respond
- Community risk assessment
- On scene operations and critical tasking
- System performance
- Performance objectives
- The compliance methodology

Performance outcomes will be reported in a meaningful display of resource reliability designed to show areas of the jurisdiction where additional resources or response efficiencies would be most beneficial. The SoC culminates with an overall evaluation of the performance and corresponding recommendations. This document is designed to be available to the public so our customers know what they can expect from us. The data contained in this document reflects 2018-2022 statistics in most cases. In mid-year 2023, KCFD1 changed its Records Management System vendor; this change made 2023 data extraction very difficult. We'll show later in the Incident Probability section that even without 2023, data indicates growing numbers of incidents in all areas of the District.

SECTION ONE: OVERVIEW AND LEGAL JURISDICTION

Klamath County Fire District 1 is organized as a Special District under ORS Chapter478. It was originally formed

when the City of Klamath Falls Fire Department and the South Suburban Fire Department merged in 1992.

A five member Board of Directors governs the District. The Fire Chief is hired by the Board and serves as the Chief Executive Officer. District supervision is divided into



three departments. The Deputy Chief of Operations, Deputy Chief of Professional Standards, and the Director of Administrative Services are supervised directly by the Fire Chief. Service is maintained by 79 full-time employees and 5 apprentices.

The District currently has a fire protection jurisdiction of 194 square miles and an ambulance service area (ASA) of 492 square miles in Klamath Falls and the surrounding rural areas. The City of Klamath Falls lies along the southern end of Klamath County and is bisected by Highway 97 N/S, Highway 140 E/W, and Highway 39 on the Southeast end. It is the largest and most populated city within the county. Klamath Falls is a community with a steadily growing population featuring two colleges, six high schools, multiple middle and elementary schools, two rail lines, an expanding housing market, and several new business licenses being processed every month.



KCFD1 is bordered by Klamath County Fire District 4 and Keno Rural Fire Protection District (RFPD) to the west, Kingsley Field Fire Department to the south, and Bonanza RFPD to the east.

The 2022 estimated population of the District is just over 54k.

Jurisdiction	Area (sg.	Assessed Value 2023-2024 Certified
	mi.)	Value
Unincorporated	139.60	\$1,418,711,978
City of Klamath Falls	11.79	\$1,560,880,243
Running Y	2.0	\$206,825,384
Sunset Village	0.25	\$108,364,475
Moyina Heights	0.25	\$91,643,502
Pine Grove	0.61	\$58,820,940
Shield Crest	0.29	\$34,581,512
Falcon Heights	0.08	\$28,593,850
Midland Community Bndy	0.41	\$12,320,669
Henley Community Bndy	0.21	\$4,190,061
Olene Community Bndy	0.09	\$1,643,686
Totals	153.98	\$3,526,576,300

The FY2022/23 assessed value of the District is \$3,776,723,762 at an adopted tax rate of \$2.88 per thousand. The District budget is developed, approved, adopted, and administered in accordance with the Oregon Local Budget Law. The Budget Committee consists of ten members; the five Board of Directors and an additional five members appointed at large by the Board of Directors.

Organizational Structure

Public safety is a service industry. The ability to recruit, manage, and maintain sufficient staffing affects a service organization's ability to meet its mission

obligations. Therefore, appropriate operational, administrative, managerial, and supervisory staffing levels and effective allocation of resources are imperative to any service oriented organizations success.

The fire service staff functions fall into two distinct groups, administrative and operational. For an organization to operate effectively, both groups must have appropriate resources to complete their tasks. Allocating organizational resources to balance the two can be difficult, but adequate staffing is imperative.

An organization also needs to have proper rules for effective personnel management. Well-defined, consistent, and, ideally, documented policies, standard guidelines and practices help employees understand their responsibilities and benefits. It also helps them chart their road to success and professional advancement.

The number of positions and personnel deployment depends on the organization's needs, mission, and resources. Similarly, the organization's structure, size, and legal requirements drive the administrative and managerial policies and practices. This information below provides an overview of KCFD1's staffing structure and department practices.

STAFFING

Administrative & Support Staffing

The administrative and support functions are diverse, and the list of tasks can be exhaustive. Organizational planning and coordination, asset management, program evaluation, and overall direction are typical administrative and support staff functions. KCFD1 is a special district, and therefore it must provide its own administrative and support services, so resource allocation to these functions is critical.

There are a total of **8 full-time** equivalent employees tasked specifically with administrative and support services. The Fire Chief is the senior executive administrator of KCFD1 and reports directly to the elected Board. The Director of Administrative Services, Deputy Chief of Operations and Deputy Chief of Professional Standards report to the Fire Chief. The span of control of three subordinates for the Fire Chief is within established best practices. The following figure identifies each full-time equivalent (FTE) position and the staffing count for the administrative functions. Most administrative staff operate Monday through Friday between the hours of 6:30 A.M., and 4:30 P.M.

Administrative Staff

KCFD1 operates with civilian administrative support positions. They assist in developing and managing the budget and other District assets, general office and clerical support, human resources, records management, I/T and finance. The Director of Administrative Services completes finance and budget operations and manages the following subordinates; Human Resources/Executive Assistant, reception and administrative support, assistant finance, I/T and Ambulance billing. The Director of Administrative Services position does not meet the span of control for best practice.

Administration Staff Full Time Equivalent Count

Position	FTEs
Fire Chief	1
Director of Administrative Services	<u> </u>
Human Resources/Executive Assistant	<u> </u>
Ambulance Billing	2
Reception Administrative Support	<u> </u>
I/T Specialist	<u> </u>
Assistant Finance	<u> </u>
	TOTAL FTE: 8

Professional Standards

KCFD1's Professional Standards is comprised of a number of Programs and Divisions within the Department including; the Fire Prevention Division, Training Division, Logistics, Emergency Medical Service Directives and Health and Safety. The Deputy Chief of Professional Standards oversees these programs and functions and supervises the Division Chief Fire Marshal and Division Chief of Training.

Fire Prevention

KCFD1's Fire Prevention group is responsible for preventing loss and injury through code enforcement, investigation, and education. A Fire Marshal and a civilian Fire Inspector make up the staff within the Division.

Training

KCFD1's Training Division is responsible for outlining and administering the District's Fire and EMS Training. The Division Chief of Training is the only position assigned to this division.

Position	FTEs
Deputy Chief of Professional Standards	1
Division Chief Fire Marshal	1
Civilian Fire Inspector	1
Division Chief of Training	1
	TOTAL FTE: 4

Operations Staffing

Operations personnel are assigned various duties consistent with fulfilling emergency response objectives. They are also responsible for additional collateral duties to support the response mission. The Deputy Chief of Operations leads sixty three operational staff. In addition, the Deputy Chief supervises the three Battalion Chiefs, keeping the span of control within best practices.

Operations Staff Full-Time Equivalent Count	
Position	FTEs
Deputy Chief of Operations	1
Battalion Chief	3
<u>Captains</u>	12
Firefighter EMT/Paramedics	36
Single-Role EMT/Paramedics	12
Apprentices	5
	TOTAL FTE: 69

KCFD1 serves a population of 60,000 people who live in the district as permanent residents. KCFD1 has an operational staffing level of 1.14 personnel and 0.91 firefighter/fire response personnel per 1,000 population served. Comparison of KCFD1's firefighter staff with NFPA's Research Paper U.S. Fire Department Profile – 2018 Supporting Tables requires the removal of the Single Resource Paramedics and EMTs from our calculations. The firefighter staffing compares to Western region staffing but is not as robust as national averages.



Staff Scheduling Methodology

KCFD1 employs a three-shift system, A-Shift, B-Shift, and C-Shift, all of which work a 48/96-hour schedule on a 24-day FLSA cycle. Shifts begin at 7:00 a.m. and end at 7:00 a.m. the following day.

KCFD1 staffs four stations 24 hours per day, every day of the year, with 21 personnel assigned to each shift. One Battalion Chief, and a minimum of 17 response staff comprised of 4 Captains and 13 other personnel consisting of Firefighter EMTs/Paramedics and Single-Role EMTs/Paramedics make up the total staffing.

Additional shift staff fill daily vacancies due to sick call-outs, vacation days, and other leave types. As service demands from our customers continue to increase, staffing minimums will need to be evaluated.

Firefighter & EMS Staff Distribution

Line staff are spread amongst three shifts except the Deputy Chief of Operations, who works an administrative schedule. There are seven primary apparatus assigned to the four fire stations including four engines and three ambulances. There are also several additional cross-staffed units including the aerial, tender, and brush rigs.

Minimum staffing on most KCFD1 engine companies is a Captain and two Firefighters. KCFD1 responds to all EMS calls at the advanced life support (ALS) level. We currently do not have the ability to utilize a basic life support (BLS) staffing model but are expecting changes to the dispatch system in 2024. Staffing of two ambulances (3171 and 3173) is normally accomplished with single role EMS personnel and the 3rd ambulance (3174) is normally staffed by two dual-role firefighter/EMS personnel or one dual-role firefighter/EMS person and one single role EMS person. The Battalion Chief operates as a single resource.

Determining staffing levels is a challenging task. Leaders must decide what risks their crews are likely to face. Several publications help agencies determine adequate staffing including NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*. The National Institute of Standards and Technology field studies on fire-ground and EMS incidents also apply. 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, and no one makes IDLH entry alone. Oregon requires at least two firefighters to enter a hazardous environment, and two more to be equipped and ready outside the hazardous environment for rescue if needed. This rule may be suspended if emergency rescue is required.

Personnel Management Systems

The fire service relies heavily on its people to accomplish its mission. Effective management, support, and organization of staff is needed for successful service delivery. An organization's commitment to the human resources function is synergized via documented policies and programs. Service delivery suffers without appropriate support, administration, and staffing supervision.

Policies, Rules, Regulations, and Guidelines

Fire agencies work under several layers of rules resulting from both internal and external forces. Federal, state, and local laws are external factors; internal factors include operations and resource management. If documented internal requirements, such as written policies, contracts, orders, memos, and guidelines are broken, the potential for legal consequences becomes evident. Undocumented rules, practices, and behavior patterns that evolve in an agency or workforce, also have various outcomes. Emergency services organizations must comply with applicable regulations. City, state, county, and federal laws apply to the organization and its employees who perform fire and medical functions. Rules that apply to KCFD1 are primarily dictated by state and federal law, although local ordinances and codes play a role as well. An analysis of these laws is also outside the scope of this report; KCFD1 relies on periodic legal reviews to validate compliance.

The most formal and legally enforceable written rule typically found in the fire service is the labor contract. KCFD1 maintains contracts for emergency medical and fire suppression personnel through its local labor organization, International Association of Fire Fighters, Local 890. The contract covers health, safety, working conditions, benefits, and compensation rules.

FACILITIES

Fire District 1 provides service from six strategically located stations; four are staffed full- time with career members, one with administrative staff, and one currently houses a response ready Type 1 engine and 40-hour prevention staff.

Fire Station 1

2342 Gettle Street, Klamath Falls, OR



Fire Station 3

1661 Mitchell Street, Klamath Falls, OR



Fire Station 5 4950 Lakeshore Drive Klamath Falls, OR



Fire Station 2

7110 Hilyard Avenue, Klamath Falls, OR



Fire Station 4 2580 Dahlia Street, Klamath Falls, OR



Central Fire Station 143 North Broad Street, Klamath Falls, OR



Battalion Chief

- Shift Supervisor Staffed full time
- Blue Card Incident Commander

Structure Engine (Type I)

- 2-4 personnel
- ➤ 1250 gpm pump
- 750 gallon tank
- ➤ 6 total in fleet
- Four staffed full time

Ladder Truck

- Provides elevated stream and rescue capability
- Cross staffed at the Mitchell Street Station
- ➤ 100' ladder

Wildland Engine (Type VI)

- Lighter weight unit to attack a moving grass fire
- ➤ 400 gallon 4x4
- 4 total in fleet









Tender

- Brings water to rural areas
- ➤ 3,000 gal. capacity
- Cross Staffed at the Mitchell Street Station



Ambulance

- Transport capable ambulance
- ➤ 3 staffed full time
- Located at Gettle St, Mitchell St, and Dahlia Ave Stations.
- ➤ 5 total in fleet



SECTION TWO: COMMUNITY EXPECTATIONS AND STRATEGIC PRIORITIES

The Mission of Fire District 1 is:

We at Klamath County Fire District 1, are devoted to safeguarding the lives and property of our community, visitors and neighbors by providing professional emergency services, with compassion, courtesy, integrity and fiscal responsibility.

The District conducts a formal community based Strategic Planning process every three years that establishes the guidance for strategic decision making. This process allows key stakeholders and members at large to share their level of satisfaction, concerns and help identify priorities for the coming years. It also establishes guidance and goals that help to form the annual budget.

The Strategic Plan is reviewed and updated by the organization and approved by the Board of Directors. The 24 long-term strategic goals for the District are broken down into 7 separate sections:

Suppression	Outline KCFD1's Standard of Cover
	Draft and Institute KCFD1's Guiding Documents
Emergency Medical Services	Accountability in Processes
	Focus on Staffing
	Customer Service
Fire Prevention	Community Risk Reduction Programs
	Fire Investigator Program
	Develop and Strengthen Community Partnerships
	Inspection Programs
Finance/Administration	Increase Revenue
	Succession Planning
	Implement Incentive Pays
	Cultivate and Strengthen Community Relationships
Information Technology	Automation and Use of Tele-Staff
	District Wide Cross Training
	Mobile Response
	Upgrades and Replacements
Human Resources	Employee Wellness
	Leadership resources
	Internal Wellness Teams
	Enhance On-Boarding Process
Public Relations	Creating a Public Relations Team
	Designating a Public Relations Officer
	Continuing to Expand Community Outreach

One of the main purposes of a Standard of Cover is to inform the community as to what services are provided by their fire department. Although many departments label themselves as all hazards departments, it should be noted that not all emergencies are mitigated by responders trained in a specific discipline. KCFD1 has been deliberate in its attempt to align our training, certifications, budget, and programs with historical and anticipated call types. The incident types listed below are those we are trained for to various levels. Other call types such as Urban Search and Rescue/Structure Collapse, Confined Space Rescue, Ice Rescue, Trench Rescue, Surf Rescue, and many others will feature KCFD1 responders intervening on behalf of victims despite our responders not being certified in those areas.

KCFD1 personnel respond to many types of emergencies and because of that their training incorporates many disciplines including emergency medical services (EMS), structure fires, wildland fires and technical rescue. For fire training, KCFD1 personnel focus one fire related general topic. For instance, the first quarter is general focused on search and rescue in structure fires, 2nd quarter is wildland fire, 3rd quarter is apparatus operator training, and 4th quarter is structure fire training. EMS training is structured basically the same with each quarter having a main topic for the quarter. Those topics include cardiac, respiratory, pediatric, trauma and general medical topics. Every two years, our personnel get recertified at their specific EMS levels by the State of Oregon. Oregon requires EMTs to have 24 training hours biennially and Paramedics to have 48 hours.

Intertwined in our Fire and EMS training our personnel also train on technical rescue, vehicle extrication and incident command. Technical rescue includes rope rescue and water rescue. Technical rescue training typically occurs once to twice a quarter. In 2022, KCFD1 incorporated Blue Card ICS. This required a significant amount of training by our personnel. KCFD1 personnel typically does at least one hour of incident command training a month.

Fire Suppression	Structure fires
	Wildland and wildland urban interface fires
	Motor vehicle fires
Emergency Medical Services	Advanced life support
	Emergency medical transport
	Inter-facility transport
	Non-emergency lift assist
	Non-emergency standby
Technical Rescue	High angle rescue
	Swift water rescue
	Surface water rescue
Transportation Response	Vehicle extrication
	Highway/rail
	Airport support
Hazardous Materials	Operations (defensive) level
	Dam, dike & divert
	Product identification/retention
	Scene isolation
Fire Prevention	New construction plans review
	Code enforcement
	Investigation
Emergency Management	Blue Card Incident Command
	Task Force/Strike Team Leaders
	MCI Support
Community Engagement	Car seat instruction
	Public relations team
	Social Media

SECTION THREE: RISK ASSESSMENT

Risk assessment is the process of examining the events that may occur within a jurisdiction and projecting the potential impacts of those events on the community. The steps involved in this process include:

- An examination of the nature of the hazard(s) that exist
- Identification of the values and property at risk
- Evaluation of the impacts and consequences of an event
- Consideration of the potential frequency of an event

Overall, the District and its service areas are likely to have a wide range of potential risks; there will be an inverse relationship between risk and frequency. The daily event is usually the routine that results in minimal losses, while significant events are less frequent.

Toward the highest risk levels on the chart, the events are less frequent. If the risk management system is working in the community, a catastrophic loss should be an extraordinary event. The objective of a risk assessment is to reduce the truly serious loss to a very unusual event for the area served and involves trying to keep routine emergencies from becoming serious loss situations.



The end goal is to match the deployment of District resources with the identified risks in the most effective manner possible.

Each community must identify an accepted level of risk. Accepted risk is a relative term that is determined by considering expected and desired outcomes, availability of resources, expectations, and cost. The relationship between probability and consequences is one of the principles used in this process. The risk should be reduced as far as reasonably practical using risk control measures. The process of determining what is "right" for the community is a policy decision.

KLAMATH COUNTY HAZARD ANALYSIS

The Fire District is located at the southern end of Klamath County and is generally subject to many of the same hazards (potential disasters) identified in the 2016 OEM Hazard Analysis. These hazards have been identified and quantified to provide a first step in planning for mitigation, response, and recovery. The process weighs four factors; history, vulnerability, maximum threat, and probability. The ranking provides a sense of severity risk of one hazard compared with another. It is not intended to predict the occurrence of any particular event. The Hazard Analysis Matrix for Klamath County identified the following hazards:

OEM Hazard Analysis Worksheet 2016													
		History		Vulnerability		Maximum Threat		Probability					
Hazard	Severity	Weight Factor	Subtotal	Severity	Weight Factor	Subtotal	Severity	Weight Factor	Subtotal	Severity	Weight Factor	Subtotal	Total Threat Score
Drought	10	2	20	10	5	50	10	10	100	10	7	70	240
Power Failure	8	2	16	6	5	30	10	10	100	10	7	70	216
Wildfire (WUI)	10	2	20	8	5	40	7	10	70	10	7	70	200
Winter Storm	10	2	20	6	5	30	8	10	80	10	7	70	200
Public Health Emergency	6	2	12	10	5	50	8	10	80	8	7	56	198
Communications System Failure	5	2	10	10	5	50	8	10	80	8	7	<mark>5</mark> 6	196
Water Supply Disruption	8	2	16	8	5	40	8	10	80	8	7	56	192
Fire - Large Scale Urban Conflagration	8	2	16	10	5	50	7	10	70	8	7	56	192
Windstorm	8	2	16	5	5	25	8	10	80	10	7	70	191
Sewer Treatment Failure	5	2	10	8	5	40	8	10	80	8	7	56	186
Hazmat Release - Transportation	6	2	12	8	5	40	7	10	70	8	7	56	178
Hazmat Release - Fixed Facility	6	2	12	8	5	40	7	10	70	8	7	56	178
Earthquake - Crustal (1 min)	6	2	12	10	5	50	8	10	80	5	7	35	177
Extreme Heat Event	6	2	12	10	5	50	8	10	80	5	7	35	177
Liquid Fuel Supply Disruption	3	2	6	8	5	40	7	10	70	8	7	56	172
Information Technology Disruption	3	2	6	8	5	40	7	10	70	8	7	56	172
Dam Failure	5	2	10	8	5	40	7	10	70	5	7	35	155
Fuel Line Explosion	3	2	6	8	5	40	7	10	70	5	7	35	151
Train Derailment	3	2	6	7	5	35	6	10	60	7	7	49	150

<u>Challenges to Typical Emergency Response</u>: Response to these types of disasters is not typical. However the District's primary responsibilities still involve suppression, rescue, and EMS.

- > The magnitude of disaster situations can quickly overrun District and area resources.
- > Radio and telephone communications may be interrupted.
- Incidents may involve workers who are not ordinarily involved in emergency incidents. The need for immediate and efficient incident command is critical for interagency coordination.
- > Incidents may present significant law enforcement and/or national security issues.
- Incidents may present health, biological, infectious, contamination, and/or other longterm issues.
- Incidents may require long term commitments outstripping resources and budgetary constraints.
- Transportation networks may be compromised, preventing off duty personnel from reporting back to work.

GEOSPATIAL CHARACTERISTICS

Urban Growth Areas: The urban growth areas of the District include:

- Neighborhoods along Old Fort Road
- The majority of homes and businesses south of Shasta Way and east of Washburn Way
- Pockets of various properties in the Stewart Lenox area



There are undeveloped areas within each urban growth area and within the Fire District boundaries. Development has been slow compared to other communities in the state but some construction has picked up in recent years. Jurisdictional responsibility is transferred to applicable fire districts as areas are annexed. Annexations into KCFD1's jurisdiction have been slow and the presence of KCFD4 limits the rate of growth on our western perimeter.

<u>Construction Limits</u>: Growth within city urban growth areas has slowed dramatically due to the economic downturn. Over the past two years the District has experienced greater investment in infrastructure and new construction.

Construction in the unincorporated rural areas is limited by lack of municipal water supplies and Klamath County zoning restrictions. The Klamath County Land Development Ordinance, Article 69

contains special provisions for development in identified wildfire hazard areas. All development must comply with the provisions of city and County zoning ordinances, building codes, and fire codes. The District participates in the development review and approval process with new construction in our jurisdiction.

<u>Infrastructure Limitations</u>: There are currently no identified ongoing infrastructure limitations in Klamath Falls. There are several locations that have inadequate fire flows due to undersized water mains. The infrastructure (streets, sewer, water, electricity, etc.) in Klamath and surrounding unincorporated areas is extended as development occurs but sometimes proves too expensive for small development of "infill" lots. The water system in commercial areas east of Spring St, south of Klamath Ave, mixed use zones north of Shasta Way, and the Moyina Heights neighborhood have limited capacity and flow.

The majority of zoned commercial development within KCFD1 boundaries and the UGB are on the municipal water system.

<u>Challenges to Typical Emergency Response</u>: Typical response may be complicated by a variety of infrastructure deficiencies.

- Lack of municipal water supplies in areas outside of existing municipal water supply.
- Insufficient water supplies (fire flow) in some isolated urban/city areas.
- > Underdeveloped/maintained roads and driveways in rural areas.

TOPOGRAPHIC CHARACTERISTICS

<u>Primary Topographic</u>: The District is located in south central part of the county with the Cascade Mountain Range to the west, the Upper Klamath Lake to the north, Hogsback Mountain to the east, and Stukel Mountain/farmland to the south. Most of the area is unincorporated with the exception Klamath Falls itself. Much of the unincorporated area is farmland, rural residential, or forestland. The Upper Klamath Lake and surrounding mountains dominate the perimeters of the District. Numerous wetlands, streams and ponds exist throughout the District.

<u>Primary Weather</u>: Summers typically have very low humidity. Temperatures may range from 80 to over 100 degrees Fahrenheit. Lightning activity is generally light but severe storms may occur. Extreme fire conditions may exist June through October.

<u>Wildfire:</u> The potential for grass, brush, and/or forest fires exists throughout the county. Extreme fire conditions occur every summer. The duration of fire season varies from four to six months. Fires in light fuels are most common. Large-scale forest/brush fires are less common but do occur around the perimeter of the District. Both types of fires represent significant threats to rural dwellings and in less common situations, urban dwellings and/or commercial businesses. High hazard interface areas have been identified through the 2018 Quantitative Wildfire Risk Assessment. The Senate Bill 762 statewide wildfire risk map and homeowner risk reports are unavailable as the map is being updated. The District also participates in various community fire planning processes and fuels reduction initiatives manage through an internal grant funded Community Risk Reduction (CRR) Program. This process will ultimately identify hazard zones based on fuel loading, terrain, structural density, fire frequency, and response capability. The information from these programs is used to target and prioritize fuel reduction and prevention programs and to assess emergency deployment patterns. Development of Fire-Wise communities continues to be an emphasis for the District. We've begun preparations for Fire Wise Communities in the Running Y and Ridge Water areas.

<u>Winter Weather:</u> Winter weather is generally cold, in the 25 to 45 degree range. Occasional colder weather is occurs. Severe snow, ice, and wind are anticipated and keeps local road conditions slick from December to February. Rainfall averages roughly 14" per year. Winds associated with winter weather can cause downed trees which create transportation obstacles and can cause injury, death or downed power lines.

<u>Flooding:</u> Home to the Sprague, Williamson, Lost, and Klamath Rivers, Klamath County has no shortage of natural waterways. Of these rivers, the Sprague, Williamson, and Lost Rivers are the most likely to flood with the Klamath River being moderately controlled by hydroelectric dams. These scenarios could threaten numerous structures in extreme circumstances. None of KCFD1's fire stations are in flood hazard areas. The Bureau of Reclamation prepares Communication and Emergency Response Plans for each drainage system. They have requirements to create an annex for urban canal reaches (ex. A-Canal) that is due in 2027.

<u>Challenges to Typical Emergency Response</u>: Typical response may be complicated for topographic reasons:

- Lack of roadways/access in rural areas
- Steep terrain in some wildland/urban interface areas
- Narrow driveways and bridges
- Limited access across rivers and creeks
- Some inadequate private bridges crossing irrigation canals
- Occasional flooding, heavy snow, or icy conditions
- Railroad crossings in downtown Klamath Falls
- Specific areas of traffic congestion during peak traffic periods
- Ongoing road/bridge construction and repair

TRANSPORTATION NETWORKS

<u>Major Thoroughfares</u>: Highways 39, 97, 140, and South 6th St are used frequently for local transportation and interstate commerce. Crater Lake Parkway is a major access from Highway 97 to the Klamath Falls commercial area. A large number of flammable and/or other hazardous chemicals are transported along these routes.

<u>Airports:</u> Kingsley Field Air National Guard Base is located in Klamath Falls on the District's southern boundary east of Highway 97. The District has no jurisdictional responsibility for airport crash and rescue; however, takeoff and landing patterns for F-15 and F-35 aircraft extend over District territory. Incidents are infrequent but the potential consequences are great. National statistics indicate the majority of aircraft crash incidents occur during takeoff and landing. There are other transient airframes that can be seen using Kingsley from time to time including C-130s, F-18s, private aircraft and aircraft used for wildland retardant drops.

<u>Waterways:</u> Notable waterways in our jurisdiction include the Upper Klamath Lake, the Klamath River, Lake Ewauna, the Lost River, the A Canal, and the Link River. These waterways have many irrigation canals mostly on the south and east ends of town. In addition to these, the Williamson River, Wood River, Sprague River, and Lake of the Woods are within 30-40 minutes of our boundaries. Many of these local waterways pose technical rescue concerns particularly around the Anderson-Rose Dam in Merrill, Link River Dam, Williamson/Lost River Diversion Dam and Diversion channel. KCFD1 has started a surface water rescue team with appropriate equipment to address these concerns.

<u>Bridges:</u> The Klamath Basin features 250-300 small bridges mostly crossing canals on public roads and easements that access private land. The following public bridges within District 1 have weight restrictions:

Lakeshore Drive (Link River near Moore Park)	South 6 th over the Railroad Tracks
Three Axle Truck 25 tons	Three Axle Truck 25 tons
Four Axle Truck 23 tons	Four Axle Truck 23 tons
Five Axle Truck 23 tons	Five Axle Truck 23 tons
Six/Seven Axle Truck 25 tons	Six Axle Truck 25 tons
Five Axle Semi Truck/Trailer 37 tons	Seven Axle Truck 27 tons
Six Axle Semi Truck/Trailer 37 tons	Five Axle Semi Truck/Trailer 36 tons
North 11 th St over A-Canal (near Klamath Union HS)	Six Axle Semi Truck/Trailer 40 tons
Five Axle Truck 28 tons	Reeder Rd over Lost River (near Hill Rd)
Six Axle Truck 29 tons	10 ton single axle limit
Seven Axle Truck 31 tons	17 ton tandem axle limit
Esplanade Ave over A-Canal (near Crater Lake Pkwy)	40 ton max (all vehicles)
Five Axle Truck 29 tons	Homedale over Irrigation Canal (near Cross Rd)
Six Axle Truck 31 tons	Three Axle Truck 15 tons
Seven Axle Truck 35 tons	Four Axle Truck 13 tons
Hope over A Canal	Five Axle Truck 14 tons
Five Axle Truck 27 tons	Six Axle Truck 14 tons
Six Axle Truck 25 tons	Seven Axle Truck 15 tons
Seven Axle Truck 23 tons	Five Axle Semi Truck/Trailer 21 tons
Spring Lake Rd over Drain Ditch (near airport)	Six Axle Semi Truck/Trailer 30 tons
Four Axle Truck 23 tons	
Five Axle Truck 25 tons	
Six/Seven Axle Truck 26 tons	

<u>Railroads</u>: The Union Pacific and BNSF rail lines run north/south through the District and through the northern end of Klamath County. There is also a commuter Amtrak line that passes through the middle of town. Tank cars carry loads of hazardous materials through the District on a daily basis. The majority of these loads are petroleum products.



<u>Challenges:</u> Several transportation route hazards/challenges have been identified:

- Bridge access and bridge load limits
- Hazmat spills/fires involving rail and highway
- Airplane and helicopter crashes
- Vehicle accidents due to bad weather and high speeds
- Water rescue in lakes, rivers or ponds
- Damaged bridges and roads due to flooding or earthquake
- Railcars transporting hazardous substances
- Road closures in summer due to wildfire and/or smoke



FIRE MANAGEMENT ZONES, RESPONSE DISTRICTS AND DENSITY ZONES

The District is divided into five geographic zones. Each of the four operational fire stations are assigned a geographical area that defines its initial response area; this area is called a Fire Management Zone (FMZ). Each fire station provides the initial response to the FMZ it serves and is supported by the entire District and partner agencies during major emergencies. Station 5 is not staffed with a full time response force.



<u>Station 1 FMZ</u>: The Station 1 FMZ is located in the central portion of the District and is 5.37 square miles. It is primarily residential with some commercial properties including those along South 6th St and Summers Ln, some schools and Kingsley Field. The terrain is mostly flat. Single family residential fires, medical incidents, and vehicle accidents on main thoroughfares including the Southside Bypass represent the predominant risk. The station is staffed with three firefighters and two EMS providers.

<u>Station 2 FMZ:</u> The Station 2 FMZ covers the easternmost portion of the District and is the largest of the five in terms of first due coverage at 94.77 square miles. It is adjacent to fire districts belonging to Merrill RFPD to the south and Bonanza RFPD to the east. The Station 2 FMZ is the most undeveloped FMZ in the District, representing the opportunity for future growth. It consistently has the smallest call volume due to demographics and the lack of an assigned ambulance. EMS calls in this area are covered by the ambulance from Station1's FMZ. Three sides of this FMZ's perimeter present risk in the wild land urban interface arena. It also features Highway 39, Highway 140, multiple rail lines, residential neighborhoods, schools, big box stores, commercial properties, and churches. Station 2 is 1.8 miles east of station 1 and is staffed by a 3 person engine.

<u>Station 3 FMZ</u>: The Station 3 FMZ is located in the central portion of the District 1.8 miles west of Station 1. It is the busiest zone by call volume and is mostly residential and commercial. There are 228 high-risk occupancies located in the FMZ which is approximately 35.25 square miles. The south end of this zone extends along

Highway 97 and reaches almost to the California border. The station is staffed with the Battalion Chief, three firefighters and two EMS providers. In addition to a command rig, an engine and an ambulance, Station 3 houses the 105' aerial apparatus, the 3,000 gallon tender and a 4x4 brush rig.

<u>Station 4 FMZ:</u> The Station 4 FMZ is situated in the northernmost portion of the District approximately 3.6 miles north of station 3. The FMZ includes modern large infrastructure including the Oregon Institute of Technology campus, Sky Lakes Medical Center, several senior living facilities, schools, commercial businesses, and



residential neighborhoods and is 37.06 square miles. This area of town features the bulk of new construction in our District. The FMZ contains 105 high risk occupancies. While the area includes several urban portions of the District, it also is responsible for several WUI threats including Moore Park, Lynnwood, Old Fort Road, and Sunset Beach. These wildfire risk areas, contain numerous residential properties in steep terrain with impediments to access. Highways 97 and 140 combine for 22 miles of high speed service area in station 4's FMZ. Station 4 is staffed with 3-4 personnel who cross-staff an engine and an ambulance.

<u>Station 5 FMZ</u>: Station 5's FMZ has historically been covered by Station 4. The Station 5 FMZ's southern border runs along the south edge of the Ridge Water and Southview developments and north along Highway 140 west to the northern edge of Running Y. The entirety of this FMZ is located on the west bank of the Klamath Lake and is 22.7 square miles. As the communities along the Highway 140 corridor continue to grow, KCFD1 has evaluated its commitment to the protection of these populations. KCFD1 continues to evaluate staffing of Station 5 with personnel who can make quick intervention on any emergency in the area. Although call volume in this FMZ is very low and the housing developments are newer, our concern for an aging population and a wildland urban interface threat is forcing us to consider new deployment models.

DEVELOPMENT AND POPULATION GROWTH

Commercial and industrial development in the incorporated areas of the District is increasing, most notably along the major transportation routes. New residential development has increased slightly. Individual residential properties continue to be developed throughout the rural and forested areas of the District. According to the Population Research Center's 2022 study, population growth of the areas within the District was as follows:

"Klamath Falls is the largest UGB in Klamath County and is projected to grow at an AAGR of 0.3% between 2022 and 2047. All other UGBs in the county are projected to either experience population growth or maintain a population close to the current number."



Klamath County is experiencing increased homebuilding trends, with purchases of undeveloped residential lots up 2.6% and total homes sold up 5.5% over the past year. The majority of the undeveloped lots are concentrated in the Ridgewater, Running Y, and around Old Fort Rd areas. Additionally, the recent improvement in rankings of several K-12 schools in the area, from a 1-10 scale frequently used by homebuyers, suggests that future demand for new construction housing may increase around Ferguson, Shasta, and Henley schools. KCC and OIT are expanding their campuses with potential childcare oncampus housing projects. Additionally, there are planned

commercial developments in hotspots along South 6th and Washburn Way. A quick look at the demographics below indicates that the small influx of people coming to Klamath Falls is made of people under 45 coming from other parts of Oregon and people over 45 coming from other states. The county is projecting economic growth by 2026 through the creation of 1,119 jobs and \$800M investments made on 45 projects. These projects will create an additional 3,300 transitory jobs in the process.



Net Domestic Migration to Klamath

From Other Oregon Counties, and Different States for 2017-2021

OCCUPANCY RISK ANALYSIS

<u>Number and Distribution of Inspectable Occupancies</u>: The structural inventory of the District includes assembly, educational, institutional, industrial, commercial, mercantile, business, residential, and rural outbuildings.

<u>Risk Categories</u>: The risk represented by various inspectable occupancies is rated on a scale from *High Risk* to *Low Risk*. Risk categories are defined by potential severity/risk (building size and height, water demand, life safety, property, and consequence). The NFPA 1730 definitions for building classifications and inspection frequency schedule are used by the prevention office as a guideline for best practices.

<u>High Risk:</u> Occupancies that have a history of high frequency fires or high potential for loss of life or economic loss. Includes low risk factories, educational, retail stores, hotels, multi-family residential, foster care, and assisted living facilities. These buildings have potentially high numbers of people but in lower concentrations than assemblies. The contents of these facilities are common combustibles. While the educational and assisted living facilities pose a significant life hazard, they are highly regulated and monitored.

<u>Moderate Hazard/Risk</u>: An occupancy that has a history of moderate frequency of fires or a moderate potential for loss of life or economic loss. Includes businesses, one and two family residential and moderate hazard storage facilities. Businesses are defined as occupancies that generally provide services, not products. These buildings have low life safety hazards, with common combustibles and low risk to adjacent properties.

Occupancies by Risk Category and FMZ					
FMZ	High	Moderate	Low		
Station 1	40	34	76		
Station 2	18	39	71		
Station 3	228	170	837		
Station 4	105	56	192		

Low Hazard/Risk: An occupancy that historically experiences a low frequency of fires and minimal potential for loss of life or economic loss. Includes low hazard storage buildings and low risk accessory buildings. These buildings are a low life hazard and have a minimal risk to adjacent properties and the environment. Examples are livestock shelters, stables, storage of non-combustible products, outbuildings, detached garages, etc.

Inspectable Occupancies: There were 1,908 inspectable occupancies (structures other than residential, agricultural, and outbuildings) in the District at the end of 2023. The number of inspectable occupancies in the Station 4 FMZ is expected to increase over the next few years. Future development is expected to follow this pattern. The Station 3 and Station 4 FMZs contain the greatest number of inspectable

Inspectable Occupancies by Risk Category						
Risk Category	Inspection	Total				
	Frequency	Inventory				
High Hazard/Risk	Annually	361				
Moderate Hazard/Risk	Biennially	312				
Low Hazard Risk	Triennially	1,196				
Not otherwise Classified	Various	39				
TOTAL		1908				

occupancies. They also contain the greatest number of factory, hazardous, and storage facilities.

Fire Safety Systems 2023							
System Type	Qty	% of whole					
Fire Sprinkler System	233	22%					
Fire Alarm System	272	26%					
Kitchen Hood System	136	13%					
Other Classifications	416	39%					
TOTAL	-	1057					

There are 1,057 Fire Safety Systems maintained in the inspectable occupancies throughout the District. These may be a single system in a small business or a multitude of complex systems within a large high risk facility.

<u>Hazardous Materials</u>: There are several identified occupancies in the District with reportable quantities of hazardous materials. Based on the Oregon Hazardous Substance Information System (HSIS) classification system there are occupancies with reportable quantities scattered throughout the District.

The actual occurrence of emergency incidents involving hazardous substances is very low. There is a recognized difference in the reporting of these incidents. The "hazardous materials" code (one of 16 incident types dispatched by 911) was applied 168 times from 2018 to 2022, although routine gas leaks and carbon monoxide incident codes account for the bulk of these numbers.

The installation of new Electric Vehicle (EV) charging stations, could pose a risk due to the transformers and other equipment required to power them. EV fires can require significantly more water to extinguish compared to non-electric vehicle fires, and each new charging hub might have several EVs involved in fire.

<u>Water Supply:</u> The District operates from hydrants supplied by the municipal water system and the developed communities outside of city limits. This loosely matches the footprint of the urban and suburban fringe areas.

The lack of hydrants throughout the rural areas of the District contributes to the risk associated with fire loss. The District recognizes several rural water sources outside the hydranted locations including Balin Ranches, DeJong Dairy, Henley Schools, Hill Road, Holland's Dairy, and Ramirez Road.

<u>Risk Values:</u> The District stratifies risk into more definitive categories by determining the values exposed to loss, the probability of an event occurring, and the consequences that such an event may have on the community. The District believes primary risk falls into four general categories in order of severity: life risk, economic/community risk, environmental or historical risk, and pure dollar loss. All of these risk types exist and are further defined below. Although a few examples of each are provided, this is not meant to depict a comprehensive list.

Life Risks:

Any location that presents a high risk of life loss, such as high density housing (particularly non-sprinklered and older structures), foster care homes, skilled nursing facilities, hospitals, housing within close proximity to hazardous manufacturing or storage, day-care centers, and schools. Some examples are:

<u>Assembly Occupancies</u>: Ross Ragland Theater, Pelican Cinema, Klamath County Fairgrounds, 55 churches, 31 public schools, 143 restaurants, Mabel Liskey Pavilion, Klamath Community College, OIT, Running Y (Juniper Hall and ballrooms)

<u>High Density Housing</u>: Lake Park Towers, Elk Apartments, Pelican Point, Pacifica, Crystal Terrace, Klamath View Retirement, Marquis Plum Ridge, Luther Square, White House Apartments, Main St Apartments, Cimarron Motel, Super 8, A-1 Budget Motel, Maverick Motel, Travelodge, Comfort Inn, Microtel, Days Inn, Townhouse Inn, Quality Inn, Running Y Lodge, Motel 6, Best Western, Shiloh Inn, Holiday Inn Express, Fairfield Inn, 122 additional apartment buildings, and 39 mobile home parks. Recent funding for Tiny Home projects in Klamath County

could lead to more developments of this kind, which may not conform to traditional fire suppression codes and will require alternative methods to reduce fire risk.

Economic and Community Risk:

Comprised of those facilities that have a high dollar value, and if destroyed or damaged by fire could close or relocate, permanently or temporarily placing a severe economic burden on the community through the loss of jobs and/or tax revenue. This category also includes critical infrastructure of primary importance to the economic health and safety of the community, such as utilities, roads, and bridges.

<u>Economic</u>: Jeld Wen, Klamath Co-Generation, Sky Lakes Medical Center, Columbia/Collins Wood Products (other fire districts), Wal-Mart, Fred Meyer, Home Depot, Kingsley Field.

<u>Community Risk:</u> Klamath County Roads and Parks, Oregon Department of Transportation, Klamath 911, utility network and infrastructure, cell towers.

Environmental or Historic Risk:

Any area where a high risk of severe or permanent environmental damage would likely occur in the event of a fire loss or hazardous material spill, or any structure of significant historical significance to the community.

Klamath Co-Generation Energy Production Plant (unprotected), Klamath Landfill, Klamath Disposal Transfer Station, Albina Asphalt, Spring St Refrigerant, Ed Staub, Klamath Water Treatment Plant, and Downtown Klamath Falls.

<u>Pure Dollar Loss</u>: Structures that have a high value but pose a low risk of life loss or community economic impact and are typically fully insured against loss. Examples include large rural residential and farm structures, and some commercial buildings housing primarily inventory.

Perlite, Wilson Art, Herald & News, Borror Millworks, City/County Shops and maintenance facilities, Sturdy Craft/Panel Processing (unprotected), numerous strip malls and mercantile occupancies, and residences throughout the District that exceed 8,000 sq. feet.



INCIDENT VOLUME

The total number of incidents continues to increase each year.

Incident totals have risen 32% in the last decade; 2012 ended with a total of 6,041 incidents, compared to the

8,851 in 2022. Despite the fact that we've seen a steady increase in call volume, a relatively flat tax revenue profile has limited our ability to increase staffing accordingly. Overall staffing numbers reflect the same totals as they have for several years.



DISTRIBUTION OF INCIDENTS

In 2022, 32% of all incidents occurred in the Station 3 FMZ with another 28% occurring in the Station 4 FMZ (since they currently cover the Station 5 FMZ). These two areas have accounted for 60% of our call volume over the 5 year span. The call volume in the Station 1 and 2 FMZs represent 35% of our responses. Mutual aid incidents accounted for 5% of the District's overall incident volume. As the Klamath community develops, we'll be keeping an eye on annual call volume to tailor our services to changing needs.



INCIDENT PROBABILITY

Average incidents per day, modal distribution, and time of day are used to quantify incident probability. This data is used to establish and evaluate District Standards of Coverage described later in this document. KCFD1's ability to distinguish Code 1 versus Code 3 response totals are limited by available data. In future years, we'll be focusing on response times; tracking emergent/non-emergent responses will be key to these figures.

Incidents for service in all FMZs continue to increase. Even in our slowest station, call volume has gone up almost 30% in a 5-year period. This trend data allows us to predict where a new demand for service may arise in a changing community.

The Station 1 FMZ had the largest% increase but ranks

2018 2022 % Change Station 1 35% 1278 1726 Station 2 1216 1568 29% Station 3 2186 2813 29% Station 4 2192 10% **1992** 20% Station 5 145 174 **Out of District** 375 372 -1% Total 7192 8851 23%

almost last in total call volume compared with the other FMZs. A large portion of the calls between Station 1 and 2 is shared data. The cause of this is that EMS calls in Station 2's area are covered by the ambulance from Station 1. When the corresponding run report is completed, the response is credited to Station 1. Additionally, Station 5 is not typically staffed by any responders; the calls in this FMZ are handled primarily by Station 4. In the coming years, potential full time staff at Station 5 could have a slight impact on Station 4's totals.



Over the past ten years, call volume has increased an average of 6.6% annually.

Projecting this trend out, the District is on pace to experience over 12,000 calls per year by 2030.



INCIDENTS BY FMZ

	2018		20	19	2020 2021 2022		22	% Change			
	Incidents	Per Day	Incidents	Per Day	Incidents	Per Day	Incidents	Per Day	Incidents	Per Day	% Change
Station 1	1278	3.50	1386	3.80	1372	3.76	1699	4.65	1726	4.73	35%
Station 2	1216	3.33	1276	3.50	1315	3.60	1512	4.14	1568	4.30	29%
Station 3	2186	5.99	2469	6.76	2451	6.72	3013	8.25	2813	7.71	29%
Station 4	1992	5.46	2098	5.75	2001	5.48	2263	6.20	2198	6.02	10%
Station 5	145	0.40	178	0.49	158	0.43	215	0.59	174	0.48	20%
Out of District	375	1.03	388	1.06	330	0.90	362	0.99	372	1.02	-1%
Total	7192	19.70	7795	21.36	7627	20.90	9064	24.83	8851	24.25	23%

Incident per day counts are a reflection of how busy crews are leveraging emergency response against other obligations. In recent years, both of these charts show the disparity between Station 3 and Stations 1 & 2. The call volume for station 3 is roughly the same as 1 and 2 combined; these totals indicate the need for a more balanced workload between FMZs, consideration for redrawn FMZ boundaries, and an evaluation of fire station locations in the long term. The chart above shows the highest rate of growth evident in Station 3's FMZ with an increase of roughly 1.7 calls per day over the last 5 years. Lastly, the row titled "total" indicates an additional 4.5 calls per day district-wide.



INCIDENT FREQUENCY

There were no days (midnight to midnight) in 2022 with less than 9 incidents. There were two days with over 40 incidents. The average number of calls per day was 25.5 and 80% of the days in a calendar year the District could expect to receive between 18 and 30 incidents.



Incident activity by time of day is lowest during the period from 3:00 am and 6:00 am. Call volume escalates rapidly and continues throughout the day until about 8:00 pm at which time it begins to taper off. Between 2:00 pm and 5:00 pm is the peak hours of the day, with 3:00 pm being the busiest time of day. This pattern has held consistent for the last several years.



The day of the week with the highest and lowest call volume varies from year to year but overall it is fairly balanced. The total number of incidents increases each year. There is not a significant difference in the anticipated incidents per day regardless of the day of week. The distribution of fire and medical incidents does not vary significantly from these overall patterns.





FIRE INCIDENTS

KCFD1's fire jurisdiction is 194.8 square miles and encompasses the city of Klamath Falls and surrounding suburban and rural areas. The number of fire incidents in each category varies from year to year. Fire related incidents have been grouped into 4 categories for ease of interpretation. The "other" category includes rubbish fires, outside storage fires, outside equipment fires, and dumpster fires.

Data indicates that structure fires are more common than the other incident categories. Brush fires have seen a spike due to environmental conditions. This trend has pushed KCFD1 to be aggressive in its training and preparation for wildland incidents.



The greatest number of fire incidents in 2022 occurred in the Station 3 FMZ with 40% of all reported fires occurring in their first due area. The distribution of fire incidents follows the same pattern as the population by FMZ. These trends are consistent with totals in EMS call volume, total call volume, and many other categories validating the belief that the Station 3 FMZ is in need of relief.



MEDICAL INCIDENTS

KCFD1 is responsible for an ambulance service area (ASA) of 492 square miles. We're able to serve the community with 3 fully staffed ambulances comprised of single role EMS employees and dual role firefighters with EMS certifications. EMS incidents account for 78-80% of all responses in KCFD1's area.

The greatest number of medical incidents occur in the more densely populated areas of the District. Station 3 accounts for 34% of all EMS responses. Medical incidents flexed over the past five years with a low of 5,600 calls in 2018 and 7,200 in 2021 (a nearly 29% increase in 3 years).



3179 is an emergency tone used as a placeholder is the EMS system. KCFD1 runs three ambulances every day and this system is often overloaded with 4 simultaneous calls/commitments. When the fourth event is initiated, the 3179 tone is generated indicating to nearby units that a call is pending. A rising number of 3179 tones is indicative of an increasing EMS call volume; this data is used to predict when a fourth system ambulance is warranted. The data on the following chart shows that 3179 tones doubled from 2018-2022 and the majority of those calls were purely EMS (not affiliated with MVAs or miscellaneous call types).



The type of call for medical services can vary widely. The following chart is a depiction of the most common EMS patient complaints for the past five years. Although this chart can be difficult to interpret, it does show clearly which chief complaints/patient dispositions are most frequently encountered in the field. It represents calls in which a patient was present.





Non-fire and non-EMS incidents accounted for 19.8% of our incidents in 2022.

High Service Use Locations:

Certain locations/occupancies utilize District resources more frequently than others. This graph identifies the top ten locations for incident response over the past five years. The top five locations are assisted living facilities.

Data shows an increasing number of vehicle related incidents since 2021. Hot spots include Highway 97 and Highway 140. Weather contributes to these figures but many of these responses also happen as a result of people unfamiliar with local roads taking unnecessary risk behind the wheel.





Other Activities:

District personnel are involved in a variety of other official activities that require time and the use of District resources. All of these activities are necessary to maintain a high level of response readiness, promote fire and life safety, and to remain highly responsive to public education and information needs. Although these activities are secondary to incident response, the distribution of resources or concentration is adversely impacted.

- o Training Activities
- o Recruit training
- Apprentice Firefighter training
- $\circ \quad \text{EMS continuing education} \\$
- $\circ \quad \text{OSHA required training} \\$
- o DPSST certification training
- o Technical rescue training
- Physical fitness training
- o Development and succession
- Prevention Activities
- Fire safety inspections
- o Station tours
- o Open houses
- CPR Classes
- o Child safety seat installations

Fire investigations

- $\circ\quad$ Site and construction plans review
- Building safety inspections and consultations
- Target Hazard Walk-Throughs
- Station, Apparatus, and Special Activities
- Daily and weekly station maintenance
- o Apparatus and equipment checks/repairs
- o Operational support assignments
- Special projects
- Fire and EMS Standbys
- Public Education Events
- o Technical project & committee meetings



SECTION FIVE: MEASURING SYSTEM PERFORMANCE

System performance is generally measured using three concepts:

- 1. Distribution (what and where)
- **2.** Concentration (how much)
- 3. Reliability (how well)

The analysis of these three concepts is used to establish performance objective response time goals for the various identified risks within the service area.

CONCEPT #1: DISTRIBUTION

Distribution of resources deals with the concern that a sufficient baseline level of resources is available throughout all geographic areas of the District. The goal is to ensure the rapid deployment of resources to bring an emergency situation to a successful conclusion.

Initially arriving resources are equipped and trained to accomplish the following tasks:

- Assess the situation
- Establish a plan of action to mitigate the situation
- Request appropriate additional resources
- Stop/impede the escalation of the situation

Distribution is generally measured by the percentage of the jurisdiction covered by pre-positioned apparatus within adopted public policy response time goals (see Section Five). For the most part, this is a time and distance analysis.



District response resources are distributed between four fire stations. Station 3 serves as the hub in the center of the District. The full-time staffed stations are located in areas of highest population density. The other staffed stations are located in areas of the District with fewer calls for service.

Apparatus are assigned to each station based on staffing and type of hazards that exist in each area. Stations are equipped with sufficient apparatus to accommodate initial response. The District maintains 20 emergency response vehicles and an additional 10 support and staff vehicles. Apparatus are replaced according to mileage, maintenance activity, and changing mission needs.

Distribution Measurements

Response time is measured in a continuum from the point an emergency call is received to the point emergency units arrive on scene. Response time is a key indicator used to evaluate emergency response geographic coverage (distribution). When evaluated over a period of time, response time is a good indicator of an agency's capability to sustain a stated level of service.

<u>Call Processing Time</u> is the interval between the receipt of a 911 telephone call at the dispatch center and the time a dispatcher activates the station alerting device. The call processing time can vary significantly depending on the type of call, accuracy of information provided, and the location from where a call originates. KC911 answers 99% of all calls within 10 seconds and is able to process emergency calls in an average of 89 seconds.

<u>Transmission Time</u> is the time it takes for technology to notify the crews and deliver the needed dispatch information. This time is not tracked separate, instead it is a factor charged to turnout times.

<u>Turnout Time</u> is the time between the receipt of the incident by the fire department and the time wheels start to turn on the responding unit.

The modern fire service has taken a more balanced approach between rapid response and the safety of the firefighters. Today's firefighters have a greater array of personal protective equipment that must be donned before they enter fully enclosed cabs, are seated, and fasten their seatbelts prior to leaving the station. NFPA 1710 has adopted a more balanced approach of an 80 second turnout time standard. The District's target turnout time is to meet NFPA 1710 for structure fires 80% of the time.

<u>Travel Time</u> is measured from when apparatus wheels start moving to when it arrives on scene. Travel time is the same as driving time.

Travel time within the District is fairly constant and predictable. In the more urban and suburban areas, streets are laid out in a uniform manner, well maintained, with most signal lights incorporating the use of traffic signal preemption technology.

In the rural areas road surface, width, and topography may play limiting factors in achieving established time standards. The primary constraints for travel time are traffic patterns, barriers to access, weather conditions, and the location demanding service.

<u>Response Time</u> includes those elements of responding that are under direct control of the fire department. It is defined as the time the fire department is notified by 911 to the time the units arrive on scene (turnout time + travel time). Response times vary from one FMZ to another and can be measured by analyzing actual response times or calculated by measuring travel distance. Each approach offers a separate view.

Travel time can also be measured by using distance and speed. The Insurance Services Office (ISO) uses this approach in its analysis. The ISO uses an average speed of 35 miles per hour.

Current data parameters limit the ability to evaluate actual time to action. This would be the time the fire department performs mitigating action on the emergency scene. Examples include when water is actually applied to the fire, chest compressions have begun on a cardiac arrest patient, or a leak is slowed or stopped at a hazardous materials incident. This element of time should be a consideration of effectiveness.

CONCEPT #2: CONCENTRATION

Concentration of resources focuses on ensuring that an adequate number of personnel and equipment can be brought together at any single point to the level necessary to effectively handle an emergency. In most cases, a strong initial response force is likely to stop the escalation of an emergency to higher risk categories. A full effective response force is expected to accomplish the necessary initial objectives.

Concentration Measurements

Concentration is measured in the amount of time it takes to assemble a full effective response force on scene. Concentration measurements generally relate to structure fires, however the concept of getting sufficient resources to the scene applies in all emergency situations. The District defines a full effective response force to structure fires as three engines and an aerial, three engines and a tender, or four engines. Response time and on scene staffing must be considered.

CONCEPT #3: RESPONSE RELIABILITY

Response reliability deals with the probability that the required amount of staffing and apparatus will be available when a fire or other emergency call is received. If every piece of apparatus in each station were available every time a fire call was received, the response reliability for each station would be 100%. As the number of incidents per day increases, the probability increases that a needed piece of apparatus and/or personnel will already be busy with an existing incident. Consequently, the District's response reliability decreases.

District Personnel Resource Components:

Personnel are dispatched to all incidents throughout the District to ensure adequate response for the situation at hand. The availability of automatic aid and mutual aid partners enhances initial response and second alarms in terms of response time and personnel on scene. Response time goals, particularly in the suburban and rural zones of the District is affected when automatic aid and mutual aid are unavailable since travel distances from our stations may be longer. These considerations are evident on the south end of town and along the Highway 140 corridor where our responses are augmented by Kingsley Field Fire and KCFD4.

The Battalion Chiefs and Captains are expected to know the geography, traffic conditions, and other factors that may influence response. They are expected to consider current staffing levels and other activity occurring throughout the District. These considerations will influence their decisions on canceling units and requesting specialized units on various types of calls.

Off duty firefighters are paged by the dispatch center during events in which additional manpower is needed or when the district needs apparatus staffed because on duty forces will be occupied for an extended period. Once they've arrived to their assigned station, they may then respond to the incident, standby at their assigned station, or move up to cover another station's area. Factors that impact this response include location of incident and type of incident.

The District maintains automatic aid agreements with Kingsley Field and KCFD4. This ensures that the closest unit is dispatched to calls on the south and west sides of our jurisdiction. Mutual aid from other neighboring fire departments is a programmed element of the District's overall response program. Additional mutual aid resources are pre-programmed for initial and secondary response in most locations throughout the District.

Much of the rural area around the District is also under the protection of the Oregon Department of Forestry (ODF), the Bureau of Land Management (BLM), and the United States Forest Service (USFS). During fire season, ODF responds with the District to reported WUI fires with ground, mobile, and air resources.

The District uses a tiered response system to address response reliability concerns.

- > On duty resources are dispatched to all incidents in the district.
- Apparatus and personnel are moved fluidly to maintain a minimum level of coverage throughout the district.
- > Duty officers are on call to support command functions during larger incidents.
- > Call back of off-duty personnel is used as drawdown of available resources occurs.
- > Automatic and mutual aid is used to prevent resource exhaustion.
- In the event of extreme resource drawdown, the District, in conjunction with the Klamath County Fire Defense Board, implements an area-wide system of resource coordination.
- If an extreme resource drawdown condition is beyond the capability of the county, an immediate response is requested from Lake, Jackson, and Deschutes County.
- > As a last resort, state mobilization may be requested to bolster resources.

TOTAL RESPONSE TIME

A response is composed of four elements that, when combined, make up the aggregate response time (ART):

<u>Call Processing</u>: This begins with phone pickup in the dispatch center and ends when the information from the phone interview is sent to the Computer Aided Dispatch (CAD) to determine an initial response. Each call is classified into one of 179 different "emergency types." The CAD automatically classifies the problem based on its scope and location with an "incident type". Location is important because most high-value properties have premise classifications that will affect the incident type. Once the incident type and location are determined, one of several pre-determined response packages (run cards) is chosen by the CAD.

<u>Unit Assignment/Unit Notification</u>: This step is near-instantaneous since the CAD uses run cards to assign the needed response apparatus to the emergency. After unit assignment, the alert system notifies all assigned response units through in-station tone out systems.

<u>Turnout:</u> Upon notification, personnel proceed to apparatus and don protective clothing appropriate for the response type. Once personnel are seated in the vehicle and ready to respond, a touchscreen entry on a mobile data computer (MDC) or a voice report over the VHF channel will notify the dispatch center that they are responding.

<u>Travel</u>: While driving to the call, crews may read updated information over the MDC or may receive important updates from a dispatcher over the VHF channel. The crew will use an MDC touchscreen or voice report to indicate arrival on scene. First arriving crews on major emergencies are expected to give appropriate Initial Response Reports (IRR) as outlined in Blue Card Incident Command guidance.

This section contains four subsections:

- **1.** <u>General Fireground Operations</u>: This section provides a generalized overview of the assessment, calculations, and leadership that takes place on the fireground during the initial stages.
- **2.** <u>Critical Tasks Analysis:</u> This subsection identifies the critical tasks that must be conducted by firefighters at emergency incidents in order to control the situation.
- **3.** <u>Establishment of an Effective Response Force:</u> This subsection identifies the personnel necessary to complete the critical tasks and the apparatus required to establish an effective response force for different types of incidents.
- **4.** <u>Standards of Response Programming:</u> This subsection describes the District's adopted standards for initial response of personnel and apparatus.

SUBSECTION 1: FIREGROUND OPERATIONS

The gas release created as a result of smoldering hydrocarbon based furnishings and finishes are resulting in a more rapid and volatile fire environment. Fires are growing larger in less time, resulting in a more complex fireground. Fireground safety is further compromised when this rapid growth is combined with modern construction methods.

The variables of fire growth dynamics, along with property and life risks, combine to determine the fire ground tasks required to mitigate losses. The tasks are interrelated but can be separated into two basic types; suppression and/or rescue. Suppression tasks are those related to getting water on the fire or fire load, while rescue tasks are those related to locating trapped victims and safely removing them from the structure.

Fire control tasks are generally accomplished by using one of two methods; hand lines and fixed master streams. The decision to use hand lines or master streams depends on the stage of the fire, water supply, personnel available, size of facility/fire load, and the threat to life and property. If the fire is in the pre-flashover stage, firefighters can make an offensive fire attack into a structure by using hand lines. Properly positioned hand lines can quickly extinguish fires or protect occupants until they can safely exit the building.

If the fire is in the post-flashover stage and has extended beyond the capacity or mobility of hand-held lines, or if structural damage is a threat to firefighter safety, the structure is typically declared lost. In this situation, master streams may be deployed to extinguish the fire and keep it from advancing to adjacent exposures.

Life safety tasks are based on a number of variables including: the number of occupants, their location, their status, and their ability to take self-preserving action. For example, non-ambulatory adults need less assistance than those with restricted mobility. The very young and the elderly may require more assistance.

Before initiating operations, the incident commander must select an appropriate initial strategy, namely: offensive, defensive or investigative. Each strategy has its own critical task demands.

<u>Offensive Strategy</u> – This strategy typically employs an aggressive seat-of-the-fire attack by the first-arriving responders. The top priorities of this strategy are to: immediately stabilize the incident, rescue trapped victims and/or minimize property losses. Because the objective is to confine and extinguish the fire in in a

specific area, the ultimate goal of protecting life in unaffected areas can be achieved simultaneously. The offensive strategy is a preferred fire attack method because its use has dual benefit. Before its use, responders must take into account the; survivability for fire victims, dangers to responders, and availability of resources.

<u>Defensive Strategy</u> – This strategy generally consists of an exterior attack designed to either confine the fire to the structure of origin; or, block a fire's expansion by taking a stand at a defensible position. No attempts are made to rescue civilian victims from the active fire area due to either non-survivable conditions or structural risks that outweigh the chances of success. Nearly all firefighting is performed from outside of the structure or from unaffected areas on or in the structure.

<u>Investigative Strategy</u> - This strategy is utilized when conditions are unclear to the first apparatus on scene or when the reported condition is not evident upon arrival. In some instances, the first arriving crew may need to upgrade their strategy from investigative to offensive as conditions become clearer.

SUBSECTION 2: CRITICAL TASK ANALYSIS

A critical element in the assessment of any emergency service delivery system is the ability to provide adequate resources for anticipated fire combat situations, EMS emergencies, and other anticipated events. Each emergency requires a variable amount of staffing and resources to be effective. Properly trained and equipped fire and ambulance units must be notified, respond, arrive, and deployed at the event within specific timeframes and in proper numbers to mitigate the event.

This section outlines critical tasks and the number of personnel needed to establish an effective response force for various types of incidents. Critical tasks must be conducted in a timely manner in order to control the situation before it escalates. Time performance standards associated with each critical task are not included in this analysis. The critical tasks described below assume that crews are committed to the assigned tasks and would not be available for reassignment until the balance of the responders arrive on scene.

Structure Fires:

Initial Attack Actions	# of Personnel
Command/Size-Up/Safety	1
Pump Operations	1
Attack Line Deployment	1
Total	3

Initial Attack: The initial fireground actions begin with the arrival of the first emergency unit, which is typically an engine company, and continue as additional resources arrive and tasks are completed.

Initial Support Actions	# of Personnel
Back-up Line/RIT	2
Pump Operations	1
Search and Rescue	2
Ventilation	2
EMS	2
Total	9

<u>Initial Support:</u> Initial support functions occur slightly later in time than the initial attack functions. These functions are typically undertaken by additional inbound units.

Secondary Support: Secondary support functions may be performed by initial response personnel after the completion of initial assignments or by other units specially called for that purpose. Secondary support functions include salvage, overhaul, water supply, rehab, and air supply. The two tables above illustrate that using offensive tactics, 12 personnel are needed to accomplish the critical tasks necessary to control a typical residential fire in a hydranted area.

The fire scene is unpredictable in many ways. While it is possible to state what critical tasks must be accomplished in order to extinguish a fire, it is not always possible to predict how many firefighters it may take to accomplish those tasks. The number of personnel and apparatus necessary to accomplish the critical tasks may vary due to many reasons including: delayed response/simultaneous calls, building construction, exposures/size/height of facility, number of occupants, physical and emotional condition of occupants, extent of fire upon arrival (flashover), built-in fire protection systems, area of fire involvement, firefighter or civilian injuries, apparatus or equipment failure, availability of water supply, and environmental conditions.

Wildland Fires:

Initial Attack	# of Personnel
Command/Size Up	1
Attack Crew	2
Total	3

Initial Attack: Initial attack begins with the arrival of the first emergency unit and continues as additional resources arrive and tasks are completed.

Extended Attack	# of Personnel
Safety	1
Attack Crew	2
Attack Crew	2
Water Supply	1
Exposure Protection	3
Total	9

Extended Attack: Involves the continuation and expansion of initial attack actions as more units arrive.

<u>Secondary Support:</u> Wildland fires that require sustained/extended operations need significant secondary support. In larger incidents, a maximum response with mutual aid support from multiple agencies may be required for extended periods. It may also be necessary to fill supplementary Incident Command positions. The number of personnel and the amount of equipment necessary to accomplish the

critical tasks varies due to: type and amount of vegetation and fuel, size of the fire, presence of structures, terrain and topography, interagency coordination, environmental conditions, availability of air operations, and logistical support.

Emergency Medical Scenes:

Initial Action	# of Personnel
Scene Control/Documentation	1
Assessment/Treatment	1
Total	2

Initial Support	# of Personnel
Assessment/Treatment	1
Patient Movement/Transport	2
Total	3

<u>Initial Action</u>: Initial action begins with the arrival of the first emergency unit and continues as additional resources arrive and tasks are completed.

<u>Initial Support</u>: Involves a wide range of activities that support patient treatment, scene control, and safety. <u>Secondary Support</u>: The number of needed to handle a medical situation may vary due to: Severity of the issue, number/size of patients, nature of injuries, fatalities, entanglements, environmental conditions, transport needs, scene safety, and logistical support. **Motor Vehicle Accidents:**

Initial Action	# of Personnel
Command/Size Up/Safety	1
Scene Control/Traffic	2
Triage	2
Total	5

<u>Initial Action</u>: Begins with the first units sizing up the situation, securing the scene, and evaluating the need for additional support.

Initial Support	# of Personnel
Extrication	2
Suppression	2
Patient Care/Transport	2
Total	6

<u>Initial Support</u>: The number of responders needed varies based on the number and size of vehicles involved, the number of patients, the need for extrication or transport, the presence of law enforcement, and the road conditions.

Special Risk/Hazard Operations:

When incidents present Hazmat or technical rescue issues, the first arriving officer assesses the scene and determines whether mitigation is possible with on scene forces or if special tools or expertise are necessary.

The specific tasks and assignments vary widely depending on the type and magnitude of the emergency. In light of these factors, special operations is not included in this document. The District relies on the experience and professional judgement of its company and chief officers to request the additional resources needed.

SUBSECTION 3: ESTABLISHING AN EFFECTIVE RESPONSE FORCE (ERF)

Once the critical tasks have been identified, an ERF can be established. This is defined as the amount of equipment and personnel that must reach an incident in a specific zone within a given time standard. An ERF should be able to handle incidents within the desired timeframes specified later in this document. To accomplish this, units must be located close enough to the incident to arrive within the prescribed timeframe with the full assignment of companies according to the risk level of the structure, situation or event. The District has applied risk assessment and historical perspectives to determine what constitutes an ERF. The numbers presented are accurate for the majority of incidents within our boundaries. The need for extra personnel or specialized skill sets may arise on any scene. In areas without fire hydrants, the response package is modified to include water tenders. Likewise, for specialty functions such as wildland response, midrise/commercial facilities, or special rescues, response forces are modified to include specialized apparatus.

Critical to the assessment of any emergency service delivery system is the ability to provide adequate resources for anticipated events. Each emergency requires a variable amount of staffing and resources to be effective. Properly trained and equipped responders must be notified, respond, arrive, and deployed at the event within specific timeframes and in proper numbers to mitigate the event.

The objective is to have a distribution of resources that is able to reach a majority of events in the timeframe as stated in the service level goals. There are many factors that make up the risk level, which would indicate the need for higher concentration of resources. District personnel recognize the fire conditions or value at risk shall dictate the response, even if it exceeds the standards as presented.

SUBSECTION 4: STANDARDS OF RESPONSE PROGRAMMING

Illustrated below are standard initial response packages for routinely anticipated incidents.

Structure Fires

Residential and Commercial Hydranted Areas: 4 engine companies (one may respond on the ladder truck), 1 ambulance, 1 BC, and auto aid engines when applicable. If more resources are needed to manage the incident, additional alarms are requested. Each additional alarm will result in additional mutual aid companies and/or all call units as available.

Residential and Commercial Non-Hydranted Areas: 3-4 engine companies, 1 tender, 1 chief officer, 1 ambulance, and auto aid engines when applicable. Each additional alarm will result in additional mutual aid companies and/or all call units as available.

Flue Fires: 2 engine companies, 1 BC

Wildland/WUI Fires

Low Risk Periods: 1 engine company, may respond on a brush rig, engine or tender

High Risk Periods: 3 engine companies (2 wildland vehicles and engine/tender), ambulance, 1 BC.

Note: Oregon Department of Forestry is fully staffed during the fire season and is jointly dispatched on grass, brush, and forest fires. Their response is not portrayed in the effective response force. If more resources are needed, additional alarms are requested.

Outdoor Burns: 1 Engine Company

EMS Calls

BLS Medical Response: 1 ambulance

BLS Medical Response (Bariatric/Complex): 1 ambulance, 1 Engine Company

ALS Medical Response: 1 ambulance, 1 Engine Company

Motor Vehicle Accidents

Single Vehicle/Non-Injury: 1 Engine Company

Single Vehicle with Injury/Blocking: 2 Engine Companies, 1 ambulance, 1 BC

Multi-Vehicle Non-Injury: 2 Engine Companies

Multi-Vehicle with Injury/Blocking: 2 Engine Companies, 1 ambulance, 1 BC

Technical Rescues

Water Rescue: 2 engine companies (1 with X-Sled), 1 ambulance, 1 Battalion Chief

High/Low Angle: 2 engine companies, 1 ambulance, 1 Battalion Chief

Hazardous Materials

Hazardous Material Response: (Ops level): 2 engine companies, 1 Battalion Chief

Note: District personnel respond at the "Operational Level" only. The Medford Hazardous Materials response team is notified and dispatched whenever the situation requires technician level intervention. Their response is not portrayed in the effective response force.

SECTION SEVEN: STANDARDS OF COVER GOALS AND SERVICE LEVEL OBJECTIVES

This section identifies service level objectives and response time performance goals for the District. These goals are established by District policy with consideration of desired levels of service and District capability. Tracking the District's capability to meet the targeted goals provides a method to evaluate staffing levels, apparatus, and future station location needs. These standards are monitored, evaluated, and updated as necessary. This map shows KCFD1's fire jurisdiction (light green) in contrast to the red and blue areas that are within the 7 mile ISO classification areas. Homes outside the 7 mile perimeter tend to pay higher homeowner's insurance due to their distance from fire stations.

Service Level Objectives:

- **1.** Fire Management Zones: The District is divided into five geographic zones.
- Density Zones: Density zones (urban, suburban, rural) are not identified officially in Klamath County. The zones indicated below were developed by the Authority Having Jurisdiction (AHJ). Response time goals are based on travel distance from existing fire stations. The chart below indicates typical density zone definitions to be used if the county begins to outline them.
- Response Time Goals In-District Incidents: The District will strive to get the first appropriate emergency response unit (fire, rescue, or EMS) to the scene of Code 3 in District incidents in accordance with the following:



Density	Zone Criteria
Urban	Area less than five travel miles from the nearest fire station
Suburban	Area between 5-7 travel miles from the nearest fire station
Rural	Area greater than 7 miles travel distance from the nearest fire station

Zone	Goal	Percentile	Baseline	Percentile
Urban	7 minutes	80%	9 minutes	90%
Suburban	11 minutes	80%	12 minutes	90%
Rural	13 minutes	80%	14 Minutes	90%

<u>Dispatch Processing Times</u>: Processing time is the interval between the receipt of a 911 call and the notification of responding units. There are two segments that make up the dispatch processing time; answering of the call and then the creation of the call and dispatching of units. The time standards established by Klamath 911 are:

Call Answering

- 90% of 911 incidents shall be answered within ten seconds of initial ring time, during the average busiest hour of the day.
- 95% of all emergency incidents shall be answered within 15 seconds.
- 99% of all emergency incidents shall be answered within 40 seconds.

Creation to Dispatch - Fire

- Emergent fire incidents shall be processed and dispatched within 90 seconds, 90% of the time (creation to dispatch).
- Emergent fire incidents shall be processed and dispatched within 120 seconds, 95% of the time (creation to dispatch).

Creation to Dispatch – EMS

These benchmarks were developed in conjunction with the International Academy of Emergency Medical Dispatch (IAEMD) standards and the Klamath County Ambulance Service Area (ASA) guidelines. Priority dispatch initiatives are underway at Klamath 911 in 2024. These upgrades would enable discernment between ALS (Code 3) responses and BLS (Code 1) responses. Until the new system is in place (March 2025), all EMS responses will be coded, as they historically have, as ALS calls.

<u>Turnout Times</u>: The turnout time is the interval between the receipt of an incident by the District and initial response. The District goal is 90 seconds or less for Code 3 responses 80% of the time.

<u>Response Times by Density Zone:</u> Response time is the interval between the time the fire department is notified and the arrival of the first emergency unit on scene (turnout time plus travel time). The District will recognize four density zones based on population and development patterns. A separate response time goal has been adopted for each zone:

Urban Zone – Goal: Seven minutes or less 80% of the time for Code 3 responses.

Baseline: 10 minutes or less 90% of the time for Code 3 responses.

Suburban Zone – Goal: 11 minutes or less 80% of the time for Code 3 responses.

Baseline: 12 minutes or less 90% of the time for Code 3 responses.

Rural Zone – Goal: 13 minutes or less 80% of the time for Code 3 responses. Baseline: 14 minutes or less 90% of the time for Code 3 responses.

- 4. <u>Fires Per Capita</u>: The District goal is to reduce the number of structure fire incidents per capita to equal or less than Oregon's average for the reporting year.
- 5. <u>Life Loss Due to Fire:</u> The District's goal is always zero fire caused deaths.

- 6. <u>Civilian Injuries Due to Fire</u>: The District's goal is zero civilian fire caused injuries.
- 7. <u>Occupancy Inspections</u>: The District goal is to conduct occupancy inspections with NFPA 1730 as a guide:
 - High hazard/risk annually
 - Moderate hazard/risk biennially
 - Low hazard/risk triennially
 - 400 annual fire and life safety inspections.
 - Fire and life safety system compliance 95% or higher.
 - Add, update and maintain pre-fire plans through inspections.
- 8. <u>Staffing Levels</u>: It is critical to maintain a sufficient number of properly trained and equipped personnel for the anticipated types of incidents common to the District. The District has established the following paid staffing objectives:

Minimum on-duty overall operations staffing: 18

Battalion Chief -1Station 1 -3 engine, 2 ambulance Station 2 -3 engine Station 3 -3 engine, 2 ambulance Station 4 -2 engine, 2 ambulance

Additional staffing objectives:

Single role paramedics per shift: Minimum 2 1 Duty Investigator (may be shift investigator) 5 dual role paramedics per shift

- **9.** <u>Effective Response Force:</u> The District's goal is to sustain a sufficient number of personnel to provide the minimum effective response force for the anticipated types of incidents as described in Section Six, Sub-Section Four.
- 10. <u>Community Risk Reduction</u>: Conduct 100 defensible space inspections annually. Continue and expand the mitigation trailer program and strive for 8 deliveries a month. Add 1 position to manage the mitigation programs. Strive toward adding a seasonal 2-3 person mitigation crew. Add additional Firewise communities throughout KCFD1.

Every quality organization must engage in continuous self-examination and must seize opportunities for improvement as they are identified. Through the development of this Standard of Coverage document, KCFD1 has identified several considerations for the future:

OPERATIONS

- Suppression incidents (fires, service incidents, false calls, etc.) are not increasing with population growth, they are remaining steady over a 5-year period. EMS incidents appear to have increased in direct proportion to population growth and may actually outpace population growth slightly. The District will continue to monitor the effects of emerging healthcare and incidents generated by assisted living facilities.
- 2. Daily staffing is a challenging obstacle to navigate. In order to allow appropriate flexibility to deal with the unique environment, legal mandates and safety concerns must be met for the safety of our responders and to achieve successful outcomes. It is the responsibility of the District to assess risk in the service community and to provide the needed resources to control that risk safely and effectively.
- 3. The current fire stations are centrally located and provide an efficient deployment to most of the town but due to station 1's redundant footprint, we do not cover several areas on the periphery of our jurisdiction. As the communities we protect grow in unbalanced directions, future fire station locations will need to be evaluated for long term effectiveness using call volume and ISO ratings as our metric.
- 4. Data supports the examination of different solutions for rural stations on our periphery as the community grows. The availability of response personnel onsite dramatically improves the response time and the performance of necessary critical intervention. The District will continue to supervise the changing needs of our community as they relate to increased staffing, additional fire stations, and emerging service demands.
- 5. Drought seasons on the west coast have resulted in an increasing number and severity of wild land and WUI fires. We will continue to emphasize the importance of being involved in robust preparation, education, and response initiatives to protect the citizens of our area and their property.
- 6. The frequency of 3179 tones has doubled over a five year period. This data is an indicator of a stressed EMS system and potentially a fourth ambulance to offset the workload on our three unit model.

PROFESSIONAL STANDARDS

PREVENTION

- 1. The District is in the process of meeting newly established inspection goals after a period of unstaffed prevention positions. The District needs to evaluate the goals and determine the appropriate level of compliance.
- 2. Much of the rural and suburban areas of the District are classed as high or extreme wildfire risk in accordance with SB762. The District maintains the response capability and mutual aid agreements to respond to the wildfire incidents once they occur in these areas. A continued emphasis on preventing the incidents from occurring and reducing the potential for spread is encouraged through the fuels mitigation projects and adoption of Firewise communities.
- 3. KCFD1 is in a rebuilding phase of the prevention department after dropping from 4 prevention staff 15yrs ago to 2 personnel currently. The increasing population and commercial infrastructure within the district has proven difficult to maintain program compliance. Through continued support and increasing staffing to meet the needs of the community, prevention will continue to strive to bridge gaps in multiple areas.

TRAINING

- 1. The District is fortunate to have a productive and engaging training program. As the demand for service increases, the District must adjust training focuses accordingly. Continue to research training program methods that will decrease first due units from being outside of their response zones during training activities.
- The District has done a nice job of advancing its fire and EMS skill-based training curriculum. In the coming years, we'll be focusing our training programs around developing ethical, well-informed leaders while also being great examples and mentors for future leaders for KCFD1.
- 3. The cumulative training goal and its associated efforts are to provide personnel with the best preparatory knowledge, skills and abilities to provide compassion and professional care to our citizens and visitors. Furthermore, the safety and effectiveness of our personnel and emergency scene operations will be enhanced by the training opportunities at KCFD1.

INFORMATION TECHNOLOGY

- 1. Data accuracy in terms of a few critical metrics is deficient and needs to improve. The District needs to research opportunities for improved data analysis and project resource deployment needs through better computer applications and models.
- 2. KC911 has been stuck using a CAD system that is badly outdated. Features such as priority dispatch are currently not available to us. This forces KCFD1 to treat every EMS call as a call worthy of ALS response taxing our crews, our time, our fleet and our hiring practices.

3. Information gathering has been very difficult due to dated reporting practices. Response time trends, response reliability, and response types are examples of areas where we need to improve. Integration of a new CAD system, Code-1 versus Code-3 reporting, and use of appropriate NFIRS codes in reports will fix these issues in the near future.

CONCLUSION

The continued analysis and reporting of performance through documents like this will provide proof of achievement while showing areas where improvements are needed.

The District is committed to updating the Standards of Cover in conjunction with the strategic planning process. Much of the statistical reports found within this document are reviewed quarterly and published annually and presented to key stakeholders and community leaders.

Overall, the department is proud of its level of performance and achievements in the identified measureable outcomes. This document serves as the guidance of service levels for the community we serve.