

JEFFERSON COUNTY FIRE DISTRICT #1 DEPLOYMENT STANDARD



Originally Adopted: 2006
Updated 2017

CHIEF'S COPY

INDEX

PURPOSE	3
SECTION ONE: Introduction	4
SECTION TWO: Mission and Core Values	5
SECTION THREE: Risk Assessment	6
SECTION FOUR: Service Level Objectives	16
SECTION FIVE: Standards of Coverage Statements	20
SECTION SIX: Operations, Critical Tasks & Effective Response	22
SECTION SEVEN: District Operational Plan	26
SECTION EIGHT: Distribution of Resources	28
SECTION NINE: Response Reliability	31
SECTION TEN: Summary	32

PURPOSE

Operational planning is a business concept that has been applied to the operations of Jefferson County Fire District #1 to produce a plan that will guide our organization into the future. This planning process creates an operational bridge between the difficult to grasp concept of long range planning and the constraints of yearly budgets, providing high quality prevention and emergency response services. To this end, the Jefferson County Fire District #1 Deployment Plan will assist policy makers in defining the types of resources that will be needed in the future and how those resources will be deployed. With the funding constraints that exist today many organizations are focusing on short-term issues and not preparing for the long-term. Other agencies claim to be on the cutting edge of organizational change with their annually updated master plans. Problems arise for both when short and long term plans are not coordinated. In the first example, the organization may never get out of the rut of putting out "spot fires". Major issues continually arise and create significant turmoil due to a lack of prior planning. In the second example, the long-range goals appear to be so distant that they are not alluring enough to hold the interest of the members of the organization. This plan will allow us to meet our short-term needs while at the same time having a view of the impact of these decisions on our long-term future.

The service level expectations of our patrons are the cornerstone of our plan. Many fire service agencies are now transcending the traditional fire service hierarchy and geopolitical boundaries to meet increased service demands and reduce expenditures. In addition, the passage of Ballot Measures 47 and 50, tax restructuring initiatives passed in 1996 and 1997 have once again challenged governmental agencies. Within the District there has been additional constraints to revenue with the passage of the City of Madras' Urban Renewal District. Expenses are rising at rates far beyond revenues. Other taxing districts have increased their fees to us thereby increasing expenditures. The economic downturn had a major effect on tax revenues for the district and is still in recovery from it. All the while patrons continue to expect increased service levels as population continues to grow while assessed values have been dramatically reduced through the above. Effective long range planning is crucial to meeting these and the challenges that we need to turn into the opportunities of the future.

The District has adopted the Oregon Fire Service Deployment Process. This process furthers our commitment to our patrons by adding deployment strategies to the Operational Plan. These strategies are based on three factors: Risk Assessment, Response Performance Standards, and Emergency Scene Operations.

SECTION ONE: Introduction to Jefferson Co Fire District #1

Overview & Legal Jurisdiction

Jefferson County Fire District #1 is organized as a Special District that is governed by a five member Board of Directors who are elected by the patrons of the Fire District. The District covers approximately 200 square miles and includes the Cities of Madras, Metolius and Culver, as well as urban interface and rural areas in central Jefferson County. The population of the District is currently 14,000. In 2016 the District responded to 683 alarms. Of these calls 38% were EMS, 44% were burn complaints, good-intent and fire system related responses and 18% were responses to actual fires.

The District currently employs 6 full time personnel. These personnel operate from the District's two fire stations. The headquarters staff, operating out of the Madras station, includes the Fire Chief/Fire Marshal, Support Services Captain, Training Captain, Volunteer Recruitment and Retention Captain, Support Services Lieutenant and an Administrative Assistant. The Volunteer Recruitment and Retention Officer position is currently funded through a 4 year federal grant. This grant will expire in November of 2019, at which time the plan is to have enough funding through property tax increases of an average of 3% annually to continue funding the position permanently.

The Fire District was originally formed as the North Unit Rural Fire Protection District under ORS Chapter 478 in May of 1952. The first Board meeting was held on May 12, 1952. The first career Fire Chief was hired in May 1985. Jefferson Co Fire Dist. #1 and the City of Madras Fire Department merged into one fire department under an approved annexation of the City into the Fire District in 1986.

On April 12, 1984, the District's name was changed to *Jefferson County Rural Fire Protection District #1*. The name was changed to make it more reflective of the location of the District.

On July 1, 1996, the City of Culver entered into an intergovernmental agreement for fire protection services with Jefferson County Fire District. The City of Culver dissolved the Culver Fire Department and protection is now being done through Jefferson County Fire District. The fire station is now a satellite station for Jefferson County Fire District.

A five member Board of Directors, who are elected to staggered four-year terms on an at-large basis, sets policy. The Board meets once each month. The budget process, following Oregon Budget Law, utilizes an equal number of lay members to form the Budget Committee with the Board of Directors. The Budget Committee receives and approves the budget, which is the annual spending plan for the Fire District. The Board of Directors receives the Approved Budget from the Budget Committee, holds a Public Hearing and Adopts the budget.

SECTION TWO: Mission, Core Values and Risk Statement

Mission Statement

Our mission statement is a straightforward, concise statement that represents our organization's purpose:

TO PROTECT LIFE AND PROPERTY FROM FIRE, HAZARDOUS MATERIALS, AND OTHER PERILS, PROVIDE NECESSARY BASIC LIFE SUPPORT SERVICES, AND TO PRESERVE THE QUALITY OF LIFE FOR THE CITIZENS WHOM WE PROTECT.

CORE VALUES

HONESTY

INTEGRITY

SAFETY

RESPECT
HONOR

TEAMWORK

ACCOUNTABILITY

VISION STATEMENT

The vision statement is a simple representation of what our agency wishes our patrons to remember about us as we accomplish our mission and move forward. Our vision statement is:

PROTECTION OF LIFE AND PROPERTY

RISK STATEMENTS

We respond to calls for service with the belief that we will have a positive impact on the lives of the community we serve.

It is expected that we will risk our safety to save the life of a fellow human being.

With calculated safety precautions, we may risk our safety to protect savable property.

We will not risk our safety for life or property that is clearly lost.

SECTION THREE: Risk Assessment

Community Risk Assessment Components

Fire District Boundary

- Northern Boundary – Deschutes River canyon rim north edge of Agency Plains
- Eastern Boundary – two to three miles east of the eastern Madras City limits
- Southern Boundary – Crooked River Gorge, milepost 112 on Hwy 97
- Western Boundary – Cove State Park and the Deschutes River

The District responds to emergencies beyond the boundaries of the Fire District into areas that are unprotected when personnel and equipment are available. The District will also respond outside of District boundaries to protected lands that are under mutual aid agreement.

The District's mutual aid agreements cover all of Central Oregon; counties of Jefferson, Crook and Deschutes. The mutual aid agreements are with the rural departments and the land management agencies. The District also has a mutual aid agreement with the Jefferson County Emergency Medical Services District which operates the ambulance service in central Jefferson County. The ambulance service area is 1400 square miles.

Topography

The majority of the District is greater than 2,400 feet rising to over 3,900 feet above sea level located near Juniper Butte. Much of the District is not incorporated and lies in a central valley. The exception is property within the Cities of Madras, Metolius and Culver. The vast portion of the surrounding lands are farmlands and pasture lands. To the north there is a large plateau with farms and ranches, with the Deschutes River on the north boundary of the District. To the west is a smaller plateau with farms. To the south there is mostly farmland and pastureland. To the east, there is again, pastureland, farmland and ranches mixed with light high desert scrub brush and juniper.

Challenges to typical response

Long travel times. The District is very long and narrow. It is approximately 27 miles long and 10 miles wide. The north section of the District is on a high plateau, the central is in a valley and the south again is on a high plateau. Juniper and sage brush canyons dominate the west and north boundary.

The deep canyons present a hindrance for response to areas west and north of the District. The roads cross these canyons in only two places; one on the west and one on the north. Therefore, access to fires on the other side of the canyons may involve a lengthy response depending on location.

Irrigation canals are bridged at several main thoroughfares creating potential response problems, traffic congestion and likely barriers associated with a potential earthquake.

Smaller canals throughout the District also create potential barriers to emergency response during a disaster such as a earthquake, flood, etc. Narrow streets, roads and bridges also cause delays in response.

Union Pacific/Burlington Northern rail lines traverse the District from the northeast to the southwest. There are several crossings of rail lines throughout the District.

The District is relatively isolated with long mutual response times of 40 minutes or greater. This requires us to be ready for a multitude of possible response scenarios and for incident commanders to be thinking ahead on needed resources.

Plans to address challenges

We plan to improve our mapping system and increase our knowledge of routes to use for each destination. We will also review and study alternative routes in case of obstructions or damage to bridges, roadways, etc. The County and State have improved the bridges that we utilize for emergency response. It is imperative that we be aware of the access points into the foothills and canyon areas in and surrounding the District.

Weather

Summers are typically very low humidity, less than 20%. Temperatures will range between 80 and 100 degrees Fahrenheit. These conditions create extreme fire conditions and significant fire seasons, as well as, having significant impacts on firefighters fighting fires.

During the summer wildland fire season we experience about 45 days of intermittent thunderstorms which brings numerous lightning strikes and high winds.

Winters typically have nighttime low temperatures of less than 25 degrees Fahrenheit. Some winters have extremely cold low temperatures of less than 0 degrees. In addition, winter often brings snow, ice and/or wind. This is particularly true for elevations above the basin floor. These conditions also have a considerable physical impact on our firefighters.

Transportation Networks

Major thoroughfares are Hwy 97 S., Hwy 97 N., Hwy 26 E. and Hwy 26 W. Waterways are Crooked River, Deschutes River, a canal and distribution canals. These waterways create multiple bridge crossings.

Union Pacific/Burlington Northern rail lines traverse the District from the northeast to the southwest. There are several crossings of rail lines throughout the District.

The District lies within major commercial airline flight lanes. These air lanes are due to the commercial airport in Redmond. The military deploys aircraft for training exercises at the Madras Airport.

Challenges: Bridges over waterways.

Hazardous Materials transported via rail and highway.
 Inclement weather conditions such as snow/ice or low humidity/winds.
 The earthquake potential.
 Increasing wildland urban interface fire threat.

Development and Population Growth

Current development and densities

The downtown area is currently only seeing a minor increase in commercial remodels and complete changes in occupancy types for existing buildings. This growth may be observed in the downtown core, along 4th and 5th Street. There are a few new buildings being developed in the industrial zone near the Madras Airport.

Anticipated growth

Continued growth is expected, but at a much slower pace as compared to our nationally recognized Deschutes County neighbors, who have been on the national list in recent years for high growth rates and have been listed in the top 10 of the best places to live in America. Residential growth is expected to increase in all standard residential construction with some potential growth in the business and industrial areas of the fire district.

A permanent tax rate for all Oregon taxing bodies was established as the result of the passage of Ballot Measure 50 in 1997. The permanent tax rate for the Fire District was established as \$1.1847 per thousand dollars of assessed value.

The last five fiscal year tax assessed values for the Fire District were:

2012-2013:	\$595,782,961	
2013-2014:	\$616,827,212	3.53% increase
2014-2015:	\$639,819,363	3.73% increase
2015-2016:	\$672,875,833	5.17% increase
2016-2017:	\$713,055,539	5.97% increase

The District’s major expenses are increasing at an average of 7%, outpacing the increase in revenues during this time. This has led to difficulty in continuing our necessary programs and balancing the annual budget.

RISK CATEGORIES

Urban/City Risk Areas: This area is defined as the city itself and the surrounding commercial areas.

High-Risk: The major factor used to determine a high-risk occupancy is the ability of the occupants of the building to remove themselves from the building in an emergency. Another important, though often overlooked factor, is the construction of the building which, in most cases, is directly related to the age of the building. A third factor that places buildings in the

high-risk category is their lack of fire protection systems, such as no sprinkler system or automatic alarms.

High-risk by definition for occupant safety, includes all of the institutional facilities i.e., St. Charles Madras Hospital, several extended care facilities, the County Jail and a multitude of elder care facilities. High-risk areas, due to the risk to citizens and firefighters, would also include the entire core area of downtown Madras. Occupancies in the core area include residential above businesses. The majority of the buildings in the downtown core area are masonry construction. These older buildings pose a risk of structural failure as well as the risk of fire spread due to the fact that many buildings in downtown Madras have common walls and attics and common openings is also cause to classify these structures as high-risk.

Bright Wood Corporation, Pratum Cooperative, Wilbur Ellis Chemical, Keith Manufacturing and Helena Chemical are also defined as high-risk due to their size, construction, commodities and financial impact on the community. Although some do have sprinkler systems and alarms systems, their size and lightweight roof construction creates an extremely hazardous situation under fire conditions.

Madras has two major modes of transportation that could be cause for a high-risk situation. Significant volumes of hazardous materials are transported through our response area on both the railroads and the highways. Natural gas is transported from Canada to California via a 36" pipeline buried approximately four miles east of Madras along our eastern boundary.

Medium Risk: Medium risk would include smaller buildings, mainly one or two stories with adequate separation from adjacent buildings. Apartment complexes and newer commercial occupancies would be medium risk.

Low Risk: Due to hidden dangers or circumstances it is difficult to deem any building as low risk. Particularly when the majority of fire deaths occur in residential dwellings. However, residential construction is the least dangerous from a fire-spread perspective. There is less of a risk to both our community and our employees in these areas than in other areas of our community. Low risk areas would be residential areas within the urban area.

Rural Risk Areas:

High-Risk: High-risk areas would be the farm storage buildings and barns. These structures are high risk because of their fire load, building construction and, in most cases, limited water supply. Also, the age and structural integrity should give cause for increased awareness under fire conditions. Firefighters must always remain cognizant of the probability of chemical and fuel storage in the rural areas of the District. Urban Interface areas, during fire season, present a high-risk to both residents of the various interface areas and firefighters.

Medium risk: The Urban Interface areas, outside of fire season, present a medium risk due to the proximity of trees and other combustible material to potential structure fires and must be given due consideration.

Low Risk: The remainder of the rural areas of the District that are under cultivation would be low risk.

Frontier Risk Areas: Frontier areas are typically defined as wildland areas.

Medium Risk: The potential for wildfire creates a medium risk during fire season.

Low Risk: Wildland areas, outside of fire season, would be termed as low risk.

TYPES OF CALLS TO WHICH JEFFERSON CO FIRE DIST #1 RESPONDS

The following chart reflects the number and type of calls to which the District responded in 2016. The call types are based on the National Fire Protection Association (NFPA) reporting system.

NFPA CALL TYPE	North or 1701	South or 1702	Total
Fire, other	4	3	7
Building fire	11	1	12
Cooking fire, confined to container	5		5
Chimney or flue fire, confined to chimney or flue	4	1	5
Fire in motor home, camper, recreational vehicle	1		1
Mobile property (vehicle) fire, other	1		1
Passenger vehicle fire	4	2	7
Road freight or transport vehicle fire	1		1
Off-road vehicle or heavy equipment fire	2		2
Natural vegetation fire, other	3		3
Forest, woods or wildland fire	4	1	5
Brush or brush-and-grass mixture fire	5	3	8
Grass fire	6	1	7
Outside rubbish fire, other	3		3
Outside rubbish, trash or waste fire	2		2
Special outside fire, other	2		2
Cultivated vegetation, crop fire, other	1		1
Bark dust Fire	11		11
Hay Fire		1	1
Cultivated grain or crop fire	2		2
Rescue, EMS incident, other		1	1
EMS Call - Canceled enroute		1	1
Medical assist, assist EMS crew	56	80	136
Medical assist, ATV incident	1		1
Emergency medical service, other	1	1	2

EMS call, excluding vehicle accident with injury		1	1
Motor vehicle accident with injuries	20	8	28
Motor vehicle accident - unknown injuries	11	2	13
Motor vehicle/pedestrian accident (MV Ped)	1		1
Motor vehicle accident with no injuries.	46	8	54
Search for person on land	1		1
Extrication of victim(s) from building/structure	3		3
Extrication of victim(s) from vehicle	7	7	14
Extrication of victim(s) from machinery		1	1
Rescue or EMS standby	3		3
Combustible/flammable gas/liquid condition, other	1		1
Gasoline or other flammable liquid spill		1	1
Gas leak (natural gas or LPG)	2		2
Oil or other combustible liquid spill	1	1	2
Electrical wiring/equipment problem, other	2		2
Service call, other	9	1	10
Person in distress, other	2		2
Lock-out	3	1	4
Water or steam leak	2		2
Smoke or odor removal	21	1	23
Public service assistance, other	4		4
Assist police or other governmental agency	4		4
Police matter		1	1
Assist invalid		1	1
Unauthorized burning	55	21	77
Cover assignment, standby, move up		1	1
Good intent call, other	10	6	16
Dispatched and cancelled enroute	3		3
Dispatched and cancelled enroute, Alarm	12	2	14
Dispatched and cancelled enroute, MVA	9		9
Dispatched and cancelled enroute, Med assist	8	3	11
Dispatched and cancelled prior to going enroute	24	7	31
Dispatched and cancelled enroute, EMS call	4	2	6
Dispatched and cancelled enroute, Fire call	10	1	11
No incident found on arrival at dispatch address	6	4	10
Authorized controlled burning	21	9	30
Smoke scare, odor of smoke	1		1
Haz-Mat release investigation w/no Haz-Mat	3		3
Biological hazard investigation, none found	1		1
Malicious, mischievous false call, other	4		4

Local alarm system, malicious false alarm	2		2
System malfunction, other	1	4	5
Sprinkler activation due to malfunction		1	1
Extinguishing system activation due to malfunction		1	1
Smoke detector activation due to malfunction	1		1
Alarm system sounded due to malfunction	5		5
CO detector activation due to malfunction	2		2
Sprinkler activation, no fire - unintentional	1		1
Extinguishing system activation	1		1
Smoke detector activation, no fire - unintentional	7		7
Detector activation, no fire - unintentional	2		2
Alarm system activation, no fire - unintentional	5	1	6
Carbon monoxide detector activation, no CO	2		2
Severe weather or natural disaster, other	1		1
Severe weather - High Winds	1		1
Special type of incident, other	10		10
Aircraft Alert 1 (Potential Problem)	1		1
Aircraft Alert 3 (Confirmed Crash)	1		1
TOTAL	487	193	683

Fire Frequency

TYPE	2012	2013	2014	2015	2016
Structure	25	34	27	23	22
Vehicle	11	13	18	10	12
Wildland/Brush/Grass	25	26	28	25	23
Other	12	19	23	10	29
	73	92	96	68	86

EMS FREQUENCY

TYPE	2012	2013	2014	2015	2016
Medical	139	199	184	167	138
Medical Recall	8	8	6	26	18
MVC	64	100	142	114	111
Rescue	6	3	3	4	7
	217	310	335	311	274

SERVICE/MISCELLANEOUS FREQUENCY

TYPE	2012	2013	2014	2015	2016
Hazard/Haz-Mat	35	11	3	0	11
Service Call	132	215	211	216	170
Good Intent to inc. Cancel	50	53	60	70	99
False Alarm	45	36	31	18	43
	262	315	305	304	323

TOTALS	552	717	736	683	683
DAILY AVG.	1.51	1.96	2.02	1.87	1.87

Mutual Aid Call Frequency

Jefferson Co Fire Dist #1 is signatory to the local mutual aid agreements whereby assistance is provided to other local emergency service providers who need assistance. Responses outside of the jurisdiction of the Fire District occur with the following frequency.

Mutual Aid / Other Aid Given to Outside Agencies					
NATURE	2012	2013	2014	2015	2016
Mutual Aid Given	17	12	10	12	12
Other Aid Given (Non FDID)	143	199	191	175	162
Total	160	211	201	187	174
Daily Average	0.44	0.58	0.55	0.51	0.48

Other Activities

Fire District personnel are involved in a variety of activities that are associated with the District's mission of preventing or reducing the occurrence of emergencies and reducing the impact of an emergency when one occurs. Some of the more important of those activities are listed below.

1. Training:
 - Recruit Training
 - College Student on the Job Training
 - Continuing Education
 - DPSST Certification
 - EMS Certification
 - Additional Training Activities
2. Fire Prevention:
 - Fire & Life Safety Consultations & Inspections
 - Plan Reviews
 - Public Education
 - Fire Investigation
3. Pre-Fire Survey:
 - Target Hazards (High Risk Facilities)
 - Other significant hazards
4. Community Service:
 - Civic and Social events, School Coordination (Tours/Talks)
 - Jefferson County Fair (Displays)
 - Juveniles Fire Starters Consultations
 - Stand-by at community activities
 - Station Tours
 - Ride-A-Long Program
 - Fire Extinguisher classes
 - Stand-by at sporting events
 - Open Houses at Fire Stations
 - Career Days at Local Schools
 - Public Speaking

Buildings

This chart illustrates the types of building occupancy and the approximate number of the various occupancies that the Fire District protects and responds to.

CLASSIFICATION	Code Class	# of Buildings
Places of Assembly	A	50
Offices	B	300
Educational Facilities	E	20
Fabrication & Manufacturing	F	40
Hazardous Materials	H	20
Health Care Facilities	I	10
Mercantile	M	50

Single family dwellings	R	6,000
Multi-family dwellings	R	30
Hotels, motels	R	10
Assisted Living facility	R	10
Storage	S	30
Accessory Buildings & Farm	U	3000
Total		9570

BUILDING USE DEFINITIONS

- Group A Buildings used for the gathering of more than 50 people, such as recreation, religious, civic and for the consumption of food and drink.
- Group B Buildings used for the transaction of business or the provision of professional service, such as doctor and dentist offices, barber/beauty shops, offices, etc.
- Group E Buildings used for educational purposes for more than six people at a time through the twelfth grade.
- Group F Building utilized for fabrication, assembling and/or processing of products or raw materials.
- Group H Buildings or structures that involve manufacturing, processing, generation or storage of materials that constitute a physical and/or health hazard.
- Group I Buildings from which occupants cannot easily remove themselves. Examples include; hospitals, nursing homes, nurseries and jails.
- Group M Buildings utilized for the display and sale of merchandise, and involves stock or goods and is accessible to the public.
- Group R Buildings used for sleeping accommodations. Includes single and multi-family dwellings, hotels and assisted living facilities.
- Group S Buildings used for storage and not classified as hazardous occupancies.
- Group U Buildings used as an accessory character and miscellaneous structures not classified in any specific occupancy. Examples include agricultural buildings, barns, tanks, towers sheds, stables.

SECTION FOUR: Service Level Objectives

Service level objectives reflect Jefferson Co Fire Dist #1’s unique service area while integrating recognized standards and practices on fire protection and emergency medical services. These eight service level objectives are based on a service-area profile that examines the make-up of occupancies, types of uses, the probability/consequences of anticipated incidents, and historical response data. Service level objectives take into account the standards of coverage (distribution and concentration of resources) needed to maintain an effective response force.

Jefferson Co Fire Dist #1’s service level objectives:

Dispatch Time:

Jefferson Co Fire Dist #1 has a goal to have the Frontier Regional 911 provide alarm processing times (the time for the communications center to receive, process and dispatch an alarm) of less than 90 seconds, 90% of the time. This is based on the standard listed below.

Turnout Time:

Jefferson Co Fire Dist #1’s goal is to achieve a turnout time (the time from the notification of emergency personnel to the time the emergency vehicle responds) of three (3) minutes during normal business hours and five (5) minutes outside of normal business hours 90% of the time.

Response Times:

Travel time may have a significant impact on the outcome of an emergency response. Jefferson Co Fire Dist #1 has established the following response time goals based on attempted adherence to NFPA 1720, National Standard on Deployment Of Fire Suppression Operations By Volunteer Fire Departments; See NFPA 1720 Table 4.3.2

NFPA 1720 Table 4.3.2 Staffing and Response Time

Demand Zone <u>a</u>	Demographics	Minimum Staff to Respond <u>b</u>	Response Time(minutes) <u>c</u>	Meets Objective(%)
Urban area	>1000 people/mi ²	15	9	90
Suburban area	500–1000 people/mi ²	10	10	80
Rural area	<500 people/mi ²	6	14	80
Remote area	Travel distance ≥ 8 mi	4	Directly dependent on travel distance	90
Special risks	Determined by AHJ	Determined by AHJ base on risk	Determined by AHJ	90

a A jurisdiction can have more than one demand zone.

b Minimum staffing includes members responding from the AHJs department and automatic aid

c Response time begins upon completion of the dispatch notification and ends at the time interval shown in the table.

The fire district does not have any areas that meet the urban designation as listed in the chart. If in the future there are more large multi-family dwellings in the Madras urban area. It could designate the area as urban, this would most likely be a three (3) mile radius around the station. The suburban area will be from three (3) mile to five (5) mile radius around each station. The rural area will be from five (5) mile to eight (8) mile radius from the stations. The Remote areas will be from eight (8) miles and beyond.

Value Saved:

The Fire District has a goal of maintaining a ratio between value at risk (exposed to fire) and value saved that is at least equal than the State of Oregon value saved statistic.

Per-Capita Fire Loss:

The goal of the District is to maintain a per-capita fire loss equal to the per capita fire loss of the State of Oregon. This is an extreme challenge due to our low population.

Life Loss Due to Fire:

The goal of Jefferson Co Fire Dist #1 is to have no deaths from fire. A secondary goal is to maintain a fire death loss rate that is at least 5% lower than the State of Oregon fire death loss rate.

Civilian Injuries Due to Fire:

The goal of Jefferson Co Fire Dist #1 is to have no civilian injuries from fire. A secondary goal is to maintain a fire injury rate that is at least 10% less than the State of Oregon fire injury rate.

Staffing:

Providing sufficient personnel and equipment within the prescribed time frame, capable of performing the critical tasks required of the incident is an important factor in emergency activity success. Jefferson Co Fire Dist #1's goal is to staff incidents at a minimum, to the levels listed in NFPA 1720 Table 4.3.2 to the percentages listed in the table.

Service Level Objectives: Response Performance Analysis

The strategy of Jefferson Co Fire Dist #1 is to achieve a level of service for emergencies based upon the type of emergencies and their most likely location to meet NFPA 1720 standard on Deployment. This level of service is based on a Standard of Response Coverage that considers station distribution (response times) and the concentration of personnel. The goal of the District is to deliver an effective response force for the most common types of emergencies that occur in our response area.

Response Time History:

Jefferson Co Fire Dist #1 has established the following response time goals (travel interval) to have the first-in company arrive at 90% percent of all incidents in each response zone within the following intervals:

ZONE	RESPONSE TIME GOAL
Suburban	10 minutes
Rural	14 minutes

The District meets the above response times goals the following percentages of time:

ZONE	2012	2013	2014	2015	2016
Suburban	98%	99%	99%	99%	99%
Rural	98%	99%	99%	99%	99%

Jefferson Co Fire Dist #1 is achieving the response time goals per the national standard. Better statistical data is needed to get values more accurate in the future

Value Saved:

Jefferson Co Fire Dist #1 has a goal of maintaining a ratio between value at risk (value exposed to fire) and value saved (the difference between value at risk and loss) that is greater than the State of Oregon value saved statistic.

VALUE SAVED	2012	2013	2014	2015	2016
Jeff Co Fire Dist #1	92.9%	86.9%	87.1%	91.5%	88.2%
State of Oregon	99.1%	98.3%	98.8%	98.0%	N/A

The Fire District has not achieved the goal of having a value saved ratio greater than the value saved ratio for the State of Oregon.

Per-Capita Fire Loss:

The goal of Jefferson Co Fire Dist #1 is to maintain a per-capita fire loss that is less than the per capita fire loss of the State of Oregon.

The per capita fire loss for the District and the State of Oregon from 2012 through 2016 are shown in the chart below. The District's average per capita fire loss is greater than the per capita fire loss for the State of Oregon.

	2012	2013	2014	2015	2016
Jeff Co Fire Dist #1	\$39.42	\$27.88	\$24.16	\$72.28	\$18.39
State of Oregon	\$18.61	\$18.56	\$16.62	\$18.36	18.63

Jefferson Co Fire Dist #1 per capita fire loss rate average over the most recent five years is \$36.42. The average per capita loss for the State of Oregon over the most recent five

years with statistics available is \$18.16. **Jefferson Co Fire Dist #1 is exceeding our per capita fire loss goal.**

Life Loss Due to Fire:

The goal of Jefferson Co Fire Dist #1 is to assist in the reduction of deaths due to fire by having a fire death loss rate that is a least 5% lower than the State of Oregon fire death loss rate.

CIVILIAN FIRE DEATHS PER YEAR

	2012	2013	2014	2015	2016
Jeff Co Fire Dist #1	0	0	0	2	0
State of Oregon	21	38	49	42	45
United States	2855	3240	3428	3280	N/A

Jefferson Co Fire Dist #1 has had two (2) fire deaths over the past five years. The fire death rate over the most recent five years for the State of Oregon is 1.10 fire deaths per 100,000 population. The fire death loss rate per 100,000 population for the United States over the prior five years is 1.52 fire deaths per year.

Jefferson Co Fire Dist #1 exceeds our goal of having a civilian fire death rate that is at least 5% lower than the civilian fire death rate for the State of Oregon, with the exception of 2015.

Civilian Injuries Due to Fire:

The goal of Jefferson Co Fire Dist #1 is to assist in the reduction of injuries due to fire by having a civilian fire injury rate that is a least 10% lower than the State of Oregon civilian fire injury rate.

CIVILIAN INJURIES PER YEAR

	2012	2013	2014	2015	2016
Jeff Co Fire Dist #1	0	0	0	0	0
State of Oregon	298	228	223	227	266
United States	16500	15925	15775	15875	N/A

Jefferson Co Fire Dist #1 civilian injury rate for the prior five years is zero (0) fire injuries per year. The fire injury rate over the most recent five years for the State of Oregon is 6.64 civilian fire injuries per 100,000 population. The injury rate per 100,000 population for the United States over the same five year period is 6.46 injuries per year.

Jefferson Co Fire Dist #1 exceeds our goal of a civilian fire injury rate that is at least 10% lower than the civilian fire injury rate for the State of Oregon and we have done so for more than five consecutive years.

SECTION FIVE: Standards of Coverage Statements

Jefferson Co Fire Dist #1 will strive to maintain sufficient personnel and equipment, strategically located, such that the minimum acceptable response force can reach 90% of the emergency scenes inside the fire district within the time specified in NFPA 1720 Table 4.3.2 Staffing and Response Time above; Our minimum staffing goal exceeds NFPA's:

RESIDENTIAL/COMMERCIAL STRUCTURE FIRE HYDRANTED

An effective initial response force, based on NFPA 1720 and experienced critical fireground tasking, consists of at least 2 engine companies, a rescue and a Duty Officer.

RESPONSE	UNIT	PERSONNEL
1	Duty Officer	1
2	Engine Companies	8
1	Rescue	3
4	Total	12

RESIDENTIAL/COMMERCIAL STRUCTURE FIRE NON-HYDRANTED

Minimum response to all non-hydranted areas of the District response for a structure fire is increased by the addition of a tender to the initial response.

RESPONSE	UNIT	PERSONNEL
1	Duty Officer	1
2	Engine Companies	8
1	Water Tender	1
1	Rescue	3
5	Total	13

HAZARDOUS MATERIALS

Minimum response for a reported Hazardous Materials incident.

RESPONSE	UNIT	PERSONNEL
1	Duty Officer	1
2	Engine Company	8
1	Rescue	3
4	Total	12

TECHNICAL RESCUE RESPONSE

Minimum response for a rescue such as confined space, low angle, water, etc.

RESPONSE	UNIT	PERSONNEL
1	Duty Officer	1
1	Rescue	4
2	Total	5

MEDICAL/RESCUE

Minimum response to a mutual aid medical assist incident.

RESPONSE	UNIT	PERSONNEL
1	Rescue	3
1	Total	3

WILDLAND RESPONSE

Minimum response for a wildland fire within the fire district during moderate and above fire danger.

RESPONSE	UNIT	PERSONNEL
1	Duty Officer	1
4	Brush Companies	12
1	Tender	1
5	Total	14

SECTION SIX: Operations, Critical Tasks & Effective Response

Critical tasking includes those tasks that must be conducted in a timely manner, by firefighters at structure fires, in order to control the fire prior to flashover (the point in time where the fire extends from the room of origin) or to extinguish the fire in a timely manner. The District is responsible for assuring that responding companies are capable of performing all of the described tasks in a prompt and proficient manner. The tables outline tasks that must be accomplished by the initial response force if the District is to meet its mission, goals and objectives.

The fire scene is unpredictable in many ways. While it is possible to state what critical tasks must be accomplished in order to extinguish the fire, it is not always possible to predict how many firefighters it will take to accomplish those tasks. The number of personnel and the amount of equipment necessary to accomplish the critical tasks listed will vary due to the following factors: delayed response; building construction; number of occupants; physical and emotional condition of occupants; extent of fire upon arrival (flashover); built-in fire protection; area of fire involvement; firefighter or civilian injuries; equipment failure.

Once critical tasks have been identified and defined, an effective response force can be established. This force is defined as the amount of equipment and personnel that must reach an incident in a specific area within the maximum response time. An effective response force should be able to handle fires reported shortly after they start. To accomplish this units must be located close enough to the incident to arrive within the maximum prescribed response time with the full assignment of companies according to the risk.

The risk of fire, medical emergency or other emergency event cannot be held to zero. Thus, the objective of this standard of coverage study is to identify a balance among distribution, concentration, and reliability that will keep fire at a reasonable level while yielding the maximum savings of life and property.

STRUCTURE FIRE INCIDENTS

Structure Fire – Offensive Attack – Hydranted Area

The critical tasks for this type of response and the number of personnel required for successful completion of those tasks are listed below:

CRITICAL TASK	PERSONNEL
Command/Safety	1
Pump Operations	1
Attack Line	2
Back-up Line	2
Support/Search and Rescue	2
Ventilation	2

Rapid Intervention Team	2
TOTAL	12

Structure Fire – Offensive Attack – Non-Hydranted Area

The critical tasks for this type of response and the number of personnel required for successful completion of those tasks are listed below:

CRITICAL TASK	PERSONNEL
Command/Safety	1
Pump Operations	1
Tender, Water Supply	1
Attack Line	2
Back-up Line	2
Support/Search and Rescue	2
Ventilation	2
Rapid Intervention Team	2
TOTAL	13

Structure Fire – Defensive Attack

The critical tasks for this type of response and the number of personnel required for successful completion of those tasks are listed below:

CRITICAL TASK	PERSONNEL
Command/Safety	1
Pump Operations	1
Attack Lines	4
Back-up Line	2
Support	2
TOTAL	10

Fire Alarm Sounding – Residential, Commercial, or Target Hazard

Due to the potential of this type of alarm our response is the same as if we were responding to an actual fire situation as listed above for each type of alarm.

HAZARDOUS MATERIALS INCIDENTS:

The critical tasks for this type of response and the number of personnel required for successful completion of those tasks are listed below:

CRITICAL TASK	PERSONNEL
Command	1
Safety	1
Assessment	1
Support Team	2
Decontamination	5
TOTAL	10*

*Regional HazMat Team Necessary if major Haz-Mat Incident

TECHNICAL RESCUE INCIDENTS:

The critical tasks for this type of response and the number of personnel required for successful completion of those tasks are listed below; JCFD #1 will most likely receive/give mutual aid on all technical rescue scenarios:

CRITICAL TASK	PERSONNEL
Command	1
Safety	1
Entry/Rescue Team	2
Back-up Team	2
Support	4
TOTAL	10

WATER RESCUE INCIDENTS:

The critical tasks for this type of response and the number of personnel required for successful completion of those tasks are listed below:

CRITICAL TASK	PERSONNEL
Command	1
Safety	1
Entry/Rescue Team	2
Back-up Team	2
Support	4
TOTAL	10

WILDLAND RESPONSE:

The critical tasks for response, during fire season, and the personnel required are listed below:

CRITICAL TASK	PERSONNEL
Command/Safety	1
Water Supply	1
Attack Crew A	3
Attack Crew B	3
Attack Crew C	3
Attack Crew D	3
TOTAL	14

EMERGENCY MEDICAL SERVICES CRITICAL TASKS

EMS MEDICAL MUTUAL AID RESPONSE:

CRITICAL TASK	PERSONNEL
Size-up and Command	0
Patient Triage	1
Patient Treatment and Care	2
TOTAL	3

EMS MULTIPLE PATIENT MUTUAL AID RESPONSE:

CRITICAL TASK	PERSONNEL
Size-up and Command	1
Patient Triage	2
Patient Treatment and Care	6
TOTAL	9

ESTABLISHMENT of an EFFECTIVE RESPONSE FORCE

Once critical tasks have been identified and defined, an effective response force can be established. This force is defined as the amount of equipment and personnel that must reach an incident in a specific response zone within the maximum response time. An effective response force should be able to handle fires that are reported soon after their inception. In order to accomplish this, units must be located close enough to the incident to arrive within the maximum prescribed response time for the full assignment of fire companies according to the risk level of the structure.

The risk of fire or other emergency cannot be held to zero. Thus, the objective of this process is to identify a balance among distribution, concentration, and reliability that will keep fire risk at a reasonable level while yielding the maximum savings of life and property.

SECTION SEVEN: Operational Plan

Operational planning is a business concept that is applied to the operations of the Fire District to produce a plan that will provide guidance for the Fire District for the next ten to fifteen years. This Plan assists policy makers in defining the types of resources that will be needed in the future and how those resources will be deployed. The Plan is reviewed and approved by the Board of Directors annually. With the funding constraints that exist today many organizations are focusing on short term issues and not preparing for the long-term. This Plan will allow us to meet our short term needs while at the same time having a view of the impact of these decisions on our long term future.

To provide the levels of service our patrons expect we must keep abreast of the constant changes in our community and legislation affecting our community. Service level expectations of our patrons are the cornerstone of our planning process. Many organizations are transcending the traditional fire service hierarchy and geopolitical boundaries to meet service demands, increase efficiencies and provide the desired levels of service.

For the past twenty plus years the Fire District has also had to overcome the impact of Ballot Measures 5, 47 and 50. Each of the measures has had a significant financial impact on the ability of the Fire District to meet the needs of a growing population in providing the services that are both mandated by legislation and desired by the community we serve.

In our operational planning the Directors and the administration of the Fire District worked together to create value statements, a mission statement, a vision statement and goals that produce a level of service and accomplishment that would otherwise not occur.

Every five years the Directors and the staff should update our Operating Plan with new goals and objectives. For future years the District will use this Deployment Plan to help guide them in creating goals and objectives.

FUNDING

One of the major tenants of our Plan is funding. Obtaining and maintaining adequate funding is the foundation for all of our operations. Without adequate funding it will be difficult for us to meet our mission.

Recent years has presented a new challenge to obtaining adequate funding to meet our needs, with the downturn in the economy in 2008-2009. The area is still recovering from the economic downturn. Ballot Measures 5, 47 and 50 have all had significant impacts on our funding. Funding will continue to be a significant challenge for the District.

Growth within the District has risen a bit in the last few years. It is projected to continue for the next 10 - 15 years, although not anywhere near the rate of our neighbor to the south, Deschutes County. One factor has been interest in less expensive land, taxes and developmental fees within Jefferson County.

The Fire District has annexed newly developed property in the urban growth boundary and entered into fire protection contracts with landowners outside of the District's boundaries to increase our funding. These annexations and contracts have aided in balancing the budget, but future growth will mean increased demands for services. The District will not be able to meet these demands at some point and the current level of funding will be inadequate.

In order to accomplish all of our equipment replacement objectives it will require bond measures. It is getting increasingly more difficult to purchase replacement engines and staff vehicles within the budget. Therefore, a bond measure may be necessary for replacing small engines and staff vehicles as well as the larger structure engines.

Without an outside funding mechanism hiring additional staff will not be possible without a temporary operating levy or an increased tax base.

SECTION EIGHT: Distribution of Resources

PROPERTIES

Jefferson Co Fire Dist #1 operates out of two stations. The main station is located in Madras with a substation located in Culver. The District owns the Madras station and rents the Culver station from the city.

Five of the 18 apparatus/vehicles are stationed in Culver. One light brush/rescue engine, one heavy brush engine, one structure engine, one tender and one support vehicle. The main station houses two light brush engines, one heavy bush engine, three structure engines, one tender, one rescue and four support vehicles.

The District is staffed with six career staff, six resident intern/students and 38 volunteers. The career staff offices are in the main station. There are three resident students at Culver and three at Madras. We have 10 volunteers at the Culver station and 28 volunteers in Madras.

The District is not looking at constructing additional stations at this time. Although, with the growth in the communities we will have to consider new stations in time. Some important factors to consider in determining fire station location are:

- 1) Response time to the far boundary of the initial response district
- 2) Access to main arterial streets
- 3) Growth potential for the response district
- 4) Types of calls occurring within the response district
- 5) Number of alarms originating in the response district
- 6) Condition of structures within the response district
- 7) Condition of existing fire department facilities
- 8) Availability of volunteers in the area to staff the station

APPARATUS

Structure Engines

Our Plan assumes that engines will have a thirty year front line service life. The chart also shows the manufacturer, the District inventory number, the year of manufacture, replacement date and replacement cost.

Rescue

The Fire District has one dedicated light rescue stationed in Madras. The 2000 Ford/E-One rescue responds to motor vehicle accidents, hazardous materials incidents and medical assist incidents when we are requested by EMS. We are utilizing a 2003 Ford F550/OMCO light brush engine in Culver for our rescue. These units are by far our most utilized piece of equipment and have an expected life span of up to fifteen years.

Water Tenders

Tenders are utilized to haul water to those areas that do not have fire hydrants or to those areas that have inadequate water supply. The tender will be in front line service for thirty

years. The 2 tenders currently in service are one 2006 and one 2008 heavy duty Freightliner 6 wheel drive chassis' with 2016 OMCO Type I water tender units installed

Brush Engines

Brush engines are smaller and provide less firefighting capability than our structure engines do. The purpose of a brush engine is to be more maneuverable and to operate off-road at brush, grass and wildland fires. The brush engines have a useful life of approximately fifteen years.

The heavy brush engines are ex-military trucks converted to fire fighting. Since those vehicles are no longer available a different type of vehicle will have to be used. The district upgraded one of the units in 2015 utilizing a 1998 Stewart & Stephens Military 4x4 chassis and a 2015 OMCO type 4 wildland firefighting unit. The other heavy brush units are considered obsolete and hazardous to operate thus needing to be replaced as soon as possible.

Support Vehicles

The District has four support vehicles. The Chief's vehicle is a 2014 Ford F150 4x4. The Duty Officer vehicle is a 2014 Ford F250 4x4. We have an older, mid 1990s Ford Van and a 1991 Ford F250 4x4 Pickup to use as utility vehicles.

JEFFERSON COUNTY FIRE DISTRICT #1 APPARATUS REPLACEMENT SCHEDULE 2017				
Apparatus	Manufacture Date	Expected Life	Replacement Date	Replacement Cost
1750 Pierce Structure Engine w/ aerial device	1985	30 years	2015	\$1,000,000
1721 E-One Structure Engine	2000	30 years	2030	\$400,000
1722 Rosenbauer Interface 4x4 Structure Engine	1995	20 years	2015	\$450,000
1724 E-One Structure Engine	2000	30 years	2030	\$400,000
1730 Freightliner 6wd Water Tender	2008	30 Years	2038	\$450,000

1731 Freightliner 6wd Water Tender	2006	30 Years	2036	\$450,000
1740 Ford Brush Engine	2006	15 Years	2021	\$120,000
1741 Ford Brush Engine	2003	15 years	2018	\$120,000
1742 Ford Brush Engine	2008	15 years	2023	\$130,000
1744 Military 6x6	1998chassis 2015 OMCO	15 years	2030	\$270,000
1745 Military 6x6	1969	15 years	1984	\$270,000
1746 Military 6x6	1973	15 years	1988	\$270,000
1760 Ford Rescue	2000	15 years	2015	\$300,000
1790 Ford Pick-up	1991	100,000 miles	2007	\$50,000
1793 Ford Van	Mid 1990s	100,000 miles	2011	\$50,000
1792 Ford F150	2014	37000 miles	2029	\$50,000
1795 Ford F250	2014	28000 miles	2029	\$60,000

SECTION NINE: Response Reliability

At this time Jefferson Co Fire Dist#1 is achieving nearly all of our service level objectives, response times and staffing goals. Analysis of those areas where we are not meeting our expectations indicate that the cause is due to our rural area and the fact that we are staffed primarily with volunteers.

Our average *Per-Capita Fire Loss* goals are not being met. We have come close to meeting the objectives, but due to our rural area, every dollar loss from fire is more significant due to the low population values in our fire district.

Our firefighters are dedicated and very aggressive. Once we are on the scene the crews have control of the fire many times within minutes. The handicap of the fire having a significant lead time cannot be overcome without going to a full-time paid career firefighting force and increasing the number of stations. The primary limiting factor for career full-time staffing is monetary. The placement of additional stations is also money but more importantly, a readily available and reliable volunteer pool around those stations.

We are exceeding our *Civilian Injuries Due to Fire* goal. Through our renewed intensity and sensitivity toward safety we are not having severe firefighter injuries due to emergency ground operations either. For the past ten years we have not had a lost work day due to Fire District operations.

With our dedicated volunteer force we are exceeding our *Fireground Staffing Goal*. We have been able to assemble the right number and types of individuals to accomplish the necessary tasks toward mitigating an emergency incident.

SECTION TEN: Summary

During the process of evaluating our emergency operational preparedness it became apparent that over the years Jefferson County Fire District #1 has created, modified or eliminated procedures to ensure a top-notch emergency operational entity. As proof of this, ISO (Insurance Services Organization) lowered the risk to the community based mostly on the capabilities of this fire district from a 5 out of 10 to a 3 out of 10 within the 5 mile zone around our fire stations. This is a huge achievement, not to be overlooked or forgotten about when looking at future planning.

The District, guided by the Board and Administration, has changed tremendously over the last thirty plus years. Operational procedures have been solidified through the creation of Standard Operating Guidelines. Fire & Life Safety reviews, public education and fire prevention programs have been developed to create a safer community. The District's number of volunteer staff is more stable with the additional staff member focusing on volunteer recruitment and retention.

Volunteerism is the core of our organization and will continue to be so for many more years. Our main annual emphasis will always be the recruiting, maintaining, educating and retention of volunteers. Volunteers serving for the Fire District are saving the population approximately two million dollars in taxes annually. The FEMA grant of 2015, which fully funds one additional full-time staff allows for better focus on our volunteer programs. Unfortunately, that grant will end in November of 2019. The district will do all we can to keep this much needed position.

Madras, Culver and Metolius have all grown over the years. The growth has impacted our Fire Marshal's office more than any other department. The increase in fire and life safety reviews, inspections, meetings and developmental consultations has exceed our one person capacity. Therefore, it is recommend that the District plan on hiring a fire inspector as soon as money is available. The position will likely develop into a full-time inspector/fire medic position.

Past strategic plans have indicated a station to be located in the industrial park with an aerial ladder truck. Lack of funding and a readily available volunteer pool has prevented this from coming to fruition. Also, ISO has indicated that an aerial device is needed in our District in order to lower our insurance rating. In 2010, the fire district purchased a used structure engine with aerial device. This truck has been an excellent addition to our fleet. The district will need to upgrade this engine and others as soon as funding is available, most likely requiring an apparatus/equipment bond levy to be passed by the voters.

There is a current need to look seriously at the future expansion of our district and placement of fire stations. The current need is to the north and west, where the district current has rural areas with farms and homes that exceed the travel distances from our current fire stations. This creates a sub-ISO area within our fire district of a 10 out of 10 for any structure outside of 7 miles from a fire station. Also to be considered, the City of Madras is continuing planned growth to the east side of Madras and the Airport/Industrial zone on the North side of Madras.

Converting to more career staffing will be triggered by two events; together or separately. The first is a daily call volume that exceeds the capacity of the volunteers. The second would be undertaking a service that would require a substantial increase in emergency response; providing transport ambulance service for example. If a combination service such as EMS/Fire is ever provided by the fire district, fire response readiness needs to be kept on the forefront of those responsible for district planning. Otherwise, it could end up being a problem to staff a fire while also providing for responses to emergency medical situations. This is a common problem for dual role EMS/Fire agencies. Planners should look to other models that have worked both within our region and nationally.

Our volunteers have been the backbone of the organization since inception. The volunteers are being pressured into learning new service levels as our responsibilities change due to community reaction and/or legislative mandates. The industry is constantly changing requiring new and lengthy certification requirements. All of this, along with increased call volume and increased outside demand on the volunteer's time, has evolved into sporadic and sometimes limited response. Therefore, in time, additional career staff will be needed to adequately provide the service levels demanded by an ever increasing population base.

