



# Identifying Methods to Meet Incident Response Targets

*August 10, 2012*

## ***Executive Summary***

During the fall of 2011, Fire District 3 began a strategic planning process that involved staff, elected officials, and members of the public. The community was given information about the District, the services provided, and the current quality of service. The strengths, weaknesses, opportunities, and threats were identified. This information was used to draft the Strategic Plan.

A three to five year Strategic Plan was adopted in February of 2012. During the 2012/13 fiscal year budget process several initiatives from the plan were funded, specifically the addition of three firefighters to provide a minimum of four, three person engine companies on duty each day and the transfer of \$1.64 million to the Capital Plan with a significant portion dedicated for a future career staffed fire station.

The first step in determining how to meet the response standards is to evaluate the current multi-level response zones (urban, suburban, and rural). The current zones that define the District's response times were developed in the late 1990's using a practical but subjective approach. This report provides several options to consider for defining a multi-level response zone approach. Staff has scheduled a public meeting for August 20, 2012 to discuss the options for defining response zones with the Board of Directors to select one method at the September 20, 2012 meeting.

The next step is to evaluate the quality of service based on the adopted multi-level response zones. If the zones are adjusted, this report recommends a new analysis of response data and to allow 6-12 months of experience with increased volunteer response reliability and improved quality of data prior to a recommendation for the placement of the fourth career company.

## ***The Fire District***

The District's vision is to reduce or eliminate risk from fire, rescue, and medical events in the communities we serve. Fire District 3 serves 48,000 residents in the communities of White City, Central Point, Eagle Point, Sams Valley, Gold Hill, Agate Lake, and Dodge Bridge.

The District has three career fire stations and four volunteer fire stations to protect its 167 square miles. The District employs 61 full time career staff and 30 volunteers. The District provides emergency medical service (EMS), fire suppression, and rescue from seven fire stations. The EMS service provides advanced life support that is engine and ambulance based. The Technical Rescue Team (TRT) provides an advanced level of service for high angle, swift water, and confined space rescue. A portion of the TRT is on duty with a full response requiring activation of off duty personnel.

The three career stations staff four engine companies each day, one in Eagle Point, one in White City, and two in Central Point. Minimum career staff on each engine is three beginning in 2013. A fourth firefighter is often available as part of a firefighter intern program. The interns receive similar recruit and in-service training as their career counterparts and are fully qualified entry level firefighters.

The four volunteer stations provide coverage for part of the suburban and all of the rural areas in the District. During the last year the volunteers and interns have been staffing the Gold Hill station with scheduled shift blocks. During the last quarter response times have dropped from an average of over 12 minutes to 4 minutes and 37 seconds with 85.17% of the responses occurring in less than 10 minutes. Staff is implementing procedures to increase the number of firefighters living at the volunteer stations and to increase the number of responding firefighters in the rural community.

Three incorporated cities and one urban containment area have been annexed into the District. The District works closely with the cities of Central Point, Eagle Point, and Gold Hill. The District supports the efforts of community leaders to incorporate the White City urban containment area. The County has accepted their petition to incorporate and intends to place the issue on the ballot in November of 2012. The petition specifically states that fire protection will continue to be provided by Fire District 3.

A mutual aid agreement with all fire agencies in Jackson and Josephine Counties has been in place for over 40 years through the Rogue Valley Fire Chief's Association. This agreement provides a sharing of resources for times when demand exceeds capability. The Office of State Fire Marshal oversees the mobilization of resources for "conflagrations". These resources can be deployed from all over the state to the Fire District when a fire is threatening structures and has exhausted available resources in Jackson and Josephine County.

The city of Medford borders the District to the south. The city of Medford's urban growth and urban reserve areas will continue to transfer fire and rescue services from the District to the city as they annex developed properties. Medford and District 3 enjoy an automatic aid agreement for a single engine to be a part of the first alarm assignment to structure fires. Additional mutual aid is normally available for greater alarm incidents. Joint training is occurring on a regular basis with a goal of similar, if not identical, performance guidelines for incident operations.

The city of Jacksonville borders the District on the far southwest. Jacksonville has expressed interest in the past to have the Fire District provide fire and rescue services. No formal discussions are occurring at this time. Rogue River Fire District borders the District on the west, Jackson County Fire District 4 on the north, and Lake Creek Rural Fire Protection District on the East. The District often deploys significant resources to District 4 for structure fires and receives tenders for rural fire operations from both Rogue River and District 4.

Mercy Flights provides ambulance service to the entire District. An agreement provides back up ambulance service provided by the District when Mercy Flights does not have an ambulance available for a call in their response area. In exchange for that availability, Mercy Flights offsets medical supply costs for the District.

## ***Community Risk Assessment***

The District provides service to urban, suburban, and rural areas within its boundaries. While urban represents the smallest portion of the District (9%), it represents the highest volume of alarms (72%). The suburban area represents 47.5% of the District and rural represents 43.5% of the District. The definition of the District's urban, suburban, and rural zones were established in the late 1990's.

Over the last 12 months the District responded to 5,525 incidents: 51 structure fires, 33 wildland fires, 2,408 emergency medical and 3,033 less than emergent incidents.

The cities of Eagle Point, Central Point, and the urban containment area of White City are receiving water from a dependable municipal water system. The city of Gold Hill maintains its own municipal water system with hydrants provided inside its boundaries. The remainder of the District does not have hydrants and requires response from tenders for water supply.

The District has a total of 39,171 occupancies. 97.7% of those occupancies are residential and related outbuildings. 42 of the occupancies are classified as maximum risk, 268 are high risk, 61 are part of Jackson County infrastructure and 36 are considered special risk.

The District is home to a large industrial park that was developed after local mill owners bought a portion of Camp White after World War II. This area is home to 155 high or maximum risk occupancies and 28 occupancies identified as special or infrastructure risks. The industrial park is part of the White City urban response zone. White City is also home to the Veterans Affairs' Southern Oregon Rehabilitation Center and Clinic.

## ***Multi-Level Service***

The Commission on Fire Accreditation International (CFAI) encourages multiple levels of service based on metropolitan, urban, suburban, rural, and wilderness categories. A dumpster fire in a remote location most likely will not require the same response as an occupied two story wood-frame apartment building. The end result should not be a "one-size response" to all alarms within the District; this philosophy was adopted in the late 1990's. This section outlines five separate methods used to meet the intent of establishing multiple levels of service.

Existing Fire District 3 Classifications

The District established its urban, suburban, and rural boundaries in the 1990's. All response targets are based on the classification of the various portions of the District. The following table represents the current urban, suburban, and rural classifications:

<b>Zone</b>	<b>Criteria</b>
<b>Urban</b>	The cities of Eagle Point and Central Point and the White City urban containment boundary. Specific areas southeast and northeast of Central Point are also classified as urban (Boise Cascade and Table Rock Road to Vilas) These areas are mostly outside of urban containment borders and urban growth boundaries.
<b>Suburban</b>	Area surrounding the cities and the triangle between Central Point, Jacksonville, and Gold Hill.
<b>Rural</b>	Area accessed off Hwy 234, north of the intersection of Table Rock Road and Kirtland, and the community around Agate Lake.

Oregon Land Use Law Classifications

Oregon land use law defines land as either urban or rural, the State of Oregon does not recognize suburban. The following table represents the urban and rural classifications:

<b>Zone</b>	<b>Criteria</b>
<b>Urban</b>	Land within an urban containment boundary such as a city limit line or urban unincorporated community boundary. Areas inside of urban growth boundaries or reserves are not considered urban.
<b>Rural</b>	Land outside of urban containment boundaries.

Jackson County Ambulance Service Area Classifications

Jackson County established the Ambulance Service Area Plan (ASA) for providers of emergency medical transport through the adoption of chapter 1075 of county ordinances. The ASA identifies the criteria for response based on the same multiple levels of service principle. Mercy Flights is the current provider for the ASA that covers all of Fire District 3. The following table represents the classifications adopted by the County Ambulance Service Area Plan:

<b>Zone</b>	<b>Criteria</b>
<b>Urban</b>	Within the urban growth boundaries of Ashland, Medford, and Central Point.
<b>Suburban</b>	Within 10 miles of Medford City Hall and Ashland City Hall (and on paved roads) and the city of Rogue River. Also I-5 from the Josephine County line to exit 12 south of Ashland (except those areas within urban response zones). Includes Jacksonville, Eagle Point, Phoenix, Talent, and White City, the Jackson County Expo and all areas within Fire District 1 along paved roads.
<b>Semi-Rural</b>	The urban growth boundaries of Gold Hill and Shady Cove. Also includes those portions of Galls Creek, Sardine Creek, and Hodson Roads within Fire District 1 and on paved roads.
<b>Rural</b>	More than 10 miles from Medford and Ashland City Hall and a population of greater than 6 persons per square mile.
<b>Frontier</b>	6 or fewer persons per square mile and accessible by maintained roads.
<b>Search &amp; Rescue</b>	Primarily forest, recreation or wilderness lands not accessible by paved roads and with less than 6 persons per square mile. Response time applies for ASA provider vehicle access only.

Commission on Fire Accreditation Classifications

The Commission on Fire Accreditation International (CFAI) accredits Fire Agencies based on a variety of recognized best practices. The Fire District was accredited by CFAI between 2005 and 2010. In 2010 Staff recommended to the Board of Directors that the accreditation be allowed to lapse. Currently, Staff is implementing the critical portions of CFAI as appropriate and will evaluate the “gap” to accreditation sometime next fiscal year. The following table represents the classifications utilized by CFAI:

<b>Zone</b>	<b>Criteria</b>
<b>Metropolitan</b>	Area with a population of over 200,000 people and/or a population density of over 3,000 people per square mile.
<b>Urban</b>	Area with a population of over 30,000 people and/or a population density over 2,000 people per square mile.
<b>Suburban</b>	Area with a population of 10,000 to 29,999 people and/or a population density of 1,000 to 2,000 people per square mile.
<b>Rural</b>	Area with a population of less than 10,000 people or a population of less than 1,000 people per square mile.
<b>Wilderness</b>	Any rural area not readily accessible by a public or private maintained road.

NFPA 1720 Classifications

The National Fire Protection Association (NFPA) 1720 standards for the organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public by volunteer fire departments are outlined in these demand zones:

<b>Zone</b>	<b>Criteria</b>
<b>Urban</b>	Area with a population density of over 1,000 people per square mile.
<b>Suburban</b>	Area with a population density of 500-1,000 people per square mile.
<b>Rural</b>	Area with a population density of less than 500 people per square mile.
<b>Remote</b>	Travel distance of more than 8 miles.
<b>Special risks</b>	Determined by the authority having jurisdiction.

***Emergency Response Targets***

The District measures the response effectiveness based on emergent incidents. Other incidents may be an important incident for the District patron, but a faster response time will not change the outcome of the incident. Twenty-four call types have been identified as emergent with the final determination made based on the situation found by the responding crews. A list of emergent call types is located in Appendix A. Over the last three years, 33.4% of the incidents were classified as “emergent”. For emergent incidents, the District has adopted the following emergency response targets;

<b>First Arriving Crew to all Emergent Events</b>		
<b><i>Density</i></b>	<b><i>Target</i></b>	<b><i>Compliance</i></b>
Urban	6 min / 80% of the time	79% (3,064 responses)
Suburban	10 min / 80% of the time	74% (1,061 responses)
Rural	12 min / 80% of the time	58% (378 responses)

(Response data from 2009-2011)

The structure fire response targets identify the desired time to place an effective firefighting force on the scene of a working residential fire. An effective firefighting force consists of a Battalion Chief and three Fire Companies, each led by an Officer. Not every problem will be solved by this response; the Incident Commander assigns tasks based on the most critical need with firefighter safety as a high priority. Some less critical tasks will not be assigned immediately. The tables on the next page identify the specific targets for the Battalion Chief and the first, second, and third crew on scene.

<b>First Arriving Crew at Structure Fires</b>		
<i>Density</i>	<i>Target</i>	<i>Compliance</i>
Urban	6 min / 80% of the time	68% (50 responses)
Suburban	10 min / 80% of the time	71.9% (32 responses)
Rural	12 min / 80% of the time	64.3% (14 responses)
<b>Second Arriving Crew at Structure Fires</b>		
<i>Density</i>	<i>Target</i>	<i>Compliance</i>
Urban	10 min / 80% of the time	60% (50 responses)
Suburban	14 min / 80% of the time	65.6% (32 responses)
Rural	16 min / 80% of the time	100% (14 responses)
<b>Third Arriving Crew at Structure Fires</b>		
<i>Density</i>	<i>Target</i>	<i>Compliance</i>
Urban	14 min / 80% of the time	59.4% (32 responses)
Suburban	17 min / 80% of the time	60% (25 responses)
Rural	20 min / 80% of the time	100% (8 responses)
<b>First Arriving Chief Officer at Structure Fires</b>		
<i>Density</i>	<i>Target</i>	<i>Compliance</i>
Urban	10 min / 80% of the time	62% (50 responses)
Suburban	14 min / 80% of the time	65.6% (32 responses)
Rural	16 min / 80% of the time	100% (14 responses)

(Response data from 2009-2011)

Mercy Flights ambulance provides medical transport services to the District. The District provides an ambulance response when requested by Mercy Flights as part of an existing agreement. Mercy Flights response times and compliance information are identified in the following chart. The definitions for the various densities are outlined in the population density section of this report.

<b>Mercy Flights ASA response standards (April-June 2012)</b>		
<i>Density</i>	<i>Target</i>	<i>Compliance</i>
Urban	10 min / 90% of the time	95.9% (1,073 Incidents)
Suburban	15 min / 90% of the time	98.9% (371 Incidents)
Semi-Rural	20 min / 90% of the time	92.5% (40 Incidents)
Rural	45 min / 90% of the time	99.0% (100 Incidents)
Frontier	2 hour / 90% of the time	No Incidents
Search/Rescue	4 hour / 90% of the time	No Incidents

## ***Recommendations***

Staff is recommending the following three objectives with associated action items based on the progress to date on the location of the fourth career engine company.

### ***1. Identify the multi-level response standards for Fire District 3.***

- Action item 1-1: Staff presents options for multi-level response zones at the August 16, 2012 Board of Directors meeting.
- Action Item 1-2: Staff leads a public meeting on the response zones on August 20, 2012.
- Action Item 1-3: Staff provides a recommendation for the multi-level response zones at the September 20, 2012 Board of Director's meeting for the Boards consideration.

### ***2. Continue to improve the first due response reliability at volunteer stations***

- Action Item 2-1: Staff continues to work on the adopted strategies to meet this recommendation with reports on progress each quarter.

### ***3. Identify the best location for the fourth career company.***

- Action Item 3-1: Staff updates and presents the multi-level response data for station location options at the October 18, 2012 Board of Director's meeting. Based on the adopted multi-level response zones additional station location options may be proposed.
- Action Item 3-2: Continue operating with the three existing career stations for the next 6-12 months. Identify the quality of service during quarterly reports.
- Action Item 3-3: Consider the options of the location of the fourth career company during the 2013/14 budget process.

## ***Appendix A***

The following list represents the 24 call types that are classified as emergent based on the situation found:

- 111 Building fire
- 112 Fires in structure other than in a building
- 121 Fire in mobile home used as fixed residence
- 122 Fire in motor home, camper, or recreational vehicle
- 123 Fire in portable building, fixed location
- 131 Passenger vehicle fire
- 132 Road freight or transport vehicle fire
- 137 Camper or recreational vehicle (RV) fire
- 138 Off-road vehicle or heavy equipment fire
- 141 Forest, woods or wildland fire
- 142 Brush or brush-and-grass mixture fire
- 143 Grass fire
- 162 Outside equipment fire
- 321 EMS call, excluding vehicle accident with injury
- 322 Motor vehicle accident with injuries
- 323 Motor vehicle/pedestrian accident (MV Ped)
- 352 Extrication of victim(s) from vehicle
- 354 Trench/below-grade rescue
- 355 Confined space rescue
- 356 High-angle rescue
- 357 Extrication of victim(s) from machinery
- 361 Swimming/recreational water areas rescue
- 363 Swift water rescue
- 422 Chemical spill or leak