2017 Risk Assessment and Standards of Cover
Poudre Fire Authority Board of Directors*

Chair, Mike DiTullio, PVFPD Board Member
Vice-Chair, Gerry Horak, Ft. Collins City Council
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Kristin Stephens, Ft. Collins City Council
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Technical Editor
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GIS Analyst
Jim Montague

*Board/Council Membership as of June 2017
Resolution 17 – 7
Adopting the Poudre Fire Authority
Risk-Assessment and Standards of Cover

Whereas, Poudre Fire Authority has a values, mission and vision statement to
guide the Authority in providing fire and medical services to the community; and,

Whereas, Poudre Fire Authority has established specific service level objectives
that are in accordance with specific operational directives and policies for response to
fires, emergency medical services incidents, hazardous materials and technical rescue
incidents; and,

Whereas, Poudre Fire Authority has applied for accreditation through the
Commission on Fire Accreditation International (CFAI); and,

Whereas, the developmental Standard of Cover document is a critical element of
the accreditation process; and,

Whereas, Poudre Fire Authority has developed the attached Risk-Assessment
and Standards of Cover document which consolidate Poudre Fire Authority’s service
level objectives into a single document to guide its future planning and resource
development.

Now therefore, be it resolved, that the Poudre Fire Authority Board of Directors
adopts the attached Risk-Assessment and Standards of Cover Document, which define
Poudre Fire Authority’s written policies and procedures that establish distribution and
concentration of fixed and mobile resources for the fire agency.

Approved this 27th day of June, 2017 by the Poudre Fire Authority Board of
Directors.

\[Signature\]
PFA Board Chair

\[Signature\]
Attest
POUDRE FIRE AUTHORITY

CORE VALUES

Courage
I/we will respectfully communicate, promote and accept the highest moral action regardless of outcome or risk to self.

Leadership
I/we will model, promote, and inspire; lead by example; and demonstrate unconditional positive respect.

Duty
I/we will act courageously for what is right.

VISION

To be a respected, value-driven leader in the community and in the fire service.

MISSION

To protect life and property by being prompt, skillful, and caring. Our actions are anchored in the core values of courage, leadership, and duty.
RA/SOC DOCUMENT UPDATE CYCLE

The Risk-Assessment and Standards of Cover for the Poudre Fire Authority are intended to be living documents. As such, they need to be updated on an annual basis to serve as one of the pieces of a planning effort that includes the Poudre Fire Authority Strategic Plan, Self-Assessment Manual and the Poudre Fire Authority Annual Budget.

Acknowledgements:

PFA Category Managers

- For providing the subject matter expertise required in making this document meaningful.

Battalion Chief Mike Gavin, Director of the Fort Collins Office of Emergency Management

- Valuable contributions to the Risk-Assessment: particularly in Community-Wide Risk.

Captain Geoff Butler, Wildland Program Coordinator

- Valuable contributions from the Community Wildfire Protection Plan (CWPP).
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MESSAGE FROM THE FIRE CHIEF

Poudre Fire Authority (PFA) is committed to serve the community in the most efficient and responsive manner possible in order to meet citizen expectations. The Risk Assessment and Standards of Cover are a significant component to help Poudre Fire Authority meet that commitment. While this document is one component of fulfilling the requirement for accreditation through the Commission on Fire Accreditation International (CFAI), it is also part of an overall organizational philosophy that is rooted in our mission and core values. In order for the Poudre Fire Authority to provide prompt, skillful and caring service, we must continually examine our operations and position them strategically in a forward looking and values-driven manner.

By doing so, the Poudre Fire Authority will continue to strive for excellence in accordance with the intent of the intergovernmental agreement that formed the organization in 1981. By developing these documents, the organization is better able to identify risks, establish a commensurate level of service to respond to those risks, and to evaluate our response performance over time. In order to meet these goals, this document is intended to be continually updated and re-evaluated.

This effort has been a collaborative process, both within the Authority and also with our citizens and business community. We learned from the citizens that they share our concerns of responding efficiently and effectively. Respondents confirmed that Poudre Fire Authority’s current focus on rapid response, ensuring that we have skilled staff and being able to respond to large-scale emergencies was important to them.

This document also presents new opportunities to re-define our staffing levels, to consider where to most optimally locate our resources and to evaluate our inputs and outcomes. It will allow us to do this while considering the large variety of response capabilities that we deliver to citizens living in our geographically diverse jurisdiction. While responding to emergency medical services incidents represents the greatest demand on our operational resources, this must constantly be balanced with our ability to intervene in situations involving structure and wildland fire suppression, hazardous materials, and technical rescue. In addition, the ability to evaluate our performance based on our newly established urban, suburban, and rural travel time standards gives us the ability to more accurately evaluate these service areas across our 235 square mile service area.

Finally, while this document is focused on emergency response, it is important to note that it also forms the foundation of other efforts to reduce the various risks in our community through public education, training of our personnel, and comprehensive fire prevention efforts. The Poudre Fire Authority continues to learn from all of these activities and we look forward to adapting and growing along with the communities we serve in a responsive fashion.
PURPOSE

This document represents the foundation of Poudre Fire Authority’s (PFA) efforts to establish adopted Standards of Cover that outline the response to the specific risks faced by the citizens and businesses in PFA’s area. A comprehensive risk assessment is vital in evaluating the effective distribution and concentration of resources such as station locations, response and demand zones and community trends. Poudre Fire Authority is dedicated to the protection of lives, property and the quality of life for the citizens the Authority serves. Poudre Fire Authority employees are highly motivated, highly trained professionals who take their service to the community seriously. The foundation of the Authority’s success is based on commitment to continuous quality improvement at all levels of service delivery. This document is part of this commitment.

What follows is an overview of the risks that may be experienced by the community and/or citizens living within Poudre Fire Authority response area. Thus, these risks are those that the organization is expected to respond to and mitigate. In order to correctly classify these risks, this document will examine them in the context of the overall jurisdiction, the fire management zones or demand zones, and the individual buildings or risks. The results of this community risk assessment will provide a foundation on which future policy will be based. This will help in the strategic planning process, and will ensure that Poudre Fire Authority is able to safely respond to situations as they arise.

This report was created primarily through the use of agency databases, such as the Records Management System (RMS), Computer Aided Dispatch (CAD) and Geographic Information Services (GIS). As part of PFA’s maintenance of accredited status through the Commission on Fire Accreditation International (CFAI), the agency uses several data analysis tools to query these sources. In addition, local, state and federal databases were consulted when appropriate for the demographic data required. Finally, focus groups and employee surveys were used to represent the experience of agency members.
CHAPTER 1 - ENVIRONMENTAL SCAN

Poudre Fire Authority (PFA) jurisdiction represents a diverse area in terms of population, topography, climate and culture. These factors contribute to the risks the agency faces in its service to the community. The first chapter of this document therefore presents these factors in a systematic fashion to provide background and context.

PFA HISTORY – LEGAL BASIS OF AGENCY EXISTENCE

Poudre Fire Authority provides full-service fire prevention, fire protection and emergency service to the City of Fort Collins (City) and the Poudre Valley Fire Protection District (PVFPD). The agency is an independent governmental entity established through an intergovernmental agreement between the City and the PVFPD pursuant to Section 29-1-203(4) of the Colorado Revised Statutes (C.R.S.). The agency operates as a separate and distinct entity from the City and PVFPD but is not considered a “district” subject to Article X, Section 20 of the Colorado Constitution.

The boundaries of the agency consist of the combined territorial boundaries of the City, which is in the central part of the agency’s 235 square mile service area, and the PVFPD, which forms a ring around the City. The Poudre Fire Authority employs 179 uniformed personnel. 160 of these personnel staff eleven fire stations, and operate eleven engine companies, and two truck companies. In addition, 25 volunteer firefighters and 3 seasonal firefighters provide emergency medical and wildland response at two additional stations. The agency supports these operations with a training center/warehouse/emergency management complex and a headquarters facility that includes the Administration and Community Safety Services divisions. These supporting divisions are staffed with 19 uniformed, 23 civilian full-time, and 12 civilian part-time personnel. In addition, 6 volunteer mail carriers contribute to the organization.

Poudre Fire Authority protects a population of approximately 198,955 residents living in Fort Collins, the Town of Timnath and the communities of Bellvue and LaPorte. The agency also protects the surrounding unincorporated areas of Larimer County\(^1\). The agency protects an estimated $25.1 billion in property.

PFA was organized in 1981 with the consolidation of the City of Fort Collins Fire Department and the Poudre Valley Fire Protection District. The goal of the consolidation was to improve fire and rescue services by decreasing response times to emergencies and to eliminate duplication of services. The formation of PFA resulted in reducing the costs to both the citizens of Fort Collins and the Poudre Valley Fire Protection District. A five-person Board of Directors (BOD) composed of elected members from the PVFPD board and the City Council governs Poudre Fire Authority. Both the PVFPD board and the City Council respectively appoint two members to serve on the PFA BOD. The fifth member of the PFA Board of Directors is appointed by these four members and has historically been the Fort Collins City Manager. The PFA Board exercises the agency’s powers as outlined in the intergovernmental agreement, which includes appointing the Poudre Fire Authority’s fire chief, which is currently Chief Tom DeMint.

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\(^1\) 2010 United States Census Bureau.
Poudre Fire Authority legally exists through an intergovernmental agreement (IGA) established between the City of Fort Collins and the Poudre Valley Fire Protection District. The original agreement was executed on December 22, 1981. A revised IGA was executed on July 15, 2014, when both parties agreed to update and revise the IGA. The IGA outlines the funding for the Poudre Fire Authority. The City of Fort Collins contributes a proportion of collected sales tax, as established in the revenue allocation formula specified in the IGA, while the PVFPD gives the revenues they collect for fire protection services to PFA. The PFA Board of Directors then determines how those funds will be appropriated for services through the annual budget approval process.

JURISDICTION

The agency's boundaries are not currently changing; however, the City of Fort Collins is continuing to expand and annex areas of the county. The Poudre Valley Fire Protection District encompasses all of the area within PFA’s boundaries, except for land within the City of Fort Collins.

COMMUNITIES SERVED BY POUDRE FIRE AUTHORITY

<table>
<thead>
<tr>
<th>Area Served</th>
<th>2016 Population Estimates</th>
<th>Percent of Jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Fort Collins</td>
<td>161,542</td>
<td>81.2%</td>
</tr>
<tr>
<td>PVFPD (Timnath excl.)</td>
<td>34,955</td>
<td>17.6%</td>
</tr>
<tr>
<td>Timnath</td>
<td>2,458</td>
<td>1.2%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>198,955</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

POPULATION DENSITY CHARACTERISTICS

A Geographic Information Services (GIS) analysis of Poudre Fire Authority response area, using the 2010 United States Census data, indicated that Poudre Fire Authority responds to four distinct population densities: urban, suburban, rural, and wilderness. Areas that fit these categories are scattered throughout PFA’s jurisdiction, with some stations serving multiple categories. The map below represents these areas and their distribution. It should be noted that in an effort to allow for clear communication to stakeholders and to provide a clearly defined foundation for the Standards of Cover, the agency has developed a response matrix based only on rural, suburban, and urban response standards. This matrix takes into account current and expected growth patterns and ensures that all areas receive service at a level commensurate or above their respective population density characteristics. A detailed presentation of this matrix follows in the Standards of Cover portion of this document.
Poudre Fire Authority is located approximately 65 miles north of Denver, Colorado, and 45 miles south of Cheyenne, Wyoming. Poudre Fire Authority’s response jurisdiction is located in an area known as the Front Range, which is in reference to its location along the eastern foothills of the Rocky Mountains. The foothills represent the most significant geographical feature in the district. On the eastern boundary of the district lie the plains characterized by grasslands and agricultural areas. This topography results in elevation profiles in the district from as low as 4,300 feet in the east to as high as 7,300 feet in the west. The City of Fort Collins represents the largest community in the response district and is located at approximately 5,000 feet above sea level. Major geographic landmarks include Horsetooth Rock and Reservoir and the foothills that make up the western edge of the district as well as the Cache la Poudre River, which transects PFA’s jurisdiction.

**CACHE LA POUDRE RIVER**

This river is the largest river in PFA’s area and flows through the City of Fort Collins, the Town of Timnath, and the communities of LaPorte and Bellvue. The river is used recreationally by rafters, kayakers, tubers, and swimmers, and is also excellent for fishing. The flow varies throughout the year from a flow of 1,040 cubic feet per second to an average peak of 2,000-3,000 cubic feet per second. The Cache la Poudre River National Heritage Area makes up the area surrounding the Cache la Poudre River. This area includes a 100-year flood plain. In September of 2013, a major flooding event impacted this river as well as several other rivers throughout northern Colorado. The jurisdiction was essentially split into two districts causing PFA to make significant response adjustments.

**SPRING CREEK**

In addition to the Poudre River, Spring Creek also runs through PFA’s jurisdiction. Spring Creek is a tributary of the Cache la Poudre River and has a length of 12.7 miles. During the spring of 1997, Spring Creek overran its banks and destroyed several structures as well as a mobile home park and killed five people. The Community Collaborative Rain, Hail and Snow Network (CoCoRaHS) was formed as a result of this flood, which provides for vital weather intelligence to study and inform citizens about pending weather events.

**HORSETOOTH RESERVOIR**

Horsetooth Reservoir is located in the western portion of the jurisdiction. This man-made reservoir provides much of the water supply to area residents. The reservoir has a maximum depth of 200 feet and a maximum water volume of 156,735 acre-feet. Approximately 25 miles of shoreline surround the reservoir, and it is used for recreational boating, swimming and fishing.
TRANSPORTATION NETWORK

Almost every type of transportation service affects Poudre Fire Authority’s jurisdiction. While these types of transportation contribute greatly to the quality of life and the ability to conduct commerce, some of these pose challenges for emergency responders.

HIGHPWAYS AND ROADS

There are three major highways that travel through PFA’s jurisdiction. These are Interstate-25 (I-25), US Highway 287 (US-287) and Highway 14 (SH-14). I-25 is a major north/south interstate that runs through the center of the United States. This highway is used for recreational and business travel and is a main transportation route for semi-truck traffic. US-287 is a major north/south truck route between Fort Collins and Laramie, Wyoming that also extends through several states. US-287 intersects the City of Fort Collins as College Avenue. On the north side of the City, US-287 joins with SH-14. The two highways split at the bottom of Poudre Canyon with SH-14 going west into the canyon and US-287 going north into Wyoming. The section of US-14 that is in Poudre Canyon offers a unique set of difficulties. Extremely limited cell service in the canyon means that most 911 calls come in varying lengths of time after the incident occurred.

RAILROADS

Three different railroads travel through the Poudre Fire Authority’s jurisdiction. These are the Great Western Railroad (GW), the Burlington Northern and Santa Fe Railroad (BNSF) and the Union Pacific Railroad (UP). Together these railways operate 56 miles of railroad tracks. This is made up of approximately 39 miles of mainline track and 17 miles of spurs.

As these tracks cross major north/south and east/west roadways, they have an impact on the road networks in Fort Collins. Rail traffic includes a wide variety of commodities including building materials, agricultural, petroleum, industrial, and general freight. Recently, the MAX bus service has gone into service that parallels some of these tracks in the center of town.

The map that follows represents an overview of the specific locations where the tracks of the various railroads intersect the jurisdiction. Emergency responders take the rail system into consideration for training. In addition, if units are blocked by trains for response, they are able to call for resources to respond in their place to ensure public safety.
The largest airport in the immediate area is Fort Collins-Loveland Municipal Airport, which is located outside PFA’s jurisdiction. PFA has automatic and mutual aid agreements for this area and responds to major accidents or incidents at the airport. To prepare for this, PFA crews train periodically with Loveland Fire Rescue Authority (LFRA) at the airport. The mutual aid and automatic aid agreements have established that LFRA is responsible for any Aircraft Rescue and Firefighting (ARFF) services in association with the airport. This concept has been demonstrated during inter-agency training exercises. The airport currently serves both commercial charter, commercial air service, and private planes. The airport covers 1,100 acres and has an 8,500-foot runway, 245 based aircraft and fuel sales.

Four private airports and five helipads are also within PFA’s area. Christman Field Airport, associated with Colorado State University, is only used as a helibase and base camp during wildland fire events in the area. The remaining airports located in Poudre Fire Authority’s area are outlined below.

**AIRPORTS AND HELIPORTS IN PFA’S AREA**

<table>
<thead>
<tr>
<th>Airfield Name</th>
<th>Planes</th>
<th>Helicopters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hat-Field Airport (6C04) – 5505 S. County Rd. 7</td>
<td>Two single engine aircrafts</td>
<td>N/A</td>
</tr>
<tr>
<td>Walker Airport (65CO) – 5935 E. Harmony Rd.</td>
<td>Three single engine aircrafts</td>
<td>N/A</td>
</tr>
<tr>
<td>Yankee Field (C053) Airport – 4625 E. County Rd. 54</td>
<td>Five single engine aircrafts</td>
<td>N/A</td>
</tr>
<tr>
<td>Century Helicopters Heliport (0C07) – N/A</td>
<td>Five helicopters</td>
<td></td>
</tr>
<tr>
<td>Geo-Seis Helicopters Heliport (0C04) – 116</td>
<td>N/A</td>
<td>Three helicopters</td>
</tr>
<tr>
<td>Heli-Support Heliport (2C00) – 120 NE</td>
<td>N/A</td>
<td>Not Reported</td>
</tr>
<tr>
<td>North Arrow Heliport (CD46) – P.O. Box 685</td>
<td>N/A</td>
<td>Three helicopters</td>
</tr>
<tr>
<td>Poudre Valley Hospital (CD07) – N/A</td>
<td>Transient EMS Helicopters</td>
<td></td>
</tr>
<tr>
<td>Banner Health Hospital – 4700 Lady</td>
<td>N/A</td>
<td>Transient EMS Helicopters</td>
</tr>
<tr>
<td>Christman Field (C055) - CSU</td>
<td>Transient during wildfire incidents</td>
<td>Transient during wildfire incidents</td>
</tr>
<tr>
<td>Kellogg Airstrip (2CD9) – 3 Miles N of</td>
<td>Two single engine aircrafts</td>
<td>N/A</td>
</tr>
<tr>
<td>William T Browder Heliport (50CO) – NE</td>
<td>Not Reported</td>
<td>Not Reported</td>
</tr>
</tbody>
</table>
Poudre Fire Authority’s service area experiences a semi-arid climate with four distinct seasons and low annual precipitation. Colorado is known for significant variations in weather occurring over short periods of time. Summers range from mild to hot, with low humidity and occasional afternoon thunderstorms. Thunderstorms are a factor during the summer. They can occur from late spring, throughout the summer, and into the fall. In addition to these storms, the Front Range can experience associated tornadoes. A tornado impacted the PFA jurisdiction, and especially the neighboring Town of Windsor, in May of 2008. Due to Fort Collins being located in a semi-arid climate, and with recent drought patterns, the area has experienced an increase in wildfire risk. The department has experienced significant wildfire events in spring, summer and fall.

The location of Fort Collins at the base of the Rocky Mountains results in relatively mild winters as compared to winters experienced by mountain communities just a short drive to the west. Despite this, large snow events such as blizzards can impact the jurisdiction. Such storms impact the department’s response to traffic accidents and other weather-related responses such as arcing power lines.

FORT COLLINS CLIMATE 1971-2010

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Years</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Maximum Temperature (°F)</td>
<td>1971-2000</td>
<td>42</td>
<td>46.5</td>
<td>53.7</td>
<td>61.3</td>
<td>70.2</td>
<td>80.5</td>
<td>85.5</td>
<td>83.4</td>
<td>75.4</td>
<td>64.2</td>
<td>50</td>
<td>42.9</td>
<td>63.0 avg</td>
</tr>
<tr>
<td></td>
<td>1981-2010</td>
<td>44.2</td>
<td>46.5</td>
<td>54.7</td>
<td>62.2</td>
<td>71.1</td>
<td>80.4</td>
<td>86.6</td>
<td>84</td>
<td>75.9</td>
<td>63.9</td>
<td>51.4</td>
<td>42.8</td>
<td>63.6 avg</td>
</tr>
<tr>
<td>Average Minimum Temperature (°F)</td>
<td>1971-2000</td>
<td>15.3</td>
<td>19.8</td>
<td>26.6</td>
<td>34</td>
<td>43.3</td>
<td>51.6</td>
<td>56.9</td>
<td>55.2</td>
<td>46.2</td>
<td>35.3</td>
<td>24.1</td>
<td>16.7</td>
<td>35.4 avg</td>
</tr>
<tr>
<td></td>
<td>1981-2010</td>
<td>17.9</td>
<td>20.9</td>
<td>28.2</td>
<td>35.4</td>
<td>44.5</td>
<td>52.6</td>
<td>58.5</td>
<td>56.7</td>
<td>47.5</td>
<td>36.4</td>
<td>25.9</td>
<td>17.7</td>
<td>36.9 avg</td>
</tr>
<tr>
<td>Average Total Precipitation (inches)</td>
<td>1971-2000</td>
<td>0.42</td>
<td>0.38</td>
<td>1.42</td>
<td>2.09</td>
<td>2.6</td>
<td>1.99</td>
<td>1.87</td>
<td>1.4</td>
<td>1.38</td>
<td>0.98</td>
<td>0.82</td>
<td>0.49</td>
<td>15.84 total</td>
</tr>
<tr>
<td></td>
<td>1981-2010</td>
<td>0.4</td>
<td>0.4</td>
<td>1.59</td>
<td>2.06</td>
<td>2.43</td>
<td>2.17</td>
<td>1.71</td>
<td>1.6</td>
<td>1.33</td>
<td>1.15</td>
<td>0.76</td>
<td>0.5</td>
<td>16.10 total</td>
</tr>
<tr>
<td>Average Snowfall (inches)</td>
<td>1971-2000</td>
<td>8.5</td>
<td>6.3</td>
<td>12.1</td>
<td>6.9</td>
<td>1.5</td>
<td>Trace</td>
<td>0</td>
<td>0</td>
<td>1.4</td>
<td>3.7</td>
<td>9.9</td>
<td>8.3</td>
<td>58.6 total</td>
</tr>
<tr>
<td></td>
<td>1981-2010</td>
<td>7.9</td>
<td>6.9</td>
<td>12.6</td>
<td>6.2</td>
<td>0.7</td>
<td>Trace</td>
<td>0</td>
<td>0</td>
<td>0.9</td>
<td>3.6</td>
<td>8.6</td>
<td>8.4</td>
<td>55.8 total</td>
</tr>
</tbody>
</table>

*(National Oceanic and Atmospheric Administration, www7.ncdc.noaa.gov/CDO/cdo)*
Poudre Fire Authority is fortunate to have active and reliable emergency services partners surrounding the entire jurisdiction. These agencies vary in make-up from paid to volunteer departments. Automatic and mutual aid agreements support PFA’s work and cooperation with these partners, which are outlined in a separate section. The following information provides an overview of these jurisdictions.

**LOVELAND FIRE RESCUE AUTHORITY**

The Loveland Fire Rescue Authority (LFRA) is a combination department which utilizes both career and volunteer firefighters. LFRA employs approximately 90 career members (including both uniformed and civilian employees) and approximately 6 to 12 Reserve (volunteer) firefighters. The Loveland Fire Rescue Authority provides fire and rescue services in an area totaling 194 square miles. LFRA serves residents living within the City of Loveland and residents living within the Loveland Rural Fire Protection District, including the Big Thompson Canyon, for a combined population of 87,500.

**WINDSOR SEVERANCE FIRE RESCUE**

Windsor Severance Fire Rescue (WSFR) is a combination career/volunteer department that provides fire, rescue and prevention services to approximately 25,000 residents within a 97 square mile district. The WSFR district is located east of Interstate-25, roughly in the center of a triangle formed by the cities of Fort Collins, Loveland and Greeley.

**WELLINGTON FIRE PROTECTION DISTRICT**

The Wellington Fire Protection District is a combination department that serves approximately 16,000 residents living north of Poudre Fire Authority boundaries. The department responds to approximately 750 calls per year from two stations and protects around 288 square miles. The department is staffed with 50 volunteers and 28 paid staff.

**RIST CANYON FIRE**

The Rist Canyon Volunteer Fire Department (RCVFD) is an all-volunteer fire department that is staffed by approximately 35 volunteer emergency responders. This unique department is not a tax-based district but rather relies on donations for all of its operations. The department’s response area is 110 square miles and covers a significant portion of the western boundary of Poudre Fire Authority. RCVFD operates 11 emergency vehicles from three stations. The department was heavily impacted by the High Park Fire in 2012.

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3 Source: Wellington Fire Protection District Website

4 Source: Rist Canyon Volunteer Fire Department Website
POUldre CANYon FIRE

The Poudre Canyon Volunteer Fire/EMS Department serves the residents and visitors of the Poudre Canyon. The area is served by Colorado State Highway 14, which is considered a Scenic Highway. The department protects around 500 full time residents with a summertime population of 1,500 and is host to nearly 300,000 visitors annually. The department responds to an area nearly 50 miles long with 51 volunteers and provides service to more than 100 square miles from Gateway Park to Cameron Pass along Colorado State Highway 14. In addition the department responds along County Road 69 and County Road 68C up to and including the Shambhala Mountain Center.5

LIVERMORE FIRE PROTECTION DISTRICT

The Livermore Fire Protection District (LFPD) was founded in 1991 and has two fire stations that protect 310 square miles northwest of PFA’s area. The district covers 28 miles of US Hwy 287 and an additional 400 miles of county roads. They are staffed with 14 volunteers.6

LARImer COUNTY EMERGENCY SERVICES

Larimer County Emergency Services (LCES) provides response and coordination to wildland fire, search and rescue as well as water rescue incidents in Larimer County. Coordination of these incidents includes responses within Poudre Fire Authority’s response area. LCES is the primary response partner for PFA in rural search and rescue incidents and serves as its dive rescue resource. Both Larimer County Dive Rescue and Larimer County Search and Rescue are volunteer organizations that provide services 24-hours a day, year-round.7

UC HEALTH EMS

The UC Health Emergency Medical Services (UCHealthEMS) provides the entire PFA response area with Advanced Life Support (ALS) and transport capabilities. In addition, UCHealthEMS covers a total area of approximately 2,200 square miles in northern Larimer County and parts of western Weld County. Patients are usually taken to Poudre Valley Hospital, Banner Hospital, or Medical Center of the Rockies (MCR), as dictated by the emergency, and if necessary, cared for by the staff of the Trauma Center of the Rockies at MCR.

5 Source: Poudre Canyon Fire District Website
6 Source: Livermore Fire Protection District Website
7 Source: Larimer County Emergency Services Website
Poudre Fire Authority provides services to several communities within its boundaries. What follows is a brief description of each community.

FORT COLLINS

The City of Fort Collins is 56.78 square miles in area. An estimated 68,265 housing units and 557 street miles are located within the city. The number of people employed in Fort Collins as of March 1, 2017, was 149,830. According to the American Community Survey 2011-2015, the median age is 29.3; the median household income is $53,780; and 51.9 percent of the population have completed four or more years of college.

Fort Collins had a population of 167,500 as of March 1, 2017. This is up from 154,570 in 2014, 152,205 in 2013 and 150,110 in 2012. The city experienced a population increase of 35 percent between 1990-2000, and 21 percent between 2000-2010.

The current assumption is that the overall expansion of the city and region is expected to continue for the following 50 years. While the city increases in population a proportionate growth in jobs is expected to be seen as well.

One of the reasons Fort Collins’ population and demographics are expected to change is the aging population that lives within the City. The expected changes include an increase in residents 65+ from approximately 8 percent in 2010 to approximately 19 percent by 2030. These numbers are then expected to decrease to approximately 11 percent between 2030 and 2060. Changes such as these will affect housing and transportation as well as numerous other services and needs throughout the City.

Projections also show the City of Fort Collins will increase in diversity. Along with diversity changes, the composition of Fort Collins households is expected to change. What are considered family households, married couples with or without children, have the potential to decrease in numbers to only make up about half of Fort Collins households by 2040. Along with these changes, family households with children could decrease to fewer than 25 percent of all Fort Collins households by 2040.

Significant growth is predicted over the next 50 years for the western United States, including Fort Collins. Due to this projected growth, questions have been raised about supporting this growth without serious consequences. Some of these concerns include the increased need for water in a naturally arid climate, the conservation of natural resources, the need to improve air quality, growing energy needs,

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and researching impacts on wildlife. Numerous other areas will have to be considered as the population grows.

The expected impact on the provision of emergency services is yet unknown. However, an increase in population, in particular those above the age of 65, will likely increase the demand for service in the delivery system.

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**TIMNATH**

The Town of Timnath’s first blocks and lots were platted in 1905. Timnath did not experience any major growth until new families began to move in during the 1960s. While people were moving into Timnath, the built environment started to change. A new post office was built and a former food locker was converted into a fire station. Timnath remained a small, quiet and attractive residential community where the majority of its residents commuted to nearby cities for employment until the turn of the century.

The annexation of more than 2,000 acres of land in 2004 drastically changed the size of Timnath. The new boundaries extended the Town eastward to the Larimer-Weld county line and to the south past County Rd 36. Timnath grew again with later annexations extending the borders to the north to Highway 14. Development continued in these new areas until the economic downturn in 2008.

Today, the Town of Timnath is one of the fastest growing communities in the state and the nation. It is located to the southeast of Fort Collins on the east side of Interstate 25. The Town of Timnath had a population of 2,458 in 2015, up from a population of 1,226 in 2012, and 876 in 2011, and 523 in 2010. Timnath represents the fastest growing area in PFA’s district registering a population change of over 140 percent over the last three years.\(^{10}\)

The average household size is 2.71 residents and the median age is 35.4. The male population is 49.60 percent and the female population is 50.40 percent. The median residential home age is 9 years, and this number is further decreasing in age due to the rapid development to the east and south of the town.

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**LAPORTE**

LaPorte is an unincorporated community located northwest of Fort Collins and had a population of 2,497 in 2015, a decrease from 2,450 residents in 2012. The current median age is 42.5. There are 1,057

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\(^{10}\) Best Places. Timnath: [http://www.bestplaces.net/housing/city/colorado/timnath](http://www.bestplaces.net/housing/city/colorado/timnath)

[https://www.colorado-demographics.com/timnath-demographics](https://www.colorado-demographics.com/timnath-demographics)

[https://www.colorado-demographics.com/laporte-demographics](https://www.colorado-demographics.com/laporte-demographics)
households with an average size of 2.35 residents. The majority of people who live in LaPorte are employed in Fort Collins or other neighboring communities. The median home age is 37.1 years.\textsuperscript{11}

BELLVUE

Bellvue is an unincorporated community that borders LaPorte and extends west into the foothills. The area had a population of 1,962 in 2016, a decrease from 2,312 in 2012 with a population density of four residents per square mile. The median age is 55.3. There are 903 households with an average size of 2.1 residents. The majority of people who live in Bellvue are employed in Fort Collins or other neighboring cities. The median home age is 28.1 years.\textsuperscript{12}

COLORADO STATE UNIVERSITY (CSU)

Colorado State University’s main campus is within the city limits of Fort Collins. Enrollment was approximately 33,198 in 2016 total students and 27,300 resident-instruction students. Seventy-nine percent of students are Colorado residents. Approximately 6 percent of students are non-resident alien students. Roughly 19 percent of CSU students are of ethnic minorities. In addition, CSU employs 1,846 faculty members, 2,323 administrative professionals, 1,682 state-classified personnel, 1,001 research associates, 261 post doctorates, and 109 other salaried employees. Colorado State University is Fort Collins’ largest employer. CSU has 14 residence halls with a capacity of about 8,624 students, 618 apartment units for students with families, and 290 apartments for graduate students. There are also several independent student-housing facilities in Fort Collins.\textsuperscript{13}

LARIMER COUNTY

In 2016 Larimer County had a population of 339,993, up from 311,435 in 2014, 298,091 in 2009, and 271,830 in 2004. According to the State of Colorado, this number is predicted to grow to over 430,000 persons by 2030. Extrapolating the data from past trends predicts over 600,000 persons by 2060.

According to the United States Census Bureau, the 2016 population estimate for the State of Colorado was 5,540,545. This is a 6.6% increase from 5,197,580 in 2014.\textsuperscript{14}

\textsuperscript{11} Source: Best Places LaPorte: http://www.bestplaces.net/housing/city/colorado/laporte

\textsuperscript{12} Source: Best Places Bellvue: http://www.bestplaces.net/housing/zip-code/colorado/bellvue/80512

\textsuperscript{13} Source: Colorado State University: http://www.colostate.edu/features/facts-figures.aspx

\textsuperscript{14} Source: USA.com: http://usa.com/larimer-county-co-population-and-races.htm
COLORADO AND LARIMER COUNTY DEMOGRAPHICS TABLE 1

<table>
<thead>
<tr>
<th>Demographics</th>
<th>State of Colorado</th>
<th>Larimer County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under the age of 5</td>
<td>6.2%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Under the age of 18</td>
<td>23%</td>
<td>20.3%</td>
</tr>
<tr>
<td>Over the age of 65</td>
<td>13%</td>
<td>14.3%</td>
</tr>
<tr>
<td>Male</td>
<td>50.3%</td>
<td>49.9%</td>
</tr>
<tr>
<td>Female</td>
<td>49.7%</td>
<td>50.1%</td>
</tr>
</tbody>
</table>

REGIONAL DEMOGRAPHICS AND ECONOMY

Poudre Fire Authority serves an economically and socially diverse population. The City’s largest employer, Colorado State University, has a heavy influence on the region. Population growth and expansion of several key industries such as high-tech manufacturing and the beer brewing industry have had an impact on the real estate market in the area. Rapid building in outlying areas and an increase in real estate prices has been a common theme over the last few years. Poverty rates have increased over the last few years, likely due to the growth in population.

POVERTY

The number of people living in poverty in Larimer County increased by 15.6 percent between 2007 and 2012. In addition, the number of people living in poverty in Larimer County has increased by 54 percent since 2000. This increase is higher than the national increase of 23 percent and the increase in Colorado of 42 percent. The 2011-2015 Census showed 13.5 percent of the national population, 11.5 percent of Colorado’s population, and 12.2 percent of Larimer County’s population was living in poverty.

The 2000 census showed that 7.3 percent of Larimer County residents under the age of 18 were living in poverty. ACS shows a steady climb in these numbers. The ACS report from 2009-2011 shows an increase of 13.5 percent in minors living in poverty in Larimer County.15

Planning Assumption:
The increase of people living in poverty will have an impact on service demand and fire risk for the Poudre Fire Authority.

COLORADO AND LARIMER COUNTY DEMOGRAPHICS TABLE 2

<table>
<thead>
<tr>
<th>Demographics</th>
<th>State of Colorado</th>
<th>Larimer County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resided in same home for one year or longer</td>
<td>80.8%</td>
<td>78.8%</td>
</tr>
<tr>
<td>Foreign born persons</td>
<td>9.8%</td>
<td>5.2%</td>
</tr>
<tr>
<td>Language other than English spoken at home five and up</td>
<td>16.9%</td>
<td>8.7%</td>
</tr>
<tr>
<td>High school graduate age 25+</td>
<td>90.7%</td>
<td>95.3%</td>
</tr>
<tr>
<td>Bachelor’s degree or higher age 25+</td>
<td>38.1%</td>
<td>44.3%</td>
</tr>
<tr>
<td>Veteran</td>
<td>391,725</td>
<td>22,121</td>
</tr>
</tbody>
</table>

ETHNICITY IN COLORADO AND LARIMER COUNTY

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>State of Colorado</th>
<th>Larimer County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>87.5%</td>
<td>93%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>4.5%</td>
<td>1.1%</td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td>1.6%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Asian</td>
<td>3.2%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Native American and other Pacific Islander</td>
<td>0.2%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Two or more races</td>
<td>2.9%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>21.3%</td>
<td>11.2%</td>
</tr>
<tr>
<td>Caucasian alone, not Hispanic or Latino</td>
<td>68.7%</td>
<td>83.2%</td>
</tr>
</tbody>
</table>

GROWTH AND REAL ESTATE

Most sources, such as city and county planning departments, as well as business leaders, are projecting continued growth for the Fort Collins and Larimer County region. As more people move into the area, the number of homes available for sale is shrinking. In 2016 Fort Collins and Timnath had 617 new homes built.

One issue Fort Collins faces with its predicted growth is limited land and limited building height. Within city limits, no new building can be built over five stories due to zoning regulations. This has resulted in several “infill” projects, which in some cases is revitalizing some parts of town. This type of development is characterized by building on previously empty lots or redeveloping previous commercial areas into residential units.
In 2010, the City of Fort Collins published the Plan Fort Collins Snapshot Report. This in-depth report predicts the following:

- Continued and sustained population growth.
- Demographic shifts due to baby boomers’ impact on housing and demand for services.
- Job growth is expected to mirror population growth.

In 2010, Fort Collins’ population over 65 years of age made up 8 percent of the total population. That number is expected to more than double and reach 19 percent by 2030. The prediction is that based on this demographic shift, roughly 80 percent of new housing will be for households without children. Empty nesters, single people and the baby boomer generation are expected to drive this shift. Economically, the office and institutional sectors are expected to see the most growth with the industrial sector projected to lose some employment.

ECONOMY

The economy of northern Colorado proved resilient during the last recession experienced by the larger economy. While a downturn was noted, Larimer County was somewhat insulated from many of the impacts. This is in part due to a diversified base of industry that is further supported by Colorado State University, which employs roughly 7,000 employees across multiple disciplines. According to the 2011-2015 census Larimer County had a per capita income of $31,304. The overall labor force in Larimer County was around 120,470 in 2015, with a 2012 unemployment rate of 6.2 percent.

The City of Fort Collins has a well-diversified base of industry to help support the economy. Key industries in the area include an innovation economy that includes craft breweries and clean energy companies. An entire sector of bioscience companies is supported by this innovation technology as well as proximity to Colorado State University.

The City of Fort Collins ranks second in Colorado in production of beer, and the state of Colorado is ranked first nationally for the volume produced by the breweries and 4th nationally in microbreweries per capita. There are numerous microbreweries, distilleries, and three major breweries within PFA’s jurisdiction. Anheuser Busch is the largest brewery in the area. New Belgium Brewing has the distinction of being the first wind-powered brewery in the United States of America and is currently the largest in the world. In 2013 New Belgium Brewing produced an estimated 792,292 31-gallon barrels of beer.
CHAPTER 2 – COMMUNITY RISK

This section examines Poudre Fire Authority’s jurisdiction using three distinct approaches. The first is to look at regional or community-wide risks. These include topics such as weather and topography related risk. These risks are characteristic of the entire jurisdiction and are outlined in this chapter.

Following this, an examination of risk specific to various response categories is presented. These risks are prevalent in the community to a degree that the agency has pre-defined response programs in place to mitigate and respond to such risk. These include fire suppression, emergency medical services (EMS), technical rescue, hazardous materials and wildland fire. This examination allows the agency to establish the consequence of events on the community.

Finally, risks are examined in each planning zone to begin to further define the location and frequency characteristics of the risks faced by the community. This method allows for the agency to compare various risk categories across different portions of the jurisdiction to allow for a better concentration of resources.

RISK-POLICY

For the purposes of the risk-assessment, Poudre Fire Authority defines all risk in accordance with a tier-based decision making model that communicates commitment to the community as the primary purpose for existence. Therefore, when risk is assessed, the agency is assessing the risk to the customer. This does not mean that the agency places responder safety as a secondary consideration. However, the agency has an extensive system of risk/benefit decision-making tools and policies in place to ensure that responder safety is a top organizational priority.

PLANNING ZONES UTILIZED

The agency primarily analyzes its fire and non-fire risk based on planning zones that correlate with the station areas of response apparatus. This was done to align response performance with current operating parameters and to allow for better integration of accreditation concepts to the station level.

In addition, Poudre Fire Authority uses several ancillary zones to analyze response both by topographical factors and population density. These ancillary zones are often used in specialty programs such as wildland by taking into account topographical and vegetation parameters.

COMMUNITY-WIDE RISK

Several risks are found throughout the district that pose unique challenges to Poudre Fire Authority. While several of these are located in specific planning zones, there are several found throughout all planning zones utilized by the agency. The authors of this report are thankful to the Fort Collins Office of Emergency Management who provided the bulk of the information for the community-wide risk section of this report as found in the Northern Colorado Regional Hazard Mitigation Plan. It is the intent of
Poudre Fire Authority to coordinate this information in the future in an effort to eliminate conflicting information and to best prepare for any events outlined in this section. The specific factors involved in assessing community-wide risk and vulnerability are based on the Northern Colorado Regional Hazard Mitigation Plan which was established in part through reviewing past community experiences, identifying future trends and consulting with relevant community partners such as law enforcement and other emergency management agencies.

WEATHER

Fort Collins’ location along the foothills of the Rocky Mountains brings the possibility of severe weather events such as heavy snows, tornados and drought.

WIND

**Frequency:** Highly likely: Near 100% probability in next year

**Speed of Onset:** Minimum to no warning

**Geographic Area Affected:** Entire plan region, greater risk near foothills

**Influencing Factors:** Foothills, mountains, canyons and weather systems

**Description:**

Windstorms frequently impact all communities in the region, with little to no advanced warning. The duration and maximum wind speeds experienced during wind storms have repeatedly resulted in serious property damage and personal injury. Windstorms are common along the Northern Colorado Front Range corridor. Several significant wind events have been responsible for severe damage to property, including buildings, vehicles and large trees. As a direct result of these extreme winds, the Northern Colorado region has occasionally experienced utility outages, downed and/or arcing power lines, debris blocking streets, personal injuries and structure fires.

16 NORTHERN COLORADO REGIONAL HAZARD MITIGATION PLAN
### Table 4.11: History of Severe Wind Storm Incidents

(5 Knots = 5.8 Miles per Hour)

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Wind Speed</th>
<th>Description / Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 2016</td>
<td>Larimer County</td>
<td>76.42</td>
<td>Strong winds were experienced along the Front Range on Christmas Day.</td>
</tr>
<tr>
<td>June 2008</td>
<td>Larimer County</td>
<td>74 knots</td>
<td>Strong winds damaged several boats at the Carter Lake Marina and knocked down branches and trees in Loveland, resulting in downed power lines and damaged vehicles and homes.</td>
</tr>
<tr>
<td>Jan 2007</td>
<td>Larimer County</td>
<td>77 knots</td>
<td>High winds and recent snow resulted in whiteout conditions and several highway closures.</td>
</tr>
<tr>
<td>Nov 2006</td>
<td>Larimer County</td>
<td>80 knots</td>
<td>Strong winds were experienced in the foothills of Larimer County.</td>
</tr>
<tr>
<td>Nov 2005</td>
<td>Fort Collins</td>
<td>61 knots</td>
<td>Strong winds downed a tree near a home daycare facility, destroyed a large tent on the CSU campus, and left approximately 500 homes and businesses without power for one to two hours. One semi-trailer was knocked over on Highway 287 north of Fort Collins.</td>
</tr>
<tr>
<td>July 2005</td>
<td>Loveland</td>
<td>50 knots</td>
<td>Strong winds occurred near Boyd Lake, capsizing a boat and killing two occupants and injuring four others.</td>
</tr>
<tr>
<td>Apr 2005</td>
<td>Masonville</td>
<td>56 knots</td>
<td>Strong winds downed power lines.</td>
</tr>
<tr>
<td>Dec 2004</td>
<td>Larimer County</td>
<td>88 knots</td>
<td>Damaging downslope winds had gusts approaching 88 knots along the Front Range.</td>
</tr>
<tr>
<td>Nov 2003</td>
<td>Larimer County</td>
<td>89 knots</td>
<td>Strong downslope winds developed along the Front Range. Damaging winds downed power lines and caused two fires.</td>
</tr>
</tbody>
</table>

**Assessing Vulnerability**

Severe windstorms are common along the Front Range corridor. Significant property damage frequently occurs as a result of these storms. Damage includes disruption of electrical service as well as destruction of landscaping, roofing materials, and other building components. Associated hazards include fires from arcing power lines, debris in the streets disrupting transportation routes, and power losses. Several occurrences of large commercial vehicles being overturned due to high winds have also occurred in the area.
region. Although they are transportation vehicles, the impact and resources necessary to alleviate the emergency may take the same amount or more resources than typical wind damage to structures. All of the communities in Larimer County are at risk. Speed of the winds, location, and duration of the storms are the main factors in determining the amount of damage that results from this natural phenomenon.

**DROUGHT**

**Frequency:** Likely: 10% - 100% in next year, or at least one chance in next 10 years

**Potential Speed of Onset:** More than 24 hours warning

**Geographical Area Affected:** Populated areas of the communities and county (domestic needs) and widespread areas of the county (agricultural needs).

**Influencing Factors:** Seasonal patterns, temperature patterns, precipitation patterns, growth

**Assessing Vulnerability**

Colorado, being a semi-arid state, is constantly at risk for drought. Northern Colorado began experiencing severe drought conditions in 2000. These conditions persisted until the winter of 2003/2004, when several winter storms moved through the region and provided extremely heavy snowfalls. Despite the recent history of large accumulation snowfalls, the communities in the region consider water a very precious commodity and continually work to prevent another recurrence of similar drought conditions that existed between 2000 and 2003.

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17 **NORTHERN COLORADO REGIONAL HAZARD MITIGATION PLAN**
All residents, commercial facilities, industry, and agricultural businesses are affected by drought conditions. Development pressure and growth demands increase the impact of this hazard. Possibly the greatest and most visible result of drought conditions is the increased risk of wildland fires in the community. Natural habitat areas are also impacted by drought. Agriculturally-based areas of the communities within this plan can be greatly affected. Specific buildings are not identified as being at risk since this hazard impacts the entire community.

**FLOODING**

**Frequency:** Likely: Between 10% and 100% probability in next year, or at least one chance in next 10 years.

**Speed of Onset:** Minimal or no warning

**Geographical Area Affected:** Areas within Larimer County that are in low elevations, near creeks, streams, rivers, water storage facilities, drainage areas or flood plains

**Influencing Factors:** Meteorological conditions such as severe thunderstorms, up slopes and intense localized rain storms

Fort Collins, Loveland and Larimer County have all been affected by flash flooding. This hazard is considered the greatest risk in the area of natural disasters in this particular region. Numerous floods in the history of this region have resulted in loss of life and substantial property-related dollar loss.

**Assessing Vulnerability:**

Depending on its location and extent, a 100-year flood would have an impact on certain Colorado State University facilities, various city facilities, a fire station, a private school, an old industrial hazardous materials site (a federally identified “brownfield” site), a wastewater treatment facility, several roadways within the community, and virtually the entire residential part of the downtown area. A vast portion of Fort Collins electric, phone and cable networks are underground. Significant flooding within and outside the 100-year flood map may cause temporary outages of these services. The risk of these outages is minimal compared to past historic problems when most utilities were located above ground.

Significant mitigation activities have taken place since the Spring Creek flood in 1997. Mitigation efforts were primarily aimed at decreasing the risk to identified critical facilities and infrastructure from flooding. Historically, flash flooding is one of the most common natural hazards that impacts the City of Fort Collins and presents the greatest risk. Loss of life and substantial property damage have been recorded in numerous instances over the past 100 years. All areas along waterways and within identified flood plains are facing increasing development pressure. Land use in the Fort Collins area is under pressure due to current density and infill issues within the city. Structures within the floodplains were identified after the 1997 disaster and during Project Impact program activity. Flooding in September of
2013 caused major outages and significant road damage. Much of the City was cut in half due to this flood.

WINTER STORMS

Frequency: Likely: Between 10% and 100% probability in next year, or at least one chance in next 10 years.

Speed of Onset: More than 24 hours warning

Geographical Area Affected: All areas of the plan

Influencing Factors: Weather system, seasonal, prevalent to this part of state

Description

Winter storms occur in many forms and vary significantly in size, strength, intensity, duration, and impact. The elements to consider in the definition of a winter storm include temperature, temperature extremes, wind and wind chill temperatures, and snow and blowing snow. Three significant incidents that occur in the winter are winter storms, blizzards and ice storms.

Assessing Vulnerability

Winter storms in Northern Colorado can severely impact the region in a relatively short period of time. Disruption of transportation services, utility outages, daily business activities, school cancellations and delayed emergency responses are historically results of a winter storm. Typically these storms are “short lived.” One of the greatest associated risks with severe winter snow and ice storms is the disruption of utilities. Local outages occur during weather related events. Large-scale utility (power) disruptions have occurred although most were rapidly repaired. Areas that are impacted are primarily those locations with above ground electrical supply. Wind, ice and snowstorms have disrupted services for short periods of time. Longer outages have occurred in larger storms. Treacherous road conditions impact public safety responses due to vehicle accidents and other hazards. Building damage is usually minimal, but infrastructure damage can be tremendous. Winter storms are the primary driver of utility outages. Occasional population relocation is possible in an extended event, especially to the at risk population. The at risk population includes those using medical equipment, the elderly and individuals needing daily medical or physical care, the home-bound, the homeless, and individuals who live in areas that are designated at the highest risk for potential impact. Structural damage during winter storms is typically isolated and usually results from other debris (trees) striking the structure. Falling or fallen debris is a major cause of transportation problems. The Larimer County region is at risk for winter storms.

19 NORTHERN COLORADO REGIONAL HAZARD MITIGATION PLAN
TORNADO

Frequency: Likely: Between 10% and 100% probability in next year, or at least one chance in next 10 years.

Speed of Onset: Minimal to no warning

Geographical Area Affected: All areas of Northern Colorado, increased risk in eastern areas of Larimer County

Influencing Factors: Severe thunderstorms, geographical flat areas

History

Severe thunderstorms consisting of heavy rains, hail, high winds and tornados frequent this area of the state. Until recently, the region had not incurred any major damage from tornados; however, in May of 2008, a tornado that originated south of Greeley ravaged its way north and west, skirting Greeley and devastating Windsor. It continued on that track, crossing Interstate 25 just north of Fort Collins, where it knocked down a number of utility poles and damaged a number of homes. One fatality and numerous injuries were reported in Weld County, which is directly east of Larimer County. The National Weather Service rates Colorado’s eastern plains as one of the areas in the nation that is at highest risk for tornados. As the rural population increases, the potential impact of tornados will increase. It is also important to note that the number of funnel cloud sightings over the last several years has increased. The National Weather Service believes this may be due to an increase in population, creating a better tracking of what actually occurs. As growth of the communities continues to expand to the east into these rural areas, the potential for damage and risk to life will increase correspondingly.

Assessing Vulnerability

Tornados continue to be a threat to Fort Collins. The potential is higher on the eastern border of Larimer County. Land use in this area includes residential, small business and several large manufacturing facilities. Any structure is at risk, but the data gathered in the assessment does not support any trends that could identify specific structures that would be at risk. Historical records and scientific studies based on geographical areas were utilized to identify the areas at risk. The impact will be determined by the path and classification level of the tornado.
CIVIL DISTURBANCES

**Frequency:** Likely: 10% - 100% in next year, or at least one chance in next 10 years

**Speed of Onset:** Minimal or no warning, to 6 - 12 hours

**Geographical Area Affected:** Incident dependent – near university, college, medical facilities, governmental buildings, or downtown areas.

**Influencing Factors:** Political and/or social issues, local or state athletic team performance

**History**

The hazard of civil disturbance has a track record in the communities of Fort Collins, Loveland and other areas of Larimer County. There were civil disturbances in these communities that caused significant damage and several injuries to the public and emergency responders. Public celebration and/or complaint has occurred after sporting events, including Colorado Avalanche hockey championship games, Denver Broncos football championship games, and Colorado State University football games. The cities of Loveland and Fort Collins have also experienced civil disturbances related to the right to life and choice of lifestyle movements. Emergency service agencies involved in these type of incidents included police, fire and EMS from Fort Collins, Loveland, Larimer County, Colorado State Patrol and Colorado State University.

**Assessing Vulnerability**

As past incidents have proven, all areas of Fort Collins are vulnerable to civil disturbances. Most of the area that is impacted centers around either the Colorado State University campus or the downtown (Old Town) area. Critical structure buildings that are located in these areas include City Hall, county buildings, federal buildings, and Colorado State University facilities. Although the economic impact of civil disturbance has been minor in the past, the psychological impact that these incidents have on the community can be significant.

---

21 **NORTHERN COLORADO REGIONAL HAZARD MITIGATION PLAN**
Reservoir – 4 dams

Owned By: U.S. Department of Interior – Bureau of Reclamation.

Located just west of Fort Collins, Horsetooth Reservoir contains approximately 151,000 acre-feet of water that is used for recreation, domestic, and agriculture for Fort Collins, Greeley and surrounding areas.

Speed of Onset: Minimal to several hours, depending on location and size of failure

Geographical Area Affected: Most geographic areas included in this plan

Influencing Factors: Heavy rains, inadequate maintenance practices

Assessing Vulnerability

The Horsetooth Reservoir dam is classified by the U.S. Bureau of Reclamation as a high-threat dam due to the high volume of water that it normally holds and the population density downstream. Failure of any eastern dam along the length of Horsetooth Reservoir would result in up to twenty feet of water reaching the downtown Fort Collins area in less than two hours. This would result in extensive property damage to critical facilities, in personal injury and in loss of life.

Supporting documents may be obtained from the appropriate communities. As growth continues in these areas, the impact will increase. It is worth mentioning that the dams at Horsetooth Reservoir have recently undergone major renovation. Most flooding will follow areas that are already within the 100-year flood plain. Developments that are near, but not currently in, the 100-year flood plain will be impacted. A rapid dam failure will cause catastrophic results in Fort Collins. Massive amounts of water released will not be managed with systems that are currently in place.

Flood wave patterns, water depths, timelines, and other specific data related to these dams is information controlled by the U.S. Bureau of Reclamation and was provided by the U.S. Department of Interior - U.S. Bureau of Reclamation, Great Plains Region, Billings, Montana. Copies may be obtained by the Larimer County Office of Emergency Management, Fort Collins Office of Emergency Management, or the Colorado Division of Emergency Management. Dam structures and their functions are considered

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22 NORTHERN COLORADO REGIONAL HAZARD MITIGATION PLAN - P 51-59

23 Picture: City of Fort Collins
critical to the survival of the communities involved in this plan. Failure of these structures could cause catastrophic results including extreme property damage and loss of life.

EARTHQUAKE

Hazard: Earthquake

Frequency: Possible: 1% and 10% probability in next year, or at least one chance in the next 100 years.

Geographical Area Affected: Entire Jurisdiction

Influencing Factors: Geologic studies indicate over 100 active faults in Colorado

Assessing Vulnerability

Based on the historical earthquake records and geological studies in Colorado, an event rated at 6.5 – 7.25 in magnitude could occur in the state, although scientists are unable to predict where it will occur. The potential impact on Poudre Fire Authority’s jurisdiction will be determined by the location and magnitude of the incident.

Because of the low-risk for earthquake in this geographical region, building construction methods do not typically address earthquake stresses in most new construction projects. The hazard area is not specifically defined, although several faults are located in proximity to the dams retaining Horsetooth Reservoir, west of Fort Collins. Future growth will increase the number of buildings potentially impacted by this hazard. This region of the nation does not routinely build earthquake-resistant structures, and older structures along with high-rises are at a greater risk of damage.
CHAPTER 3 – RISK BY RESPONSE CATEGORY

Poudre Fire Authority responded to 21,028 incidents in 2016, representing an approximate increase of 10% compared to 2015. Studying the frequency and type of incidents can help to inform the agency in evaluating the community’s exposure to the risks faced by the citizens in the jurisdiction. Below is a breakdown of these incidents by NFIRS Category.

INCIDENT TYPES BY NFIRS CATEGORY

<table>
<thead>
<tr>
<th>Incident Type</th>
<th>Incident Count</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rescue &amp; Emergency Medical Service Incident</td>
<td>14,772</td>
<td>70.25%</td>
</tr>
<tr>
<td>Good Intent Call</td>
<td>3,087</td>
<td>14.68%</td>
</tr>
<tr>
<td>False Alarm &amp; False Call</td>
<td>1,409</td>
<td>6.7%</td>
</tr>
<tr>
<td>Service Call</td>
<td>847</td>
<td>4.03%</td>
</tr>
<tr>
<td>Hazardous Condition (No Fire)</td>
<td>506</td>
<td>2.41%</td>
</tr>
<tr>
<td>Fire</td>
<td>348</td>
<td>1.65%</td>
</tr>
<tr>
<td>Special Incident Type</td>
<td>37</td>
<td>0.18%</td>
</tr>
<tr>
<td>Overpressure, Rupture, Explosion, Overheat (No fire)</td>
<td>21</td>
<td>0.1%</td>
</tr>
<tr>
<td>Severe Weather &amp; Natural Disaster</td>
<td>1</td>
<td>0.00%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>21,028</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
FIRE RELATED RISKS

Structure fire related risks in Poudre Fire Authority’s area were assessed using a hybrid approach. The department’s records management system (RMS) was utilized to determine the objective calculated risks in the jurisdiction. The following Code Table depicts the scoring used to calculate the scores.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Hazard Points</th>
<th>Display Order</th>
<th>Is Retired</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Hydrants are available</td>
<td>0</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>2</td>
<td>Hydrants are not available</td>
<td>10</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>Predominant Construction Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Type I - Fire Resistant</td>
<td>0</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>4</td>
<td>Type II - Non-Combustible</td>
<td>1</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>5</td>
<td>Type III - Ordinary</td>
<td>4</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>6</td>
<td>Type IV - Heavy Timber</td>
<td>3</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>7</td>
<td>Type V - Wood Frame</td>
<td>8</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>NFPA Property Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Assembly (Codes 100-199)</td>
<td>20</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>9</td>
<td>Educational (Codes 200-299)</td>
<td>12</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>10</td>
<td>Healthcare, Detention or Correction (Codes 300-399)</td>
<td>22</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>11</td>
<td>Residential (Codes 400-499)</td>
<td>10</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>12</td>
<td>Business or Mercantile (Codes 500-599)</td>
<td>3</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>13</td>
<td>Industrial, Utility or Defense (Codes 600-699)</td>
<td>5</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>14</td>
<td>Manufacturing or Processing (Codes 700-799)</td>
<td>5</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>15</td>
<td>Storage (Codes 800-899)</td>
<td>1</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>Number of Above-Grade Floors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>1-2 floors above grade</td>
<td>0</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>17</td>
<td>3-6 floors above grade</td>
<td>1</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>18</td>
<td>More than 6 floors above grade</td>
<td>2</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>Height in Feet (from lowest point of vehicle access)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>1-30 feet</td>
<td>0</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>20</td>
<td>31-72 feet</td>
<td>5</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>21</td>
<td>More than 72 feet</td>
<td>10</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>Presence of Below-Grade Floors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>There are no floors below grade</td>
<td>0</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>23</td>
<td>There is at least 1 floor below grade</td>
<td>2</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>Total Square Footage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>1-7500 square feet</td>
<td>0</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>25</td>
<td>7501-15000 square feet</td>
<td>2</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>26</td>
<td>15001-25000 square feet</td>
<td>6</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>27</td>
<td>25001-40000 square feet</td>
<td>8</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>28</td>
<td>More than 40,000 square feet</td>
<td>10</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>Maximum Building Population (Occupancy Load if Assembly)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>0-10 people</td>
<td>1</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>30</td>
<td>11-50 people</td>
<td>3</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>31</td>
<td>51-100 people</td>
<td>5</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>32</td>
<td>101-300 people</td>
<td>10</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>33</td>
<td>301-2000 people</td>
<td>12</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>34</td>
<td>2001-10000 people</td>
<td>16</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>35</td>
<td>More than 10000 people</td>
<td>20</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>Automatic Sprinkler Systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Fully sprinklered</td>
<td>0</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>37</td>
<td>Partially sprinklered</td>
<td>5</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Hazard Points</td>
<td>Display Order</td>
<td>Is Retired</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------------------------</td>
<td>---------------</td>
<td>---------------</td>
<td>------------</td>
</tr>
<tr>
<td>38</td>
<td>Non-sprinklered</td>
<td>40</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>39</td>
<td>A monitored fire alarm system is installed</td>
<td>0</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>40</td>
<td>A local fire alarm system is installed</td>
<td>3</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>41</td>
<td>No fire alarm system is installed</td>
<td>5</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>32</td>
<td>Low</td>
<td>0</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>43</td>
<td>Ordinary</td>
<td>4</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>44</td>
<td>High</td>
<td>8</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>45</td>
<td>No hazardous materials are present</td>
<td>0</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>46</td>
<td>A hazmat incident could be handled by first arriving units</td>
<td>3</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>47</td>
<td>A hazmat incident could be handled by our agency</td>
<td>6</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>48</td>
<td>A hazmat incident would require a multi-agency response</td>
<td>8</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>49</td>
<td>All occupants are ambulatory</td>
<td>0</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>50</td>
<td>Some or all occupants are not ambulatory</td>
<td>20</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>51</td>
<td>Building is accessible to apparatus on all sides</td>
<td>0</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>52</td>
<td>Access is blocked on some sides</td>
<td>6</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>53</td>
<td>Building is not accessible to apparatus</td>
<td>12</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>54</td>
<td>No unusual electrical hazards exist</td>
<td>0</td>
<td>255</td>
<td>No</td>
</tr>
<tr>
<td>55</td>
<td>Occupancy has a battery room, open buss bars or similar hazard</td>
<td>2</td>
<td>255</td>
<td>No</td>
</tr>
</tbody>
</table>
STRUCTURE FIRE RISK

Poudre Fire Authority’s responsibility for structure fire services drives most of the other services provided by the agency. While structure fires represent only around two percent of the agency’s annual call load, response to these incidents, and their mitigation and prevention, drive many of the deployment strategies for the department.

RISK DEFINITION

For structure fire risk the following criteria result in an occupancy being placed on the "High-risk" list, which results in a different level of dispatch as per the Dispatch Operational Directive (OD):

1. Occupancies identified as the "maximum/worst" risk occupancy for each planning area.
2. Occupancies that score 100 points or greater in the High Plains Risk Calculator.
3. Occupancies that require high-rise tactics as defined in PFA Operation Directives.

PROBABILITY VS. CONSEQUENCE - FIRE RISK

<table>
<thead>
<tr>
<th>Distribution</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low-Risk/Consequence</strong></td>
<td><strong>Moderate-Risk/Consequence</strong></td>
</tr>
<tr>
<td><strong>Frequency/Probability</strong></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>Vehicle Fires</td>
</tr>
<tr>
<td></td>
<td>Dumpster and Trash Fires</td>
</tr>
<tr>
<td>Low</td>
<td>Barns and Outbuildings</td>
</tr>
<tr>
<td></td>
<td>Sprinkled Multi-Family Dwellings</td>
</tr>
<tr>
<td></td>
<td>Grass Fires in the Eastern Plains (9.6)</td>
</tr>
</tbody>
</table>

The table above outlines Poudre Fire Authority’s fire-based risk. Items denoted in red text indicate structure fire and general suppression-based risk while items denoted in yellow are related to wildland fire risk.
### Dispatched Structure Fires by Station Area

<table>
<thead>
<tr>
<th>Station</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Station 1</td>
<td>43</td>
<td>43</td>
<td>46</td>
<td>36</td>
<td>29</td>
<td>197</td>
</tr>
<tr>
<td>Fire Station 2</td>
<td>35</td>
<td>47</td>
<td>32</td>
<td>38</td>
<td>25</td>
<td>177</td>
</tr>
<tr>
<td>Fire Station 3</td>
<td>27</td>
<td>21</td>
<td>25</td>
<td>34</td>
<td>11</td>
<td>118</td>
</tr>
<tr>
<td>Fire Station 4</td>
<td>38</td>
<td>51</td>
<td>44</td>
<td>53</td>
<td>33</td>
<td>219</td>
</tr>
<tr>
<td>Fire Station 5</td>
<td>32</td>
<td>34</td>
<td>29</td>
<td>25</td>
<td>30</td>
<td>150</td>
</tr>
<tr>
<td>Fire Station 6</td>
<td>28</td>
<td>21</td>
<td>18</td>
<td>16</td>
<td>28</td>
<td>111</td>
</tr>
<tr>
<td>Fire Station 7</td>
<td>11</td>
<td>25</td>
<td>12</td>
<td>12</td>
<td>11</td>
<td>71</td>
</tr>
<tr>
<td>Fire Station 8</td>
<td>10</td>
<td>6</td>
<td>5</td>
<td>9</td>
<td>12</td>
<td>42</td>
</tr>
<tr>
<td>Fire Station 9</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Fire Station 10</td>
<td>23</td>
<td>30</td>
<td>19</td>
<td>21</td>
<td>31</td>
<td>124</td>
</tr>
<tr>
<td>Fire Station 11</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>21</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fire Station 12</td>
<td>28</td>
<td>11</td>
<td>15</td>
<td>16</td>
<td>18</td>
<td>88</td>
</tr>
<tr>
<td>Fire Station 14</td>
<td>26</td>
<td>25</td>
<td>24</td>
<td>24</td>
<td>21</td>
<td>120</td>
</tr>
<tr>
<td>Total</td>
<td>305</td>
<td>318</td>
<td>274</td>
<td>286</td>
<td>249</td>
<td>1,432</td>
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</tbody>
</table>

*Incident Count represents incidents dispatched as “STRUCT” incident type code.*
## FIRE SUPPRESSION MAXIMUM RISK BY PLANNING ZONE

<table>
<thead>
<tr>
<th>Planning Zone</th>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Risk Score</th>
<th>Needed Fire Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Station 1</td>
<td>10600</td>
<td>Aggie Theater</td>
<td>204 South College College</td>
<td>86</td>
<td>737 GPM</td>
</tr>
<tr>
<td>Fire Station 2</td>
<td>14603/11515</td>
<td>Village on Elizabeth Apartments</td>
<td>2209/2217 W Elizabeth Street</td>
<td>81</td>
<td>926 GPM</td>
</tr>
<tr>
<td>Fire Station 3</td>
<td>11264/11265</td>
<td>Chalet Apartments</td>
<td>121/125 Dartmouth Trail</td>
<td>88</td>
<td>1,512 GPM</td>
</tr>
<tr>
<td>Fire Station 4</td>
<td>18325</td>
<td>Hickory Hill Apartments</td>
<td>3425 Windmill Drive</td>
<td>88</td>
<td>938 GPM</td>
</tr>
<tr>
<td>Fire Station 5</td>
<td>14053/10454</td>
<td>Oakbrook #1 and #2</td>
<td>3200/3300 Stanford Road</td>
<td>104</td>
<td>3,575 GPM</td>
</tr>
<tr>
<td>Fire Station 6</td>
<td>13183</td>
<td>Plaza Hotel</td>
<td>3836 East Mulberry Street</td>
<td>69</td>
<td>1,917 GPM</td>
</tr>
<tr>
<td>Fire Station 7</td>
<td>13410</td>
<td>Tapestry House Events Center</td>
<td>3212 N Overland Trail</td>
<td>89</td>
<td>788 GPM</td>
</tr>
<tr>
<td>Fire Station 8</td>
<td>16407</td>
<td>Simplot</td>
<td>5701 E Harmony Road</td>
<td>98</td>
<td>417 GPM</td>
</tr>
<tr>
<td>Fire Station 9</td>
<td>N/A</td>
<td>Any Large Residence (3,000 sq. ft.)</td>
<td>N/A</td>
<td>N/A</td>
<td>375 GPM</td>
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<tr>
<td>Fire Station 10</td>
<td>17478</td>
<td>Village Garden Apartments</td>
<td>1025 Oxford Road</td>
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<td>375 GPM</td>
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<td>Fire Station 11</td>
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<td>N/A</td>
<td>375 GPM</td>
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<tr>
<td>Fire Station 12</td>
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<td>587 GPM</td>
</tr>
<tr>
<td>Fire Station 14</td>
<td>14324</td>
<td>Good Samaritan Nursing Home</td>
<td>508 W Trilby Road</td>
<td>85</td>
<td>743 GPM</td>
</tr>
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</table>
VEHICLE FIRES BY STATION AREA

<table>
<thead>
<tr>
<th>Station</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Total</th>
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<tr>
<td>Fire Station 1</td>
<td>12</td>
<td>7</td>
<td>5</td>
<td>5</td>
<td>8</td>
<td>37</td>
</tr>
<tr>
<td>Fire Station 2</td>
<td>4</td>
<td>8</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>Fire Station 3</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Fire Station 4</td>
<td>4</td>
<td>6</td>
<td>7</td>
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<td>Fire Station 5</td>
<td>7</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Fire Station 6</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>12</td>
<td>37</td>
</tr>
<tr>
<td>Fire Station 7</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Fire Station 8</td>
<td>4</td>
<td>2</td>
<td>11</td>
<td>2</td>
<td>6</td>
<td>25</td>
</tr>
<tr>
<td>Fire Station 9</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Fire Station 10</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td>Fire Station 11</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fire Station 12</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Fire Station 14</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>50</td>
<td>49</td>
<td>48</td>
<td>40</td>
<td>54</td>
<td>241</td>
</tr>
</tbody>
</table>

*Incident Count represents incidents coded as “130, 131, 132, 137, or 138” NFIRS incident type codes.

WILDLAND FIRE – WILDLAND URBAN INTERFACE RISK

Each year tens of thousands of natural and manmade wildfires burn millions of acres across the United States. The height of the wildfire season occurs in the late summer months, particularly across the western states. Wildland fires burn homes; damage infrastructure and natural resources; kill and injure firefighters and the public; and impact wildlife, local economies and the global environment. The number and severity of wildland fires are increasing throughout the nation, primarily due to population increases in the wildland-urban interface area. The risks of and from wildland fires will increase as population increases in the areas. Hazards commonly associated with wildland fires include risk of physical injury to emergency responders, hazardous material release into the atmosphere, hydrophobic soils, reduction in water quality in watershed and run off areas, and firefighting aircraft accidents. There

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25 Information from this section compiled from the Northern Colorado Hazard Mitigation Plan and PFA Community Wildfire Protection Plan (CWPP).
has been an alarming increase in firefighting aircraft accidents associated with wildland fires in the last several years. As drought conditions materialize, communities are faced with similar problems as those listed above, but on a lesser scale. Additionally, open space areas within structured communities become at risk for wildland fires and smaller-scale grass fires.

Recent studies have indicated that Larimer County is one of the 64 counties in Colorado that is most susceptible to wildfires. In the past two decades, several hundred wildfires have burned in Larimer County, with an annual average of more than 2,200 acres burned. Many disastrous wildfires have burned along Colorado’s Front Range. The most significant wildland fire in the region’s history was the High Park Fire, which occurred in the Rocky Mountain foothills of Larimer County during the summer of 2012. The urban communities of Fort Collins and Loveland routinely experience wildland and/or grass fires in the open space areas within their city limits. As the urban population density increases and the city limits expand within the county, the grass fire occurrence will also increase.

**ASSESSING VULNERABILITY**

A significant wildland fire in Larimer County could impact schools, fire stations, government installations, research facilities, watershed areas, and water supplies. Fires in the wildland-urban interface areas of Fort Collins could result in significant property loss to a variety of structures and the temporary loss of certain utilities and infrastructure. Abnormally dry seasons increase the severity of this hazard as does the current growth trend in these areas. Smaller grass and brush fires could have only a minimal impact on the critical facilities of Fort Collins and other areas within Larimer County. Additional associated impacts would be in emergency services and water quality (watershed).

Poudre Fire Authority, Loveland Fire Rescue Authority, Larimer County Emergency Services, Berthoud Fire Department, Estes Park Volunteer Fire Department, Wellington Fire Department and the various other volunteer fire protection districts within Larimer County support emergency actions against wildland fires by training and equipping their personnel to fight wildland fires. These agencies work closely with wildland fire professionals from the Colorado State Forest Service and the United States Forest Service to maintain a state of readiness at all times. Many of these listed departments deploy their resources within the community, county, and state, as well as throughout the United States on requested deployments. Larimer County Emergency Services is the agency with the primary responsibility for responding to wildland fires within the county. The county maintains several trained fire crews with appropriate equipment for this purpose.

**GEOGRAPHICAL PLANNING ZONES UTILIZED**

Three general Wildland Urban Interface (WUI) categories have been defined for PFA’s jurisdiction: eastern agricultural/grassland areas, occluded pockets of wildland fuels within the urban area, and most substantially the brush and forest dominated western portion of this district.

As the elevation rises from 5,000 feet to 7,500 feet, three major vegetation zones are encountered: plains grassland, lower ecotone and lower montane. Invasive species, fire exclusion and other factors have exacerbated potential fire behavior in these zones to varying degrees. The impact is most acute in
the mountain mahogany shrublands and Ponderosa Pine of the lower ecotone, where WUI housing patterns are of a high concern.

The local climate is semi-arid with the majority of precipitation occurring with spring rains and summer monsoons. The low precipitation months are typically December, January and February. The area receives approximately 300 days of sunshine per year and receives an average of 16.1 inches of annual precipitation. Winter high temperatures are typically in the lower to mid-forties, and average summer highs tend to reach into the mid-eighties and above.

Average and severe case weather and fuel moisture conditions were determined using records from the local remote automated weather station (RAWS) which collects weather and fuel moisture data specifically for fire danger and fire behavior predictions. Located at 6,160 feet in the foothills of PFA’s jurisdiction, the Redstone Canyon RAWS is well located for PFA’s purposes. The two sets of fuel moisture and weather conditions were developed for the purpose of fire behavior modeling based on data from 1995 through 2010. Fiftieth percentile conditions represent average case, and 90th percentile conditions represent severe case conditions.

Elevation rises from 4,800 feet in the southeastern corner of PFA’s jurisdiction to approximately 7,500 feet in the foothills to the west. The Poudre River bisects the district, running from the northwest to the southeast corner. The eastern two-thirds of PFA’s jurisdiction is relatively flat, though short, steep slopes are common near some of the streams that run through the area. The area west of Taft Hill Road and Overland Trail abruptly steepens as the foothills rise from 5,200 feet to over 7,000 feet in elevation.

While slope angle can directly influence fire behavior, the effects are often overshadowed by the impact of wind in this area. Slope, aspect and elevation combine to play a significant role in determining the fuel type found in an area. As elevation increases, the fuels generally transition from grass to brush, and finally to timber. Wooded areas on south facing slopes are often characterized by open stands of ponderosa pine mixed with grass and brush, while north-facing slopes are favorable to a dense mixture of Ponderosa Pine and Douglas Fir.

The tactical implications of steep slopes are often most apparent in terms of access to building sites and extreme fire behavior. Steep winding roads and steep home sites are a common concern throughout the western portion of the jurisdiction.
**WILDLAND MAXIMUM RISK BY PLANNING ZONE**

<table>
<thead>
<tr>
<th>Planning Zone</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Station 1</td>
<td>Grass Fires</td>
<td>Cache La Poudre River Corridor</td>
</tr>
<tr>
<td>Fire Station 2</td>
<td>Grass Fires/Fires in Mixed Fuels</td>
<td>Areas around CSU Foothills Campus</td>
</tr>
<tr>
<td>Fire Station 3</td>
<td>Grass Fires</td>
<td>Spring Creek Bike Trail and Railroad</td>
</tr>
<tr>
<td>Fire Station 4</td>
<td>Wildland-Urban Interface Fires</td>
<td>Foothills in western part of the Planning Zone</td>
</tr>
<tr>
<td>Fire Station 5</td>
<td>Grass Fires in City Open Space</td>
<td>Cathy Fromme Prairie</td>
</tr>
<tr>
<td>Fire Station 6</td>
<td>Fast Moving Grass Fires</td>
<td>Agricultural areas in eastern part of Planning Zone</td>
</tr>
<tr>
<td>Fire Station 7</td>
<td>Wildland-Urban Interface Fires</td>
<td>Foothills in western part of the Planning Zone</td>
</tr>
<tr>
<td>Fire Station 8</td>
<td>Fast Moving Grass Fires</td>
<td>Agricultural areas in eastern part of Planning Zone</td>
</tr>
<tr>
<td>Fire Station 9</td>
<td>Wildland-Urban Interface Fires</td>
<td>Found throughout Planning Zone</td>
</tr>
<tr>
<td>Fire Station 10</td>
<td>Fast Moving Grass Fires</td>
<td>Eastern part of Planning Zone/Cache La Poudre River</td>
</tr>
<tr>
<td>Fire Station 11</td>
<td>Wildland-Urban Interface Fires</td>
<td>Found throughout Planning Zone</td>
</tr>
<tr>
<td>Fire Station 12</td>
<td>Fast Moving Grass Fires</td>
<td>Agricultural areas in northern part of Planning Zone</td>
</tr>
<tr>
<td>Fire Station 14</td>
<td>Fast Moving Grass Fires</td>
<td>Cattail Open Space</td>
</tr>
</tbody>
</table>

**SPECIALIZED (NON-FIRE) SERVICE RISKS**

PFA is an all-hazards response agency and as such provides a full scale of specialized emergency response services. For the purposes of this report, these areas include emergency medical services (EMS), hazardous materials and technical rescue.

Data from extensive company surveys was used and matched with the frequency of an event occurring. A detailed description follows the table that details the risk faced by each of these disciplines in serving PFA’s customers for each specialty program.

The following table depicts the agency’s exposure to non-fire related risks. In the following table, when possible, an incident count was provided in parentheses following the stated risk. This count is the *average annual incident count* for each of these categories for the last five years.
### PROBABILITY VS. CONSEQUENCE – NON-FIRE RISK

<table>
<thead>
<tr>
<th>Frequency/Probability</th>
<th>Low-Risk/Consequence</th>
<th>High-Risk/Consequence</th>
<th>Maximum Risk/Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>EMS Incidents</td>
<td>Respiratory and Cardiac Arrests</td>
<td>Mass Casualty Incidents</td>
</tr>
<tr>
<td></td>
<td>Motor Vehicle Accidents</td>
<td>Motor Vehicle Accidents with Extrication</td>
<td>Train Derailment</td>
</tr>
<tr>
<td></td>
<td>Natural Gas Leaks</td>
<td></td>
<td>Responses to Centers for Disease Control and Water Treatment Plant</td>
</tr>
<tr>
<td></td>
<td>Carbon Monoxide Incidents</td>
<td></td>
<td>Chemical, Biological, Radiological, Nuclear Release at a Research facility</td>
</tr>
<tr>
<td></td>
<td>Small Fuel Spills</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Elevator Rescue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>Large Animal Rescue</td>
<td>Water Treatment Plants</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low Angle Rescue</td>
<td>Over the Road Transport</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Illegal Drug Labs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chemical Spills into Poudre River</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Propane Distribution and Storage</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water Rescue</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Swiftwater Rescue</td>
<td></td>
</tr>
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<td></td>
<td></td>
<td>Trench Rescue</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Confined Space Rescue</td>
<td></td>
</tr>
</tbody>
</table>

Blue – indicates EMS Risk
Red – indicates Technical Rescue Risk
Green – indicates Hazardous Materials Risk
Poudre Fire Authority provides emergency medical service at a Basic Life Support (BLS) level. The Advanced Life Support (ALS) is provided by University of Colorado Health EMS throughout Poudre Fire Authority’s jurisdiction. Demographic assumptions that impact the EMS system were stated earlier and include an aging population as well as rapidly growing community, which have increased service demand.

**WORST/MAXIMUM EMS RISK**

- **Mass Casualty Incidents** can result from a variety of causes, many of which will also impact other specialty risks covered in this report. For the purposes of EMS specific risk, three major types are presented here that resulted from Poudre Fire Authority’s risk assessment.
  - As the incidence of active shooter scenarios have increased throughout the United States, the likelihood of such an incident in Poudre Fire Authority’s jurisdiction is a real possibility. The logistical challenges involved with this are obvious and the impact on the EMS and trauma system cannot be underestimated. Potential locations are distributed throughout the community and include schools, the university, and community college as well as any other public location. While the frequency of such events is fortunately low, it cannot be ruled out.
  - An EMS Risk that is more frequently encountered is motor vehicle accidents with multiple patients. These calls have the ability to quickly overwhelm the initially dispatched response and impacts the trauma care system at surrounding hospitals. Interstate 25 and US Highway 287 see such incidents on a regular basis.
  - Events such as the H1N1 flu and similar infectious disease outbreaks have the potential to not only impact the patient population, but also extend to care providers. The frequency of these events is low, however, such incidents must be carefully monitored and a response delivered to these types of outbreaks. More commonly, the agency encounters such viral outbreaks at the various nursing home facilities in the jurisdiction. Similarly at risk is the relatively large college student population.

**HIGH EMS RISK**

- The primary high-risk event that the citizens face is that of sudden respiratory and cardiac arrests. The following table represents calls dispatched as Medical Echo, indicating the number of these incidents in the jurisdiction over the last five years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Incident Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
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</tr>
<tr>
<td>2013</td>
<td>151</td>
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<tr>
<td>2014</td>
<td>144</td>
</tr>
<tr>
<td>2015</td>
<td>122</td>
</tr>
<tr>
<td>2016</td>
<td>128</td>
</tr>
</tbody>
</table>
ROUTE EMS RISK

- The majority of EMS risk in Poudre Fire Authority’s jurisdiction are **medical emergencies**. These calls are encountered throughout the jurisdiction and as with many fire departments comprise the majority of calls for the agency. Currently, approximately 70 percent of Poudre Fire Authority’s call volume are medical emergencies.
- In addition to these incidents, the agency responds to around 1,300 **motor vehicle accidents** annually. The increasing population and presence of major transportation routes will likely contribute to an increase in this type of call.

EMS RISK CONCENTRATION

- Locations with frequent large events:
  - Old Town
  - Hughes Stadium
  - Moby Arena
- Locations with highest EMS incident frequency:
  - Nursing homes
  - Old Town area
- Locations with high population density:
  - CSU campus
  - Manufactured housing communities
  - Primary and secondary schools
- Transportation network with EMS call potential:
  - I-25
  - Hwy 287
  - Rail system/MAX Bus Route
  - Fort Collins-Loveland Municipal Airport landing path
EMS MAXIMUM RISK BY PLANNING ZONE

<table>
<thead>
<tr>
<th>Planning Zone</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Station 1</td>
<td>Mass-Casualty Incidents</td>
<td>Old Town Area/Festivals</td>
</tr>
<tr>
<td>Fire Station 2</td>
<td>Active Shooter on Campus</td>
<td>CSU Campus</td>
</tr>
<tr>
<td>Fire Station 3</td>
<td>Disease/Outbreaks in Communal Living</td>
<td>Nursing Homes</td>
</tr>
<tr>
<td>Fire Station 4</td>
<td>Disease/Outbreaks in Communal Living</td>
<td>Nursing Homes</td>
</tr>
<tr>
<td>Fire Station 5</td>
<td>Disease/Outbreaks in Communal Living</td>
<td>Nursing Homes</td>
</tr>
<tr>
<td>Fire Station 6</td>
<td>High-Speed Motor Vehicle Accidents</td>
<td>I-25/Mulberry Corridor</td>
</tr>
<tr>
<td>Fire Station 7</td>
<td>High-Speed Motor Vehicle Accidents</td>
<td>US Hwy 287 Corridor</td>
</tr>
<tr>
<td>Fire Station 8</td>
<td>High-Speed Motor Vehicle Accidents</td>
<td>I-25 Corridor</td>
</tr>
<tr>
<td>Fire Station 9</td>
<td>Motor Vehicle Accidents</td>
<td>County Road 38E</td>
</tr>
<tr>
<td>Fire Station 10</td>
<td>Disease/Outbreaks in Communal Living</td>
<td>Nursing Homes</td>
</tr>
<tr>
<td>Fire Station 11</td>
<td>Cardiac Arrest – Distance to Hospital</td>
<td>Throughout Planning Zone</td>
</tr>
<tr>
<td>Fire Station 12</td>
<td>High-Speed Motor Vehicle Accidents</td>
<td>US Hwy 287 and Hwy 1</td>
</tr>
<tr>
<td>Fire Station 14</td>
<td>High-Speed Motor Vehicle Accidents</td>
<td>I-25 Corridor</td>
</tr>
</tbody>
</table>

HAZARDOUS MATERIALS

Poudre Fire Authority is responsible for responding to a rapidly growing community that is supported by a diverse economy. This economy, in part, drives the risks that the agency’s response area faces in terms of the hazardous materials. Some of these related impacts include a major university, several high-technology industries and several rail-lines that travel through the jurisdiction.

WORST/MAXIMUM HAZARDOUS MATERIALS RISK

- Poudre Fire Authority’s jurisdiction is transected by multiple rail-lines. There are 39 miles of mainline rail that transport a variety of hazardous materials and an additional 17 miles of sidings and spurs for a total of 56 miles of rail. The largest mainline travels through some of the most populated areas along the Mason corridor. Therefore, train accidents involving hazardous materials are a significant risk in the agency’s jurisdiction.
• The community is home to several federal research labs, a major research university and several semiconductor fabrication facilities. Therefore, an incident involving a chemical, radiological or biological release at one of these facilities is a possibility. It should be noted that these facilities have a high level of safeguard and process control.

HIGH HAZARDOUS MATERIALS RISK

• Legalization of marijuana and related hash-oil production as well as ongoing incidences of clandestine methamphetamine production raises the possibility of illegal drug labs to cause an impact on the community.
• There are several water treatment plants in the jurisdiction that use large amounts of chlorine and other chemicals in their processes. While this is tightly controlled, accidents can happen and the resulting leak could have the potential to impact a large number of citizens.
• The interstate and federal highways that pass through the jurisdiction come with a real risk of hazardous materials related incidents. Therefore, incidents involving over the road transport carriers have the potential to impact the response system.
• The Poudre River is a major source of agricultural irrigation and also is close to transportation and population centers. Therefore, the possibility exists for a chemical spill into the river that can impact ecological resources as well as water supply sources downstream.
• The surrounding rural communities are often dependent on propane for heating fuel, and therefore a number of propane distribution and storage sites that have the potential for associated problems are located in Poudre Fire Authority’s jurisdiction.

ROUTINE HAZARDOUS MATERIALS RISK

• As with most communities, a variety of low-acuity hazardous materials incidents happen almost every day in Poudre Fire Authority’s jurisdiction. The most common types are:
  o Natural gas leaks
  o Carbon monoxide
  o Fuel spills involving less than five gallons

HAZARDOUS MATERIALS RISK CONCENTRATION

• Transportation related hazardous materials risk
  o Rail system
  o Interstate 25 and US Highway 287
• Research related hazardous materials risk
  o Colorado State University (CSU) Foothills Campus
  o Colorado State University (CSU) Main Campus
    ▪ Hazmat Holding Facility
    ▪ Molecular and Radiological Biosciences Building
• Industry related hazardous materials risk
  o Tolmar Industries
  o Broadcom/Hewlett Packard Campus on Harmony Road
  o Anheuser-Busch Brewery
- Advanced Energy
- Miscellaneous hazardous materials risk locations
  - Landfill
  - Electrical substations

### HAZMAT MAXIMUM RISK BY PLANNING ZONE

<table>
<thead>
<tr>
<th>Planning Zone</th>
<th>Description</th>
<th>Address/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Station 1</td>
<td>Train Derailment/Spills</td>
<td>Railroads on Riverside and Mason Corridor</td>
</tr>
<tr>
<td>Fire Station 2</td>
<td>Chemical/Radiological/Nuclear accidents related to Research Facilities</td>
<td>CSU Main and Foothills Campus</td>
</tr>
<tr>
<td>Fire Station 3</td>
<td>Train Derailment/Spills</td>
<td>Railroads on Mason Corridor</td>
</tr>
<tr>
<td>Fire Station 4</td>
<td>Hazardous Materials Disposal</td>
<td>Larimer County Landfill</td>
</tr>
<tr>
<td>Fire Station 5</td>
<td>Train Derailment/Spills</td>
<td>Railroads on Mason Corridor</td>
</tr>
<tr>
<td>Fire Station 6</td>
<td>Ammonia Release</td>
<td>Anheuser-Busch Brewery 2351 Busch Drive</td>
</tr>
<tr>
<td>Fire Station 7</td>
<td>Over-the-Road Transport</td>
<td>US Hwy 287 Corridor</td>
</tr>
<tr>
<td>Fire Station 8</td>
<td>Fertilizer Blending and Storage</td>
<td>Simplot 5701 East Harmony Road</td>
</tr>
<tr>
<td>Fire Station 9</td>
<td>Fuel Spills/Release</td>
<td>Inlet Bay Marina 4314 Shoreline Drive</td>
</tr>
<tr>
<td>Fire Station 10</td>
<td>Chlorine Releases</td>
<td>Drake Water Treatment Plant 3036 Environmental Drive</td>
</tr>
<tr>
<td>Fire Station 11</td>
<td>Ammunition Storage in Private Homes</td>
<td>Throughout Planning Zone</td>
</tr>
<tr>
<td>Fire Station 12</td>
<td>Train Derailment/Spills</td>
<td>Railroads in central/southeast part of Planning Zone</td>
</tr>
<tr>
<td>Fire Station 14</td>
<td>Over-the-Road Transport</td>
<td>I-25 Corridor</td>
</tr>
</tbody>
</table>
Poudre Fire Authority provides a full complement of technical rescue services to its residents. Specific risk categories have been identified and the department has developed strategies and sub-programs to respond to and mitigate these risks. These technical rescue risks can be broken down into nine categories:

- Auto extrication
- Water rescue
- High and low-angle rescue
- Collapse rescue
- Trench rescue
- Vehicle/Machinery rescue
- Confined space rescue
- Large animal rescue
- Elevator rescue

### HIGH TECHNICAL RESCUE RISK

- The PFA district contains 9,540 surface acres of lakes. Extensive recreation around these bodies of water increases the potential for a still water rescue incident. In addition, with severe cold coming through Fort Collins every winter, water may freeze and thaw several times, creating an unstable ice structure.
- The western portion of the PFA district includes the foothills and mountainous terrain. With a significant number of active rock climbers, mountain bikers, trail runners and hikers, there is a significant potential for high angle rescue incidents.
- The most frequent use of technical rescue skill in the jurisdiction involves incidents requiring the extrication of patients at an accident scene. This can occur on motor vehicle accidents, mass transit accidents or agricultural accident scenes.
- The PFA district contains several moving water hazards. These include the Poudre River, Spring Creek, and numerous irrigation canals. All of these waters pose a certain danger to recreational users, rafting companies and those fishing along the river. Therefore, the dangers posed by swiftwater environments are a very real danger in Poudre Fire Authority’s jurisdiction.
- The jurisdiction’s rapid growth is increasing construction activities and the associated risk involved with trench rescue operations is a very real danger.
- Confined space entry permits are routine within the jurisdiction and continues to be a risk that needs to be addressed.

### ROUTINE TECHNICAL RESCUE RISK

- Elevator rescues
- Low angle rescue
TECHNICAL RESCUE RISK CONCENTRATION

- Swiftwater related risk
  - Poudre River
  - Spring Creek
  - Canals
- Water rescue related risk locations
  - Lakes throughout jurisdiction
- Extrication related Risk
  - High speed roads
    - Interstate 25
    - US Highway 287
    - Highway 14
- High angle related risk
  - Climbing areas on western edge of the jurisdiction
  - Construction sites
  - Cell Towers/Atomic Clock Towers
  - High-rise buildings
- Confined space risk
  - CSU Steam Tunnels
  - Horsetooth Dams
  - Breweries
  - Industry
- Trench rescue risk
  - Construction sites
- Large animal risk
  - Throughout jurisdiction
### Technical Rescue Maximum Risk by Planning Zone

<table>
<thead>
<tr>
<th>Planning Zone</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Station 1</td>
<td>Swiftwater Rescue</td>
<td>Cache La Poudre River Corridor</td>
</tr>
<tr>
<td>Fire Station 2</td>
<td>Swiftwater Rescue</td>
<td>Cache La Poudre River Corridor</td>
</tr>
<tr>
<td>Fire Station 3</td>
<td>Train Related Accidents</td>
<td>Railroads on Mason Corridor</td>
</tr>
<tr>
<td>Fire Station 4</td>
<td>Climbing Related Incidents</td>
<td>Rotary Park/Horsetooth Climbing Areas</td>
</tr>
<tr>
<td>Fire Station 5</td>
<td>Construction Site Accidents</td>
<td>Throughout Planning Zone/Mall Redevelopment</td>
</tr>
<tr>
<td>Fire Station 6</td>
<td>Confined Space Incidents</td>
<td>Anheuser-Busch Brewery 2351 Busch Drive</td>
</tr>
<tr>
<td>Fire Station 7</td>
<td>Swiftwater Rescue</td>
<td>Cache La Poudre River Corridor</td>
</tr>
<tr>
<td>Fire Station 8</td>
<td>Swift and Stillwater Rescue</td>
<td>Cache La Poudre River Corridor/Full Planning Zone</td>
</tr>
<tr>
<td>Fire Station 9</td>
<td>Climbing Related Incidents</td>
<td>Rotary Park/Horsetooth Climbing Areas</td>
</tr>
<tr>
<td>Fire Station 10</td>
<td>Confined Space/Entrapments</td>
<td>Drake Water Treatment Plant 3036 Environmental Drive</td>
</tr>
<tr>
<td>Fire Station 11</td>
<td>Climbing Related Incidents</td>
<td>Horsetooth Mountain and Lory State Park</td>
</tr>
<tr>
<td>Fire Station 12</td>
<td>Tower Rescues</td>
<td>Atomic Clock Transmission Towers</td>
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<tr>
<td>Fire Station 14</td>
<td>Construction Site Accidents</td>
<td>Throughout Planning Zone</td>
</tr>
</tbody>
</table>
CHAPTER 4 – RISK ANALYSIS BY DEMAND ZONE

2016 INCIDENT DENSITY/SQUARE MILE

Legend
Incident Density/Square Mile
Incidents / Square Mile
0 to 58.53
58.54 to 177.04
177.05 to 424.60
424.61 to 641.90
641.91 to 1313.55
PFA_StationBoundaries
PFA_Boundary

2016 Incident Density/Square Mile

Author: BC Ron Simms
Date: 6/19/2017

Risk Assessment and Standards of Cover
## 2016 INCIDENT DENSITY/SQUARE MILE

<table>
<thead>
<tr>
<th>Station Area</th>
<th>Incidents/Square Mile</th>
</tr>
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<tr>
<td>1</td>
<td>1,164.7</td>
</tr>
<tr>
<td>2</td>
<td>269</td>
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<td>3</td>
<td>566.66</td>
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<tr>
<td>4</td>
<td>156.62</td>
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<tr>
<td>5</td>
<td>373.8</td>
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<tr>
<td>6</td>
<td>40.8</td>
</tr>
<tr>
<td>7</td>
<td>9.12</td>
</tr>
<tr>
<td>8</td>
<td>22.78</td>
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<td>9</td>
<td>9.28</td>
</tr>
<tr>
<td>10</td>
<td>233.78</td>
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<td>11</td>
<td>.58</td>
</tr>
<tr>
<td>12</td>
<td>51.58</td>
</tr>
<tr>
<td>14</td>
<td>99.61</td>
</tr>
</tbody>
</table>
DESCRIPTION: Station 1 covers 3.4 square miles in the heart of Fort Collins. The annual call density in Station 1’s area is 1,164.7 incidents per square mile and the largest number of incidents occur in this area. The area covers all of the Old Town area, which is full of retail and dining establishments. A significant portion of the city’s nightlife and festivals occur here as well. The northeast portion of the Colorado State University campus is also located in this area. Finally, Poudre Valley Hospital, the primary hospital in Fort Collins, is in the eastern portion of the area.

OVERVIEW OF RISK: This area protects the oldest structures in the jurisdiction. In addition, large numbers of people live and play in the downtown area with PFA’s highest population density being located here. The built environment is comparatively old in relation to the remainder of the Poudre Fire Authority district. Due to this, some balloon frame and unreinforced masonry can be found in both commercial and residential occupancies. Aggressive sprinkler ordinances have upgraded much of the older commercial buildings in the shopping and entertainment district in Old Town. An upgrade to the water supply system that will increase the available fire flows is currently underway in this area. Finally, many of PFA’s high-rise structures are also located in this demand zone.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Calls</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>2,668</td>
<td>1.02%</td>
</tr>
<tr>
<td>2013</td>
<td>2,885</td>
<td>8.13%</td>
</tr>
<tr>
<td>2014</td>
<td>3,089</td>
<td>7.07%</td>
</tr>
<tr>
<td>2015</td>
<td>3,376</td>
<td>9.29%</td>
</tr>
<tr>
<td>2016</td>
<td>3,960</td>
<td>17.29%</td>
</tr>
</tbody>
</table>
FIVE YEAR CALL GROWTH

| 2012 to 2016 Call Growth | 3,960 – 2,668 = 1,292 / 2,668 | 48.42% |

MAXIMUM/WORST RISK

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>10600</td>
<td>Aggie Theater</td>
<td>204 South College</td>
<td>737 GPM</td>
</tr>
</tbody>
</table>

**Description:**
This non-sprinklered, Type III - unreinforced masonry constructed performing arts venue is located in the Old Town area. The building is an aging converted movie theater that hosts national touring bands. The venue serves alcohol and has limited exiting.

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>12084</td>
<td>Park Lane Towers</td>
<td>415 South Howes</td>
<td>1,062 GPM</td>
</tr>
</tbody>
</table>

**Description:**
This is a sprinklered residential 12-story high-rise of Type II construction. It houses a mix of elderly and college students.

EQUIPMENT STATIONED AT STATION 1

<table>
<thead>
<tr>
<th>Equipment Identification</th>
<th>Year and Manufacturer</th>
<th>Pump Capacity</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine 1</td>
<td>2009 General Spartan</td>
<td>1,500 GPM</td>
<td>650 gallon tank</td>
</tr>
<tr>
<td>Tower 1</td>
<td>2009 Pierce</td>
<td>N/A</td>
<td>100’ platform ladder</td>
</tr>
<tr>
<td>Battalion 1</td>
<td>2011 Ford Expedition</td>
<td>N/A</td>
<td>North Battalion response vehicle</td>
</tr>
<tr>
<td>Safety 1</td>
<td>2012 Ford F-150</td>
<td>N/A</td>
<td>Response vehicle for PFA Safety Officer</td>
</tr>
<tr>
<td>Rescue 1</td>
<td>1990 SVI/Spartan</td>
<td>N/A</td>
<td>Reserve Rescue used for difficult access and for out-of-district responses</td>
</tr>
</tbody>
</table>

- Units in **bold** are fully staffed on a daily basis
### STATION 1 – CALLS BY DESCRIPTION 2012-2016

<table>
<thead>
<tr>
<th>NFIRS Description 1</th>
<th>2012</th>
<th>% Change</th>
<th>2013</th>
<th>% Change</th>
<th>2014</th>
<th>% Change</th>
<th>2015</th>
<th>% Change</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Intent Call</td>
<td>218</td>
<td>-27.57%</td>
<td>228</td>
<td>4.59%</td>
<td>306</td>
<td>34%</td>
<td>415</td>
<td>35.62%</td>
<td>819</td>
<td>97.35%</td>
</tr>
<tr>
<td>Rescue and EMS</td>
<td>2,092</td>
<td>5.60%</td>
<td>2,284</td>
<td>9.18%</td>
<td>2,407</td>
<td>5%</td>
<td>2,576</td>
<td>7.02%</td>
<td>2,743</td>
<td>6.48%</td>
</tr>
<tr>
<td>False Alarm or Call</td>
<td>160</td>
<td>5.26%</td>
<td>200</td>
<td>25.00%</td>
<td>195</td>
<td>-3%</td>
<td>172</td>
<td>-11.8%</td>
<td>185</td>
<td>7.58%</td>
</tr>
<tr>
<td>Service Call</td>
<td>94</td>
<td>-5.05%</td>
<td>82</td>
<td>12.77%</td>
<td>90</td>
<td>10%</td>
<td>100</td>
<td>11.11%</td>
<td>111</td>
<td>11%</td>
</tr>
<tr>
<td>Fire</td>
<td>45</td>
<td>-11.76%</td>
<td>50</td>
<td>11.11%</td>
<td>49</td>
<td>-2%</td>
<td>48</td>
<td>-2.04%</td>
<td>36</td>
<td>-25%</td>
</tr>
<tr>
<td>Hazardous Condition</td>
<td>53</td>
<td>10.42%</td>
<td>35</td>
<td>33.96%</td>
<td>38</td>
<td>9%</td>
<td>58</td>
<td>52.63%</td>
<td>56</td>
<td>-3.45%</td>
</tr>
<tr>
<td>Special Incident Type</td>
<td>5</td>
<td>-37.50%</td>
<td>4</td>
<td>20.00%</td>
<td>3</td>
<td>-25%</td>
<td>5</td>
<td>66.67%</td>
<td>8</td>
<td>60%</td>
</tr>
<tr>
<td>Overpressure Rupture, Explosion, Overheat</td>
<td>1</td>
<td>100%</td>
<td>1</td>
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<td>1</td>
<td>0%</td>
<td>2</td>
<td>100%</td>
<td>2</td>
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<tr>
<td>Severe Weather and Natural Disaster</td>
<td>0</td>
<td>-100%</td>
<td>1</td>
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<td>0</td>
<td>0%</td>
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<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

### STATION 1 – UNIT AVAILABILITY 2011-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Engine 1 in Area Responses</th>
<th>Incidents in Station 1's Area</th>
<th>Reliability %</th>
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</thead>
<tbody>
<tr>
<td>2011</td>
<td>2,248</td>
<td>2,641</td>
<td>85%</td>
</tr>
<tr>
<td>2012</td>
<td>2,258</td>
<td>2,668</td>
<td>85%</td>
</tr>
<tr>
<td>2013</td>
<td>2,342</td>
<td>2,885</td>
<td>81%</td>
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<tr>
<td>2014</td>
<td>2,414</td>
<td>3,091</td>
<td>78%</td>
</tr>
<tr>
<td>2015</td>
<td>2,697</td>
<td>3,376</td>
<td>80%</td>
</tr>
<tr>
<td>2016</td>
<td>3,194</td>
<td>3,960</td>
<td>80%</td>
</tr>
</tbody>
</table>

Color shading in the reliability percentage column darkens as reliability relative to the specific station area decreases.
<table>
<thead>
<tr>
<th>Hour</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>54</td>
<td>65</td>
<td>72</td>
<td>53</td>
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<td>1</td>
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<td>58</td>
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<td>76</td>
<td>86</td>
<td>98</td>
<td>97</td>
<td>151</td>
<td>138</td>
<td>68</td>
<td>714</td>
</tr>
</tbody>
</table>

Items shaded in green indicate lower incident volume while red shading indicates higher incident volume relative to the individual planning zone.
DESCRIPTION: Station 2 covers 7.7 square miles and is located on the west side of Fort Collins. The area covers a portion of the Colorado State University campus, residential areas of varying ages of construction and commercial development. In comparison to the rest of PFA, this area has older residential buildings. In addition, the area includes the Foothills Campus of the university, which includes several federal and state research facilities.

OVERVIEW OF RISK: This area protects portions of the Colorado State University campus. Some of the unique risks here are Moby Arena and several dormitory buildings. In addition, some Greek housing is located near the campus. While the campus hosts a large student population, the university is very aggressive in its efforts to inspect buildings and upgrade necessary fire suppression systems where those systems are lacking. The western portion of the planning zone contains the Foothills Campus, which also hosts the Centers for Disease Control (CDC) and other federal research facilities.

STATION 2 – INCIDENTS FROM 2012-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Calls</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>1,888</td>
<td>3.11%</td>
</tr>
<tr>
<td>2013</td>
<td>1,837</td>
<td>-2.70%</td>
</tr>
<tr>
<td>2014</td>
<td>1,861</td>
<td>1.31%</td>
</tr>
<tr>
<td>2015</td>
<td>1,958</td>
<td>5.21%</td>
</tr>
<tr>
<td>2016</td>
<td>2,072</td>
<td>5.86%</td>
</tr>
</tbody>
</table>
**FIVE YEAR CALL GROWTH**

| 2012-2016 Call Growth | 2,072 – 1,888 = 184 / 1,888 | 9.74% |

**MAXIMUM/WORST RISK**

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>14603/11515</td>
<td>Village on Elizabeth Apartments</td>
<td>2217/2209 W Elizabeth</td>
<td>926 GPM</td>
</tr>
</tbody>
</table>

**Description:**
This non-sprinklered, Type V apartment complex has difficult access and houses mainly college students.

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>14603/11515</td>
<td>Village on Elizabeth Apartments</td>
<td>2217/2209 W Elizabeth</td>
<td>926 GPM</td>
</tr>
</tbody>
</table>

**Description:**
This non-sprinklered, Type V apartment complex has difficult access and houses mainly college students.

**EQUIPMENT STATIONED AT STATION 2**

<table>
<thead>
<tr>
<th>Equipment Identification</th>
<th>Year and Manufacturer</th>
<th>Pump Capacity</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine 2</td>
<td>2014 Rosenbaur Pumper</td>
<td>1,500 GPM</td>
<td>650 gallon tank</td>
</tr>
<tr>
<td>Tender 2</td>
<td>2012 Rosenbaur</td>
<td>500 GPM</td>
<td>2,000 gallon tank</td>
</tr>
</tbody>
</table>

- Units in **bold** are fully staffed on a daily basis.
- Units denoted in *italics* are not staffed daily or are cross-staffed as needed.
# STATION 2 – CALLS BY DESCRIPTION 2012-2016

<table>
<thead>
<tr>
<th>NFIRS Description 1</th>
<th>2012</th>
<th>% Change</th>
<th>2013</th>
<th>% Change</th>
<th>2014</th>
<th>% Change</th>
<th>2015</th>
<th>% Change</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Intent Call</td>
<td>125</td>
<td>-19.35%</td>
<td>160</td>
<td>28.00%</td>
<td>148</td>
<td>-8%</td>
<td>223</td>
<td>50.67%</td>
<td>248</td>
<td>11.21%</td>
</tr>
<tr>
<td>Rescue and EMS</td>
<td>1,394</td>
<td>7.40%</td>
<td>1,351</td>
<td>-3.08%</td>
<td>1,407</td>
<td>4%</td>
<td>1,360</td>
<td>-3.34%</td>
<td>1,467</td>
<td>7.87%</td>
</tr>
<tr>
<td>False Alarm or Call</td>
<td>160</td>
<td>-0.62%</td>
<td>144</td>
<td>-10.00%</td>
<td>130</td>
<td>-10%</td>
<td>172</td>
<td>32.31%</td>
<td>170</td>
<td>-1.16%</td>
</tr>
<tr>
<td>Service Call</td>
<td>113</td>
<td>17.71%</td>
<td>77</td>
<td>-31.86%</td>
<td>103</td>
<td>34%</td>
<td>102</td>
<td>-0.97%</td>
<td>101</td>
<td>-0.98%</td>
</tr>
<tr>
<td>Fire</td>
<td>48</td>
<td>-18.64%</td>
<td>52</td>
<td>8.33%</td>
<td>28</td>
<td>-46%</td>
<td>38</td>
<td>35.71%</td>
<td>24</td>
<td>-36.84%</td>
</tr>
<tr>
<td>Hazardous Condition</td>
<td>43</td>
<td>-21.82%</td>
<td>46</td>
<td>6.98%</td>
<td>42</td>
<td>-9%</td>
<td>52</td>
<td>23.81%</td>
<td>55</td>
<td>5.77%</td>
</tr>
<tr>
<td>Special Incident Type</td>
<td>5</td>
<td>25.00%</td>
<td>2</td>
<td>-60.00%</td>
<td>1</td>
<td>-50%</td>
<td>3</td>
<td>200%</td>
<td>5</td>
<td>66.67%</td>
</tr>
<tr>
<td>Overpressure Rupture, Explosion, Overheat</td>
<td>0</td>
<td>100%</td>
<td>5</td>
<td>100%</td>
<td>2</td>
<td>-60%</td>
<td>7</td>
<td>250%</td>
<td>2</td>
<td>-71.43%</td>
</tr>
<tr>
<td>Severe Weather and Natural Disaster</td>
<td>0</td>
<td>-100%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>100%</td>
<td>0</td>
<td>-100%</td>
</tr>
</tbody>
</table>

# STATION 2 – UNIT RELIABILITY 2011-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Fire Station 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Engine 2 in Area Responses</td>
</tr>
<tr>
<td>2011</td>
<td>1,579</td>
</tr>
<tr>
<td>2012</td>
<td>1,654</td>
</tr>
<tr>
<td>2013</td>
<td>1,565</td>
</tr>
<tr>
<td>2014</td>
<td>1,641</td>
</tr>
<tr>
<td>2015</td>
<td>1,684</td>
</tr>
<tr>
<td>2016</td>
<td>1,807</td>
</tr>
</tbody>
</table>

Color shading in the reliability percentage column darkens as reliability relative to the specific station area decreases.
### STATION 2 – INCIDENTS BY DAY AND TIME OF DAY 2012-2016

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>50</td>
<td>48</td>
<td>42</td>
<td>48</td>
<td>64</td>
<td>138</td>
<td>117</td>
<td>507</td>
</tr>
<tr>
<td>1</td>
<td>32</td>
<td>39</td>
<td>40</td>
<td>46</td>
<td>72</td>
<td>151</td>
<td>112</td>
<td>492</td>
</tr>
<tr>
<td>2</td>
<td>34</td>
<td>38</td>
<td>42</td>
<td>52</td>
<td>64</td>
<td>123</td>
<td>108</td>
<td>461</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>26</td>
<td>23</td>
<td>40</td>
<td>43</td>
<td>70</td>
<td>62</td>
<td>284</td>
</tr>
<tr>
<td>4</td>
<td>21</td>
<td>18</td>
<td>28</td>
<td>21</td>
<td>28</td>
<td>39</td>
<td>35</td>
<td>190</td>
</tr>
<tr>
<td>5</td>
<td>26</td>
<td>22</td>
<td>18</td>
<td>21</td>
<td>24</td>
<td>23</td>
<td>22</td>
<td>156</td>
</tr>
<tr>
<td>6</td>
<td>22</td>
<td>22</td>
<td>33</td>
<td>19</td>
<td>31</td>
<td>20</td>
<td>33</td>
<td>180</td>
</tr>
<tr>
<td>7</td>
<td>34</td>
<td>31</td>
<td>39</td>
<td>51</td>
<td>38</td>
<td>28</td>
<td>39</td>
<td>260</td>
</tr>
<tr>
<td>8</td>
<td>57</td>
<td>58</td>
<td>43</td>
<td>55</td>
<td>43</td>
<td>43</td>
<td>31</td>
<td>330</td>
</tr>
<tr>
<td>9</td>
<td>55</td>
<td>57</td>
<td>47</td>
<td>68</td>
<td>60</td>
<td>56</td>
<td>45</td>
<td>388</td>
</tr>
<tr>
<td>10</td>
<td>61</td>
<td>56</td>
<td>61</td>
<td>67</td>
<td>58</td>
<td>56</td>
<td>47</td>
<td>406</td>
</tr>
<tr>
<td>11</td>
<td>64</td>
<td>69</td>
<td>54</td>
<td>55</td>
<td>50</td>
<td>46</td>
<td>55</td>
<td>393</td>
</tr>
<tr>
<td>12</td>
<td>69</td>
<td>48</td>
<td>56</td>
<td>76</td>
<td>73</td>
<td>68</td>
<td>59</td>
<td>449</td>
</tr>
<tr>
<td>13</td>
<td>56</td>
<td>62</td>
<td>66</td>
<td>75</td>
<td>53</td>
<td>53</td>
<td>63</td>
<td>428</td>
</tr>
<tr>
<td>14</td>
<td>67</td>
<td>58</td>
<td>52</td>
<td>67</td>
<td>62</td>
<td>62</td>
<td>55</td>
<td>423</td>
</tr>
<tr>
<td>15</td>
<td>63</td>
<td>64</td>
<td>85</td>
<td>57</td>
<td>66</td>
<td>70</td>
<td>58</td>
<td>463</td>
</tr>
<tr>
<td>16</td>
<td>59</td>
<td>52</td>
<td>75</td>
<td>53</td>
<td>66</td>
<td>66</td>
<td>54</td>
<td>425</td>
</tr>
<tr>
<td>17</td>
<td>85</td>
<td>51</td>
<td>60</td>
<td>84</td>
<td>67</td>
<td>71</td>
<td>59</td>
<td>477</td>
</tr>
<tr>
<td>18</td>
<td>65</td>
<td>67</td>
<td>79</td>
<td>77</td>
<td>65</td>
<td>65</td>
<td>58</td>
<td>476</td>
</tr>
<tr>
<td>19</td>
<td>63</td>
<td>65</td>
<td>75</td>
<td>74</td>
<td>77</td>
<td>61</td>
<td>66</td>
<td>481</td>
</tr>
<tr>
<td>20</td>
<td>66</td>
<td>80</td>
<td>75</td>
<td>73</td>
<td>64</td>
<td>66</td>
<td>65</td>
<td>489</td>
</tr>
<tr>
<td>21</td>
<td>82</td>
<td>72</td>
<td>62</td>
<td>72</td>
<td>85</td>
<td>82</td>
<td>73</td>
<td>528</td>
</tr>
<tr>
<td>22</td>
<td>54</td>
<td>61</td>
<td>56</td>
<td>73</td>
<td>101</td>
<td>71</td>
<td>60</td>
<td>476</td>
</tr>
<tr>
<td>23</td>
<td>44</td>
<td>50</td>
<td>59</td>
<td>61</td>
<td>109</td>
<td>80</td>
<td>51</td>
<td>454</td>
</tr>
</tbody>
</table>

Items shaded in green indicate lower incident volume while red shading indicates higher incident volume relative to the individual planning zone.
**DESCRIPTION:** Station 3 covers 3.3 square miles in the center of the city. The planning zone contains the southeastern portion of the Colorado State University campus. The area’s population density is considered urban. The planning zone also contains a fair number of commercial occupancies along the College Avenue corridor that are part of the economic backbone of the City.

**OVERVIEW OF RISK:** The area is home to many non-sprinklered multi-family apartments. This fact, coupled with the age of their construction, plays a large role in the pre-planning and response considerations for this district. The area also contains one high-rise hotel and several newer student-housing units. Traffic is a concern in this area as College Avenue experiences high volumes throughout the day. In addition, the MAX Bus line transects the district and parallels the railroad tracks that run in a north/south direction through the community.

### STATION 3 – INCIDENTS FROM 2012-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Calls</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>1,609</td>
<td>7.91%</td>
</tr>
<tr>
<td>2013</td>
<td>1,526</td>
<td>-5.16%</td>
</tr>
<tr>
<td>2014</td>
<td>1,678</td>
<td>9.96%</td>
</tr>
<tr>
<td>2015</td>
<td>1,820</td>
<td>8.46%</td>
</tr>
<tr>
<td>2016</td>
<td>1,870</td>
<td>2.74%</td>
</tr>
</tbody>
</table>
**FIVE YEAR CALL GROWTH**

| 2012-2016 Call Growth | 1,870 – 1609 = 261 / 1609 | 16.22% |

**MAXIMUM/WORST RISK**

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>11264/11265</td>
<td>Chalet Apartments</td>
<td>121/125 Dartmouth Trail</td>
<td>1,512 GPM</td>
</tr>
</tbody>
</table>

**Description:**
This non-sprinklered, Type V apartment with underground parking is a Fort Collins Housing Authority facility for elderly residents.

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>11264/11265</td>
<td>Chalet Apartments</td>
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</tr>
</tbody>
</table>

**Description:**
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**EQUIPMENT STATIONED AT STATION 3**

<table>
<thead>
<tr>
<th>Equipment Identification</th>
<th>Year and Manufacturer</th>
<th>Pump Capacity</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine 3</td>
<td>2009 General Spartan</td>
<td>1,500 GPM</td>
<td>650 gallon tank</td>
</tr>
</tbody>
</table>

- Units in **bold** are fully staffed on a daily basis.
### STATION 3 – CALLS BY DESCRIPTION 2012-2016

<table>
<thead>
<tr>
<th>NFIRS Description 1</th>
<th>2012</th>
<th>% Change</th>
<th>2013</th>
<th>% Change</th>
<th>2014</th>
<th>% Change</th>
<th>2015</th>
<th>% Change</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Intent Call</td>
<td>97</td>
<td>-15.65%</td>
<td>146</td>
<td>51%</td>
<td>146</td>
<td>51%</td>
<td>189</td>
<td>29.45%</td>
<td>269</td>
<td>42.33%</td>
</tr>
<tr>
<td>Rescue and EMS</td>
<td>1,193</td>
<td>-5.24%</td>
<td>1,292</td>
<td>8%</td>
<td>1,292</td>
<td>8%</td>
<td>1,386</td>
<td>7.27%</td>
<td>1,344</td>
<td>-3.03%</td>
</tr>
<tr>
<td>False Alarm or Call</td>
<td>128</td>
<td>17.43%</td>
<td>108</td>
<td>-16%</td>
<td>108</td>
<td>-16%</td>
<td>111</td>
<td>2.78%</td>
<td>131</td>
<td>18.02%</td>
</tr>
<tr>
<td>Service Call</td>
<td>65</td>
<td>-1.52%</td>
<td>71</td>
<td>9%</td>
<td>71</td>
<td>9%</td>
<td>64</td>
<td>-9.86%</td>
<td>61</td>
<td>-4.69%</td>
</tr>
<tr>
<td>Fire</td>
<td>14</td>
<td>-54.84%</td>
<td>27</td>
<td>93%</td>
<td>27</td>
<td>93%</td>
<td>25</td>
<td>-7.41%</td>
<td>21</td>
<td>-16.00%</td>
</tr>
<tr>
<td>Hazardous Condition</td>
<td>25</td>
<td>-10.71%</td>
<td>25</td>
<td>0%</td>
<td>25</td>
<td>0%</td>
<td>38</td>
<td>52%</td>
<td>42</td>
<td>10.53%</td>
</tr>
<tr>
<td>Special Incident Type</td>
<td>1</td>
<td>100%</td>
<td>6</td>
<td>500%</td>
<td>6</td>
<td>500%</td>
<td>6</td>
<td>0%</td>
<td>1</td>
<td>-83.33%</td>
</tr>
<tr>
<td>Overpressure Rupture, Explosion, Overheat</td>
<td>3</td>
<td>200%</td>
<td>3</td>
<td>0%</td>
<td>3</td>
<td>0%</td>
<td>1</td>
<td>-66.67%</td>
<td>1</td>
<td>0%</td>
</tr>
<tr>
<td>Severe Weather and Natural Disaster</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

### STATION 3 – UNIT RELIABILITY 2011-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Fire Station 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Engine 3 in Area Responses</td>
</tr>
<tr>
<td>2011</td>
<td>1,313</td>
</tr>
<tr>
<td>2012</td>
<td>1,393</td>
</tr>
<tr>
<td>2013</td>
<td>1,317</td>
</tr>
<tr>
<td>2014</td>
<td>1,441</td>
</tr>
<tr>
<td>2015</td>
<td>1,578</td>
</tr>
<tr>
<td>2016</td>
<td>1,586</td>
</tr>
</tbody>
</table>

Color shading in the reliability percentage column darkens as reliability relative to the specific station area decreases.
### STATION 3 – CALLS BY DAY AND TIME OF DAY 2012-2016

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>31</td>
<td>23</td>
<td>35</td>
<td>32</td>
<td>42</td>
<td>63</td>
<td>54</td>
<td>280</td>
</tr>
<tr>
<td>1</td>
<td>24</td>
<td>22</td>
<td>25</td>
<td>29</td>
<td>29</td>
<td>36</td>
<td>61</td>
<td>226</td>
</tr>
<tr>
<td>2</td>
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<td>36</td>
<td>283</td>
</tr>
</tbody>
</table>

Items shaded in green indicate lower incident volume while red shading indicates higher incident volume relative to the individual planning zone.
DESCRIPTION: Station 4 covers 16.9 square miles on the southwestern portion of the suburban core. The planning zone contains a mix of urban, suburban and rural population densities. In addition, the transition of wildland planning from occluded interface to that of the western foothills occurs in this district. Many trails and recreational opportunities are present in the district. The area also contains a mix of residential, multi-family and commercial occupancies. These factors all contribute to the Station 4 planning zone being a very diverse area.

OVERVIEW OF RISK: There are a number of low-income, multi-family housing complexes that contribute to the risk in this area. In addition, several group homes, elderly care facilities and nursing homes are located here. Many of the homes at risk to wildland-urban interface fires are located in this planning zone.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Calls</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>2,102</td>
<td>-9.59%</td>
</tr>
<tr>
<td>2013</td>
<td>2,226</td>
<td>5.90%</td>
</tr>
<tr>
<td>2014</td>
<td>2,348</td>
<td>5.48%</td>
</tr>
<tr>
<td>2015</td>
<td>2,433</td>
<td>3.62%</td>
</tr>
<tr>
<td>2016</td>
<td>2,647</td>
<td>8.79%</td>
</tr>
</tbody>
</table>
**FIVE YEAR CALL GROWTH**

| 2012-2016 Call Growth | 2,647 – 2,102 = 545 / 2,102 | 25.92% |

**MAXIMUM/WORST RISK**

<table>
<thead>
<tr>
<th>Life Risk</th>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18325</td>
<td>Hickory Hills Apartments</td>
<td>3425 Windmill</td>
<td>938 GPM</td>
</tr>
</tbody>
</table>

**Description:**
This non-sprinklered, Type V multi-family structure features exterior stairwells and houses low-income residents.

<table>
<thead>
<tr>
<th>Max Needed Fire</th>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18325</td>
<td>Hickory Hills Apartments</td>
<td>3425 Windmill</td>
<td>938 GPM</td>
</tr>
</tbody>
</table>

**Description:**
This non-sprinklered, Type V multi-family structure features exterior stairwells and houses low-income residents.

**EQUIPMENT STATIONED AT STATION 4**

<table>
<thead>
<tr>
<th>Equipment Identification</th>
<th>Year and Manufacturer</th>
<th>Pump Capacity</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine 4</td>
<td>2016 Rosenbaur Commander</td>
<td>1,500 GPM</td>
<td>650 gallon tank</td>
</tr>
<tr>
<td>Bureau 1</td>
<td>2017 Ford F-150</td>
<td>N/A</td>
<td>Response vehicle for Bureau 1</td>
</tr>
<tr>
<td>Tower 2</td>
<td>2010 Rosenbauer</td>
<td>N/A</td>
<td>Reserve truck 100’ platform</td>
</tr>
<tr>
<td>Brush 34</td>
<td>2014 Rosenbauer/Freightliner</td>
<td>1,250 GPM</td>
<td>500 gallon tank</td>
</tr>
<tr>
<td>Command Post</td>
<td>2003 Ford Winnebago</td>
<td>N/A</td>
<td>Mobile Command Post for major incidents</td>
</tr>
<tr>
<td>Rehab Vehicle</td>
<td>1994 Gillig Phantom</td>
<td>N/A</td>
<td>Converted city bus that serves as Rehab Vehicle for extended incidents</td>
</tr>
</tbody>
</table>

- Units in **bold** are fully staffed on a daily basis.
- Units denoted in *italics* are not staffed daily or are cross-staffed as needed.
### STATION 4 – CALLS BY DESCRIPTION 2012-2016

<table>
<thead>
<tr>
<th>NFIRS Description 1</th>
<th>2012</th>
<th>% Change</th>
<th>2013</th>
<th>% Change</th>
<th>2014</th>
<th>% Change</th>
<th>2015</th>
<th>% Change</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Intent Call</td>
<td>126</td>
<td>-12.50%</td>
<td>151</td>
<td>19.84%</td>
<td>182</td>
<td>21%</td>
<td>256</td>
<td>40.66%</td>
<td>413</td>
<td>61.33%</td>
</tr>
<tr>
<td>Rescue and EMS</td>
<td>1,562</td>
<td>-12.20%</td>
<td>1,709</td>
<td>9.41%</td>
<td>1,804</td>
<td>6%</td>
<td>1,825</td>
<td>1.16%</td>
<td>1,867</td>
<td>2.30%</td>
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<tr>
<td>False Alarm or Call</td>
<td>148</td>
<td>-5.13%</td>
<td>152</td>
<td>2.70%</td>
<td>164</td>
<td>8%</td>
<td>129</td>
<td>-21.34%</td>
<td>150</td>
<td>16.28%</td>
</tr>
<tr>
<td>Service Call</td>
<td>163</td>
<td>21.64%</td>
<td>109</td>
<td>-33.13%</td>
<td>94</td>
<td>-14%</td>
<td>97</td>
<td>3.19%</td>
<td>117</td>
<td>20.62%</td>
</tr>
<tr>
<td>Fire</td>
<td>51</td>
<td>6.25%</td>
<td>49</td>
<td>-3.92%</td>
<td>40</td>
<td>-18%</td>
<td>56</td>
<td>40%</td>
<td>33</td>
<td>-41.07%</td>
</tr>
<tr>
<td>Hazardous Condition</td>
<td>50</td>
<td>-19.35%</td>
<td>52</td>
<td>4.00%</td>
<td>62</td>
<td>19%</td>
<td>61</td>
<td>-1.61%</td>
<td>61</td>
<td>0%</td>
</tr>
<tr>
<td>Special Incident Type</td>
<td>2</td>
<td>100%</td>
<td>3</td>
<td>50.00%</td>
<td>1</td>
<td>-67%</td>
<td>1</td>
<td>0%</td>
<td>2</td>
<td>100%</td>
</tr>
<tr>
<td>Overpressure Rupture, Explosion, Overheat</td>
<td>0</td>
<td>100%</td>
<td>1</td>
<td>100%</td>
<td>1</td>
<td>0%</td>
<td>8</td>
<td>700%</td>
<td>4</td>
<td>-50%</td>
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<tr>
<td>Severe Weather and Natural Disaster</td>
<td>0</td>
<td>-100%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
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### STATION 4 – UNIT RELIABILITY 2011-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Engine 4 in Area Responses</th>
<th>Incidents in Station 4’s Area</th>
<th>Reliability %</th>
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<tbody>
<tr>
<td>2011</td>
<td>2,003</td>
<td>2,325</td>
<td>86%</td>
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<tr>
<td>2012</td>
<td>1,814</td>
<td>2,102</td>
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<td>2013</td>
<td>1,852</td>
<td>2,226</td>
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<td>2014</td>
<td>2,018</td>
<td>2,348</td>
<td>86%</td>
</tr>
<tr>
<td>2015</td>
<td>2,081</td>
<td>2,433</td>
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<td>2016</td>
<td>2,221</td>
<td>2,647</td>
<td>86%</td>
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Color shading in the reliability percentage column darkens as reliability relative to the specific station area decreases.
## STATION 4 – CALLS BY DAY AND TIME OF DAY 2012-2016

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<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
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<td>52</td>
<td>88</td>
<td>76</td>
<td>70</td>
<td>456</td>
</tr>
</tbody>
</table>

*Items shaded in green indicate lower incident volume while red shading indicates higher incident volume relative to the individual planning zone.*
Occupyancy Classification - Demand Zone 4

Legend
- P04
- Stations
- PFA Boundary

Occupyancy Classifications (Count)
- Assembly (43)
- Residential (53)
- Hazardous (0)
- Educational (11)
- Business (120)
- Mercantile (49)
- Institutions (33)
- Factory (0)
- Storage (10)
DESCRIPTION: Station 5 covers 8.4 square miles in the southern portion of Fort Collins. Poudre Fire Authority’s southern boundary meets the Loveland Fire Rescue Authority along Colorado Highway 392. The area is traditionally one of the busiest in terms of responses and is usually busiest during the weekdays. The area has commercial occupancies concentrated along the College Avenue and Harmony Road corridors.

OVERVIEW OF RISK: The planning zone contains several nursing homes and independent/assisted living facilities. Some of these occupancies are non-sprinklered and due to this present a significant amount of risk. In addition, several multi-family dwellings are located in this area. The railroad that runs north/south through Poudre Fire Authority jurisdiction also bisects this area and can impact responses.

STATION 5 – INCIDENTS FROM 2012-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Calls</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>2,317</td>
<td>4.79%</td>
</tr>
<tr>
<td>2013</td>
<td>2,333</td>
<td>0.69%</td>
</tr>
<tr>
<td>2014</td>
<td>2,614</td>
<td>12.04%</td>
</tr>
<tr>
<td>2015</td>
<td>2,892</td>
<td>10.63%</td>
</tr>
<tr>
<td>2016</td>
<td>3,140</td>
<td>8.57%</td>
</tr>
</tbody>
</table>
**FIVE YEAR CALL GROWTH**

| 2012-2016 Call Growth | 3,140 – 2,317 = 823 / 2,317 | 35.52% |

---

**MAXIMUM/WORST RISK**

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>14053/14054</td>
<td>Oakbrook 1 and 2</td>
<td>3200 /3300 Stanford Rd</td>
<td>3,575 GPM</td>
</tr>
</tbody>
</table>

**Description:**
This non-sprinklered, Type V multi-family structure houses senior citizens in a combination of independent and assisted living situations. Many of the residents have limited mobility. Access is not available on all sides of the building.

---

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>14053/14054</td>
<td>Oakbrook 1 and 2</td>
<td>3200 /3300 Stanford Rd</td>
<td>3,575 GPM</td>
</tr>
</tbody>
</table>

**Description:**
This non-sprinklered, Type V multi-family structure houses senior citizens in a combination of independent and assisted living situations. Many of the residents have limited mobility. Access is not available on all sides of the building.

---

**EQUIPMENT STATIONED AT STATION 5**

<table>
<thead>
<tr>
<th>Equipment Identification</th>
<th>Year and Manufacturer</th>
<th>Pump Capacity</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine 5</td>
<td>2011 Rosenbauer</td>
<td>1,500 GPM</td>
<td>650 gallon tank</td>
</tr>
<tr>
<td>Ladder 5</td>
<td>2005 Crimson</td>
<td>N/A</td>
<td>100’ straight a</td>
</tr>
<tr>
<td>Battalion 2</td>
<td>2016 Ford Expedition</td>
<td>N/A</td>
<td>South Battalion response vehicle</td>
</tr>
<tr>
<td>Air 1</td>
<td>2012 Freightliner</td>
<td>N/A</td>
<td>Air Truck for extended incidents and technical</td>
</tr>
</tbody>
</table>

- Units in **bold** are fully staffed on a daily basis.
- Units denoted in *italics* are not staffed daily or are cross-staffed as needed.
### STATION 5 – CALLS BY DESCRIPTION 2012-2016

<table>
<thead>
<tr>
<th>NFIRS Description 1</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Intent Call</td>
<td>164</td>
<td>175</td>
<td>195</td>
<td>256</td>
<td>385</td>
<td>6.49%</td>
</tr>
<tr>
<td>Rescue and EMS</td>
<td>1,744</td>
<td>1,793</td>
<td>1,973</td>
<td>2,199</td>
<td>2,292</td>
<td>4.74%</td>
</tr>
<tr>
<td>False Alarm or Call</td>
<td>195</td>
<td>198</td>
<td>247</td>
<td>222</td>
<td>227</td>
<td>-3.94%</td>
</tr>
<tr>
<td>Service Call</td>
<td>132</td>
<td>99</td>
<td>100</td>
<td>128</td>
<td>131</td>
<td>11.86%</td>
</tr>
<tr>
<td>Fire</td>
<td>39</td>
<td>29</td>
<td>42</td>
<td>24</td>
<td>30</td>
<td>18.18%</td>
</tr>
<tr>
<td>Hazardous Condition</td>
<td>39</td>
<td>35</td>
<td>52</td>
<td>55</td>
<td>63</td>
<td>18.18%</td>
</tr>
<tr>
<td>Special Incident Type</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>7</td>
<td>8</td>
<td>-50.00%</td>
</tr>
<tr>
<td>Overpressure Rupture, Explosion, Overheat</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>100%</td>
</tr>
<tr>
<td>Severe Weather and Natural Disaster</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

### STATION 5 – UNIT RELIABILITY 2011-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Fire Station 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Engine 5 in Area Responses</td>
</tr>
<tr>
<td>2011</td>
<td>1,897</td>
</tr>
<tr>
<td>2012</td>
<td>1,935</td>
</tr>
<tr>
<td>2013</td>
<td>1,939</td>
</tr>
<tr>
<td>2014</td>
<td>2,101</td>
</tr>
<tr>
<td>2015</td>
<td>2,369</td>
</tr>
<tr>
<td>2016</td>
<td>2,520</td>
</tr>
</tbody>
</table>

Color shading in the reliability percentage column darkens as reliability relative to the specific station area decreases.
### STATION 5 – CALLS BY DAY AND TIME OF DAY 2012-2016

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>47</td>
<td>55</td>
<td>43</td>
<td>50</td>
<td>49</td>
<td>54</td>
<td>67</td>
<td>365</td>
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<tr>
<td>1</td>
<td>34</td>
<td>35</td>
<td>43</td>
<td>30</td>
<td>42</td>
<td>58</td>
<td>57</td>
<td>299</td>
</tr>
<tr>
<td>2</td>
<td>52</td>
<td>44</td>
<td>39</td>
<td>44</td>
<td>41</td>
<td>39</td>
<td>50</td>
<td>309</td>
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<td>3</td>
<td>33</td>
<td>39</td>
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<td>28</td>
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<td>38</td>
<td>37</td>
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<td>4</td>
<td>46</td>
<td>37</td>
<td>30</td>
<td>54</td>
<td>38</td>
<td>26</td>
<td>33</td>
<td>264</td>
</tr>
<tr>
<td>5</td>
<td>34</td>
<td>40</td>
<td>39</td>
<td>39</td>
<td>33</td>
<td>26</td>
<td>39</td>
<td>250</td>
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<tr>
<td>6</td>
<td>56</td>
<td>54</td>
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<td>51</td>
<td>41</td>
<td>43</td>
<td>339</td>
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<tr>
<td>7</td>
<td>67</td>
<td>71</td>
<td>91</td>
<td>61</td>
<td>77</td>
<td>92</td>
<td>55</td>
<td>514</td>
</tr>
<tr>
<td>8</td>
<td>83</td>
<td>91</td>
<td>101</td>
<td>78</td>
<td>111</td>
<td>56</td>
<td>73</td>
<td>593</td>
</tr>
<tr>
<td>9</td>
<td>94</td>
<td>83</td>
<td>109</td>
<td>118</td>
<td>107</td>
<td>80</td>
<td>80</td>
<td>671</td>
</tr>
<tr>
<td>10</td>
<td>111</td>
<td>116</td>
<td>109</td>
<td>117</td>
<td>122</td>
<td>111</td>
<td>99</td>
<td>785</td>
</tr>
<tr>
<td>11</td>
<td>116</td>
<td>112</td>
<td>120</td>
<td>110</td>
<td>133</td>
<td>115</td>
<td>104</td>
<td>810</td>
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<td>12</td>
<td>106</td>
<td>112</td>
<td>97</td>
<td>110</td>
<td>137</td>
<td>133</td>
<td>80</td>
<td>775</td>
</tr>
<tr>
<td>13</td>
<td>122</td>
<td>105</td>
<td>109</td>
<td>138</td>
<td>123</td>
<td>116</td>
<td>91</td>
<td>804</td>
</tr>
<tr>
<td>14</td>
<td>120</td>
<td>105</td>
<td>123</td>
<td>131</td>
<td>106</td>
<td>88</td>
<td>94</td>
<td>767</td>
</tr>
<tr>
<td>15</td>
<td>82</td>
<td>106</td>
<td>115</td>
<td>113</td>
<td>115</td>
<td>104</td>
<td>110</td>
<td>745</td>
</tr>
<tr>
<td>16</td>
<td>122</td>
<td>124</td>
<td>94</td>
<td>100</td>
<td>98</td>
<td>85</td>
<td>77</td>
<td>700</td>
</tr>
<tr>
<td>17</td>
<td>90</td>
<td>108</td>
<td>104</td>
<td>110</td>
<td>106</td>
<td>93</td>
<td>72</td>
<td>683</td>
</tr>
<tr>
<td>18</td>
<td>100</td>
<td>114</td>
<td>100</td>
<td>124</td>
<td>103</td>
<td>101</td>
<td>103</td>
<td>745</td>
</tr>
<tr>
<td>19</td>
<td>74</td>
<td>98</td>
<td>95</td>
<td>87</td>
<td>114</td>
<td>95</td>
<td>103</td>
<td>666</td>
</tr>
<tr>
<td>20</td>
<td>84</td>
<td>71</td>
<td>86</td>
<td>96</td>
<td>106</td>
<td>70</td>
<td>74</td>
<td>587</td>
</tr>
<tr>
<td>21</td>
<td>73</td>
<td>70</td>
<td>72</td>
<td>79</td>
<td>90</td>
<td>92</td>
<td>72</td>
<td>548</td>
</tr>
<tr>
<td>22</td>
<td>60</td>
<td>68</td>
<td>78</td>
<td>63</td>
<td>56</td>
<td>72</td>
<td>71</td>
<td>468</td>
</tr>
<tr>
<td>23</td>
<td>64</td>
<td>61</td>
<td>45</td>
<td>49</td>
<td>65</td>
<td>52</td>
<td>43</td>
<td>379</td>
</tr>
</tbody>
</table>

Items shaded in green indicate lower incident volume while red shading indicates higher incident volume relative to the individual planning zone.
DESCRIPTION: Station 6 covers 44.5 square miles on the northeastern portion of the district. The demand zone contains a significant number of industrial occupancies in comparison to other areas. These occupancies operate a variety of processes and contribute to the economic vitality of the community. In addition, the Mulberry Street corridor is home to a number of hotels and motels that contribute to the call profiles in this area. Finally, the area extends east into agricultural areas. Interstate 25 bisects the district in a north/south direction, which also contributes to the incidents encountered in this planning zone.

OVERVIEW OF RISK: The primary life-risk in this planning zone is located along the Mulberry Street corridor due to numerous hotels and motels, many of which see extended stays from a low-income demographic. In recent years, crime has increased in this area and call volume has increased in conjunction with this change. The industrial park located north of Mulberry Street and west of Summit View Drive also contributes to the risk in this area. Laboratories, chemical processing and machining occupancies present some of the demographic make-up of this part of the community.

**STATION 6 – INCIDENTS FROM 2012-2016**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Calls</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>1,331</td>
<td>5.55%</td>
</tr>
<tr>
<td>2013</td>
<td>1,392</td>
<td>4.58%</td>
</tr>
<tr>
<td>2014</td>
<td>1,574</td>
<td>13.16%</td>
</tr>
<tr>
<td>2015</td>
<td>1,740</td>
<td>10.55%</td>
</tr>
<tr>
<td>2016</td>
<td>1,816</td>
<td>4.36%</td>
</tr>
</tbody>
</table>
### FIVE YEAR CALL GROWTH

| 2012-2016 Call Growth | 1,816 – 1,331 = 485 / 1,331 | 36.43% |

### MAXIMUM/WORST RISK

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>13183</td>
<td>Plaza Hotel</td>
<td>3836 E Mulberry</td>
<td>1917 GPM</td>
</tr>
</tbody>
</table>

**Description:**
This sprinklered Type V hotel is currently being occupied by a mix of traditional hotel and extended stay guests. Poudre Fire Authority responds to this facility regularly for crime and drug related incidents.

### EQUIPMENT STATIONED AT STATION 6

<table>
<thead>
<tr>
<th>Equipment Identification</th>
<th>Year and Manufacturer</th>
<th>Pump Capacity</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine 6</td>
<td>2016 Rosenbaur</td>
<td>1,500 GPM</td>
<td>650 gallon tank</td>
</tr>
<tr>
<td></td>
<td>Commander</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tender 6</td>
<td>2012 Rosenbauer</td>
<td>500 GPM</td>
<td>2,000 gallon tank</td>
</tr>
<tr>
<td>Brush 6</td>
<td>2002 F-550 Super</td>
<td>300 GPM</td>
<td>300 gallon tank</td>
</tr>
<tr>
<td>Collapse Rescue 6</td>
<td>2007 Freightliner</td>
<td>N/A</td>
<td>Box Truck for technical rescue responses</td>
</tr>
<tr>
<td>Reserve Engine 26</td>
<td>2001 American LaFrance</td>
<td>1,500 GPM</td>
<td>650 gallon tank</td>
</tr>
<tr>
<td>Reserve Engine 27</td>
<td>1998 American LaFrance</td>
<td>1,500 GPM</td>
<td>650 gallon tank</td>
</tr>
<tr>
<td>Reserve Engine 28</td>
<td>2002 American LaFrance</td>
<td>1,500 GPM</td>
<td>650 gallon tank</td>
</tr>
</tbody>
</table>
Reserve Engine 29  
1999 American LaFrance  
1,500 GPM  
650 gallon tank  
Unstaffed Reserve

- Units in **bold** are fully staffed on a daily basis.
- Units denoted in italics are not staffed daily or are cross-staffed as needed.

**STATION 6 – CALLS BY DESCRIPTION 2012-2016**

<table>
<thead>
<tr>
<th>NFIRS Description 1</th>
<th>2012</th>
<th>% Change</th>
<th>2013</th>
<th>% Change</th>
<th>2014</th>
<th>% Change</th>
<th>2015</th>
<th>% Change</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Intent Call</td>
<td>82</td>
<td>-2.38%</td>
<td>97</td>
<td>18.29%</td>
<td>115</td>
<td>20%</td>
<td>200</td>
<td>73.91%</td>
<td>220</td>
<td>10%</td>
</tr>
<tr>
<td>Rescue and EMS</td>
<td>1,025</td>
<td>6.55%</td>
<td>1,067</td>
<td>4.10%</td>
<td>1,251</td>
<td>17%</td>
<td>1,306</td>
<td>4.4%</td>
<td>1,345</td>
<td>2.99%</td>
</tr>
<tr>
<td>False Alarm or Call</td>
<td>76</td>
<td>-2.56%</td>
<td>88</td>
<td>15.79%</td>
<td>81</td>
<td>-8%</td>
<td>90</td>
<td>11.11%</td>
<td>96</td>
<td>6.67%</td>
</tr>
<tr>
<td>Service Call</td>
<td>50</td>
<td>8.70%</td>
<td>61</td>
<td>22.00%</td>
<td>60</td>
<td>-2%</td>
<td>51</td>
<td>-15%</td>
<td>68</td>
<td>33.33%</td>
</tr>
<tr>
<td>Fire</td>
<td>56</td>
<td>24.44%</td>
<td>42</td>
<td>-25.00%</td>
<td>31</td>
<td>-26%</td>
<td>35</td>
<td>12.9%</td>
<td>44</td>
<td>25.71%</td>
</tr>
<tr>
<td>Hazardous Condition</td>
<td>39</td>
<td>-7.14%</td>
<td>35</td>
<td>-10.26%</td>
<td>31</td>
<td>-11%</td>
<td>52</td>
<td>67.74%</td>
<td>39</td>
<td>-25%</td>
</tr>
<tr>
<td>Special Incident Type</td>
<td>3</td>
<td>-25.00%</td>
<td>1</td>
<td>-66.67%</td>
<td>3</td>
<td>200%</td>
<td>4</td>
<td>33.33%</td>
<td>2</td>
<td>-50%</td>
</tr>
<tr>
<td>Overpressure Rupture, Explosion, Overheat</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>100%</td>
<td>1</td>
<td>0%</td>
<td>2</td>
<td>100%</td>
<td>2</td>
<td>0%</td>
</tr>
<tr>
<td>Severe Weather and Natural Disaster</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>100%</td>
<td>0</td>
<td>-100%</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

**STATION 6 – UNIT RELIABILITY 2011-2016**

<table>
<thead>
<tr>
<th>Year</th>
<th>Fire Station 6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Engine 6 in Area Responses</td>
</tr>
<tr>
<td>2011</td>
<td>1,125</td>
</tr>
<tr>
<td>2012</td>
<td>1,198</td>
</tr>
<tr>
<td>2013</td>
<td>1,234</td>
</tr>
<tr>
<td>2014</td>
<td>1,369</td>
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<tr>
<td>2015</td>
<td>1,523</td>
</tr>
<tr>
<td>2016</td>
<td>1,563</td>
</tr>
</tbody>
</table>

Color shading in the reliability percentage column darkens as reliability relative to the specific station area decreases.
### STATION 6 – CALLS BY DAY AND TIME OF DAY 2012-2016

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>36</td>
<td>35</td>
<td>42</td>
<td>33</td>
<td>29</td>
<td>45</td>
<td>49</td>
<td>269</td>
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<tr>
<td>1</td>
<td>28</td>
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<td>25</td>
<td>35</td>
<td>23</td>
<td>43</td>
<td>34</td>
<td>209</td>
</tr>
<tr>
<td>2</td>
<td>17</td>
<td>17</td>
<td>26</td>
<td>30</td>
<td>26</td>
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<td>17</td>
<td>18</td>
<td>28</td>
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<td>22</td>
<td>21</td>
<td>24</td>
<td>24</td>
<td>19</td>
<td>160</td>
</tr>
<tr>
<td>6</td>
<td>32</td>
<td>28</td>
<td>15</td>
<td>18</td>
<td>21</td>
<td>22</td>
<td>27</td>
<td>163</td>
</tr>
<tr>
<td>7</td>
<td>43</td>
<td>28</td>
<td>43</td>
<td>38</td>
<td>47</td>
<td>32</td>
<td>34</td>
<td>265</td>
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<tr>
<td>8</td>
<td>54</td>
<td>37</td>
<td>50</td>
<td>41</td>
<td>45</td>
<td>39</td>
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<td>307</td>
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<td>54</td>
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<td>31</td>
<td>39</td>
<td>43</td>
<td>42</td>
<td>37</td>
<td>284</td>
</tr>
</tbody>
</table>

Items shaded in green indicate lower incident volume while red shading indicates higher incident volume relative to the individual planning zone.
DESCRIPTION: Station 7 covers 56.1 square miles on the northwestern portion of the district. This area is the least densely populated area in Poudre Fire Authority’s jurisdiction. The communities of Bellvue and LaPorte are located within this planning zone and are mainly agricultural/rural in profile. The western foothills are located here with the Cache la Poudre River exiting its canyon and transitioning onto the plains. Some commercial occupancies are located in this planning zone, in particular in LaPorte. Colorado State Highway 14 and US Highway 287 join here and the area experiences truck and holiday traffic as a result of this.

OVERVIEW OF RISK: The transportation-based risk presented by the highways that traverse this area contributes to the incidents encountered in this planning zone. The wildland-urban interface presents a significant fire challenge as many residential homes are located interspersed in the foothills with difficult access. In addition, a non-sprinklered events center is located in this planning zone that contributes to the life risk profile of this area.

STATION 7 – INCIDENTS FROM 2011-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Calls</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>485</td>
<td>17.15%</td>
</tr>
<tr>
<td>2013</td>
<td>510</td>
<td>5.15%</td>
</tr>
<tr>
<td>2014</td>
<td>428</td>
<td>-16.08%</td>
</tr>
<tr>
<td>2015</td>
<td>492</td>
<td>14.95%</td>
</tr>
<tr>
<td>2016</td>
<td>512</td>
<td>4.06%</td>
</tr>
</tbody>
</table>
**FIVE YEAR CALL GROWTH**

| 2012-2016 Call Growth | 512 – 485 = 27 / 485 | 5.56% |

**MAXIMUM/WORST RISK**

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>13410</td>
<td>Tapestry House Events Center</td>
<td>3212 N Overland Trail</td>
<td>788 GPM</td>
</tr>
</tbody>
</table>

**Description:**
This non-sprinklered Type V constructed occupancy is an events center that hosts weddings and receptions throughout the year. Due to this, large numbers of people can be on-site at any given time.

**Max Needed Fire Flow**

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>13410</td>
<td>Tapestry House Events Center</td>
<td>3212 N Overland Trail</td>
<td>788 GPM</td>
</tr>
</tbody>
</table>

**Description:**
This non-sprinklered Type V constructed occupancy is an events center that hosts weddings and receptions throughout the year. Due to this, large numbers of people can be on-site at any given time.

**EQUIPMENT STATIONED AT STATION 7**

<table>
<thead>
<tr>
<th>Equipment Identification</th>
<th>Year and Manufacturer</th>
<th>Pump Capacity</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine 7</td>
<td>2012 Rosenbauer</td>
<td>1,500 GPM</td>
<td>650 gallon tank</td>
</tr>
<tr>
<td>Engine 37</td>
<td>2011 Pierce</td>
<td>500 GPM</td>
<td>500 gallon tank Type 3 Interface Engine</td>
</tr>
<tr>
<td>Boat 7</td>
<td>2013 Shorelander Trailer</td>
<td>N/A</td>
<td>Boat Trailer</td>
</tr>
<tr>
<td>Boat 7</td>
<td>1999 F-150</td>
<td>N/A</td>
<td>Tow vehicle for Boat 7</td>
</tr>
<tr>
<td>Boat 7</td>
<td>2013 Zodiac MK2 Classic</td>
<td>N/A</td>
<td>Zodiac water rescue boat</td>
</tr>
</tbody>
</table>

- Units in **bold** are fully staffed on a daily basis.
- Units denoted in *italics* are not staffed daily or are cross-staffed as needed.
### STATION 7 – CALLS BY DESCRIPTION 2012-2016

<table>
<thead>
<tr>
<th>NFIRS Description 1</th>
<th>2012</th>
<th>% Change</th>
<th>2013</th>
<th>% Change</th>
<th>2014</th>
<th>% Change</th>
<th>2015</th>
<th>% Change</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Intent Call</td>
<td>45</td>
<td>60.71%</td>
<td>56</td>
<td>24.44%</td>
<td>34</td>
<td>-39%</td>
<td>37</td>
<td>8.82%</td>
<td>41</td>
<td>10.81%</td>
</tr>
<tr>
<td>Rescue and EMS</td>
<td>319</td>
<td>19.03%</td>
<td>331</td>
<td>3.76%</td>
<td>311</td>
<td>-6%</td>
<td>361</td>
<td>16.08%</td>
<td>374</td>
<td>3.60%</td>
</tr>
<tr>
<td>False Alarm or Call</td>
<td>15</td>
<td>-25.00%</td>
<td>20</td>
<td>33.33%</td>
<td>19</td>
<td>-5%</td>
<td>31</td>
<td>63.16%</td>
<td>23</td>
<td>-25.80%</td>
</tr>
<tr>
<td>Service Call</td>
<td>44</td>
<td>41.94%</td>
<td>36</td>
<td>-18.18%</td>
<td>31</td>
<td>-14%</td>
<td>28</td>
<td>-9.68%</td>
<td>9</td>
<td>-67.86%</td>
</tr>
<tr>
<td>Fire</td>
<td>27</td>
<td>-22.86%</td>
<td>38</td>
<td>40.74%</td>
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<td>-50%</td>
<td>16</td>
<td>-15.79%</td>
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<td>56.25%</td>
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<tr>
<td>Hazardous Condition</td>
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<td>-47.62%</td>
<td>20</td>
<td>81.82%</td>
<td>10</td>
<td>-50%</td>
<td>14</td>
<td>40%</td>
<td>15</td>
<td>7.14%</td>
</tr>
<tr>
<td>Special Incident Type</td>
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<td>155.56%</td>
<td>9</td>
<td>-60.87%</td>
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<td>-56%</td>
<td>5</td>
<td>25%</td>
<td>5</td>
<td>0%</td>
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<tr>
<td>Overpressure Rupture, Explosion, Overheat</td>
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<td>-100%</td>
<td>0</td>
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<td>0</td>
<td>0%</td>
<td>0</td>
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</tr>
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<td>Severe Weather and Natural Disaster</td>
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<td>-100%</td>
<td>0</td>
<td>0%</td>
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### STATION 7 – UNIT RELIABILITY 2011-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Engine 7 in Area Responses</th>
<th>Incidents in Station 7's Area</th>
<th>Reliability %</th>
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</thead>
<tbody>
<tr>
<td>2011</td>
<td>373</td>
<td>414</td>
<td>90%</td>
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<tr>
<td>2012</td>
<td>434</td>
<td>485</td>
<td>89%</td>
</tr>
<tr>
<td>2013</td>
<td>463</td>
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<tr>
<td>2014</td>
<td>388</td>
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<td>91%</td>
</tr>
<tr>
<td>2015</td>
<td>448</td>
<td>492</td>
<td>91%</td>
</tr>
<tr>
<td>2016</td>
<td>462</td>
<td>512</td>
<td>90%</td>
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</table>

Color shading in the reliability percentage column darkens as reliability relative to the specific station area decreases.
<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
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<td>24</td>
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<td>14</td>
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</tr>
<tr>
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<td>10</td>
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<td>18</td>
<td>9</td>
<td>14</td>
<td>8</td>
<td>11</td>
<td>75</td>
</tr>
</tbody>
</table>

Items shaded in green indicate lower incident volume while red shading indicates higher incident volume relative to the individual planning zone.
DESCRIPTION: Station 8 covers 18.3 square miles in the southeastern portion of the district. This area is growing rapidly as the Town of Timnath is adding residential occupancies at a significant rate. Interstate 25 runs through this district and contributes to the characteristics of the area. The I-25/Harmony Road interchange is an area of significant commercial growth.

OVERVIEW OF RISK: There are several industrial occupancies that are found along the Harmony Road corridor. In addition, several large commercial mercantile occupancies are found in this planning zone. The Interstate presents a significant impact in terms of people and potential for accidents. Finally, the rapid building of single-family dwellings in the eastern portion of this district is increasing the frequency of incidents associated with higher population densities.

### STATION 8 – INCIDENTS FROM 2012-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Calls</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>246</td>
<td>-6.11%</td>
</tr>
<tr>
<td>2013</td>
<td>266</td>
<td>8.13%</td>
</tr>
<tr>
<td>2014</td>
<td>309</td>
<td>16.17%</td>
</tr>
<tr>
<td>2015</td>
<td>392</td>
<td>26.86%</td>
</tr>
<tr>
<td>2016</td>
<td>417</td>
<td>6.37%</td>
</tr>
</tbody>
</table>
FIVE YEAR CALL GROWTH

| 2012-2016 Call Growth | 417 – 246 = 171 / 246 | 69.51% |

MAXIMUM/WORST RISK

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>16407</td>
<td>Simplot</td>
<td>5701 E Harmony</td>
<td>417 GPM</td>
</tr>
</tbody>
</table>

Description:
This is a farm and agricultural manufacturing company that produces fertilizer and other chemicals.

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>16407</td>
<td>Simplot</td>
<td>5701 E Harmony</td>
<td>417 GPM</td>
</tr>
</tbody>
</table>

Description:
This is a farm and agricultural manufacturing company that produces fertilizer and other chemicals.

EQUIPMENT STATIONED AT STATION 8

<table>
<thead>
<tr>
<th>Equipment Identification</th>
<th>Year and Manufacturer</th>
<th>Pump Capacity</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine 8</td>
<td>2016 Rosenbauer Commander</td>
<td>1,500 GPM</td>
<td>650 gallon tank</td>
</tr>
<tr>
<td>Brush 8</td>
<td>2016 RAM 500 Crew Cab Type 6</td>
<td>50 GPM</td>
<td>350 gallon tank</td>
</tr>
</tbody>
</table>
### STATION 8 – CALLS BY DESCRIPTION 2012-2016

<table>
<thead>
<tr>
<th>NFIRS Description 1</th>
<th>2012</th>
<th>% Change</th>
<th>2013</th>
<th>% Change</th>
<th>2014</th>
<th>% Change</th>
<th>2015</th>
<th>% Change</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Intent Call</td>
<td>45</td>
<td>0%</td>
<td>18</td>
<td>-60.00%</td>
<td>53</td>
<td>18%</td>
<td>68</td>
<td>28%</td>
<td>53</td>
<td>-22.06%</td>
</tr>
<tr>
<td>Rescue and EMS</td>
<td>170</td>
<td>14.09%</td>
<td>73</td>
<td>-57.06%</td>
<td>184</td>
<td>8%</td>
<td>232</td>
<td>26%</td>
<td>228</td>
<td>-1.72%</td>
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### STATION 8 – UNIT RELIABILITY 2011-2016

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Station 8 transitioned from volunteer to career in the last week of 2015. Unit reliability study started in 2016.
### STATION 8 – CALLS BY DAY AND TIME OF DAY 2012-2016

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<td>4</td>
<td>6</td>
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</table>

Items shaded in green indicate lower incident volume while red shading indicates higher incident volume relative to the individual planning zone.
**DESCRIPTION:** Station 9 covers 15.3 square miles on the southwestern portion of the district. This area covers the western side of Horsetooth Reservoir and several residential communities located here. The area contains numerous campgrounds and a marina. No major commercial developments are located in the area; however, there are some restaurants and businesses that support the abundant recreational opportunities in the area.

**OVERVIEW OF RISK:** The residential homes that are located in the wildland urban interface are the primary risk in this area. Water supply is difficult here and the topography and road conditions can make responses challenging. The Inlet Bay Marina has on-site fuel storage that has the potential of environmental impacts due to being located in the reservoir itself. However, process and construction controls are in place to limit the impact of this risk.

**STATION 9 – INCIDENTS FROM 2012-2016**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Calls</th>
<th>Percent Change</th>
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<tbody>
<tr>
<td>2012</td>
<td>101</td>
<td>44.29%</td>
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<tr>
<td>2013</td>
<td>87</td>
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<tr>
<td>2014</td>
<td>102</td>
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<tr>
<td>2015</td>
<td>108</td>
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<tr>
<td>2016</td>
<td>142</td>
<td>31.48%</td>
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</table>
FIVE YEAR CALL GROWTH

| 2012-2016 Call Growth | 142 – 101 = 41 / 101 | 40.59% |

MAXIMUM/WORST RISK

<table>
<thead>
<tr>
<th>Life Risk</th>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>N/A</td>
<td>Any Large Residence (3,000 square feet)</td>
<td>N/A</td>
<td>375 GPM</td>
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</table>

Description:
The most significant life-risks in this area are large residential homes located in the wildland-urban interface. Access is limited and water supply is challenging as many of these locations do not have a hydrant system.

<table>
<thead>
<tr>
<th>Max Needed Fire Flow</th>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>13990</td>
<td>Inlet Bay Marina</td>
<td>4314 Shoreline Drive</td>
<td>500 GPM</td>
</tr>
</tbody>
</table>

Description:
This mixed-use occupancy is the only marina at Horsetooth Reservoir. A boat repair garage is on-site with a large fuel supply for the dispensing facility located here. The facility is on the west side of the reservoir and is therefore a considerable distance from the urban core of Poudre Fire Authority’s jurisdiction where the majority of the agency’s response resources are located.

EQUIPMENT STATIONED AT STATION 9

<table>
<thead>
<tr>
<th>Equipment Identification</th>
<th>Year and Manufacturer</th>
<th>Pump Capacity</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Squad 9</td>
<td>2015 Ford F-250 SRW</td>
<td>N/A</td>
<td>Response rig for Station 9 personnel</td>
</tr>
<tr>
<td>Brush 9</td>
<td>1997 Ford F-350</td>
<td>125 GPM</td>
<td>350 gallon tank</td>
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All Units indicated at Station 9 are currently staffed by volunteers.
### STATION 9 – CALLS BY DESCRIPTION 2012-2016

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<th>% Change</th>
<th>2013</th>
<th>% Change</th>
<th>2014</th>
<th>% Change</th>
<th>2015</th>
<th>% Change</th>
<th>2016</th>
<th>% Change</th>
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### STATION 9 – UNIT RELIABILITY 2011-2016

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<th>Year</th>
<th>Fire Station 9</th>
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<td>Engine 9 in Area Responses</td>
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Unit reliability not reported for volunteer stations.
### STATION 9 – CALLS BY DAY AND TIME OF DAY 2012-2016

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<td>5</td>
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<td>6</td>
<td>22</td>
</tr>
<tr>
<td>23</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>

Items shaded in green indicate lower incident volume while red shading indicates higher incident volume relative to the individual planning zone.
DESCRIPTION: Station 10 covers 7.4 square miles on the south central portion of the district. The demand zone covers mainly newer residential homes. Some semi-conductor research and fabrication, as well as other technology-related industry is located here. The Hazardous materials team is housed at this station location and Technician level response comes from station 10.

OVERVIEW OF RISK: There are several industrial occupancies that are found along the Harmony Road corridor. In addition, several large commercial mercantile occupancies are found in this planning zone. The interstate presents a significant impact in terms of people and potential for accidents.

**STATION 10 – INCIDENTS FROM 2012-2016**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Calls</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>1,082</td>
<td>0.65%</td>
</tr>
<tr>
<td>2013</td>
<td>1,346</td>
<td>24.40%</td>
</tr>
<tr>
<td>2014</td>
<td>1,477</td>
<td>9.73%</td>
</tr>
<tr>
<td>2015</td>
<td>1,481</td>
<td>.27%</td>
</tr>
<tr>
<td>2016</td>
<td>1,730</td>
<td>16.81%</td>
</tr>
</tbody>
</table>
FIVE YEAR CALL GROWTH

2012-2016 Call Growth

\[
\frac{1,730 - 1,082}{1,730} = \frac{648}{1,730} = 37.45\%
\]

MAXIMUM/WORST RISK

<table>
<thead>
<tr>
<th>Life Risk</th>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17478</td>
<td>Village Garden Apartments</td>
<td>1025 Oxford</td>
<td>375 GPM</td>
</tr>
</tbody>
</table>

Description:
This non-sprinklered Type V constructed multi-family dwelling has limited access.

<table>
<thead>
<tr>
<th>Max Needed Fire Flow</th>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12447</td>
<td>Rigden Farms Senior Living</td>
<td>2350 Limon Drive</td>
<td>1,218 GPM</td>
</tr>
</tbody>
</table>

Description:
This senior care facility houses a variety of assisted living and limited care units. The building is fully sprinklered and fairly new. Due to its large size and Type V construction, it represents the maximum needed fire flow in this planning zone.

EQUIPMENT STATIONED AT STATION 10

<table>
<thead>
<tr>
<th>Equipment Identification</th>
<th>Year and Manufacturer</th>
<th>Pump Capacity</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine 10</td>
<td>2014 Rosenbauer</td>
<td>1,500 GPM</td>
<td>650 gallon tank</td>
</tr>
<tr>
<td>Haz Mat 10</td>
<td>1993 International</td>
<td>N/A</td>
<td>Hazmat response rig</td>
</tr>
<tr>
<td>Foam 10</td>
<td>1994 Ford F-350</td>
<td>N/A</td>
<td>Foam response rig</td>
</tr>
<tr>
<td>WMD Trailer</td>
<td>2005 Wells Cargo</td>
<td>N/A</td>
<td>WMD Trailer</td>
</tr>
</tbody>
</table>

- Units in **bold** are fully staffed on a daily basis.
- Units denoted in *italics* are not staffed daily or are cross-staffed as needed.
### STATION 10 – CALLS BY DESCRIPTION 2012-2016

<table>
<thead>
<tr>
<th>NFIRS Description 1</th>
<th>2012</th>
<th>% Change</th>
<th>2013</th>
<th>% Change</th>
<th>2014</th>
<th>% Change</th>
<th>2015</th>
<th>% Change</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Intent Call</td>
<td>76</td>
<td>35.71%</td>
<td>108</td>
<td>42.11%</td>
<td>133</td>
<td>23%</td>
<td>130</td>
<td>-2.26%</td>
<td>223</td>
<td>52.7%</td>
</tr>
<tr>
<td>Rescue and EMS</td>
<td>782</td>
<td>-1.26%</td>
<td>990</td>
<td>26.60%</td>
<td>1,106</td>
<td>12%</td>
<td>1,098</td>
<td>-.72%</td>
<td>1,217</td>
<td>10.28%</td>
</tr>
<tr>
<td>False Alarm or Call</td>
<td>83</td>
<td>-20.95%</td>
<td>109</td>
<td>31.33%</td>
<td>93</td>
<td>-15%</td>
<td>120</td>
<td>29%</td>
<td>130</td>
<td>8%</td>
</tr>
<tr>
<td>Service Call</td>
<td>88</td>
<td>15.79%</td>
<td>68</td>
<td>-22.73%</td>
<td>79</td>
<td>16%</td>
<td>59</td>
<td>-25.32%</td>
<td>76</td>
<td>25.19%</td>
</tr>
<tr>
<td>Fire</td>
<td>20</td>
<td>17.65%</td>
<td>31</td>
<td>55.00%</td>
<td>18</td>
<td>-42%</td>
<td>25</td>
<td>38.89%</td>
<td>25</td>
<td>0%</td>
</tr>
<tr>
<td>Hazardous Condition</td>
<td>30</td>
<td>20.00%</td>
<td>39</td>
<td>30.00%</td>
<td>39</td>
<td>0%</td>
<td>44</td>
<td>12.82%</td>
<td>56</td>
<td>24%</td>
</tr>
<tr>
<td>Special Incident Type</td>
<td>2</td>
<td>-50.00%</td>
<td>0</td>
<td>-100%</td>
<td>7</td>
<td>100%</td>
<td>3</td>
<td>-57.14%</td>
<td>2</td>
<td>-40%</td>
</tr>
<tr>
<td>Overpressure Rupture, Explosion, Overheat</td>
<td>1</td>
<td>100%</td>
<td>1</td>
<td>0%</td>
<td>2</td>
<td>100%</td>
<td>1</td>
<td>-50%</td>
<td>1</td>
<td>0%</td>
</tr>
<tr>
<td>Severe Weather and Natural Disaster</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>100%</td>
<td>0</td>
<td>-100%</td>
</tr>
</tbody>
</table>

### STATION 10 – UNIT RELIABILITY 2011-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Engine 10 in Area Responses</th>
<th>Incidents in Station 10’s Area</th>
<th>Reliability %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>941</td>
<td>1,075</td>
<td>88%</td>
</tr>
<tr>
<td>2012</td>
<td>924</td>
<td>1,082</td>
<td>85%</td>
</tr>
<tr>
<td>2013</td>
<td>1,126</td>
<td>1,346</td>
<td>84%</td>
</tr>
<tr>
<td>2014</td>
<td>1,242</td>
<td>1,477</td>
<td>84%</td>
</tr>
<tr>
<td>2015</td>
<td>1,255</td>
<td>1,481</td>
<td>85%</td>
</tr>
<tr>
<td>2016</td>
<td>1,468</td>
<td>1,730</td>
<td>85%</td>
</tr>
</tbody>
</table>

Color shading in the reliability percentage column darkens as reliability relative to the specific station area decreases.
### STATION 10 – CALLS BY DAY AND TIME OF DAY 2012-2016

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>29</td>
<td>34</td>
<td>35</td>
<td>21</td>
<td>29</td>
<td>24</td>
<td>28</td>
<td>200</td>
</tr>
<tr>
<td>1</td>
<td>19</td>
<td>17</td>
<td>24</td>
<td>15</td>
<td>16</td>
<td>30</td>
<td>30</td>
<td>151</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>18</td>
<td>23</td>
<td>18</td>
<td>15</td>
<td>24</td>
<td>24</td>
<td>145</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>25</td>
<td>23</td>
<td>20</td>
<td>15</td>
<td>23</td>
<td>28</td>
<td>149</td>
</tr>
<tr>
<td>4</td>
<td>12</td>
<td>17</td>
<td>21</td>
<td>15</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>113</td>
</tr>
<tr>
<td>5</td>
<td>18</td>
<td>20</td>
<td>23</td>
<td>20</td>
<td>26</td>
<td>24</td>
<td>20</td>
<td>151</td>
</tr>
<tr>
<td>6</td>
<td>29</td>
<td>27</td>
<td>20</td>
<td>19</td>
<td>31</td>
<td>29</td>
<td>24</td>
<td>179</td>
</tr>
<tr>
<td>7</td>
<td>45</td>
<td>33</td>
<td>37</td>
<td>44</td>
<td>34</td>
<td>25</td>
<td>34</td>
<td>252</td>
</tr>
<tr>
<td>8</td>
<td>46</td>
<td>60</td>
<td>56</td>
<td>54</td>
<td>57</td>
<td>39</td>
<td>37</td>
<td>349</td>
</tr>
<tr>
<td>9</td>
<td>56</td>
<td>47</td>
<td>67</td>
<td>50</td>
<td>49</td>
<td>41</td>
<td>44</td>
<td>354</td>
</tr>
<tr>
<td>10</td>
<td>65</td>
<td>49</td>
<td>77</td>
<td>62</td>
<td>61</td>
<td>46</td>
<td>53</td>
<td>413</td>
</tr>
<tr>
<td>11</td>
<td>48</td>
<td>54</td>
<td>53</td>
<td>50</td>
<td>73</td>
<td>59</td>
<td>45</td>
<td>382</td>
</tr>
<tr>
<td>12</td>
<td>57</td>
<td>66</td>
<td>55</td>
<td>58</td>
<td>49</td>
<td>57</td>
<td>48</td>
<td>390</td>
</tr>
<tr>
<td>13</td>
<td>49</td>
<td>56</td>
<td>74</td>
<td>52</td>
<td>61</td>
<td>62</td>
<td>49</td>
<td>403</td>
</tr>
<tr>
<td>14</td>
<td>55</td>
<td>48</td>
<td>72</td>
<td>60</td>
<td>73</td>
<td>48</td>
<td>55</td>
<td>411</td>
</tr>
<tr>
<td>15</td>
<td>71</td>
<td>52</td>
<td>60</td>
<td>68</td>
<td>71</td>
<td>44</td>
<td>46</td>
<td>412</td>
</tr>
<tr>
<td>16</td>
<td>51</td>
<td>56</td>
<td>64</td>
<td>77</td>
<td>60</td>
<td>47</td>
<td>51</td>
<td>406</td>
</tr>
<tr>
<td>17</td>
<td>53</td>
<td>58</td>
<td>59</td>
<td>66</td>
<td>70</td>
<td>54</td>
<td>65</td>
<td>425</td>
</tr>
<tr>
<td>18</td>
<td>51</td>
<td>57</td>
<td>68</td>
<td>49</td>
<td>60</td>
<td>64</td>
<td>59</td>
<td>408</td>
</tr>
<tr>
<td>19</td>
<td>38</td>
<td>52</td>
<td>52</td>
<td>55</td>
<td>53</td>
<td>52</td>
<td>51</td>
<td>353</td>
</tr>
<tr>
<td>20</td>
<td>40</td>
<td>38</td>
<td>60</td>
<td>47</td>
<td>50</td>
<td>52</td>
<td>38</td>
<td>325</td>
</tr>
<tr>
<td>21</td>
<td>46</td>
<td>48</td>
<td>45</td>
<td>44</td>
<td>43</td>
<td>36</td>
<td>41</td>
<td>303</td>
</tr>
<tr>
<td>22</td>
<td>28</td>
<td>34</td>
<td>33</td>
<td>28</td>
<td>26</td>
<td>46</td>
<td>34</td>
<td>229</td>
</tr>
<tr>
<td>23</td>
<td>30</td>
<td>29</td>
<td>17</td>
<td>31</td>
<td>35</td>
<td>39</td>
<td>32</td>
<td>213</td>
</tr>
</tbody>
</table>

Items shaded in green indicate lower incident volume while red shading indicates higher incident volume relative to the individual planning zone.
DESCRIPTION: Station 11 covers 11.9 square miles on the western portion of the district in an area known as Redstone Canyon. This demand zone is the most rural and remote area in the PFA jurisdiction and is entirely in the wildland urban interface. The area is only accessible through one county road and some forest service access roads and contains no commercial occupancies.

OVERVIEW OF RISK: The primary risk in this demand zone is related to the wildland urban interface. Residential homes located here usually are accessible only by using long driveways that feed off the county road in the canyon. Water supply is only accomplished through tender shuttles as no hydrants are located in the area. The relative distance to the majority of PFA’s response resources further complicate emergency response. Finally, being located in the foothills, winter weather can impact this area more severely compared to the rest of the jurisdiction.

### STATION 11 – INCIDENTS FROM 2012-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Calls</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>9</td>
<td>200%</td>
</tr>
<tr>
<td>2013</td>
<td>8</td>
<td>-11.11%</td>
</tr>
<tr>
<td>2014</td>
<td>4</td>
<td>-50.00%</td>
</tr>
<tr>
<td>2015</td>
<td>3</td>
<td>-25%</td>
</tr>
<tr>
<td>2016</td>
<td>7</td>
<td>133%</td>
</tr>
</tbody>
</table>
**FIVE YEAR CALL GROWTH**

| 2012-2016 Call Growth | 7 – 9 = -2 | -22.22% |

**MAXIMUM/WORST RISK**

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Any Large Residence (3,000 square feet)</td>
<td>N/A</td>
<td>375 GPM</td>
</tr>
</tbody>
</table>

**Description:**
The most significant life-risks in this area are large residential homes located in the wildland-urban interface. Access is limited and water supply is challenging as many of these locations do not have a hydrant system.

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Any Large Residence (3,000 square feet)</td>
<td>N/A</td>
<td>375 GPM</td>
</tr>
</tbody>
</table>

**Description:**
The most significant fire flow in this area are large residential homes located in the wildland-urban interface. Access is limited and water supply is challenging as many of these locations do not have a hydrant system.

**EQUIPMENT STATIONED AT STATION 11**

<table>
<thead>
<tr>
<th>Equipment Identification</th>
<th>Year and Manufacturer</th>
<th>Pump Capacity</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tender 11</td>
<td>2007 International</td>
<td>250 GPM</td>
<td>850 gallons</td>
</tr>
<tr>
<td>Brush 11</td>
<td>2001 Ford F550</td>
<td>100 GPM</td>
<td>300 gallons</td>
</tr>
<tr>
<td>Support 11</td>
<td>1998 GMC Jimmy</td>
<td>N/A</td>
<td>Personnel transport for Station 11</td>
</tr>
</tbody>
</table>

- All units indicated at Station 11 are currently staffed by volunteers.
### STATION 11 - CALLS BY DESCRIPTION 2012-2016

<table>
<thead>
<tr>
<th>NFIRS Description 1</th>
<th>2012</th>
<th>% Change</th>
<th>2013</th>
<th>% Change</th>
<th>2014</th>
<th>% Change</th>
<th>2015</th>
<th>% Change</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Intent Call</td>
<td>5</td>
<td>66.67%</td>
<td>4</td>
<td>-20.00%</td>
<td>2</td>
<td>-50%</td>
<td>2</td>
<td>0%</td>
<td>5</td>
<td>85.71%</td>
</tr>
<tr>
<td>Rescue and EMS</td>
<td>2</td>
<td>100%</td>
<td>2</td>
<td>0%</td>
<td>2</td>
<td>0%</td>
<td>0</td>
<td>-200%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>False Alarm or Call</td>
<td>1</td>
<td>100%</td>
<td>0</td>
<td>-100%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Service Call</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>100%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Fire</td>
<td>1</td>
<td>100%</td>
<td>1</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>100%</td>
<td>1</td>
<td>0%</td>
</tr>
<tr>
<td>Hazardous Condition</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>100%</td>
</tr>
<tr>
<td>Special Incident Type</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Overpressure Rupture, Explosion, Overheat</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Severe Weather and Natural Disaster</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

### STATION 11 - UNIT RELIABILITY 2011-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Fire Station 11</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Engine 11 in Area Responses</td>
</tr>
</tbody>
</table>

Unit reliability not reported for volunteer stations.
<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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</tr>
</tbody>
</table>

Items shaded in green indicate lower incident volume while red shading indicates higher incident volume relative to the individual planning zone.
**DESCRIPTION:** Station 12 covers 25.2 square miles on the northern portion of the district. This demand zone covers a diverse area in terms of both population and population density. Some large residential homes are located in this area that surrounds the Country Club along with large acreage parcels in the northeast portion of the demand zone. In addition, some mobile home parks are located along the College Avenue corridor. The southern portion of the area has urban densities with some commercial/industrial occupancies while the northern portion of the area opens to farmland and rural densities.

**OVERVIEW OF RISK:** The College Avenue corridor in this area is home to some commercial/industrial occupancies. These structures are usually older, having been built in the 1960s and 70s. The motels in this area serve lower income residents. US Highway 287 runs through this area with a significant amount of cross-country commercial truck traffic. The area contains the largest proportion of surface water in the jurisdiction.

**STATION 12 – INCIDENTS FROM 2012-2016**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Calls</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>1,079</td>
<td>4.15%</td>
</tr>
<tr>
<td>2013</td>
<td>1,109</td>
<td>2.78%</td>
</tr>
<tr>
<td>2014</td>
<td>1,089</td>
<td>-1.80%</td>
</tr>
<tr>
<td>2015</td>
<td>1,245</td>
<td>14.32%</td>
</tr>
<tr>
<td>2016</td>
<td>1,300</td>
<td>4.41%</td>
</tr>
</tbody>
</table>
### Five Year Call Growth

| 2012-2016 Call Growth | 1,300 – 1,079 = 221 / 1,079 | 20.48% |

### Maximum/Worst Risk

#### Life Risk

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>10496</td>
<td>El Palomino</td>
<td>1220 North College</td>
<td>587 GPM</td>
</tr>
</tbody>
</table>

**Description:**
This Type V – constructed, unsprinklered motel serves low-income residents and a very transient population. This occupancy accounts for the highest single-occupancy frequency of incidents in this planning zone.

#### Max Needed Fire

<table>
<thead>
<tr>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>10492</td>
<td>Jax Surplus</td>
<td>1200 North College</td>
<td>2,125 GPM</td>
</tr>
</tbody>
</table>

**Description:**
This military surplus store has had multiple additions over several years and houses a large volume of combustible materials. Fire separations are in place to reduce some of the hazard.

### Equipment Stationed at Station 12

<table>
<thead>
<tr>
<th>Equipment Identification</th>
<th>Year and Manufacturer</th>
<th>Pump Capacity</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine 12</td>
<td>201 Rosenbauer Commander</td>
<td>1,500 GPM</td>
<td>650 gallon tank</td>
</tr>
<tr>
<td>Tender 12</td>
<td>2001 HME</td>
<td>500 GPM</td>
<td>1,800 gallons</td>
</tr>
<tr>
<td>Brush 12</td>
<td>2016 RAM 500 Crew Cab Type 6</td>
<td>50 GPM</td>
<td>350 gallon tank</td>
</tr>
<tr>
<td>CART 1</td>
<td>2002 Ford E-350 Wheeled Coach</td>
<td>N/A</td>
<td>Response vehicle for Customer Assistance Response Team (CART)</td>
</tr>
<tr>
<td>Large Animal Rescue Trailer</td>
<td>2016 Enclosed Haulmark Trailer</td>
<td>N/A</td>
<td>Response trailer for large animal rescues</td>
</tr>
</tbody>
</table>

- Units in **bold** are fully staffed on a daily basis.
- Units denoted in **italics** are not staffed daily or are cross-staffed as needed.
### STATION 12 – CALLS BY DESCRIPTION 2012-2016

<table>
<thead>
<tr>
<th>NFIRS Description 1</th>
<th>2012</th>
<th>% Change</th>
<th>2013</th>
<th>% Change</th>
<th>2014</th>
<th>% Change</th>
<th>2015</th>
<th>% Change</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Intent Call</td>
<td>75</td>
<td>1.35%</td>
<td>64</td>
<td>-14.67%</td>
<td>71</td>
<td>11%</td>
<td>92</td>
<td>29.58%</td>
<td>174</td>
<td>61.65%</td>
</tr>
<tr>
<td>Rescue and EMS</td>
<td>820</td>
<td>7.33%</td>
<td>876</td>
<td>6.83%</td>
<td>863</td>
<td>-1%</td>
<td>961</td>
<td>11.36%</td>
<td>938</td>
<td>2.42%</td>
</tr>
<tr>
<td>False Alarm or Call</td>
<td>86</td>
<td>34.38%</td>
<td>80</td>
<td>-6.98%</td>
<td>64</td>
<td>-20%</td>
<td>75</td>
<td>17.19%</td>
<td>66</td>
<td>-12.77%</td>
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<tr>
<td>Service Call</td>
<td>52</td>
<td>-30.67%</td>
<td>49</td>
<td>-5.77%</td>
<td>39</td>
<td>-20%</td>
<td>53</td>
<td>35.90%</td>
<td>49</td>
<td>-7.84%</td>
</tr>
<tr>
<td>Fire</td>
<td>32</td>
<td>60.00%</td>
<td>12</td>
<td>-62.50%</td>
<td>22</td>
<td>83%</td>
<td>32</td>
<td>45.45%</td>
<td>31</td>
<td>-3.17%</td>
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<tr>
<td>Hazardous Condition</td>
<td>12</td>
<td>-65.71%</td>
<td>27</td>
<td>125.00%</td>
<td>26</td>
<td>-4%</td>
<td>31</td>
<td>19.23%</td>
<td>41</td>
<td>27.78%</td>
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<tr>
<td>Special Incident Type</td>
<td>2</td>
<td>0%</td>
<td>1</td>
<td>-50.00%</td>
<td>4</td>
<td>300%</td>
<td>0</td>
<td>-100%</td>
<td>1</td>
<td>0%</td>
</tr>
<tr>
<td>Overpressure Rupture, Explosion, Overheat</td>
<td>0</td>
<td>-100%</td>
<td>0</td>
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<tr>
<td>Severe Weather and Natural Disaster</td>
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### STATION 12 – UNIT RELIABILITY 2011-2016

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<tr>
<td></td>
<td>Engine 12 in Area Responses</td>
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<td>2011</td>
<td>927</td>
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<td>938</td>
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<td>2013</td>
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<td>2014</td>
<td>982</td>
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<td>2015</td>
<td>1,123</td>
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<tr>
<td>2016</td>
<td>1,164</td>
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Color shading in the reliability percentage column darkens as reliability relative to the specific station area decreases.
### STATION 12 – CALLS BY DAY AND TIME OF DAY 2012-2016

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<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
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<td>11</td>
<td>26</td>
<td>33</td>
<td>27</td>
<td>178</td>
</tr>
</tbody>
</table>

Items shaded in green indicate lower incident volume while red shading indicates higher incident volume relative to the individual planning zone.
Occupyancy Classification - Demand Zone 12

Occupyancy Classifications (Count)

- Assembly (17)
- Residential (7)
- Hazardous (5)
- Educational (1)
- Business (39)
- Mercantile (31)
- Institutions (1)
- Factory (23)
- Storage (36)

Legend

- P12
- Stations
- PFA Boundary

Printed 10/20/2014
**STATION 14 – DEMAND ZONE**

**DESCRIPTION:** Station 14 covers 13 square miles in the southeastern portion of the district. This demand zone serves mostly single-family residential homes with some multi-family dwellings. Most structures in this area are newer when compared to the rest of the jurisdiction as a result of the growth of Fort Collins in the late 1990s and early 2000s. The planning zone includes medical campuses along the Harmony Road corridor. In addition, this area serves some undeveloped agricultural areas to the south.

**OVERVIEW OF RISK:** The area includes several medical and technology-based businesses. In addition, a water treatment plant and some light industrial occupancies are found in this planning zone. The eastern portion of Harmony Road contributes to the number of serious motor vehicle crashes in this planning zone.

**STATION 14 – INCIDENTS FROM 2012-2016**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Calls</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>894</td>
<td>9.29%</td>
</tr>
<tr>
<td>2013</td>
<td>872</td>
<td>-2.46%</td>
</tr>
<tr>
<td>2014</td>
<td>972</td>
<td>11.47%</td>
</tr>
<tr>
<td>2015</td>
<td>1,059</td>
<td>8.95%</td>
</tr>
<tr>
<td>2016</td>
<td>1,295</td>
<td>22.28%</td>
</tr>
</tbody>
</table>
**FIVE YEAR CALL GROWTH**

| 2012-2016 Call Growth | 1,295 – 894 = 401 / 894 | 44.85% |

**MAXIMUM/WORST RISK**

<table>
<thead>
<tr>
<th>Life Risk</th>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14324</td>
<td>Good Samaritan Nursing Home</td>
<td>508 West Trilby</td>
<td>743 GPM</td>
</tr>
</tbody>
</table>

**Description:**
This is a sprinklered, high-rise nursing home in the western part of this planning zone. It houses a combination of assisted living and nursing residents. Access is limited to some parts of the exterior of the structure.

<table>
<thead>
<tr>
<th>Max Needed Fire Flow</th>
<th>Occupancy ID</th>
<th>Occupancy Name</th>
<th>Address</th>
<th>Fire Flow Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11846</td>
<td>Glick Brothers Strip Mall</td>
<td>1823 E Harmony Rd</td>
<td>8,833 GPM</td>
</tr>
</tbody>
</table>

**Description:**
This large limited-separation strip mall houses both traditional businesses and warehouses with a mixed commodity classification.

**EQUIPMENT STATIONED AT STATION 14**

<table>
<thead>
<tr>
<th>Equipment Identification</th>
<th>Year and Manufacturer</th>
<th>Pump Capacity</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine 14</td>
<td>2006 General Spartan</td>
<td>1,500 GPM</td>
<td>650 gallon tank</td>
</tr>
<tr>
<td>Brush 14</td>
<td>2002 F-350</td>
<td>125 GPM</td>
<td>300 gallon tank</td>
</tr>
<tr>
<td>Fire Safety House</td>
<td>2003 Scotty</td>
<td>N/A</td>
<td>Fire Safety Education trailer</td>
</tr>
</tbody>
</table>

- Units in **bold** are fully staffed on a daily basis.
- Units denoted in **italics** are not staffed daily or are cross-staffed as needed.
### STATION 14 – CALLS BY DESCRIPTION 2012-2016

<table>
<thead>
<tr>
<th>NFIRS Description 1</th>
<th>2012</th>
<th>% Change</th>
<th>2013</th>
<th>% Change</th>
<th>2014</th>
<th>% Change</th>
<th>2015</th>
<th>% Change</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Intent Call</td>
<td>73</td>
<td>30.36%</td>
<td>69</td>
<td>-5.48%</td>
<td>79</td>
<td>14%</td>
<td>109</td>
<td>37.97%</td>
<td>152</td>
<td>32.95%</td>
</tr>
<tr>
<td>Rescue and EMS</td>
<td>570</td>
<td>7.55%</td>
<td>574</td>
<td>0.70%</td>
<td>701</td>
<td>22%</td>
<td>728</td>
<td>3.85%</td>
<td>842</td>
<td>14.52%</td>
</tr>
<tr>
<td>False Alarm or Call</td>
<td>137</td>
<td>3.01%</td>
<td>122</td>
<td>-10.95%</td>
<td>109</td>
<td>-11%</td>
<td>124</td>
<td>13.76%</td>
<td>175</td>
<td>34.11%</td>
</tr>
<tr>
<td>Service Call</td>
<td>64</td>
<td>42.22%</td>
<td>63</td>
<td>-1.56%</td>
<td>36</td>
<td>-43%</td>
<td>42</td>
<td>16.67%</td>
<td>57</td>
<td>30.30%</td>
</tr>
<tr>
<td>Fire</td>
<td>25</td>
<td>8.70%</td>
<td>26</td>
<td>4.00%</td>
<td>18</td>
<td>-31%</td>
<td>14</td>
<td>-22.22%</td>
<td>23</td>
<td>48.65%</td>
</tr>
<tr>
<td>Hazardous Condition</td>
<td>22</td>
<td>-29.03%</td>
<td>17</td>
<td>-22.73%</td>
<td>27</td>
<td>59%</td>
<td>40</td>
<td>48.15%</td>
<td>39</td>
<td>-2.53%</td>
</tr>
<tr>
<td>Special Incident Type</td>
<td>2</td>
<td>100%</td>
<td>0</td>
<td>-100%</td>
<td>1</td>
<td>100%</td>
<td>1</td>
<td>0%</td>
<td>4</td>
<td>120%</td>
</tr>
<tr>
<td>Overpressure Rupture, Explosion, Overheat</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>100%</td>
<td>3</td>
<td>100%</td>
</tr>
<tr>
<td>Severe Weather and Natural Disaster</td>
<td>1</td>
<td>100%</td>
<td>1</td>
<td>0%</td>
<td>1</td>
<td>0%</td>
<td>0</td>
<td>-100%</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

### STATION 14 – UNIT RELIABILITY 2011-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Engine 14 in Area Responses</th>
<th>Incidents in Station 14’s Area</th>
<th>Reliability %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>718</td>
<td>818</td>
<td>88%</td>
</tr>
<tr>
<td>2012</td>
<td>786</td>
<td>894</td>
<td>88%</td>
</tr>
<tr>
<td>2013</td>
<td>797</td>
<td>872</td>
<td>91%</td>
</tr>
<tr>
<td>2014</td>
<td>829</td>
<td>972</td>
<td>85%</td>
</tr>
<tr>
<td>2015</td>
<td>930</td>
<td>1,059</td>
<td>88%</td>
</tr>
<tr>
<td>2016</td>
<td>1,101</td>
<td>1,295</td>
<td>85%</td>
</tr>
</tbody>
</table>

Color shading in the reliability percentage column darkens as reliability relative to the specific station area decreases.
<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>16</td>
<td>17</td>
<td>12</td>
<td>13</td>
<td>26</td>
<td>20</td>
<td>31</td>
<td>135</td>
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<td>1</td>
<td>10</td>
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<td>10</td>
<td>11</td>
<td>13</td>
<td>19</td>
<td>20</td>
<td>102</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>17</td>
<td>14</td>
<td>9</td>
<td>21</td>
<td>14</td>
<td>27</td>
<td>116</td>
</tr>
<tr>
<td>3</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>11</td>
<td>9</td>
<td>13</td>
<td>14</td>
<td>89</td>
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<tr>
<td>4</td>
<td>12</td>
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<td>11</td>
<td>13</td>
<td>15</td>
<td>13</td>
<td>90</td>
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<tr>
<td>5</td>
<td>17</td>
<td>10</td>
<td>8</td>
<td>15</td>
<td>13</td>
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<td>11</td>
<td>92</td>
</tr>
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<td>6</td>
<td>20</td>
<td>21</td>
<td>19</td>
<td>20</td>
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<td>17</td>
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<td>8</td>
<td>50</td>
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<td>36</td>
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<td>9</td>
<td>32</td>
<td>44</td>
<td>33</td>
<td>50</td>
<td>57</td>
<td>26</td>
<td>28</td>
<td>270</td>
</tr>
<tr>
<td>10</td>
<td>45</td>
<td>47</td>
<td>33</td>
<td>45</td>
<td>48</td>
<td>27</td>
<td>24</td>
<td>269</td>
</tr>
<tr>
<td>11</td>
<td>43</td>
<td>44</td>
<td>47</td>
<td>39</td>
<td>45</td>
<td>38</td>
<td>37</td>
<td>293</td>
</tr>
<tr>
<td>12</td>
<td>48</td>
<td>36</td>
<td>47</td>
<td>42</td>
<td>39</td>
<td>38</td>
<td>25</td>
<td>275</td>
</tr>
<tr>
<td>13</td>
<td>53</td>
<td>34</td>
<td>49</td>
<td>41</td>
<td>40</td>
<td>32</td>
<td>25</td>
<td>274</td>
</tr>
<tr>
<td>14</td>
<td>37</td>
<td>40</td>
<td>32</td>
<td>52</td>
<td>48</td>
<td>29</td>
<td>34</td>
<td>272</td>
</tr>
<tr>
<td>15</td>
<td>46</td>
<td>41</td>
<td>43</td>
<td>57</td>
<td>43</td>
<td>48</td>
<td>44</td>
<td>322</td>
</tr>
<tr>
<td>16</td>
<td>45</td>
<td>54</td>
<td>53</td>
<td>33</td>
<td>54</td>
<td>31</td>
<td>30</td>
<td>300</td>
</tr>
<tr>
<td>17</td>
<td>49</td>
<td>33</td>
<td>42</td>
<td>52</td>
<td>41</td>
<td>47</td>
<td>41</td>
<td>305</td>
</tr>
<tr>
<td>18</td>
<td>42</td>
<td>29</td>
<td>38</td>
<td>39</td>
<td>47</td>
<td>45</td>
<td>43</td>
<td>283</td>
</tr>
<tr>
<td>19</td>
<td>31</td>
<td>29</td>
<td>38</td>
<td>37</td>
<td>42</td>
<td>33</td>
<td>41</td>
<td>251</td>
</tr>
<tr>
<td>20</td>
<td>28</td>
<td>27</td>
<td>32</td>
<td>36</td>
<td>42</td>
<td>35</td>
<td>25</td>
<td>225</td>
</tr>
<tr>
<td>21</td>
<td>37</td>
<td>37</td>
<td>25</td>
<td>22</td>
<td>35</td>
<td>37</td>
<td>31</td>
<td>224</td>
</tr>
<tr>
<td>22</td>
<td>22</td>
<td>30</td>
<td>23</td>
<td>27</td>
<td>23</td>
<td>29</td>
<td>24</td>
<td>178</td>
</tr>
<tr>
<td>23</td>
<td>22</td>
<td>22</td>
<td>17</td>
<td>26</td>
<td>37</td>
<td>18</td>
<td>17</td>
<td>159</td>
</tr>
</tbody>
</table>

Items shaded in green indicate lower incident volume while red shading indicates higher incident volume relative to the individual planning zone.
Occupancy Classification - Demand Zone 14

Occupancy Classifications (Count)
- Assembly (17)
- Residential (55)
- Hazardous (0)
- Educational (8)
- Business (28)
- Mercantile (7)
- Institutions (1)
- Factory (1)
- Storage (3)

Legend
- P14
- Stations
- PFA Boundary

Printed 10/20/2014
CHAPTER 5 – STANDARDS OF COVER

Poudre Fire Authority publishes this Standards of Cover for two major reasons. The first is to present the historical response performance in categories that are relevant to the agency’s identified risk categories. These cover fire suppression, wildland fire, emergency medical services, technical rescue and hazardous materials. This response performance represents the baseline of response to the community. This is a critical part in assessing the distribution and concentration of resources in the community.

The second major reason is to communicate the goals of the agency as related to its baseline performance. These benchmarks represent the agency’s desired response performance in the same categories outlined above, and form part of the agency’s planning for future resource deployments.

CONTRIBUTING FACTORS LEADING TO CURRENT DEPLOYMENT MODEL

The fire service in Fort Collins officially began in 1880, when the first volunteer hook and ladder company was organized on June 4, 1880, following the Welch Block Fire.\(^26\) The company was known as the Collins Hook and Ladder Company and the first piece of fire equipment arrived in Fort Collins on November 25, 1880, in the form of a horse-drawn Hook and Ladder truck from Caswell Manufacturing. In 1882, the company moved into the first fire station at 238 Walnut Street and in March of 1883, a hose company was formed at the same location. These two entities were formed into the Fort Collins Volunteer Fire Department on November 14, 1888, with Frank Stover elected as the first fire chief. John Lamb was hired as a firefighter and caretaker of the fire station and thereby became Fort Collins’ first paid firefighter.\(^27\)

MAJOR HISTORICAL MILESTONES IN RESPONSE CAPABILITY

GENERAL RESPONSE AND DEPLOYMENT MILESTONES

The first fire box alarm system was brought into operation on January 4, 1908. This also resulted in the first documented total response time of the fire department, a one minute and 27 second response to the intersection of Peterson and Mountain.

On April 23, 1915, the Fort Collins Volunteer Fire Department transitioned to a paid department with Robert MacGregor as its first paid fire chief. This also resulted in the purchase of Fort Collins’ first motorized fire engine, a 1914 American LaFrance chemical wagon. In 1937, the city’s first ladder truck, a Diamond T, was placed into service.


\(^{27}\) Yonker, E. 2004. History of the Fort Collins Fire Department.
The Fort Collins Rural Protective Association was formed on February 6, 1938, by the surrounding school district presidents. This was done in part to respond to the rapid building in areas outside the city with little to no fire hydrants or support in place. On April 14, 1950, this association was formally converted to the Poudre Valley Fire Protection District (PVFPD). Both the association and the PVFPD had an agreement with the City of Fort Collins to supply personnel to respond on the district’s apparatus. These personnel were supported by volunteers in Timnath and LaPorte.

Fire Stations 2 opened in 1962 followed shortly thereafter by Station 3 in 1965 to serve the rapidly growing west and south sides of Fort Collins. In addition, an 85’ ladder truck was placed into service. In 1965, the department suffered its first, and only, line-of-duty death when Chief Clifford Carpenter was killed at the State Dry Goods store fire on College Avenue that started on June 28, 1965.

The department upgraded its pumping capacity in 1965 with the addition of a 1,000 GPM pumper, which was stationed at the new Fire Station 3. The growth in fire stations led to the department developing a run-book, which dictated what apparatus would respond to certain locations resulting in the first dispatching system. Water rescue and basic medical response capabilities were added by the fire department in 1967.

By 1970, the department had transitioned to working with three shifts, reducing the firefighter workweek to 56 hours. During this time, the Poudre Valley Fire Protection District built a new station east of the city and hired its first paid firefighters, ending the contractual staffing practice started in the 1930s. The Old Main Fire on the CSU campus occurred on May 8, 1970, as part of the civil unrest experienced in the nation at the time. During this time, the first response standards were established and station locations were studied in an effort to respond to any address within three to four minutes. Pumping capacity was increased to 1,250 GPM by 1975 with the purchase of a Mack pumper. The department added better extrication capabilities in 1976 by placing a Jaws-of-Life tool in service. The mid-1970s also saw the addition of Advanced Life Support by the hospital-based ambulance service and Basic Life Support being formally provided by the fire department.

Growth of the areas served by the Poudre Valley Fire Protection District and the opportunity for optimizing the response by the two departments brought about the consolidation of the district and city departments which was initiated by a city council action on November 19, 1980, and corresponding approval by the PVFPD board. During this time, the City opened a combined Public Safety Answering Point (PSAP) that brought call taking and dispatching for police, fire and EMS into one operation. This ended the practice of the fire department and ambulance service operating their own dispatch centers.

Poudre Fire Authority was formally organized in 1981 in an effort to improve response times to emergencies and to eliminate duplication of services. This consolidation reduced costs to both the citizens of Fort Collins and the Poudre Valley Fire Protection District. The inter-governmental agreement between the city and the district outlines the governance, funding and operation of the Authority. This model has been consulted by other fire service agencies around the country when pursuing a similar consolidation.

The department added service to rapidly growing suburban areas in the 1980s and 90s by opening Stations 6, 10 and 12. During this time, the agency also brought online a second support company to serve the southern portion of the response area. The opening of Station 14 in 2003 and the addition of
the South Battalion in 2011 followed to respond to increases in population and corresponding call increases.

**FIRE PREVENTION IMPACTS ON RESPONSE**

The first fire code ordinance passed in 1901, which outlined several codes related to building construction, the storage of certain combustibles, and establishing the first fire limits in Fort Collins. These fire limits described the area in which the code was to be enforced.

In the 1940s the fire department focused heavily on fire prevention activities, so much so that the department received first place in the National Chamber of Commerce fire prevention contest in 1947. Around this time, the department also became heavily involved in public education, including the fire prevention poster contest in the schools, which continues to this day. Pre-fire planning efforts formally began in 1965 under Chief Ed Yonker. Under the program, companies conducting fire inspections would also develop pre-plans showing locations of exits and fire connections.

All mobile homes were required to install smoke alarms as part of state legislation that was passed on April 4, 1973. In the same year, the 1973 Uniform Building Code was adopted that required fire detection in all new homes and multi-family dwellings. Fire sprinkler coverage in commercial occupancies was dramatically increased as a result of the 1981 Master Plan. This resulted in the “5,000 square foot rule,” which required all buildings that had uncontained areas greater than 5,000 square feet to be built with automatic fire suppression.

**PFA DAILY OPERATIONAL STAFFING**

<table>
<thead>
<tr>
<th>Unit Type</th>
<th># of Units</th>
<th>Minimum Staffing</th>
<th>Total Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engines</td>
<td>11</td>
<td>10 – 3</td>
<td>34</td>
</tr>
<tr>
<td>*Station 7 at 4 personnel</td>
<td></td>
<td>1 – 4</td>
<td></td>
</tr>
<tr>
<td>Trucks/Aerials</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Battalion Chiefs</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Bureau 1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Rescue</td>
<td>1</td>
<td>Cross-Staffed</td>
<td>0</td>
</tr>
<tr>
<td>Brush Engines</td>
<td>6</td>
<td>Cross-Staffed</td>
<td>0</td>
</tr>
<tr>
<td>Hazmat Unit</td>
<td>1</td>
<td>Cross-Staffed</td>
<td>0</td>
</tr>
<tr>
<td>Water Tenders</td>
<td>3</td>
<td>Cross-Staffed</td>
<td>0</td>
</tr>
<tr>
<td>Safety Officer</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>29</strong></td>
<td><strong>N/A</strong></td>
<td><strong>46</strong></td>
</tr>
</tbody>
</table>
### STATION ADDITIONS

**POUDRE FIRE AUTHORITY STATION LOCATIONS AND YEAR ADDED**

<table>
<thead>
<tr>
<th>Station Number</th>
<th>Address</th>
<th>Year Built</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Station 1</td>
<td>505 Peterson Street Fort Collins, CO 80524</td>
<td>Original Station 1888 Current Station 1973</td>
</tr>
<tr>
<td>Fire Station 2</td>
<td>415 South Bryan Avenue Fort Collins, CO 80521</td>
<td>1961</td>
</tr>
<tr>
<td>Fire Station 3</td>
<td>2000 Mathews Street Fort Collins, CO 80525</td>
<td>1965</td>
</tr>
<tr>
<td>Fire Station 4</td>
<td>1945 West Drake Road Fort Collins, CO 80526</td>
<td>Original Station 1980 Current Station 2009</td>
</tr>
<tr>
<td>Fire Station 5</td>
<td>4615 Hogan Drive Fort Collins, CO 80525</td>
<td>1976</td>
</tr>
<tr>
<td>Fire Station 6</td>
<td>2511 Donella Court Fort Collins, CO 80524</td>
<td>1986</td>
</tr>
<tr>
<td>Fire Station 7</td>
<td>2817 North Overland Trail LaPorte, CO 80535</td>
<td>1976</td>
</tr>
<tr>
<td>Fire Station 8</td>
<td>4800 Signal Tree Drive Timnath, CO 80547</td>
<td>Original Station 1920 Current Station 2016</td>
</tr>
<tr>
<td>Fire Station 9</td>
<td>4914 Shoreline Drive Fort Collins, CO 80526</td>
<td>Original Station 1976 Current Station 1998</td>
</tr>
<tr>
<td>Fire Station 10</td>
<td>2067 Vermont Drive Fort Collins, CO 80525</td>
<td>1995</td>
</tr>
<tr>
<td>Fire Station 11</td>
<td>16248 North County Road 25E Loveland, CO 80538</td>
<td>1995</td>
</tr>
<tr>
<td>Fire Station 12</td>
<td>321 Country Club Road Fort Collins, CO 80524</td>
<td>1998</td>
</tr>
<tr>
<td>Training Center Complex (Station 13)</td>
<td>3400 West Vine Drive Fort Collins, CO 80521</td>
<td>1995</td>
</tr>
<tr>
<td>Fire Station 14</td>
<td>2109 Westchase Road Fort Collins, CO 80525</td>
<td>2003</td>
</tr>
<tr>
<td>Headquarters</td>
<td>102 Remington Street Fort Collins, CO 80524</td>
<td>1985</td>
</tr>
</tbody>
</table>
INCIDENTS BY DAY OF WEEK, MONTH OF CALL AND HOUR OF DAY

The following tables represent Poudre Fire Authority’s incident volume by various temporal segments. This information was also presented by station area in the risk assessment. The tables show incidents from 2012-2016. Only incidents in Poudre Fire Authority’s jurisdiction are considered; mutual aid responses are excluded.

Incidents by Month 2012-2016

Incidents by Day 2012-2016
In November of 2014, Poudre Fire Authority conducted a non-scientific survey to gauge community expectations and to gather input to shape the accreditation and strategic planning processes. The following report is a summary of the responses received.

A total of 125 responses were received in a two-week period. The ten question survey was conducted electronically and advertised through social media and northern Colorado media outlets. Respondents were not required to answer any particular question and participation ranged from 97 percent to 48 percent on various questions.

Executive Summary

- Respondents communicated a generally positive opinion of the PFA and the services provided. Consistent themes were that PFA provides a caring and professional workforce to the community.

- When asked to rank PFA’s core services in order of importance, response to emergencies was listed as most important while prevention and public education related services were rated as less important.

- While 80 percent of respondents were happy with the range of services provided, 20 percent of respondents indicated that additional services could be provided. These included expansion of the scope and type of Emergency Medical Service (EMS) service, public education and outreach, service to Timnath and increasing fire station locations.
• When respondents were asked about the top three issues facing the Poudre Fire Authority, (#1) ensuring adequate funding, (#2) community growth and (#3) demonstrating a return on taxpayer investment were identified as the top three issues.

• Respondents listed (#1) educating the public on what PFA does, (#2) improving public education and (#3) additional stations/staffing as the top three ways that Poudre Fire Authority could improve its services.

• Poudre Fire Authority’s current focus on becoming accredited was confirmed as being important (26%), very important (31%) or extremely important (24%).

• Respondents confirmed that Poudre Fire Authority’s current focus on (#1) rapid response, (#2) developing a skilled staff and (#3) large-scale response capabilities was appropriate.

CORE SERVICES RANKING

Respondents were asked to rank the core services provided by Poudre Fire Authority (PFA) in order of importance. Response-related services were listed by respondents as ranking highest in priority while PFA’s prevention and public education ranked lowest in priority. Of note is that throughout the survey, prevention and public education were listed as areas that the public feels are important and that the agency can further improve. While ranked as a lower priority in relation to response services, respondents showed that these services nonetheless mattered to them.

SURVEY RESULTS

<table>
<thead>
<tr>
<th>Service</th>
<th>Rank</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Responding to Fires</td>
<td>1.80</td>
<td>108</td>
</tr>
<tr>
<td>2 - Responding to Emergency Medical Incidents</td>
<td>3.27</td>
<td>108</td>
</tr>
<tr>
<td>3 - Responding to Rescue Incidents</td>
<td>4.13</td>
<td>108</td>
</tr>
<tr>
<td>4 - Responding to Hazardous Materials Incidents</td>
<td>4.89</td>
<td>108</td>
</tr>
<tr>
<td>5 - Responding to Wildland Fires</td>
<td>5.44</td>
<td>108</td>
</tr>
<tr>
<td>6 - Fire Investigations</td>
<td>7.13</td>
<td>108</td>
</tr>
<tr>
<td>7 - Fire Safety Inspections</td>
<td>7.24</td>
<td>108</td>
</tr>
<tr>
<td>8 - Disaster Planning</td>
<td>7.33</td>
<td>108</td>
</tr>
<tr>
<td>9 - Wildfire Mitigation</td>
<td>7.47</td>
<td>108</td>
</tr>
<tr>
<td>10 - School Age and Senior Citizen Public Education</td>
<td>8.44</td>
<td>108</td>
</tr>
<tr>
<td>11 - Building Plan Reviews</td>
<td>8.87</td>
<td>108</td>
</tr>
</tbody>
</table>
MUTUAL AND AUTOMATIC AID

The agency has automatic aid agreements with several jurisdictions that border Poudre Fire Authority’s area. The purpose of automatic aid agreements is to ensure that citizens living in the affected area receive the closest unit, regardless of agency. These areas are depicted in the following map.

Poudre Fire Authority works with mutual and automatic aid partners on various incidents. Poudre Fire Authority reciprocally responds under the same agreements to these agencies. Poudre Fire Authority’s biggest automatic aid partner is Loveland Fire Rescue Authority. About 1.4% of Poudre Fire Authority’s annual incident volume involve some type of automatic or mutual aid.
Poudre Fire Authority (PFA) uses the following general assumptions in its resource deployment strategy:

1. Emergency response is the primary purpose of PFA operational resources. To ensure this priority is maintained, PFA employees will manage response resources using the “tier-based” decision-making model adopted by PFA for all internal decisions.
2. Active emergency incidents take precedence over incidents that may subsequently occur. Resources will be dispatched in accordance with the Standards of Cover to most effectively serve citizens and to protect firefighters at these actively occurring incidents. To ensure this is occurring, PFA will monitor the first-due and effective response force travel times on an ongoing basis. In addition, mutual aid agreements to further support this practice will be maintained.
3. The distribution of resources, as represented by Poudre Fire Authority station locations, is based primarily on population density. These locations represent a significant capital investment for the organization. Coverage at these locations will be maintained to the highest extent possible. Poudre Fire Authority will continue to monitor response reliability and first-due travel times will continue to be monitored to ensure the most effective distribution of resources is achieved.
4. Specific risks faced by the community require the optimal concentration of resource types required to respond to these emergencies. Poudre Fire Authority will monitor this deployment through specialty-risk effective response force travel times. In addition, when situations arise that require these resources to be pre-deployed or concentration levels to be altered, PFA will do so as soon as reasonable to protect the community.
POUDRE FIRE AUTHORITY’S TIER-BASED DECISION MAKING MODEL

Tier 1
• What is the most self-serving, politically correct, popularity seeking, fear driven action we could take?

Tier 2
• What is the most short term results oriented action we could take?

Tier 3
• What is the highest moral, most principled action we could take?
The following Insurance Services Office (ISO) classifications take into account distances from fire stations, fire hydrants and the available firefighting water supply.

The purpose of the following information is for the determination of public protection classifications, which are used to develop property insurance calculations. This survey was not conducted for property loss prevention or life safety purposes, and no life safety or property loss prevention recommendations will be made. The private and public protection at properties with larger fire flows is individually evaluated and may vary from the district classification.

Within the PFA response area, fire hydrants are required to be spaced at 800 feet intervals for residential neighborhoods and 600 feet in commercial areas. Those properties over five road-miles from a 24-hour staffed fire station, or that are more than 1,000 feet from a fire hydrant are an ISO Class 10.

General ISO Ratings Summary – Effective January 1, 2016

ISO CLASS 2: Addresses within the City of Fort Collins, Town of Timnath and any address within PFA that is outside the city limits but within 5 road miles of a 24-hour staffed fire station AND within 1,000 feet of a fire hydrant. These addresses were previously rated as 4. Fire Protection Service Area (FPSA): Properties in the Fire Protection Service Area are those located within 1,000 feet of a fire hydrant.

ISO CLASS 3: Addresses within PFA which are outside the City limits of Fort Collins or the incorporated Town of Timnath, are more than 1,000 feet of a fire hydrant BUT are within 5 road miles of a 24-hour staffed fire station. These addresses were previously rated as 4. Fire Department Delivered Supply (FDS): Properties in the Fire Department Delivered Supply area are those located further than 1000 feet from a fire hydrant.

ISO CLASS 10: Any address in the PFA district that is outside the city limits of Fort Collins or the incorporated Town of Timnath AND further than 5 road miles from a 24-hour staffed fire station. This is an ISO standard.

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28 Adapted from Poudre Fire Authority Web Page
The urban, suburban and rural response zones were established using the 2010 US Census Data. The proportionate area of each response zone compared to the overall area was calculated. In addition the incident volume between 2012-2016 was determined to help confirm Poudre Fire Authority’s resource distribution on an agency wide level. The following table represents this information:

<table>
<thead>
<tr>
<th>Response Zone</th>
<th>% of PFA Area</th>
<th>% of Incidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>20.7%</td>
<td>86.1%</td>
</tr>
<tr>
<td>Suburban</td>
<td>22.5%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Rural</td>
<td>56.8%</td>
<td>2.8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**METHODOLOGY USED**

This document contains data tables that report Poudre Fire Authority’s response performance in fire suppression, emergency medical services, technical rescue, hazardous materials and wildland fire. Eligible incidents for these calculations must be filtered based on specific criteria for validity. This section describes the general methods applied to each category. Specific response categories have further methods described, when applicable.

- **Data Source**: All data was obtained from the agency’s High Plains Records Management System (RMS). The RMS receives incident date and time information from the Computer Aided Dispatch (CAD) system used by Fort Collins 9-1-1. This data is automatically transferred into the RMS. National Fire Incident Reporting System (NFIRS) and call-specific data is entered by report authors that were on the incident. Each call is checked for accuracy by the immediate supervisor of the report author.

- **Analysis Software**: The agency uses a combination of Excel directly from RMS, the Omega Dashboard and Desktop suite as well as Visual Basic programs for data analysis. Both packages can export to Excel for further validation and verification of data.

- **Engine vs. Trucks**: In suppression and wildland fire incidents, the first-due unit for time calculations must be an engine for suppression purposes as outlined in the Benchmark Statements. All remaining incidents can be calculated using an engine or a truck.

- **Thresholds**: In an effort to exclude invalid data, the following instances were excluded for all categories. Call processing and turnout times over five minutes and travel times over 45 minutes. The entire call is not eliminated, just the part that is outside of the limits.

- **Response Mode**: With the exception of hazardous materials incidents, only units that traveled emergent were considered. Downgraded and upgraded responses, as well as walk-in or on-view situations are not included in response performance calculations.

- **Mutual and Automatic Aid**: Only instances in which no mutual aid was given or received were considered for calculation purposes.
Responses to structure fire incidents are one of the core services delivered by Poudre Fire Authority. The agency’s population density characteristics are the most reliable predictor of incident locations in this response category. An increase in population has not resulted in a correlated increase in the incidence of structure fires in the agency’s response area. The following graph represents incidents dispatched as structure fires for last five years.

INCIDENTS DISPATCHED AS STRUCTURE FIRES

Of the incidents outlined in this section, approximately 28 percent are coded as structure fires (NFIRS Code 111). The remaining fires get classified as fires in which the fire was contained to the object of origin and did not impact the structure, false calls, service calls and good intent calls. The incidents that were coded as structure fires are represented in the chart as “Incidents Coded as Structure Fires (NFIRS Code 111).” The numbers in 2012 were unusually high due to the impact of structures lost during the High Park wildland fire on the western portion of the agency’s jurisdiction.

To illustrate this further, these incidents were mapped using a heat map indicating the frequency of such incidents in relation to their locations. Areas where incidents happen more frequently are shaded red, whereas locations with a lower frequency are shaded yellow. Areas with infrequent or no calls are not shaded. This information confirms that the frequency of structure fire incidents during this timeframe is roughly related to the population density served by Poudre Fire Authority.
HEAT MAP OF INCIDENTS DISPATCHED AS STRUCTURE FIRES (2012-2016)
LOW-RISK FIRES

Poudre Fire Authority’s risk analysis determined that low-risk fires include any fire other than a structure fire or wildland/grass fire. As an example, this includes vehicles, boats, trash, dumpsters and couches. All fires within close proximity of a building are considered full structure fire responses and dispatched accordingly. In addition, fires involving large motor homes or semi-tractor trailers are classified as a structure fire and triaged for hazardous materials involvement.

LOW-RISK FIRE RESOURCE OVERVIEW

<table>
<thead>
<tr>
<th>Number of Resources</th>
<th>Personnel per Resource</th>
<th>Total Number of Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Engines</td>
<td>3 minimum</td>
<td>3 minimum</td>
</tr>
<tr>
<td>Effective Response Force</td>
<td></td>
<td>3 minimum</td>
</tr>
</tbody>
</table>

LOW-RISK FIRE CRITICAL TASK ANALYSIS

<table>
<thead>
<tr>
<th>Critical Task Description</th>
<th>Task Assignment</th>
<th>Recommended Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish Incident Command</td>
<td>Captain</td>
<td>1st due Engine</td>
</tr>
<tr>
<td>Scene Size-up/360</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incident Safety</td>
<td>Driver Operator</td>
<td></td>
</tr>
<tr>
<td>Position Apparatus</td>
<td>Firefighter</td>
<td></td>
</tr>
<tr>
<td>Operate Pump</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide Tools</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deploy Selected Attack Line</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perform Salvage/Overhaul</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>8 Tasks</strong></td>
<td><strong>3 Personnel</strong></td>
<td><strong>1 Unit</strong></td>
</tr>
</tbody>
</table>
FIRST-DUE UNIT
CAPABILITIES, CRITICAL TASKS AND RESPONSE PERFORMANCE BENCHMARKS

LOW RISK STRUCTURE FIRE

First-due Capability: The first-due unit at a low-risk fire shall be capable of providing a minimum of 600 gallons of tank water with a minimum of 1,500 gallons per minute pump capacity.

First-due Task Analysis: The first-due unit, staffed with a minimum of two firefighters and one officer, is tasked with establishing incident command, providing a scene size-up to include a 360 degree walk around of the scene, establishing an attack line, providing for pump operation, and extinguishing the fire.

First-due Response Performance Benchmark: It is Poudre Fire Authority’s goal for the first-due unit to arrive on-scene in 6 minutes and 20 seconds in the urban response zone, in 7 minutes and 20 seconds in the suburban response zone and in 12 minutes and 20 seconds in the rural response zone. This time is defined as the total response time and is inclusive of call processing, turnout time and travel time.

MODERATE RISK STRUCTURE FIRES

Moderate risk structure fires are defined as those having been reported impacting a structure or involving a structure that is threatened by another exterior fire within 10 feet. This can include dumpsters or vehicles on fire next to a building. The primary goal of Poudre Fire Authority’s approach to fire suppression is to decrease the potential of flashover and to increase the chance of survivability of the occupants of the structure. The initial tasks performed on the fireground are therefore directed towards the accomplishment of this task. In addition, many of these tasks are conducted in an environment defined as being Immediately Dangerous to Life/Health (IDLH). Therefore, additional tasks must be accomplished that provide for firefighter safety. Two secondary goals of Poudre Fire Authority’s approach are to stabilize the incident and to limit further damage to the structure through aggressive identification of fire extension and fire containment. In order to accomplish this goal, a sustained water supply is required that supplies additional hoselines and commits further personnel to the fireground for support activities such as overhaul.

These goals are broadly classified by fire service literature as Life Safety, Incident Stabilization and Property Conservation (LIP). It is within these classifications that the critical tasks conducted are analyzed. The critical task analysis described here represents the initial dispatch on moderate-risk structure fires. Poudre Fire Authority’s Effective Response Force (ERF) is defined as those resources necessary to address the life safety-related tasks at a structure fire. Generally, these are to initially attack the fire, conduct an interior search protected by a hoseline, and to do so while providing for the safety of responding personnel. Subsequent resources dispatched on the initial alarm assignment supplement this response and allow Poudre Fire Authority to stabilize the incident and to conserve property.

This risk definition was explained in earlier portions of this report and involves a reported structure fire at an occupancy not identified on the high-rise/target hazard structure list. The initial dispatch assignment to these incidents are shown in the following table.
MODERATE-RISK FIRE RESOURCE OVERVIEW

<table>
<thead>
<tr>
<th>Number of Resources</th>
<th>Personnel per Resource</th>
<th>Total Number of Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Engines</td>
<td>3 minimum</td>
<td>9 minimum</td>
</tr>
<tr>
<td>1 Truck</td>
<td>4 minimum</td>
<td>4 minimum</td>
</tr>
<tr>
<td>1 Battalion Chief</td>
<td>1 minimum</td>
<td>1 minimum</td>
</tr>
<tr>
<td><strong>Effective Response Force</strong></td>
<td><strong>14 minimum</strong></td>
<td></td>
</tr>
<tr>
<td>Additional Engine*</td>
<td>3 minimum</td>
<td>3 minimum</td>
</tr>
<tr>
<td>Additional Truck</td>
<td>4 minimum</td>
<td>4 minimum</td>
</tr>
<tr>
<td>1 Safety Officer</td>
<td>1 minimum</td>
<td>1 minimum</td>
</tr>
<tr>
<td><strong>1st Alarm Assignment</strong></td>
<td><strong>22 minimum</strong></td>
<td></td>
</tr>
</tbody>
</table>

* As part of the Standards of Cover research, Poudre Fire Authority became aware that dispatching three engines to moderate-risk structure fires would not yield an Effective Response Force (ERF) large enough to allow for effective crew recycling and ensure safety. Previously, fireground commanders would upgrade the initial respond to include a fourth engine when a fire was confirmed. To improve this system, a fourth engine has been added to the initial dispatch as of November 30, 2014.

One of the most crucial decisions that the initial incident commander must make during the early phases of the incident is whether an offensive strategy or a defensive strategy is to be used. This decision is based on the “PFA Risk Profile” which states the following:

- We may risk our lives a lot, in a highly calculated manner, to protect savable lives.
- We may risk our lives a little, in a highly calculated manner, to protect savable property.
- We will not risk our lives at all to save lives or property that are already lost.

The critical task analysis presented in this report operates under the assumption that an offensive strategy is selected as personnel responding to such operations assume that savable lives are at risk and that PFA personnel will risk their own lives in a commensurate fashion.
### MODERATE-RISK FIRE CRITICAL TASK ANALYSIS

<table>
<thead>
<tr>
<th>Critical Task Description</th>
<th>Number of Personnel Needed</th>
<th>Recommended Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish Incident Command</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scene Size-up/360</td>
<td>2</td>
<td>1st Engine</td>
</tr>
<tr>
<td>Incident Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attack Line</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump Operations</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Water Supply</td>
<td>3</td>
<td>2nd Engine</td>
</tr>
<tr>
<td>Two-out Line/Initiate RIT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd Attack Line</td>
<td>3</td>
<td>3rd Engine</td>
</tr>
<tr>
<td>Ventilation</td>
<td>2</td>
<td>1st Truck</td>
</tr>
<tr>
<td>Primary Search</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Assumption of Incident Command</td>
<td>1</td>
<td>Battalion Chief</td>
</tr>
<tr>
<td><strong>Effective Response Force</strong></td>
<td><strong>11 Tasks</strong></td>
<td><strong>14 Personnel</strong></td>
</tr>
<tr>
<td><strong>Additional 1st Alarm Resources</strong></td>
<td></td>
<td><strong>5 units</strong></td>
</tr>
<tr>
<td>Secondary Search</td>
<td>2</td>
<td>2nd Truck</td>
</tr>
<tr>
<td>Control Utilities</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Assumption of Incident Safety Officer Duties</td>
<td>1</td>
<td>Safety Officer</td>
</tr>
<tr>
<td><strong>Assumption of RIT</strong></td>
<td><strong>3</strong></td>
<td><strong>4th Engine</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15 Tasks</strong></td>
<td><strong>22 Personnel</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>8 Units</strong></td>
</tr>
</tbody>
</table>

*A fourth engine has been added as of 11/30/2014 to these responses.

It should also be noted that the initial assignment described here is the minimum number of personnel required to accomplish the tasks in the initial phases of operations. This can also be called the 1st Alarm assignment. Many tasks require crew rotations and additional personnel, and therefore the incident commander will call for additional resources. Most commonly, incident commanders will either request additional single-resource engines, such as a 4th engine company or upgrade to a higher alarm level as outlined in the following table.
POUDRE FIRE AUTHORITY ALARM LEVEL OVERVIEW

<table>
<thead>
<tr>
<th>Alarm Level</th>
<th>Number of Resources</th>
<th>Personnel per Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd Alarm</td>
<td>2 Engines</td>
<td>6 minimum</td>
</tr>
<tr>
<td></td>
<td>On Call Investigator</td>
<td>1 minimum</td>
</tr>
<tr>
<td></td>
<td>Customer Assistance</td>
<td>1 minimum</td>
</tr>
<tr>
<td></td>
<td>Response Team (CART)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Public Information</td>
<td>1 minimum</td>
</tr>
<tr>
<td></td>
<td>Officer (PIO)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Command Staff Page</td>
<td>Varies</td>
</tr>
<tr>
<td>3rd Alarm</td>
<td>2 Engines</td>
<td>6 minimum</td>
</tr>
<tr>
<td></td>
<td>Air Truck</td>
<td>1 minimum</td>
</tr>
<tr>
<td></td>
<td>Rehab 1</td>
<td>1 minimum</td>
</tr>
<tr>
<td></td>
<td>1 Truck</td>
<td>4 minimum</td>
</tr>
<tr>
<td></td>
<td>Additional Systems</td>
<td>1 minimum</td>
</tr>
<tr>
<td></td>
<td>Chief</td>
<td></td>
</tr>
</tbody>
</table>

For the purposes of response performance calculations of the Standards of Cover, only the initial first alarm assignment is considered.

FIRST-DUE UNIT
CAPABILITIES, CRITICAL TASKS AND RESPONSE PERFORMANCE BENCHMARKS

MODERATE RISK STRUCTURE FIRE

First-due Capability: The first-due unit shall be capable of providing a minimum of 600 gallons of tank water with a minimum of 1,500 gallons per minute pump capacity. Due to this, first-due units must be engine companies in terms of first-due response performance calculations.

First-due Task Analysis: The first-due unit, staffed with a minimum of 2 firefighters and 1 officer, is tasked with establishing incident command, providing a scene size-up to include a 360 degree walk around of the scene, establishing an initial attack line and providing for pump operation.

First-due Response Performance Benchmark: It is Poudre Fire Authority’s goal for the first-due unit to arrive on-scene in 6 minutes and 20 seconds in the urban response zone, in 7 minutes and 20 seconds in the suburban response zone and in 12 minutes and 20 seconds in the rural response zone. This time is defined as the total response time and is inclusive of call processing, turnout time and travel time.
EFFECTIVE RESPONSE FORCE
CAPABILITIES, CRITICAL TASKS AND RESPONSE PERFORMANCE BENCHMARKS
MODERATE RISK STRUCTURE FIRE

ERF Capabilities and Task Analysis: In addition to the first-due unit capabilities and critical tasks, the effective response force, staffed with a minimum of 14 firefighters and officers, shall be capable of providing for primary and secondary interior search of the structure, ventilation, advancing additional attack lines, complying with federal “two in/two out” requirements, establishing an uninterrupted water supply, controlling utilities, providing an incident safety officer, establishing a Rapid Intervention Team (RIT), providing a “non-combatant” incident commander, establishing divisions and groups as appropriate and providing for ladders and equipment to support fireground operations.

ERF Response Performance Benchmark: It is Poudre Fire Authority’s goal for the effective response force to arrive on-scene in 10 minutes and 20 seconds in the urban response zone, in 12 minutes and 20 seconds in the suburban response zone and in 16 minutes and 20 seconds in the rural response zone. This time is defined as the total response time and is inclusive of call processing, turnout time and travel time.

HIGH-RISK FIRES

A number of occupancies in Poudre Fire Authority’s response area that are considered high-risk. This definition was discussed in greater detail in the Risk Assessment of structure fire risk earlier in this document. Poudre Fire Authority has determined that for structure fire responses, the following criteria classify a building to be considered a High-Risk Occupancy:

1. Buildings that require high-rise tactics according to Poudre Fire Authority Operational Directives (ODs).
2. Buildings that scored 100 points or higher in the High Plains Risk Calculator.
3. Buildings that were identified as “Maximum/Worst Risk” in each planning zone.

Buildings that require this level of dispatch are listed in Appendix A of this report. These occupancies were comprehensively updated after the Risk Assessment and included for dispatch considerations.

HIGH-RISK FIRE RESOURCE OVERVIEW

<table>
<thead>
<tr>
<th>Number of Resources</th>
<th>Personnel per Resource</th>
<th>Total Number of Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Engines*</td>
<td>3 minimum</td>
<td>15 minimum</td>
</tr>
<tr>
<td>2 Trucks</td>
<td>4 minimum</td>
<td>8 minimum</td>
</tr>
<tr>
<td>1 Safety Officer</td>
<td>1 minimum</td>
<td>1 minimum</td>
</tr>
<tr>
<td>1 Battalion Chief</td>
<td>1 minimum</td>
<td>1 minimum</td>
</tr>
<tr>
<td>Effective Response Force</td>
<td></td>
<td>25 minimum</td>
</tr>
</tbody>
</table>

*As part of the Standards of Cover research, Poudre Fire Authority became aware that dispatching four engines to high-risk structure fires would not yield an Effective Response Force (ERF) large enough to allow for effective crew recycling and ensure safety. To improve this system, a fifth engine has been added to the initial dispatch as of November 30, 2014.
The critical task analysis presented here is for that of a high-rise occupancy. Resource deployment is representative of customary assignments at such occupancies.

**HIGH-RISK FIRE CRITICAL TASK ANALYSIS**

<table>
<thead>
<tr>
<th>Critical Task Description</th>
<th>Number of Personnel Needed</th>
<th>Recommended Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish Incident Command</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scene Size-up/360</td>
<td>3</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; Engine</td>
</tr>
<tr>
<td>Incident Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Attack</td>
<td></td>
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FIRST-DUE UNIT
CAPABILITIES, CRITICAL TASKS AND RESPONSE PERFORMANCE BENCHMARKS

HIGH-RISK STRUCTURE FIRE

First-due Capability: The first-due unit shall be capable of providing a minimum of 600 gallons of tank water with a minimum of 1,500 gallons per minute pump capacity. Due to this, first-due units must be engine companies in terms of first-due response performance calculations.

First-due Task Analysis: The first-due unit, staffed with a minimum of 2 firefighters and 1 officer, is tasked with establishing incident command, providing a scene size-up to include a 360 degree walk around of the scene and initiating an attack on the fire floor.

First Due Response Performance Benchmark: It is Poudre Fire Authority’s goal for the first-due unit to arrive on-scene in 6 minutes and 20 seconds in the urban response zone, in 7 minutes and 20 seconds in the suburban response zone and in 12 minutes and 20 seconds in the rural response zone. This time is defined as the total response time and is inclusive of call processing, turnout time and travel time.

EFFECTIVE RESPONSE FORCE
CAPABILITIES, CRITICAL TASKS AND RESPONSE PERFORMANCE BENCHMARKS

HIGH-RISK STRUCTURE FIRE

ERF Capabilities and Task Analysis: In addition to the first-due unit capabilities and critical tasks, the effective response force, staffed with a minimum of 25 firefighters and officers, shall be capable of performing tasks in accordance with PFA high-rise ODs, to include providing lobby control, supplying a fire department connection (FDC), establishing a water supply, interior search of the structure, ventilation, advancing additional attack lines and complying with federal “two in/two out” requirements. In addition these units shall be capable of providing an incident safety officer, establishing a Rapid Intervention Team (RIT), providing a “non-combatant” incident commander, establishing divisions and groups as appropriate and providing equipment to support fireground operations.

ERF Response Performance Benchmark: It is Poudre Fire Authority’s goal for the effective response force to arrive on-scene in 12 minutes and 20 seconds in the urban response zone, in 14 minutes and 20 seconds in the suburban response zone and in 18 minutes and 20 seconds in the rural response zone. This time is defined as the total response time and is inclusive of call processing, turnout time and travel time.
STRUCTURE FIRE STANDARDS OF COVER CALCULATIONS AND INCLUSION CRITERIA

LOW RISK FIRE

Resources: 1 Engine
ERF: Minimum 3 Personnel
Inclusion Criteria: Emergent Responses Only
Dispatch Types: FIRE

MODERATE RISK FIRE

Resources: 3 Engines, 1 Truck, and 1 Battalion Chief
ERF: Minimum 14 Personnel
Inclusion Criteria: Emergent Responses Only
1st due Unit must be an Engine
Address Not on High-Risk Occupancy List
Dispatch Types: EXPLSN, STRUCT

HIGH RISK FIRE

Resources: 4 Engines, 2 Trucks, Safety Officer, and Battalion Chief
ERF: Minimum 25 Personnel
Inclusion Criteria: Emergent Responses Only
1st due Unit must be an Engine
Only Responses to High-rise/Target Hazard List (App. A)
Dispatch Types: EXPLSN, STRUCT
**LOW-RISK FIRE BASELINE PERFORMANCE**

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Items reported as "N/R" indicate years in which less than 10 incidents occurred in a particular response zone and a reliable 90th percentile was unable to be calculated. In these cases, the number of incidents is reported.
## Moderate-Risk Fire Baseline Performance

### 90th Percentile Times - Baseline Performance

#### Moderate-Risk Structure Fires

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Items reported as "N/R" indicate years in which less than 10 incidents occurred in a particular response zone and a reliable 90th percentile was unable to be calculated. In these cases, the number of incidents is reported.
### HIGH-RISK FIRE BASELINE PERFORMANCE

#### High-risk Structure Fires

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<td>N/R</td>
<td>7:12</td>
<td>7:54</td>
<td>N/R</td>
</tr>
<tr>
<td>n=41</td>
<td>n=4</td>
<td>n=8</td>
<td>n=12</td>
<td>n=10</td>
<td>n=7</td>
<td></td>
</tr>
<tr>
<td>Suburban</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
</tr>
<tr>
<td>n=5</td>
<td>n=0</td>
<td>n=2</td>
<td>n=0</td>
<td>n=1</td>
<td>n=2</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
</tr>
<tr>
<td>n=0</td>
<td>n=0</td>
<td>n=0</td>
<td>n=0</td>
<td>n=0</td>
<td>n=0</td>
<td></td>
</tr>
<tr>
<td><strong>Total Response Time</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Response Time ERF Concentration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
</tr>
<tr>
<td>n=5</td>
<td>n=0</td>
<td>n=4</td>
<td>n=0</td>
<td>n=1</td>
<td>n=0</td>
<td></td>
</tr>
<tr>
<td>Suburban</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
</tr>
<tr>
<td>n=0</td>
<td>n=0</td>
<td>n=0</td>
<td>n=0</td>
<td>n=0</td>
<td>n=0</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
</tr>
<tr>
<td>n=0</td>
<td>n=0</td>
<td>n=0</td>
<td>n=0</td>
<td>n=0</td>
<td>n=0</td>
<td></td>
</tr>
</tbody>
</table>

Items reported as "N/R" indicate years in which less than 10 incidents occurred in a particular response zone and a reliable 90th percentile was unable to be calculated. In these cases, the number of incidents is reported.
Poudre Fire Authority responds to all medical emergencies in its jurisdiction at the Basic Life Support (BLS) level. In any given year, these incidents account for approximately 75 percent of the agency’s annual call volume. Patients are treated at the BLS level, and care is transferred on-scene to an Advanced Life Support (ALS) transport provider. The patient is then taken to the nearest appropriate emergency room facility for definitive care, so it is important in the survival of critical patients that Poudre Fire Authority works cooperatively with the ALS transport provider and surrounding hospitals.

The scope of the EMS Standards of Cover focuses only on the BLS response components of the system as the ALS response is governed by a different provider. In addition, EMS provision in technical rescue and other disciplines is accounted for in those specific sections of this document. One of the primary goals of EMS response is in cases of sudden cardiac arrest (SCA). The following information was adapted from the Sudden Cardiac Arrest Foundation.

Studies indicate that (SCA) is the leading cause of death in adults over the age of 40 in the United States and other countries. In the U.S. alone, approximately 424,000 people of all ages experience EMS-assessed out-of-hospital non-traumatic SCA each year (more than 1,000/day) and nine out of ten victims die. SCA is a life-threatening condition—but it can be treated successfully through early intervention with cardiopulmonary resuscitation (CPR), defibrillation, advanced cardiac life support, and mild therapeutic hypothermia. When bystanders intervene by giving Cardio Pulmonary Resuscitation (CPR) and using automated external defibrillators (AEDs) before EMS arrives, four out of 10 victims survive.

Consequentially, Poudre Fire Authority equips all first-line apparatus with automatic external defibrillators (AEDs) in an effort to maximize the survival rates of citizens experiencing an out-of-hospital cardiac arrest. Early defibrillation has proven to be the most effective intervention that can be administered to a victim of SCA, so Poudre Fire Authority has recently implemented the PulsePoint program that allows for citizens to be alerted of such events and be notified of the closest publicly available AED. For these reasons the EMS SOC statements are built in anticipation of such an event. However, it should be noted that for calculation purposes, all emergent EMS responses are used for calculation considerations.

At Poudre Fire Authority these responses are dispatched as Medical “Echo” as classified by the Emergency Medical Dispatch (EMD) system. The following table provides an overview of all incidents, including Echo Medicals, dispatched as emergency medical incidents over the last five years.

29 Sudden Cardiac Arrest Foundation. http://www.sca-aware.org/about-sca
## Emergency Medical Incidents by Dispatch Coding (2012-2016)

<table>
<thead>
<tr>
<th>Call Type Description</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Total</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Alarms (ALARMM) – Responses to medical alert devices</td>
<td>560</td>
<td>662</td>
<td>794</td>
<td>839</td>
<td>977</td>
<td>3,832</td>
<td>5.16%</td>
</tr>
<tr>
<td>Code 3 Bravo Medical (MEDIB3) – See definitions below</td>
<td>719</td>
<td>815</td>
<td>809</td>
<td>871</td>
<td>843</td>
<td>4,057</td>
<td>5.47%</td>
</tr>
<tr>
<td>Uncoded Medical (MEDI)- Incidents where EMD was not completed</td>
<td>2,515</td>
<td>2,467</td>
<td>2,986</td>
<td>3,547</td>
<td>4,012</td>
<td>15,527</td>
<td>20.93%</td>
</tr>
<tr>
<td>Alpha Medical (MEDICA) – See definitions below</td>
<td>2,047</td>
<td>2,107</td>
<td>2,296</td>
<td>2,448</td>
<td>2,769</td>
<td>11,667</td>
<td>15.73%</td>
</tr>
<tr>
<td>Bravo Medical (MEDICB) - See definitions below</td>
<td>326</td>
<td>360</td>
<td>350</td>
<td>369</td>
<td>394</td>
<td>1,799</td>
<td>2.42%</td>
</tr>
<tr>
<td>Charlie Medical (MEDICC) - See definitions below</td>
<td>2,462</td>
<td>2,751</td>
<td>2,859</td>
<td>2,975</td>
<td>3,190</td>
<td>14,237</td>
<td>19.19%</td>
</tr>
<tr>
<td>Delta Medical (MEDICD) - See definitions below</td>
<td>2,683</td>
<td>2,630</td>
<td>2,805</td>
<td>2,878</td>
<td>3,233</td>
<td>14,229</td>
<td>19.18%</td>
</tr>
<tr>
<td>Echo Medical (MEDICE) – See definitions below</td>
<td>124</td>
<td>151</td>
<td>144</td>
<td>122</td>
<td>128</td>
<td>669</td>
<td>.90%</td>
</tr>
<tr>
<td>Omega Medical (MEDICO) - See definitions below</td>
<td>80</td>
<td>67</td>
<td>78</td>
<td>88</td>
<td>55</td>
<td>368</td>
<td>.49%</td>
</tr>
<tr>
<td>Accident with Injury (No Extrication) – Car Accidents (MVAI, MVAIA, MVAIB, MVAIB3, MVAID)</td>
<td>967</td>
<td>1,061</td>
<td>1,697</td>
<td>1,210</td>
<td>1,273</td>
<td>6,208</td>
<td>8.37%</td>
</tr>
<tr>
<td>Shooting (SHOO, SHOOF) – Any Incident involving a patient(s) with a gunshot wound</td>
<td>-</td>
<td>1</td>
<td>11</td>
<td>12</td>
<td>5</td>
<td>29</td>
<td>.039%</td>
</tr>
<tr>
<td>Stabbing (STAB) - Any Incident involving a patient(s) with a stab wound</td>
<td>3</td>
<td>4</td>
<td>11</td>
<td>21</td>
<td>16</td>
<td>55</td>
<td>.076%</td>
</tr>
<tr>
<td>Suicide (SUIC) – Any incident involving a suicidal patient</td>
<td>270</td>
<td>293</td>
<td>343</td>
<td>326</td>
<td>255</td>
<td>1,487</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>12,756</td>
<td>13,369</td>
<td>15,183</td>
<td>15,706</td>
<td>17,150</td>
<td>74,164</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

As with structure fires, the population density heavily influences the demand for service in EMS. This concentration of incidents is represented on a map as follows and indicates a pattern of incidents roughly aligned with the population density and growth along the Harmony Road corridor.

Definitions – The above table presents incidents by dispatch type coding. The Fort Collins 9-1-1 center uses Priority Medical dispatching protocols. This protocol allows the dispatcher to triage medical calls based on information provided by the caller. This results in priority-based dispatch assignment as follows:
- Alpha/Bravo – Responses that require a lower priority of response. These incidents are usually responded to non-emergently.
- Charlie/Delta - Responses that require a higher priority of response. These incidents are usually responded to emergently.
- Echo - Responses that require the highest response priority. These incidents are usually cardiac and respiratory arrests.
HEAT MAP OF MEDICAL INCIDENTS 2012-2016

Legend
Hot Spot of EMS Incidents 2012-2016
Concentration of Incidents
- Very High
- High
- Moderate
- Low
- None

Concentration of EMS Incidents 2012-2016

Author: BC Ren Simms  Date: 9/13/2017
CRITICAL TASKS AND THE EFFECTIVE RESPONSE FORCE

FIRST-DUE UNIT

CAPABILITIES, CRITICAL TASKS AND RESPONSE PERFORMANCE BENCHMARKS

First-due Capability: The first-due unit on an EMS incident shall be capable of providing patient care at the BLS level to a patient suffering from cardiac or respiratory arrest. The first-due unit shall be equipped with an automatic external defibrillator (AED), a medical supply kit containing oxygen, airways (including a King Tube), and a backboard. In addition, all first-due units shall carry a full complement of supplies as determined by the currently applicable EMS protocols. This can include assist medications such as albuterol and aspirin.

First-due Task Analysis: The first-due unit, staffed with a minimum of 2 firefighters and 1 officer, is tasked with establishing incident command, providing a scene size-up and initiating patient care to include managing the patient’s airway, providing for defibrillation and CPR and preparing the patient for transport. A minimum of 1 provider must be certified at the EMT-B level. All other responders must be certified at the Emergency Medical Responder (EMR) level.

First-due Response Performance Benchmark: It is Poudre Fire Authority’s goal for the first-due unit to arrive on-scene in 6 minutes and 20 seconds in the urban response zone, in 8 minutes and 00 seconds in the suburban response zone and in 12 minutes and 30 seconds in the rural response zone. This time is defined as the total response time and is inclusive of call processing, turnout time and travel time and is established as 70% of baseline performance.

EFFECTIVE RESPONSE FORCE

Poudre Fire Authority does not provide care at the ALS level. Therefore, the Effective Response Force for the agency is also the first-due unit. Response performance of the ALS transport provider is outlined in a contract. The contract stipulations will request the contractor to provide total response times in accordance with best practice for pre-hospital ALS care.

EMS RESOURCE OVERVIEW

<table>
<thead>
<tr>
<th>Number of Resources</th>
<th>Total Number of Personnel</th>
<th>Personnel per Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Engine or Truck</td>
<td>3 minimum</td>
<td>3 minimum</td>
</tr>
<tr>
<td>Effective Response Force</td>
<td></td>
<td>3 minimum</td>
</tr>
</tbody>
</table>

The critical task analysis for EMS responses assumes generally accepted practice for crew deployment. Specific situations will call for different deployment tactics and may alter the critical task analysis. In addition, some responding companies are staffed with 4 personnel, which allows for a different resource deployment.
The task analysis presented here assumes that Poudre Fire Authority is first on-scene of a cardiac arrest. Tasks are representative of those indicated in the capabilities listed in the benchmark performance statement.

**EMS EFFECTIVE RESPONSE AND CRITICAL TASK ANALYSIS CHART**

<table>
<thead>
<tr>
<th>Critical Task Description</th>
<th>Task Assignment</th>
<th>Recommended Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish Incident Command</td>
<td>Captain</td>
<td></td>
</tr>
<tr>
<td>Scene Size-up/360</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incident Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gather Patient History</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Patient Assessment</td>
<td>EMT-Basic/Firefighter #1</td>
<td>1st Engine</td>
</tr>
<tr>
<td>Operate AED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chest Compressions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen</td>
<td>Driver Operator/Firefighter #2</td>
<td></td>
</tr>
<tr>
<td>BVM Ventilation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airway Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>9 Tasks</strong></td>
<td><strong>3 Personnel</strong></td>
<td><strong>1 Unit</strong></td>
</tr>
</tbody>
</table>

**EMS STANDARDS OF COVER CALCULATIONS AND INCLUSION CRITERIA**

The following criteria are used for inclusion in the Standards of Cover calculations for EMS responses.

**Resources:** 1 Engine or Truck

**ERF:** Minimum 3 personnel

**Inclusion Criteria:** Emergent Responses Only

**Call Types:** ALARMM, MEDIB3, MEDIC, MEDICA, MEDICB, MEDICC, MEDICD, MEDICE, MVAI, MVAIA, MVAIB, MVAIB3, MVAID, SHOO, STAB, SUIC
## EMS BASELINE PERFORMANCE

### EMS 90th Percentile Times - Baseline Performance

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban Pick-up to Dispatch</td>
<td>3:00 n=29371</td>
<td>1:52 n=6460</td>
<td>2:16 n=6439</td>
<td>3:19 n=5111</td>
<td>3:25 n=5845</td>
<td>3:09 n=5516</td>
</tr>
<tr>
<td>Suburban</td>
<td>2:55 n=3587</td>
<td>2:00 n=779</td>
<td>2:15 n=787</td>
<td>3:13 n=661</td>
<td>3:18 n=706</td>
<td>2:55 n=654</td>
</tr>
</tbody>
</table>

| Turnout Time All Units | 1:43 n=28540 | 1:46 n=6192 | 1:43 n=6218 | 1:45 n=4951 | 1:43 n=5753 | 1:40 n=5426 |
| Urban | 1:52 n=3533 | 1:55 n=754 | 1:54 n=775 | 1:51 n=643 | 1:52 n=715 | 1:40 n=646 |
| Suburban | 1:57 n=780 | 1:57 n=157 | 1:59 n=159 | 1:58 n=141 | 1:58 n=171 | 1:50 n=152 |

| Travel Time 1st Unit Distribution | 4:57 n=28345 | 4:54 n=5924 | 4:55 n=5938 | 5:01 n=5073 | 4:58 n=5882 | 4:52 n=5528 |
| Urban | 7:33 n=3485 | 6:54 n=743 | 7:28 n=731 | 8:13 n=650 | 7:37 n=705 | 7:13 n=656 |
| Suburban | 13:26 n=748 | 13:52 n=141 | 13:30 n=151 | 15:08 n=139 | 12:39 n=168 | 13:26 n=149 |
| Rural | 16:58 n=689 | 15:51 n=133 | 16:57 n=135 | 18:54 n=125 | 16:18 n=158 | 16:23 n=138 |

| Total Response Time 1st Unit On-Scene Distribution | 8:15 n=26760 | 7:19 n=5605 | 7:38 n=5634 | 8:40 n=4699 | 8:45 n=5577 | 8:21 n=5245 |
| Suburban | 16:58 n=689 | 15:51 n=133 | 16:57 n=135 | 18:54 n=125 | 16:18 n=158 | 16:23 n=138 |

Items reported as "N/R" indicate years in which less than 10 incidents occurred in a particular response zone and a reliable 90th percentile was unable to be calculated. In these cases, the number of incidents is reported.
Technical Rescue involves the application of specialized skills and equipment to rescue persons who are unable to self-rescue from situations involving entrapment in a variety of conditions and environments. This can include auto extrication, water rescue, high angle rescue, collapse rescue, trench rescue, vehicle/machinery rescue, confined space rescue, large animal rescue, and elevator rescue. Poudre Fire Authority was dispatched to 187 technical rescue incidents in 2015. The general call types are reflected in the table below.

**INCIDENTS DISPATCHED AS TECHNICAL RESCUES VS. NFIRS CODED AS TECHNICAL RESCUES (2012-2016)**

<table>
<thead>
<tr>
<th>Year</th>
<th>CAD</th>
<th>NFIRS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>112</td>
<td>59</td>
</tr>
<tr>
<td>2013</td>
<td>161</td>
<td>85</td>
</tr>
<tr>
<td>2014</td>
<td>199</td>
<td>91</td>
</tr>
<tr>
<td>2015</td>
<td>187</td>
<td>81</td>
</tr>
<tr>
<td>2016</td>
<td>197</td>
<td>74</td>
</tr>
</tbody>
</table>

For CAD dispatches this includes: ANIMF, ELRESC, MVAX, MVAXD, MVAX P, SWIFT, RESCUE, WATER.

For NFIRS Codes this includes: Dive rescue or recovery, Extrication of patient(s) from elevator, Extrication of victim(s) from vehicle, Extrication of victim(s) not otherwise classified, Extrication of victim(s) from machinery, Extrication of victim(s) from building or structure, High angle rescue, Ice rescue, Swimming or recreational water area rescue, Low Angle Rescue, Swift water rescue, Water or ice rescue, not otherwise classified, Watercraft rescue (Rescue of victims only).
HEAT MAP OF TECHNICAL RESCUE INCIDENTS (2012-2016)
Given the wide variety of challenges that technical rescue present for the responders, specific equipment types are required for various incidents. As an example, swiftwater responses require the use of a boat, while a building or trench collapse will require Poudre Fire Authority’s collapse rescue truck. Consequentially, the Poudre Fire Authority Standards of Cover for technical rescue is written at the basic level of resource that is dispatched to all nine technical rescue disciplines.

CRITICAL TASKS AND THE EFFECTIVE RESPONSE FORCE

**TECHNICAL RESCUE RESOURCE OVERVIEW**

<table>
<thead>
<tr>
<th>Number of Resources</th>
<th>Total Number of Personnel</th>
<th>Personnel per Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Engines</td>
<td>3 minimum</td>
<td>6 minimum</td>
</tr>
<tr>
<td>2 Trucks with 2 FiCs</td>
<td>4 minimum</td>
<td>8 minimum</td>
</tr>
<tr>
<td>1 Safety Officer</td>
<td>1 minimum</td>
<td>1 minimum</td>
</tr>
<tr>
<td>1 Battalion Chief</td>
<td>1 minimum</td>
<td>1 minimum</td>
</tr>
<tr>
<td><strong>Effective Response Force</strong></td>
<td><strong>16 minimum</strong></td>
<td></td>
</tr>
</tbody>
</table>

One of the most crucial decisions that the initial incident commander must make during the early phases of a technical rescue incident is the viability of a victim. Victims that are already deceased are classified as recovery incidents and are not considered rescue operations in the sense that the level of urgency changes in these situations. As in structure fires, these decisions are made using Poudre Fire Authority risk profile as stated below:

- We may risk our lives a lot, in a highly calculated manner, to protect savable lives.
- We may risk our lives a little, in a highly calculated manner, to protect savable property.
- We will not risk our lives at all to save lives or property that is already lost.

The critical task analysis presented in this report operates under the assumption that a viable victim is trapped, as these operations assume that savable lives are at risk and that PFA personnel will risk their own lives in a commensurate fashion.

It should also be noted that the initial assignment described here is the minimum number of personnel required to accomplish the tasks in the initial phases of operations. Incidents in which the specific situation or discipline requires additional responders, or situations in which multiple victims are involved require the incident commander to call for such resources in the early phases of the incident. These situations will also require frequent crew rotations. Specific resources called to such incidents are represented in the following table.
<table>
<thead>
<tr>
<th>Call Type</th>
<th>Number of Resources</th>
<th>Personnel per Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Water Rescue Incident</td>
<td>Boat 7</td>
<td>3 minimum</td>
</tr>
<tr>
<td></td>
<td>Engine 7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Additional Engines</td>
<td>Varies</td>
</tr>
<tr>
<td></td>
<td>for Certified</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Swimmers</td>
<td></td>
</tr>
<tr>
<td>Collapse Rescue</td>
<td>Collapse 6</td>
<td>1 minimum</td>
</tr>
<tr>
<td>Trench Rescue</td>
<td>Off-Duty Recall</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engine 10</td>
<td>Varies</td>
</tr>
<tr>
<td>Confined Space Rescue</td>
<td>Hazmat 10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collapse 6</td>
<td></td>
</tr>
<tr>
<td>Large Animal Rescue</td>
<td>Engine 12</td>
<td>3 minimum</td>
</tr>
</tbody>
</table>

For the purposes of response performance calculations of the Standards of Cover, only the initial first alarm assignment is considered.

**FIRST-DUE UNIT**

**CAPABILITIES, CRITICAL TASKS AND RESPONSE PERFORMANCE BENCHMARKS**

*First-due Capability:* The first-due unit shall be capable of providing the tools necessary to effect rapid rescues such as those using basic low-angle rope, cribbing, and mechanical advantage tools such as pry bars and halligan tools. In addition, all first-due arriving units shall carry a basic complement of water rescue equipment to include personal flotation devices (PFDs) and boogey boards. Due to this, first-due units must be engine or truck companies in terms of first-due response performance calculations.

*First-due Task Analysis:* The first-due unit, staffed with a minimum of 2 firefighters and 1 officer, is tasked with establishing incident command, providing a scene size-up to include a 360 degree walk around of the scene, securing the scene as necessary and ordering additional resources as necessary.

*First-due Response Performance Benchmark:* It is Poudre Fire Authority’s goal for the first-due unit to arrive on-scene in 6 minutes and 25 seconds in the urban response zone, in 9 minutes and 25 seconds in the suburban response zone and in 15 minutes and 30 seconds in the rural response zone. This time is defined as the total response time and is inclusive of call processing, turnout time and travel time and is established as 70% of baseline performance.
EFFECTIVE RESPONSE FORCE

CAPABILITIES, CRITICAL TASKS, AND RESPONSE PERFORMANCE BENCHMARKS

*ERF Capabilities and Task Analysis:* In addition to the first-due unit capabilities and critical tasks, the effective response force, staffed with a minimum of 16 firefighters and officers, shall be capable of providing for stabilization of applicable vehicles or equipment; deploying specialized equipment such as high-angle rope, ventilation and shoring equipment; coordinating and performing a rescue of a single patient.

*ERF Response Performance Benchmark:* It is Poudre Fire Authority’s goal for the effective response force to arrive on-scene in 10 minutes and 20 seconds in the urban response zone, in 12 minutes and 20 seconds in the suburban response zone and in 16 minutes and 20 seconds in the rural response zone. This time is defined as the total response time and is inclusive of call processing, turnout time and travel time.

**EFFECTIVE RESPONSE AND CRITICAL TASK ANALYSIS CHART – EXTRICATION INCIDENTS**

<table>
<thead>
<tr>
<th>Critical Task Description</th>
<th>Number of Personnel Needed</th>
<th>Recommended Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish Incident Command</td>
<td>1</td>
<td>1st Engine</td>
</tr>
<tr>
<td>Scene Size-up/360/Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triage/Establish Patient Contact</td>
<td>1</td>
<td>1st Engine</td>
</tr>
<tr>
<td>Secure Scene/Protection Line</td>
<td>1</td>
<td>1st Engine</td>
</tr>
<tr>
<td>Vehicle Stabilization</td>
<td>4</td>
<td>1st Truck</td>
</tr>
<tr>
<td>Extrication</td>
<td>4</td>
<td>2nd Truck</td>
</tr>
<tr>
<td>Blocking Engine/Scene Perimeter</td>
<td>1</td>
<td>2nd Engine</td>
</tr>
<tr>
<td>Assist Patient Care</td>
<td>2</td>
<td>2nd Engine</td>
</tr>
<tr>
<td>Assumption of Incident Command</td>
<td>1</td>
<td>Battalion Chief</td>
</tr>
<tr>
<td>Incident Safety Officer</td>
<td>1</td>
<td>Safety Officer</td>
</tr>
<tr>
<td><strong>10 Tasks</strong></td>
<td><strong>16 Personnel</strong></td>
<td><strong>6 Units</strong></td>
</tr>
</tbody>
</table>
**EFFECTIVE RESPONSE AND CRITICAL TASK ANALYSIS CHART – TECHNICAL RESCUE INCIDENTS**

<table>
<thead>
<tr>
<th>Critical Task Description</th>
<th>Number of Personnel Needed</th>
<th>Recommended Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish Incident Command</td>
<td>1</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; Engine</td>
</tr>
<tr>
<td>Scene Size-up/360/Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triage/Establish Patient Contact</td>
<td>1</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; Engine</td>
</tr>
<tr>
<td>Secure Scene</td>
<td>1</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; Engine</td>
</tr>
<tr>
<td>Ventilation</td>
<td>2</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; Truck</td>
</tr>
<tr>
<td>Air Monitoring</td>
<td>1</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; Truck</td>
</tr>
<tr>
<td>Evaluate Rescue</td>
<td>1</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; Truck</td>
</tr>
<tr>
<td>Expand Perimeter</td>
<td>1</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Engine</td>
</tr>
<tr>
<td>Assist with Equipment</td>
<td>2</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Engine</td>
</tr>
<tr>
<td>Incident Safety Officer</td>
<td>1</td>
<td>Safety Officer</td>
</tr>
<tr>
<td>Perform Rescue</td>
<td>3</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Truck</td>
</tr>
<tr>
<td>Rescue Group Coordinator</td>
<td>1</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Truck</td>
</tr>
<tr>
<td>Assume Incident Command</td>
<td>1</td>
<td>Battalion Chief</td>
</tr>
<tr>
<td>Scene Safety Officer</td>
<td>1</td>
<td>Safety Officer</td>
</tr>
</tbody>
</table>

**14 Tasks**  **16 Personnel**  **6 Units**

**TECHNICAL RESCUE STANDARDS OF COVER CALCULATIONS AND INCLUSION CRITERIA**

**TECHNICAL RESCUE**

**Resources:**  2 Engines, 2 Trucks, 1 Safety Officer, 1 Battalion Chief

**ERF:**  Minimum 16 Personnel

**Inclusion Criteria:**  Emergent Responses Only

**Dispatch Types:**  ANIMF, MVAX, MVAXD, RESCUE, SWIFT, WATER
### Technical Rescue Baseline Performance

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alarm Handling</strong></td>
<td>Pick-up to Dispatch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Urban</td>
<td>3:01 n=126</td>
<td>2:52 n=11</td>
<td>2:51 n=15</td>
<td>2:29 n=22</td>
<td>3:02 n=54</td>
<td>3:01 n=24</td>
<td></td>
</tr>
<tr>
<td>Suburban</td>
<td>2:38 n=75</td>
<td>N/R n=8</td>
<td>N/R n=5</td>
<td>3:43 n=16</td>
<td>2:13 n=31</td>
<td>2:21 n=15</td>
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<tr>
<td>Rural</td>
<td>3:27 n=65</td>
<td>N/R n=9</td>
<td>3:25 n=12</td>
<td>3:55 n=13</td>
<td>3:35 n=17</td>
<td>3:13 n=14</td>
<td></td>
</tr>
<tr>
<td><strong>Turnout Time</strong></td>
<td>Turnout Time All Units</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Urban</td>
<td>1:44 n=127</td>
<td>1:33 n=11</td>
<td>1:50 n=14</td>
<td>1:42 n=23</td>
<td>1:47 n=54</td>
<td>1:36 n=25</td>
<td></td>
</tr>
<tr>
<td>Suburban</td>
<td>1:49 n=77</td>
<td>N/R n=9</td>
<td>N/R n=5</td>
<td>1:51 n=16</td>
<td>1:30 n=32</td>
<td>1:52 n=15</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>1:54 n=72</td>
<td>1:31 n=11</td>
<td>1:48 n=12</td>
<td>1:15 n=14</td>
<td>2:04 n=20</td>
<td>1:48 n=15</td>
<td></td>
</tr>
<tr>
<td><strong>Travel Time</strong></td>
<td>Travel Time 1st Unit Distribution</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Urban</td>
<td>4:40 n=124</td>
<td>5:01 n=11</td>
<td>4:48 n=12</td>
<td>7:20 n=22</td>
<td>4:15 n=54</td>
<td>4:27 n=25</td>
<td></td>
</tr>
<tr>
<td>Suburban</td>
<td>8:06 n=76</td>
<td>N/R n=9</td>
<td>N/R n=5</td>
<td>7:50 n=16</td>
<td>8:55 n=32</td>
<td>6:53 n=14</td>
<td></td>
</tr>
<tr>
<td><strong>Travel Time</strong></td>
<td>Travel Time ERF Concentration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>11:37 n=14</td>
<td>N/R n=1</td>
<td>N/R n=1</td>
<td>N/R n=2</td>
<td>N/R n=8</td>
<td>N/R n=2</td>
<td></td>
</tr>
<tr>
<td>Suburban</td>
<td>18:36 n=12</td>
<td>N/R n=1</td>
<td>N/R n=1</td>
<td>N/R n=4</td>
<td>N/R n=5</td>
<td>N/R n=1</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>29:30 n=16</td>
<td>N/R n=0</td>
<td>N/R n=2</td>
<td>N/R n=3</td>
<td>N/R n=6</td>
<td>N/R n=5</td>
<td></td>
</tr>
<tr>
<td><strong>Total Response Time</strong></td>
<td>Total Response Time 1st Unit On-Scene Distribution</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>8:39 n=119</td>
<td>8:13 n=11</td>
<td>8:46 n=11</td>
<td>9:31 n=21</td>
<td>7:54 n=53</td>
<td>7:54 n=23</td>
<td></td>
</tr>
<tr>
<td>Suburban</td>
<td>12:16 n=71</td>
<td>N/R n=8</td>
<td>N/R n=5</td>
<td>12:22 n=15</td>
<td>12:40 n=30</td>
<td>10:51 n=13</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>20:40 n=57</td>
<td>N/R n=9</td>
<td>N/R n=9</td>
<td>16:51 n=11</td>
<td>20:56 n=15</td>
<td>16:41 n=13</td>
<td></td>
</tr>
<tr>
<td><strong>Total Response Time</strong></td>
<td>Total Response Time ERF Concentration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>22:45 n=14</td>
<td>N/R n=1</td>
<td>N/R n=1</td>
<td>N/R n=2</td>
<td>N/R n=8</td>
<td>N/R n=2</td>
<td></td>
</tr>
<tr>
<td>Suburban</td>
<td>25:15 n=12</td>
<td>N/R n=1</td>
<td>N/R n=1</td>
<td>N/R n=4</td>
<td>N/R n=5</td>
<td>N/R n=1</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>36:09 n=15</td>
<td>N/R n=0</td>
<td>N/R n=3</td>
<td>N/R n=6</td>
<td>N/R n=6</td>
<td>N/R n=5</td>
<td></td>
</tr>
</tbody>
</table>

Items reported as "N/R" indicate years in which less than 10 incidents occurred in a particular response zone and a reliable 90th percentile was unable to be calculated. In these cases, the number of incidents is reported.
HAZARDOUS MATERIALS

Poudre Fire Authority responds to incidents involving hazardous materials on a daily basis. These include petroleum products, natural gas, combustion by-products, industrial chemicals, unknown odor complaints, structure fires, incidents involving transportation of a wide range of hazardous materials and incidents that threaten waterways and air quality. Many are handled by personnel trained at the operations level. Operations level personnel monitor for basic hazards and are trained to take defensive actions to mitigate incidents.

Operations level personnel are supported by technician level responders who perform daily routine tasks such as consulting on the best practice methods for handling incidents, air monitor maintenance, providing additional supplies and ensuring proper reporting requirements are met. When an incident moves beyond the scope of the operations level, technician level responders are ready with specialized equipment for air monitoring, entry and offensive tactics to mitigate hazardous materials incidents. Technician level responders also provide continuing education to the entire department on a routine basis. Responses to surrounding agencies in Larimer County account for approximately 4.5 percent of all Hazmat 10 responses.

The primary response comes from on-duty engine and truck companies with personnel that are all trained to the Hazardous Materials Operations level in accordance with NFPA 472. The second level of response is provided by resources currently stationed at Fire Station 10, which provides equipment and technical expertise to the technician level. Staffing for Hazmat 10 is usually provided by Station 10 personnel, although this can vary depending on resource needs within the organization. The daily staffing requirement is one (1) certified Hazardous Materials technician per day at Station 10. Finally, the hazardous materials team, in coordination with cooperators from other Northern Colorado Fire Departments, provides a large-scale response resource. If more technicians are needed then other technicians on the shift are made available for the call and off duty personnel can be requested as well.

**HAZMAT 10 – RESPONSES SINCE 2009**

<table>
<thead>
<tr>
<th>Year</th>
<th>In PFA District</th>
<th>Out of PFA District</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>39</td>
<td>2</td>
<td>41</td>
</tr>
<tr>
<td>2010</td>
<td>29</td>
<td>1</td>
<td>30</td>
</tr>
<tr>
<td>2011</td>
<td>37</td>
<td>7</td>
<td>44</td>
</tr>
<tr>
<td>2012</td>
<td>57</td>
<td>1</td>
<td>58</td>
</tr>
<tr>
<td>2013</td>
<td>62</td>
<td>0</td>
<td>62</td>
</tr>
<tr>
<td>2014</td>
<td>44</td>
<td>2</td>
<td>46</td>
</tr>
<tr>
<td>2015</td>
<td>70</td>
<td>4</td>
<td>74</td>
</tr>
<tr>
<td>2016</td>
<td>56</td>
<td>5</td>
<td>61</td>
</tr>
<tr>
<td>Total</td>
<td>394</td>
<td>22</td>
<td>416</td>
</tr>
</tbody>
</table>
HEAT MAP OF HAZARDOUS MATERIALS INCIDENTS (2012-2016)
CRITICAL TASKS AND THE EFFECTIVE RESPONSE FORCE

HAZARDOUS MATERIALS RESOURCE OVERVIEW – OPERATIONS LEVEL RESPONSE

<table>
<thead>
<tr>
<th>Number of Resources</th>
<th>Total Number of Personnel</th>
<th>Personnel per Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Engine</td>
<td>3 minimum</td>
<td>3 minimum</td>
</tr>
<tr>
<td>Effective Response Force</td>
<td></td>
<td>1 minimum</td>
</tr>
</tbody>
</table>

**Description:** Includes exterior flammable gas, propane and fluid leaks of 5 gallons or less. Also includes exterior gas line cuts smaller than one inch.

EFFECTIVE RESPONSE AND CRITICAL TASK ANALYSIS CHART – OPERATIONS LEVEL HAZARDOUS MATERIALS

<table>
<thead>
<tr>
<th>Critical Task Description</th>
<th>Number of Personnel Needed</th>
<th>Recommended Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish Incident Command</td>
<td>1</td>
<td>1st Engine</td>
</tr>
<tr>
<td>Develop IAP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scene Size-up/360/Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency Decon</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Hazard ID</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establish Containment Zone</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6 Tasks</strong></td>
<td><strong>3 Personnel</strong></td>
<td><strong>1 Unit</strong></td>
</tr>
</tbody>
</table>

FIRST-DUE UNIT

CAPABILITIES, CRITICAL TASKS AND RESPONSE PERFORMANCE BENCHMARKS OPERATIONS LEVEL

**First-due Capability:** The first-due unit at an operations level hazardous material incident shall be capable of providing a basic complement of operations level hazardous materials equipment to include absorbent materials and a hydrocarbon kit, basic four-gas air monitoring equipment, a radiological detector, Class B foam, small plug and patch kits and an oil catch basin.

**First-due Task Analysis:** The first-due unit at a hazardous materials incident shall be staffed with a minimum of 2 firefighters and 1 officer, all trained at the hazardous materials operations response level. The unit is tasked with establishing incident command, providing a scene size-up to include a 360 degree walk around of the scene, attempting a product identification, emergency decontamination and establishing a containment zone.

**First-due Response Performance Benchmark:** It is Poudre Fire Authority’s goal for the first-due unit to arrive on-scene in 8 minutes and 30 seconds in the urban response zone, in 9 minutes and 00 seconds.
in the suburban response zone and in 12 minutes and 20 seconds in the rural response zone. This time is defined as the total response time and is inclusive of call processing, turnout time and travel time and is established as 70% of baseline performance.

**HAZARDOUS MATERIALS RESOURCE OVERVIEW – TECHNICIAN LEVEL RESPONSE**

<table>
<thead>
<tr>
<th>Number of Resources</th>
<th>Total Number of Personnel</th>
<th>Personnel per Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Engines</td>
<td>3 minimum</td>
<td>3 minimum</td>
</tr>
<tr>
<td>Engine 10</td>
<td>2 minimum</td>
<td>2 minimum</td>
</tr>
<tr>
<td>Hazmat 10</td>
<td>1 minimum</td>
<td>1 minimum *(1 Hazmat Tech per shift)</td>
</tr>
</tbody>
</table>

**Effective Response Force** 6 minimum

**Description:** Any hydrocarbon liquid spill exceeding 5 gallons, propane leaks larger than a barbecue cylinder, severed gas lines over 1 inch and spills of unknown materials.

Resources dispatched to a hazardous materials incident at PFA are responsible for the tasks outlined in the critical task analysis. However, serious hazardous materials incidents often out-stripe the abilities and resources of the initially dispatched units. Poudre Fire Authority, through its hazardous materials operations plan, has the ability to recall Hazmat technicians for work at such incidents. In addition, other fire departments in Northern Colorado provide hazardous materials response on a mutual aid basis.

**HAZMAT TECHNICIAN RESOURCE OVERVIEW – RECALL INCIDENT**

<table>
<thead>
<tr>
<th>Resource Type</th>
<th>Type/Number of Resources</th>
<th>Personnel per Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off-Duty Team Page</td>
<td>22 Techs</td>
<td>N/A</td>
</tr>
<tr>
<td>Northern Colorado Resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loveland Fire Rescue Authority Hazmat Rig</td>
<td></td>
<td>4 minimum</td>
</tr>
<tr>
<td>Windsor-Severance Fire Rescue</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Greeley Hazmat Rig</td>
<td>3 minimum</td>
<td></td>
</tr>
<tr>
<td>Longmont Hazmat Rig</td>
<td>3 minimum</td>
<td></td>
</tr>
</tbody>
</table>

* The resource called depends on the nature and location of the reported emergency.

**FIRST-DUE UNIT**

**CAPABILITIES, CRITICAL TASKS AND RESPONSE PERFORMANCE BENCHMARKS**

*First-due Capability:* The first-due unit at a technician level hazardous material incident shall be capable of providing a basic complement of operations level hazardous materials equipment to include absorbent materials and a hydrocarbon kit, basic four-gas air monitoring equipment, a radiological detector, class B foam, small plug and patch kits and an oil catch basin.
First-due Task Analysis: The first-due unit at a hazardous materials incident shall be staffed with a minimum of 2 firefighters and 1 officer, all trained at the hazardous materials operations response level. The unit is tasked with establishing incident command, providing a scene size-up to include a 360 degree walk around of the scene, attempting a product identification, emergency decontamination and establishing a containment zone.

First-due Response Performance Benchmark: It is Poudre Fire Authority’s goal for the first-due unit to arrive on-scene in 8 minutes and 15 seconds in the urban response zone, in 10 minutes and 00 seconds in the suburban response zone and in 12 minutes and 20 seconds in the rural response zone. This time is defined as the total response time and is inclusive of call processing, turnout time and travel time and is established as 70% of baseline performance.

EFFECTIVE RESPONSE FORCE
CAPABILITIES, CRITICAL TASKS AND RESPONSE PERFORMANCE BENCHMARKS

ERF Capabilities and Task Analysis: In addition to the first-due unit capabilities and critical tasks, the effective response force, staffed with a minimum of 6 firefighters and officers, shall be capable of providing a technician level response to include extensive monitoring equipment for air, liquid and solid materials, sample collection and wet chemistry, advanced identification equipment including computer software, printed material and electronic identifiers with Raman and Fourier Transform Infrared Spectroscopy (FTIR) technology, wide variety of encapsulating and non-encapsulating Personal Protective Equipment (PPE) to deal with a variety of situations and mass decontamination equipment for wet, dry and radiological contamination, supplies to transfer materials and over-pack drums for leaking containers, hazmat specific ALS medications to be administered by the PVH EMS.

ERF Response Performance Benchmark: It is Poudre Fire Authority’s goal for the effective response force to arrive on-scene in 12 minutes and 40 seconds in the urban response zone, in 16 minutes and 00 seconds in the suburban response zone and in 16 minutes and 20 seconds in the rural response zone. This time is defined as the total response time and is inclusive of call processing, turnout time and travel time and is established as 70% of baseline performance.

EFFECTIVE RESPONSE AND CRITICAL TASK ANALYSIS CHART – TECHNICIAN LEVEL HAZARDOUS MATERIALS

<table>
<thead>
<tr>
<th>Critical Task Description</th>
<th>Number of Personnel Needed</th>
<th>Recommended Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish Incident Command</td>
<td>1</td>
<td>1st Engine</td>
</tr>
<tr>
<td>Scene Size-up/360/Safety</td>
<td></td>
<td>1st Engine</td>
</tr>
<tr>
<td>Emergency Decon</td>
<td>2</td>
<td>1st Engine</td>
</tr>
<tr>
<td>Hazard ID/Containment Zone</td>
<td></td>
<td>1st Engine</td>
</tr>
<tr>
<td>Establish Hazmat Group</td>
<td>1</td>
<td>Hazmat and EN 10</td>
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<tr>
<td>Initial Research</td>
<td>1</td>
<td>Hazmat and EN 10</td>
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<tr>
<td>Assist with Decon</td>
<td>1</td>
<td>Hazmat and EN 10</td>
</tr>
<tr>
<td><strong>7 Tasks</strong></td>
<td><strong>6 Personnel</strong></td>
<td><strong>3 Units</strong></td>
</tr>
</tbody>
</table>
HAZARDOUS MATERIALS STANDARDS OF COVER CALCULATIONS AND INCLUSION CRITERIA

Operations Level Hazardous Materials

Resources: 1 Engine or Truck
ERF: Minimum 3 Personnel
Inclusion Criteria: Emergent Responses Only
Dispatch Types: LEAK, ILEAK, RSCHEM
DESCRIPTION: Includes exterior flammable gas, propane and fluid leaks of 5 gallons or less. Also includes exterior gas line cuts smaller than 1 inch.

Technician Level Hazardous Materials

Resources: 1 Engine, Hazmat 10, Engine 10
ERF: Minimum 6 Personnel
Inclusion Criteria: 1st Engine Emergent Responses Only
Hazmat 10 and Engine 10 Non-Emergent Responses Only
Engine and Hazmat only
Dispatch Types: HAZMAT
DESCRIPTION: Any hydrocarbon liquid spill exceeding 5 gallons, propane leaks larger than a barbecue cylinder, severed gas lines over 1 inch and spills of unknown materials.
## Hazardous Materials Operations Level - Baseline Performance

<table>
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Items reported as "N/R" indicate years in which less than 10 incidents occurred in a particular response zone and a reliable 90th percentile was unable to be calculated. In these cases, the number of incidents is reported.
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Items reported as “N/R” indicate years in which less than 10 incidents occurred in a particular response zone and a reliable 90th percentile was unable to be calculated. In these cases, the number of incidents is reported.
WILDLAND FIRE

Responses to wildland fire incidents present a unique challenge to Poudre Fire Authority. The agency’s location at the foothills of the Rocky Mountains exposes the residents living here to a variety of ecological environments that directly contribute to the response by the agency to such events. Increasingly, homes that raise the exposure to wildland-urban interface impacts have been built into the western foothills. An increase in population has increased the incidence of vegetation fires in the urban areas. Expansive eastern grasslands bring the potential for rapidly spreading fires in light fuels.

Three general Wildland-Urban Interface (WUI) categories have been defined for PFA’s jurisdiction: eastern plains; urban core; and most substantially, the brush and forest dominated western foothills of the district.

To help identify the occurrence of wildland fire incidents in these areas, the following patterns were observed in a 5 year period from 2012 to 2016.

*INCIDENTS DISPATCHED AS WILDLAND INCIDENTS PAST FIVE YEARS*

![Incidents Dispatched as Wildland Fires vs. NFIRS Coded as Wildland Fires (2012-2016)]
The Poudre Fire Authority responds to these calls with a mix of Type 1, 3, and 6 apparatus. The resource location of Type 3 and 6 apparatus is represented in the following table.

**POUDRE FIRE AUTHORITY TYPE 3 AND 6 ENGINE LOCATIONS**

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<td>Brush 6</td>
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<td>Brush 8</td>
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<tr>
<td>Station 11</td>
<td>Brush 11</td>
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<td>Station 12</td>
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</tr>
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<td>Station 14</td>
<td>Brush 14</td>
<td>Type 6</td>
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HEAT MAP OF WILDLAND INCIDENTS 2012-2016

Concentration of Wildland Fire Incidents 2012-2016

Poudre Fire Authority
Fort Collins, Colorado

Author: BC Ron Simms Date: 9/13/2017
Wildland fires are inherently dynamic events. Potential fire growth, fire behavior and difficulty of fire control are closely related to three aspects of the fire environment: fuels, weather and terrain. The vast majority of wildland fires in Poudre Fire Authority’s jurisdiction are small and readily controlled with one or two companies. However, sustained warm and dry conditions can predispose an area to rapid fire spread, and fires can readily become larger and more complex. To provide an appropriate level of initial attack, PFA has adopted a system of Wildland Fire Potential Levels and Wildland Multiple Alarm Incidents for getting resources to wildland fires within PFA’s jurisdiction.\(^{30}\)

Poudre Fire Authority uses a tiered Wildland Fire Potential system to respond to fires in the three WUI zones. These responses are based on local fire danger and the congruent alarms are ordered by the initial responding Captain or Acting Captain. The three levels of fire danger include:

- Low to Moderate fire danger—the baseline level
- High fire danger
- Extreme fire danger

The Wildland Fire Potential for a given day is determined by the current 10-hour and 1,000-hour fuel moisture measured at the Redstone Canyon weather station. This information is on the PFA intranet site [http://sparky/fire_Weather/fireweather.htm](http://sparky/fire_Weather/fireweather.htm) and is also emailed to the shift Battalion Chiefs on a daily basis.

Ten-hour fuels are dead, woody fuels one-fourth to one inch in diameter and reflect day-to-day weather trends: 1,000-hour fuels are dead fuels from three to eight inches in diameter and reflect seasonal drying trends. The critical fuel moisture levels for determining potential are statistically correlated with days on which PFA has experienced wildland fire starts or days on which wildland fires surpassed the capabilities of initially dispatched units.

When both the 10-hour and the 1,000-hour fuel moistures fall below a critical threshold, the potential is raised to the next level like from Low to High or High to Extreme and back as needed. The threshold levels defining potential are shown in the table below. Changes in the Wildland Fire Potential level may also be made at the discretion of the shift Battalion Chief with input from Station 7 personnel based on current or expected weather conditions (Red Flag warnings).

### Wildland Fire Potential

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<th>Wildland Fire Potential</th>
<th>10-hour fuel moisture</th>
<th>1000-hour fuel moisture</th>
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<tr>
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<td>&gt; 6%</td>
<td>&gt; 11%</td>
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<tr>
<td>High</td>
<td>≤ 6%</td>
<td>≤ 11%</td>
</tr>
<tr>
<td>Extreme</td>
<td>≤ 4%</td>
<td>≤ 8%</td>
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</table>

\(^{30}\) PFA Operational Directive 3.2.1 – Wildland Dispatch Levels
The companies included in the initial dispatch are always the same (1st alarm) and will then be upgraded by the initial Captain/Acting Captain based on the combination of the Wildland Fire Potential and the geographical location of the incident within PFA’s jurisdiction. Three general types of wildland areas are specified within PFA, including:

- Urban core - property east of Overland Trail and with fire hydrants
- Eastern plains - east of Overland Trail and outside the urban core (without fire hydrants)
- Western foothills - west of Overland Trail and west of Hwy 287, excluding the town of LaPorte.

### WILDLAND RESPONSE EXPECTATIONS

<table>
<thead>
<tr>
<th>Wildland Fuel Potential</th>
<th>Urban Core</th>
<th>Eastern Plains</th>
<th>Western Foothills</th>
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<td>1st Alarm</td>
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<td>Extreme</td>
<td>1st Alarm</td>
<td>2nd Alarm</td>
<td>2nd Alarm</td>
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First-due companies with both a brush and structural engine may take both units or only their brush unit to make up the 1st alarm response. They will respond emergent with a minimum of 3 personnel. Second alarm resources will respond emergent with a minimum of 3 personnel for Brush units. Those companies are to leave their engines in the station.

Tenders shall respond with one person, non-emergent unless upgraded by the incident commander. The Safety Officer and Battalion Chiefs will respond emergent. If dispatch (100) receives a report of structures threatened, the call may be upgraded to a first-alarm structure response by the initial incident commander, first responding Captain or acting Captain and/or the Battalion Chief.

When a wildland fire cannot be controlled or stabilized by the initial assignment, the Incident Commander (IC) should call for an upgraded alarm response. Wildland alarm responses are dispatched as shown in the following table.
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<td></td>
<td>1 Brush unit</td>
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<td>1 Tender</td>
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<td>1 Battalion Chief</td>
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<td>1 Safety Officer</td>
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<td>2 Battalion Chiefs</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Additional Systems Chief</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>LCES Supervisor Paged</td>
<td>Varies</td>
</tr>
<tr>
<td></td>
<td>Stations 9 and 11 paged to staff their Stations</td>
<td>Varies</td>
</tr>
<tr>
<td></td>
<td>Notification page to Wildland Command team (WCT) and Loveland, Wellington, Windsor</td>
<td>Varies</td>
</tr>
<tr>
<td>4th Alarm (Extended Attack)</td>
<td>All resources for 3rd Alarm</td>
<td>See above</td>
</tr>
<tr>
<td></td>
<td>Page the Command Team to respond</td>
<td>Varies</td>
</tr>
<tr>
<td></td>
<td>Page the Wildland Team to respond</td>
<td>Varies</td>
</tr>
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CRITICAL TASKS AND THE EFFECTIVE RESPONSE FORCE

As outlined above, wildland fire does not lend itself to the same risk level matrices presented in other areas of Poudre Fire Authority operations. To accommodate this, the following risk overview table is presented in an effort to begin to filter these response categories and to allow for a reliable study of response performance. This allows the various alarm levels and their correlating resource assignments to become quantifiable as presented here. To accommodate this, the highest number of resources in each category is used to determine the Effective Response Force levels.

It should be noted that the initial assignment described here is the minimum number of personnel required to accomplish the tasks in the initial phases of operations. In addition, the outlined resource assignments can vary depending on the actual needs of the incident. Many tasks require crew rotations and additional personnel, and therefore the incident commander will call for additional resources.

WILDLAND FIRE RISK OVERVIEW

<table>
<thead>
<tr>
<th>Fire Danger</th>
<th>Geographic/Fuel Hazard</th>
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<tr>
<td></td>
<td>Urban Core</td>
</tr>
<tr>
<td>Wildland Fuel Potential</td>
<td></td>
</tr>
<tr>
<td>Low or Moderate</td>
<td>Low Risk</td>
</tr>
<tr>
<td>High</td>
<td>Low Risk</td>
</tr>
<tr>
<td>Extreme</td>
<td>Low Risk</td>
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</table>
LOW-RISK WILDLAND FIRES

LOW-RISK WILDLAND FIRE RESOURCE OVERVIEW

<table>
<thead>
<tr>
<th>Number of Resources</th>
<th>Personnel per Resource</th>
<th>Total Number of Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Engine</td>
<td>3 minimum</td>
<td>3 minimum</td>
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</table>

Effective Response Force 3 minimum

LOW-RISK WILDLAND FIRE CRITICAL TASK ANALYSIS

<table>
<thead>
<tr>
<th>Critical Task Description</th>
<th>Task Assignment</th>
<th>Recommended Unit</th>
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<tbody>
<tr>
<td>Establish Incident Command</td>
<td>Captain</td>
<td></td>
</tr>
<tr>
<td>Scene Size-up</td>
<td>Driver Operator</td>
<td>1st due Engine</td>
</tr>
<tr>
<td>Develop Initial IAP/Safety</td>
<td>Firefighter</td>
<td></td>
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</table>

Fire Attack 3 Personnel 1 Unit

FIRST-DUE UNIT CAPABILITIES
CRITICAL TASKS AND RESPONSE PERFORMANCE BENCHMARKS

LOW/MODERATE-RISK WILDLAND FIRE

First-due Capability: The first-due unit at a low-risk fire shall be equipped with a basic complement of wildland tools and shall be equipped with the necessary PPE to engage in wildland operations.

First-due Task Analysis: The first due unit, staffed with a minimum of 2 firefighters and 1 officer, is tasked with establishing incident command, providing a scene size-up, developing an initial incident action plan that takes safety into account and attacking and extinguishing the fire with hose lines or hand tools.

First-due Response Performance Benchmark: It is Poudre Fire Authority’s goal for the first-due unit to arrive on-scene in 7 minutes and 45 seconds in the urban response zone, in 10 minutes and 20 seconds in the suburban response zone and in 14 minutes and 00 seconds in the rural response zone. This time
is defined as the total response time and is inclusive of call processing, turnout time and travel time and is established as 70% of baseline performance.

HIGH/EXTREME RISK WILDLAND FIRES

HIGH/EXTREME-RISK FIRE RESOURCE OVERVIEW

<table>
<thead>
<tr>
<th>Number of Resources</th>
<th>Personnel per Resource</th>
<th>Total Number of Personnel</th>
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</thead>
<tbody>
<tr>
<td>1 Engine</td>
<td>3 minimum</td>
<td>3 minimum</td>
</tr>
<tr>
<td>1 Brush Truck</td>
<td>3 minimum</td>
<td>3 minimum</td>
</tr>
<tr>
<td>1 Tender</td>
<td>1 minimum</td>
<td>1 minimum</td>
</tr>
<tr>
<td>1 Safety Officer</td>
<td>1 minimum</td>
<td>1 minimum</td>
</tr>
<tr>
<td>1 Battalion Chief</td>
<td>1 minimum</td>
<td>1 minimum</td>
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</tbody>
</table>

**Effective Response Force** | 9

HIGH/EXTREME-RISK FIRE CRITICAL TASK ANALYSIS

<table>
<thead>
<tr>
<th>Critical Task Description</th>
<th>Number of Personnel Needed</th>
<th>Recommended Unit</th>
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<tr>
<td>Establish Incident Command</td>
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<td>1st Engine/Brush and 1st Brush</td>
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<tr>
<td>Scene Size-up</td>
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<tr>
<td>Develop Initial Incident Action Plan/Safety</td>
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<td></td>
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<tr>
<td>Fire Attack, Structure Protection, or Command Only</td>
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<td>Mobile Water Supply</td>
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<td>Tender</td>
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<td>Assumption of Incident Command</td>
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<td>Ensure LCES</td>
<td>1</td>
<td>Safety Officer</td>
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<td><strong>8 Tasks</strong></td>
<td><strong>9</strong></td>
<td><strong>5 Units</strong></td>
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</table>
FIRST-DUE UNIT  
CAPABILITIES, CRITICAL TASKS AND RESPONSE PERFORMANCE BENCHMARKS  
HIGH/EXTREME-RISK WILDLAND FIRE

*First Due Capability:* The first due unit at a moderate-risk fire shall be trained and equipped to establish command, conduct a size-up, and develop an initial incident action plan that takes safety into account. The crew shall also be capable of conducting fire attack, structure protection, or assuming a command only posture as needs dictate.

*First Due Task Analysis:* The first due unit is staffed with a minimum of 2 firefighters and 1 officer. The officer is tasked with establishing incident command, providing a scene size-up, and developing an initial incident action plan taking safety into account. The crew should engage in fire attack or structure protection if doing so is likely to accomplish one of the incident priorities (life safety, incident stabilization, or property conversation). Otherwise the officer should consider using the crew in a command only posture.

*First Due Response Performance Benchmark:* It is Poudre Fire Authority’s goal for the first-due unit to arrive on-scene in **8 minutes and 25 seconds in the urban response zone, in 10 minutes and 55 seconds in the suburban response zone and in 15 minutes and 20 seconds in the rural response zone.** This time is defined as the total response time and is inclusive of call processing, turnout time and travel time to their initial position on-scene and is established as 70% of baseline performance. Difficult road access or the need to hike into remote fires may delay some operations.

EFFECTIVE RESPONSE FORCE  
CAPABILITIES, CRITICAL TASKS AND RESPONSE PERFORMANCE BENCHMARKS  
HIGH/EXTREME-RISK WILDLAND FIRE

*ERF Capabilities and Task Analysis:* In addition to the first-due unit capabilities and critical tasks, the effective response force, staffed with a minimum of 6 firefighters and officers, shall be capable of providing for an additional progressive hoselay to establish a flank, establishing divisions and groups as appropriate and providing for the safety of all responding personnel.

*ERF Response Performance Benchmark:* It is Poudre Fire Authority’s goal for the effective response force to arrive on-scene in **10 minutes and 20 seconds in the urban response zone, in 14 minutes and 20 seconds in the suburban response zone and in 16 minutes and 20 seconds in the rural response zone.** This time is defined as the total response time and is inclusive of call processing, turnout time and travel time.
WILDLAND FIRE STANDARDS OF COVER CALCULATIONS AND INCLUSION CRITERIA

LOW/MODERATE-RISK WILDLAND FIRE

Resources: 1 Engine

ERF: Minimum 3 Personnel

Inclusion Criteria: Emergent Responses Only
Engine Only

Dispatch Types: WILDFIRE, WILFIR

HIGH/EXTREME-RISK WILDLAND FIRE

Resources: 1 Engine/Brush Truck, 1 additional Brush truck, 1 Tender, 1 Safety Officer, and 1 Battalion Chief

ERF: Minimum 9 Personnel

Inclusion Criteria: Emergent Responses Only

Dispatch Types: WILDFIRE, WILFIR
## LOW/MODERATE-RISK WILDLAND FIRE BASELINE PERFORMANCE

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<td><strong>Alarm Handling</strong></td>
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<td>N/R n=9</td>
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Items reported as “N/R” indicate years in which less than 10 incidents occurred in a particular response zone and a reliable 90th percentile was unable to be calculated. In these cases, the number of incidents is reported.
### High/Extreme-Risk Wildland Fire Baseline Performance

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<tr>
<td><strong>Rural</strong></td>
<td>39:36</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
<td>N/R</td>
</tr>
<tr>
<td></td>
<td>n=14</td>
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<td>n=4</td>
<td>n=1</td>
<td>n=3</td>
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</tbody>
</table>

Items reported as “N/R” indicate years in which less than 10 incidents occurred in a particular response zone and a reliable 90th percentile was unable to be calculated. In these cases, the number of incidents is reported.
The Poudre Fire Authority serves a geographically diverse area spread over 235 square miles. Rapid growth in the urban and suburban portions of the service area continue to provide challenges to the Authority. Expected community growth is projected to continue at a rapid pace until at least 2030. Therefore, existing resources assigned to the 11 career and two volunteer stations continue to be challenged in the complexity and volume of incidents. The Poudre Fire Authority should take proactive steps to maintain quality services in response to this rapid growth. This includes exploring new and alternative station locations, innovative response models, as well as the addition of resources throughout the coverage area.

Response times over the last five years have been maintained for distribution resources, however, in the case of concentration response times, the agency has struggled.

Poudre Fire Authority is committed to making continuous improvements in its response system. One of the tools to work towards this is the SOC. Within that context, the following recommendations are made for strategic consideration by the agency:

**Begin the process of moving to the newest edition of the Community Risk Assessment: Standards of Cover (6th edition).** In 2016, the Center for Public Safety Excellence updated the guiding documents that PFA will use to re-affirm accredited status in 2020. The authority should begin the process of moving towards making the changes needed to assure it is in alignment with best practices.

**Re-evaluation of the Risk within the community.** A new approach should be assessed and planned to re-evaluate and confirm or upgrade the risk within the community. This should include members from each discipline described within the document (Structure Fire, EMS, Technical Rescue, Hazardous Materials and Wildland Fire) as well as from the Operations team (Ops Chief, line B/C’s).

**Evaluation and validation of ERF numbers on all moderate and high-risk incidents.** The authority should consider evaluating the number of personnel required in each of its disciplines to ensure that the resources being measured for response performance are commensurate with the risk and match the needs of the citizen.

**Continue with the development of alternative response models to respond to call volume increases.** There continues to be a rapid increase in low acuity call volume in the jurisdiction especially in stations 1, 4 and 5. Moving forward with cost effective solutions to this growth is paramount and the study completed on the RAM unit (Roving Alternative Medical unit) in early the first 6 months of 2017 is a possible viable solution.

**Expansion of Seasonal Resource Deployment at Station 9.** The service demand in the Station 9 response area is very seasonal and temporal in terms of time of year, day of week, and time of day. The Authority has been deploying a seasonal part-time employee response system since summer of 2015 with some success in increasing turnout ratios at the volunteer stations as well as impacting first-due travel times in non-structure fire suppression incidents. The agency should continue to study the efficacy of this deployment practice and expand the program as appropriate.
Integrate the SOC into daily operations. The Authority needs to take active steps in using the information created by this planning document on a daily basis. This will help the agency in making improvements in its response times. Examples of this include, company specific dashboarding tools, a call processing dashboard for the dispatch center, and the inclusion of time stamps in each After Action Review (AAR).

Enhance Technical Rescue resources and deployment model through decentralization. The authority has historically deployed its technical rescue technician level services as a part of its two support companies. The SOC indicates that the concentration of technical rescue risks is dispersed widely throughout the jurisdiction, somewhat similar to its wildland fire risk concentration. In addition, the Authority is challenged to place the ERF for technical rescue incidents on scene within benchmark times. Therefore, it is recommended that the Authority develop a more decentralized and discipline specific technical rescue deployment system that places the ERF on scene faster and maintains support company reliability.

Assess the need for a 3rd support company. The Authority has experienced increasing call volumes throughout the study period. In particular, the instance of both support companies being deployed on an incident while subsequent multi-company incidents are dispatched has increased. Therefore, the agency should consider the addition of a 3rd support company that can fill the need on suppression and technical rescue incidents.

Expand the community feedback process. The Authority conducted a social-media driven community feedback process during the assembly of its original SOC in 2015. While the survey received a fair number of responses given its scope, further efforts should be undertaken to expand the community feedback process during the assembly of the next strategic plan. This information should be included in a future SOC.

Identification of future response system related capital and operating needs. The rapid growth in the community should continue to drive planning efforts that are directed at forecasting future service demands. Responding to these demands could include the addition of personnel, apparatus, and stations. Such information should be incorporated in long-range financial planning efforts. It is recommended that the agency develop a process by which to incorporate the SOC as a planning tool in this regard.
Introduction and Overview

The Poudre Fire Authority is a fire-service organization located in northern Colorado which provides full-service fire protection, fire protection and emergency service to the City of Fort Collins (City), and the Poudre Valley Fire Protection District (PVFPD). The Authority serves a rapidly growing population and is currently undertaking several planning efforts that are intended to respond to this growth proactively. As such, the Authority is providing this document to both external and internal stakeholders to provide a consistent set of context and assumptions for these efforts.

Authority Overview

The Authority is an independent governmental entity established through an intergovernmental agreement between the City and the PVFPD pursuant to Section 29-1-203(4) of the Colorado Revised Statutes (C.R.S.). The agency operates as a separate and distinct entity from the City and PVFPD but is not considered a “district” subject to Article X, Section 20 of the Colorado Constitution.

The boundaries of the agency consist of the combined territorial boundaries of the City, which is in the central part of the agency’s 235 square mile service area, and the PVFPD, which forms a ring around the City. The Poudre Fire Authority employs 181 uniformed personnel. One hundred sixty-one of these personnel staff eleven fire stations, and operate eleven engine companies, and two truck companies. In addition, 31 volunteer firefighters provide emergency medical and wildland response at two additional stations. The agency supports these operations with a training center/warehouse/emergency management complex and a headquarters facility that includes the Administration and Community Safety

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Services divisions. These supporting divisions are staffed with 19 uniformed, 21 civilian full-time, and 16 civilian part-time personnel. In addition, five volunteer mail carriers contribute to the organization.

Poudre Fire Authority protects a population of approximately 195,000 residents living in Fort Collins, the Town of Timnath and the communities of Bellvue and LaPorte. The agency also protects the surrounding unincorporated areas of Larimer County. The agency protects an estimated $27.9 billion in property.

PFA was organized in 1981 with the consolidation of the City of Fort Collins Fire Department and the Poudre Valley Fire Protection District. The goal of the consolidation was to improve fire and rescue services by decreasing response times to emergencies and to eliminate duplication of services. The formation of PFA resulted in reducing the costs to both the citizens of Fort Collins and the Poudre Valley Fire Protection District. A five-person Board of Directors (BOD) composed of elected members from the PVFPD board and the City Council governs Poudre Fire Authority. Both the PVFPD board and the City Council respectively appoint two members to serve on the PFA BOD. The fifth member of the PFA Board of Directors is appointed by these four members and has historically been the Fort Collins City Manager. The PFA Board exercises the agency’s powers as outlined in the intergovernmental agreement, which includes appointing the Poudre Fire Authority’s fire chief, which is currently Chief Tom DeMint.

Demographic

PFA serves a diverse community in terms of age, race and socioeconomic factors. One challenge of obtaining these demographics is that the boundaries of PFA overlap the City of Fort Collins and Town of Timnath but do not cover all of Larimer County. Therefore, exact demographics cannot easily be obtained using standard methodologies. This report projects these demographics based on available sources, such as the US Census Bureau for the City of Fort Collins and Larimer County. In addition, the use of the presented demographics to predict the volume and type of emergency the Authority will be expected to respond to is still an evolving field of study. Therefore, this document presents only “macro-level” hypotheses that must be further tested for validity.

PFA serves an economically and socially diverse population. The City’s largest employer, Colorado State University, has a heavy influence on the region. Population growth and expansion of several key industries such as high-tech manufacturing and the beer brewing industry have had an impact on the real estate market in the area. Rapid building in outlying areas and an increase in real estate prices has been a common theme over the last few years. While Fort Collins is not impacted by poverty as much as other areas in the country, poverty rates have increased over the last few years, likely due to the growth in population.32

The primary demographics presented here are age and socioeconomic data obtained from public sources. These data points are provided based on the most recently available study information. The reason these were selected is that the literature considers these data points the most reliable predictors for emergency services demand.

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**Age Demographics**

Age is an important predictor for demand for emergency services. Mielczarek (2013)\(^{33}\) presented data that the very young and the very old tend to drive the highest demand for emergency medical services demands. In addition, according to the NFPA, older adults are at twice the risk of dying in a fire then the population at large.

*Table 1. Larimer County Age Demographics\(^{34}\)*

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Larimer County</th>
<th>Poudre Fire Authority (est)</th>
<th>% of the Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 5 years</td>
<td>17,381</td>
<td>10,920</td>
<td>5.58%</td>
</tr>
<tr>
<td>5 to 9 years</td>
<td>17,969</td>
<td>11,292</td>
<td>5.77%</td>
</tr>
<tr>
<td>10 to 14 years</td>
<td>18,682</td>
<td>11,742</td>
<td>6.00%</td>
</tr>
<tr>
<td>15 to 19 years</td>
<td>22,867</td>
<td>14,364</td>
<td>7.34%</td>
</tr>
<tr>
<td>20 to 24 years</td>
<td>33,200</td>
<td>20,861</td>
<td>10.66%</td>
</tr>
<tr>
<td>25 to 34 years</td>
<td>43,361</td>
<td>27,241</td>
<td>13.92%</td>
</tr>
<tr>
<td>35 to 44 years</td>
<td>37,383</td>
<td>23,483</td>
<td>12.00%</td>
</tr>
<tr>
<td>45 to 54 years</td>
<td>40,453</td>
<td>25,421</td>
<td>12.99%</td>
</tr>
<tr>
<td>55 to 64 years</td>
<td>39,904</td>
<td>25,068</td>
<td>12.81%</td>
</tr>
<tr>
<td>65 to 74 years</td>
<td>23,293</td>
<td>14,638</td>
<td>7.48%</td>
</tr>
<tr>
<td>75 to 84</td>
<td>11,838</td>
<td>7436</td>
<td>3.80%</td>
</tr>
<tr>
<td>85 years and over</td>
<td>5,104</td>
<td>3209</td>
<td>1.64%</td>
</tr>
</tbody>
</table>

Using these demographics, projections can be made that represent these age groups in PFA’s service area based on the 2015 population. These estimates are presented in Table 1. Several sources, including


\(^{34}\) US Census Bureau
the City of Fort Collins, are predicting an increase in the population of those aged 65 or older which will likely increase the demand for service in the delivery system.

**Socioeconomics**

The number of people living in poverty in Larimer County increased by 15.6 percent between 2007 and 2012. In addition, the number of people living in poverty in Larimer County has increased by 54 percent since 2000. This increase is higher than the national increase of 23 percent and the increase in Colorado of 42 percent. The 2000 Census showed 12.4 percent of the national population, 9.3 percent of Colorado’s population, and 9.2 percent of Larimer County’s population were living in poverty. However, the 2010 American Community Survey (ACS) published by the Census Bureau shows that 13.2 percent of Colorado and 14.2 percent of Larimer County residents were living in poverty.

The 2000 census showed that 7.3 percent of Larimer County residents under the age of 18 were living in poverty. ACS shows a steady climb in these numbers. The ACS report from 2009-2011 shows an increase of 13.5 percent in minors living in poverty in Larimer County.

This data can influence call volume increases and can therefore be used to predict that incident volume will increase in accordance with these growth patterns (Thomson, 2012).

**Population Growth**

Population increases in PFA’s response area have outpaced national and state averages. Growth rate in the jurisdiction has averaged around 2.35% over the last 5 years. The overall population was 195,694 in 2015.

---

Predicting future population growth can be difficult to perform reliably, particularly in long-range studies of relatively small population databases such as the PFA response area. However, three distinct models are provided here to allow the reader to obtain a general idea of these patterns and trends.

The first of these is the linear approach. This method used data from 2008-2015 and calculated a linear growth trend for this data. The predicted growth percentage utilizing this method is around 1.7% and predicts a total population of 256,147 by the 2030. This method is the most conservative of the three approaches.

The second model is the 5-year average approach, which utilizes the previously mentioned 2.35% growth average and factors this as annual increase. This model predicts the PFA will serve a population of 277,265 residents by the year 2030. This model is the most aggressive approach.

Finally, the combined average approach is the average of the result of the previous two methods. This approach results in a population increase of roughly 2% annually and results in a 2030 population of 266,706.

The following charts show this data over the next 15 years to provide some context of these growth predictions.
Utilizing the combined average, more granular data is now provided for this growth model. By 2020, the PFA will provide service to over 200,000 residents as early as 2018, which has been correlated to rapid increases in incident volume, often at rates higher than the population. This trend has been observed at PFA over the last few years as represented in the following chart.
PFA Combined Average Growth Model
2010-2030

Population (Combined Average)

Percentage Change in Incident Volume vs. Population

0.00%   1.00%   2.00%   3.00%   4.00%   5.00%   6.00%   7.00%   8.00%   9.00%

2011  2012  2013  2014  2015
0.93%  1.69%  2.46%  8.24%

Population  Incidents
Geographical Growth Concentrations

The locations for future growth within the PFA are of particular interest for this document. Overall growth has been to the south and west over the last few years, however, this trend is changing. An increase of “infill” projects where pockets of previously undeveloped or underdeveloped land is rebuilt has increased the population density in the center of town. In addition, growth expansion is predicted to be focused on the eastern portion of the jurisdictions over the next 10-15 years. Both in the southeast around Timnath and the northeast west of the Mountain Vista exit on I-25.

The following areas have been specifically identified as likely areas for significant population increases over the next 15 years:

- Mountain Vista Area. This portion of the Fort Collins GMA will feature a mix of single and multi-family dwellings, schools, open space and light industrial areas.
- Timnath. The Town of Timnath has seen rapid growth over the last five years and this trend is expected to continue. Some estimates show Timnath being home to over 5,000 residents by 2020.
- Infill. Infill is predicted to bring increases to the population density in the center of Fort Collins. This will be the biggest contributor to incident volume increases due to this.

PFA’s service area is geopolitically divided into three main entities. These are Fort Collins, Timnath and the Poudre Valley Fire Protection District. A representation of the residents living in these area is represented below.

<table>
<thead>
<tr>
<th>Service Area</th>
<th>Population</th>
<th>Percent of Jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Fort Collins</td>
<td>~150,000</td>
<td>76%</td>
</tr>
<tr>
<td>Timnath</td>
<td>~2,000</td>
<td>1%</td>
</tr>
<tr>
<td>PVFPD</td>
<td>~44,000</td>
<td>23%</td>
</tr>
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</table>

Growth Management Area

One of the largest impacts on the growth in PFA’s jurisdiction is the Growth Management Area (GMA) of the City of Fort Collins. The GMA is an area that the City of Fort Collins City Council expects to eventually annex into city limits. This common practice allows planners and citizens to manage growth. The GMA has not changed significantly over the last 10 years based on this policy.
### APPENDIX B - POUDRE FIRE AUTHORITY HIGH RISK OCCUPANCIES

<table>
<thead>
<tr>
<th>Street Address</th>
<th>Business Name</th>
<th>Occupancy</th>
<th>Risk Type</th>
<th>SP</th>
<th>Station</th>
<th>Maximum in Planning Zone Y/N</th>
<th>Risk Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>3300 Stanford Road</td>
<td>Oakbrook #2 Apartments</td>
<td>14054</td>
<td>HR</td>
<td>No</td>
<td>5</td>
<td>Yes</td>
<td>104</td>
</tr>
<tr>
<td>3200 Stanford Road</td>
<td>Oakbrook #1 Apartments</td>
<td>14053</td>
<td>HR</td>
<td>No</td>
<td>5</td>
<td>Yes</td>
<td>104</td>
</tr>
<tr>
<td>5701 E Harmony RD</td>
<td>Simplot</td>
<td>16407</td>
<td>HL</td>
<td>No</td>
<td>8</td>
<td>Yes</td>
<td>98</td>
</tr>
<tr>
<td>1024 S Lemay Avenue</td>
<td>Poudre Valley Hospital</td>
<td>12370</td>
<td>HR</td>
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<td>1</td>
<td></td>
<td>93</td>
</tr>
<tr>
<td>3212 N Overland Trail</td>
<td>Tapestry House Event Center</td>
<td>13410</td>
<td>HL</td>
<td>No</td>
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<td>3425 Windmill Drive</td>
<td>Hickory Hill Apartments</td>
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<td>121 Dartmouth Trail</td>
<td>Chalet Apartments</td>
<td>11264</td>
<td>HL</td>
<td>No</td>
<td>3</td>
<td>Yes</td>
<td>88</td>
</tr>
<tr>
<td>204 S College Avenue</td>
<td>Aggie Theater</td>
<td>10600</td>
<td>HL</td>
<td>No</td>
<td>1</td>
<td>Yes</td>
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</tr>
<tr>
<td>1220 N College</td>
<td>El Palomino Hotel</td>
<td>10496</td>
<td>HL</td>
<td>No</td>
<td>12</td>
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<td>86</td>
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<tr>
<td>508 W Trilby Road</td>
<td>Good Samaritan</td>
<td>14324</td>
<td>HR</td>
<td>Yes</td>
<td>14</td>
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<td>85</td>
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<tr>
<td>1025 Oxford lane</td>
<td>Village Garden Apartment</td>
<td>17478</td>
<td>HL</td>
<td>No</td>
<td>10</td>
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<td>84</td>
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<tr>
<td>201 W Laporte Avenue</td>
<td>Larimer County Courts</td>
<td>12271</td>
<td>HR</td>
<td>Yes</td>
<td>1</td>
<td></td>
<td>82</td>
</tr>
<tr>
<td>2209 W Elizabeth Street</td>
<td>Village on Elizabeth Apartments</td>
<td>11515</td>
<td>HL</td>
<td>No</td>
<td>2</td>
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</tr>
<tr>
<td>2217 W Elizabeth Street</td>
<td>Village on Elizabeth Apartments</td>
<td>14603</td>
<td>HL</td>
<td>No</td>
<td>2</td>
<td>Yes</td>
<td>81</td>
</tr>
<tr>
<td>415 S Howes Street</td>
<td>Park Lane Towers South</td>
<td>12084</td>
<td>HR</td>
<td>Yes</td>
<td>1</td>
<td></td>
<td>81</td>
</tr>
<tr>
<td>125 Dartmouth Trail</td>
<td>Chalet Apartments</td>
<td>11265</td>
<td>HL</td>
<td>No</td>
<td>3</td>
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<td>79</td>
</tr>
<tr>
<td>700 W Pitkin Trail</td>
<td>Newsom Hall</td>
<td>19994</td>
<td>HR</td>
<td>No</td>
<td>2</td>
<td></td>
<td>79</td>
</tr>
<tr>
<td>421 S Howes Street</td>
<td>Park Lane Towers South</td>
<td>12097</td>
<td>HR</td>
<td>Yes</td>
<td>1</td>
<td></td>
<td>79</td>
</tr>
<tr>
<td>951 S Plum Street</td>
<td>Moby Arena</td>
<td>19419</td>
<td>HR</td>
<td>Yes</td>
<td>2</td>
<td></td>
<td>74</td>
</tr>
<tr>
<td>430 N College Avenue</td>
<td>CSU Engines Lab</td>
<td>10464</td>
<td>HR</td>
<td>Yes</td>
<td>1</td>
<td></td>
<td>73</td>
</tr>
<tr>
<td>1301 Center Avenue</td>
<td>Chemistry Building</td>
<td>18679</td>
<td>HR</td>
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<td>3</td>
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</tr>
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<td>3836 E Mulberry Street</td>
<td>Plaza Hotel</td>
<td>13183</td>
<td>HL</td>
<td>Yes</td>
<td>6</td>
<td>Yes</td>
<td>69</td>
</tr>
<tr>
<td>3003 E Harmony Road</td>
<td>Harmony One</td>
<td>18429</td>
<td>HR</td>
<td>Yes</td>
<td>10</td>
<td></td>
<td>67</td>
</tr>
<tr>
<td>300 Remington Street</td>
<td>DMA Apartments</td>
<td>13646</td>
<td>HR</td>
<td>Yes</td>
<td>1</td>
<td></td>
<td>65</td>
</tr>
<tr>
<td>200 W Oak Street</td>
<td>Larimer County Courthouse</td>
<td>17397</td>
<td>HR</td>
<td>Yes</td>
<td>1</td>
<td></td>
<td>65</td>
</tr>
<tr>
<td>125 S Howes Street</td>
<td>Key Bank</td>
<td>12072</td>
<td>HR</td>
<td>Yes</td>
<td>1</td>
<td></td>
<td>62</td>
</tr>
<tr>
<td>410 W Pitkin</td>
<td>Behavior Sciences Building</td>
<td>19294</td>
<td>HR</td>
<td>Yes</td>
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<td>Address</td>
<td>Name and Location</td>
<td>Zip Code</td>
<td>HR</td>
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<td>Column Width</td>
<td></td>
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</tr>
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<td>-----------------------------------------------</td>
<td>----------</td>
<td>----</td>
<td>-----</td>
<td>--------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1721 Choice Center Drive</td>
<td>The Summit on College Building 1</td>
<td>8498</td>
<td>HR</td>
<td>Yes</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>224 Canyon Avenue</td>
<td>Cortina</td>
<td>10299</td>
<td>HR</td>
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<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>259 S College Avenue</td>
<td>Armstrong Hotel</td>
<td>10616</td>
<td>HR</td>
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<td></td>
</tr>
<tr>
<td>301 W Magnolia Street</td>
<td>Farmon’s</td>
<td>16968</td>
<td>HR</td>
<td>No</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120 W Stuart</td>
<td>The Summit on College Building 2</td>
<td>18497</td>
<td>HR</td>
<td>Yes</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1009 W Laurel Street</td>
<td>Westfall Hall</td>
<td>20083</td>
<td>HR</td>
<td>Yes</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1001 W Laurel Street</td>
<td>Durward Hall</td>
<td>20084</td>
<td>HR</td>
<td>Yes</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>425 W Prospect Road</td>
<td>Hilton</td>
<td>13535</td>
<td>HR</td>
<td>Yes</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>350 E Horsetooth Road</td>
<td>Marriott Hotel</td>
<td>12007</td>
<td>HR</td>
<td>Yes</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>211 Canyon Avenue</td>
<td>Rocky Mountain Bank Building</td>
<td>19164</td>
<td>HR</td>
<td>Yes</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>417 S Howes Street</td>
<td>Ruebel Accounting &amp; Tax</td>
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APPENDIX C - GLOSSARY OF TERMS AND ABBREVIATIONS

A

AAR – After-Action Review – Shift- and department-wide critiques of major incidents that occur within the PFA district and are used as a learning tool.

AC – Acting Captain – A firefighter who has received training to temporarily supervise a fire company when a promoted captain is unavailable.

ADA – Americans with Disabilities Act

Agency – Poudre Fire Authority. General term describing Poudre Fire Authority unless specifically referencing another entity within the context of a particular section.

AIR – Accident Incident Review – Accident reporting process to educate firefighters and prevent similar accidents.

Air Pak – See SCBA.

ALS – Advanced Life Support – Emergency medical care that allows for advanced procedures to be performed outside of the hospital setting.

Annual Performance Report – Accounting to citizens of PFA’s yearly performance; also referred to as the Annual Report.


ATF – Bureau of Alcohol, Tobacco, Firearms and Explosives

Authority – Poudre Fire Authority; also, a government or public agency created to perform a single function or a restricted group of related activities. An authority may be completely independent of other governments or partially dependent upon other governments for its creation, financing or the exercise of certain powers.

AV – Assessed Value

B

Battalion – The work group that is on duty for a 24-hour shift. PFA uses a three-battalion or three-shift system (A, B and C) whereby one shift is on duty and two are off duty. Each shift is supervised by two battalion chiefs, one in the northern half of the jurisdiction and one in the south; captains and firefighters are assigned to a shift, a station and a fire apparatus.

BC – Battalion Chief – A promotional position. Battalion chiefs direct, manage, supervise, evaluate, organize and provide technical staff assistance to the operations of the fire department. PFA has nine battalion chiefs. The six shift battalion chiefs command a shift of personnel in fire suppression and emergency medical and rescue operations. Three additional battalion chiefs are assigned to manage major program areas, including the Office of Emergency Management, Training and Health and Safety (or Support BC).

BLS – Basic Life Support – Emergency medical care that provides life support until definitive, advanced care can be delivered.

Brush Truck – See Brush Unit.
**Brush Unit** – A four-wheel-drive truck used to fight wildland fires, much smaller and more maneuverable than a fire engine. It carries water, a small pump and wildland-firefighting hose.

**Budget** – The plan of financial activity for a fiscal year indicating all revenues and expenditures for the specified period. Approved by the Board of Directors, the budget resolution is the legal basis for expenditures in the budget year.

**Bunker Gear** – A system of outer, protective clothing worn by structural firefighters. Depending on the context, it can refer to only the trousers, boots and jacket, or the entire combination of personal protective equipment and personal protective clothing. The terms are derived from the fact that the pants and boots traditionally were kept by the firefighter’s bunk at the fire station to be readily available for use.

**Bureau** – Fire Prevention Bureau (see CSSD).

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**C**

**CAD** – Computer-aided Dispatch

**Call-back** – Contacting off-duty personnel so they can respond to large-scale emergency incidents.

**Call Processing Time** – Amount of time from a 911 emergency call being received in the dispatch center, to a dispatcher sending an electronic signal notifying emergency crews of the incident. It is the first component of emergency response time.

**Captain** – A promotional position. Captains supervise a fire company and may command emergency incidents. They also may serve in staff positions in Training, Administration and the CSSD.

**Career Company** – A paid, full-time fire company. See Company.

**Career Firefighter** – A paid, full-time firefighter.

**Career Station** – PFA has 10 fire stations that are staffed 24 hours a day, 7 days a week, 365 days a year with paid, full-time firefighters.

**CART** – Customer Assistance Response Team – Program developed to offer customers more “value-added” service. Specially trained employees (incident representatives) respond to emergency scenes to provide services that assist homeowners or other customers directly affected by the incident. The incident representative can coordinate or arrange services with the American Red Cross, restoration companies, temporary shelter, transportation, animal control and veterinary care.

**CFAI** – Commission on Fire Accreditation International

**Chain of Command** – The chain of command is the formal line of authority, communication and responsibility within the organization.

**CPSE** – Center for Public Safety Excellence

**CPC** – Commission for Professional Credentialing. A branch of CPSE.

**Chief Officers** – Positions that include the fire chief, three division chiefs, six shift battalion chiefs and three staff battalion chiefs.

**City** – City of Fort Collins

**City Council** – Fort Collins City Council

**Civilian Personnel** – Non-uniformed personnel.
CMCB – Colorado Metropolitan Certification Board – Accreditation organization for fire service training. Members currently include Denver Fire Department, Colorado Springs Fire Department, Aurora Fire Department, West Metro Fire Protection District and PFA.

CO – Certificate of Occupancy – Document issued by a local government agency or department certifying a building’s compliance with applicable codes and other laws, and indicating it to be in a condition suitable for occupancy.

Command Team – Leadership Team comprised of all battalion chiefs and members of the Senior Leadership Team (SLT).

Commodities – Expendable items that are consumable or have a short life. Examples include fire tools and equipment, books and periodicals, office supplies, and radio parts and supplies.

CSSD - Community Safety and Service Division – Poudre Fire Authority division that oversees fire prevention, public information and education, fire investigations and the Office of Emergency Management (OEM).

Company – An organized team of firefighters that is the basic work group of any fire department, typically consisting of a captain, a driver/operator and a firefighter. A company is assigned to a single piece of firefighting apparatus, such as engine company, truck company or squad company, which dictates their primary roles on emergency scenes. PFA staffs 12 career companies per shift.

Confined-Space Rescue – Rescue or recovery of a victim from an area with limited or restricted means of entry or exit, and which is not designed or configured for continuous occupancy.

CO-TF1 – Colorado Task Force 1 – A Federal Emergency Management Agency urban search and rescue (USAR) team of trained firefighters, paramedics, engineers, search experts and commanders that provide USAR response to large-scale events such as disasters throughout the United States and internationally.

Coverage Positions – Firefighters assigned to replace other firefighters who are unavailable due to illness, vacation, off-site training or other reasons.

CPAT – Candidate Physical Ability Test – A timed, standardized physical ability test used for eligibility purposes during PFA’s firefighter hiring process.

CPR – Cardiopulmonary Resuscitation

CPT – Company Performance Task – Simulated tests of a fire company’s ability to adequately perform basic fireground operations.

Crew – See Company.

Cross-Staffing – Indicates a staffing concept where personnel at a station with multiple units deploy on a piece of equipment located at their station for a specific response category (i.e. wildland brush engines on a wildland call).

CSFS – Colorado State Forest Service

CSU – Colorado State University – An institute of higher learning based in Fort Collins.
D/O – Driver/Operator – A firefighter who has successfully completed the PFA training and testing program to drive and operate fire apparatus. This position is usually referred to as an “engineer” at some fire service agencies.

Defibrillator – A device that may assist EMTs in restoring a normal cardiac rhythm to a patient who has suffered a cardiac event.

Department – Poudre Fire Authority; also can refer to a fire department.

DERA – Designated Emergency Response Agency – A lead regional agency for emergency response and mitigation of hazardous materials incidents.

DHS – Department of Homeland Security

Dispatch – See FC 911

District – Poudre Valley Fire Protection District or PVFPD.

District Board – Poudre Valley Fire Protection District Board of Directors or PVFPD BOD.

Division Chief – The administrator over one of four divisions of the PFA: the Operations Division, the CSSD, Support or Administrative Services.

E

EAP – Employee Assistance Program – A confidential counseling program to assist employees with short-term legal, financial, marital or other issues.

EEO – Equal Employment Opportunity

Emergency Response – A response by public safety personnel to mitigate the impact of an incident on human life and property.

Emergency Response Time – Overall amount of time it takes for a citizen to call the 911 dispatch center and emergency personnel to arrive on-scene of an incident. Emergency response time consists of three components: dispatch time, turnout time and travel time.

EMS – Emergency Medical Services – Pre-hospital medical care of the sick and injured.

EMT – Emergency Medical Technician – Individuals trained and certified to practice pre-hospital care of the sick and injured.

Engine – Fire apparatus that carries water and hose.

Engine Company – The basic firefighting unit composed of personnel, a fire engine and related equipment that delivers emergency services.

EOC – Emergency Operations Center

F

Fast Track – Conference-style plan reviews to expedite the review process, attended by customers and fire prevention personnel.

FC – Fort Collins – A city located in northern Colorado, 56.61 square miles (2014), population 155,400 (2014) and the location of PFA’s headquarters.
FC 911 – Fort Collins 9-1-1 - The designated public safety answering point (PSAP) emergency communications and dispatch center used by the Poudre Fire Authority.

FEMA – Federal Emergency Management Agency

FIC – Fire Inspection Coordinator – A firefighter assigned to one of the truck companies that is selected to assume additional duties pertaining to code enforcement, fire inspections and initial fire investigation.

Fire Company – See Company.

Firefighter (FF) – An employee trained in fire suppression, rescue and emergency medical care. Firefighter can refer to a specific rank (firefighter and driver/operator) or be used in a general sense to refer to firefighting personnel that also includes captains and chief officers.

Firefighter Academy – See Recruit Academy.

Fireground – The area in and around a fire where operations occur.

First-due Area – A geographical area assigned to fire stations, which is closest to their facility and primarily where the particular units assigned to the station respond to emergency calls.

FPB – Fire Prevention Bureau – An area within PFA providing inspections, fire investigations, permitting and development review responsibilities. Works under the direction of the CSSD.

FR – Front Range – Eastern slope of the Rocky Mountains in Colorado, generally considered extending from Colorado Springs in the south to the Colorado-Wyoming state line to the north.

FRFC – Front Range Fire Consortium – Organization created as an association of fire departments in northern Colorado and southern Wyoming providing training and certification support among members. Members include Boulder Fire Department, Longmont Fire Department, Loveland Fire Rescue Authority, Poudre Fire Authority, Mountain View Fire District (rural Longmont), Greeley Fire Department, Windsor-Severance Fire Protection District and Cheyenne Fire and Rescue and Laramie Fire Department in southern Wyoming. Together, the member fire departments serve a population of approximately 592,000 with 635 career and 190 volunteer personnel.

FTE – Full-time employee or full-time equivalent.

Full Build-Out of the Community – A vision of PFA’s jurisdiction fully developed and populated. An organizational structure to meet the resource needs of this “full build-out” vision was created. This vision has driven the recommendations from the planning teams as to how we are to progress toward this goal.

Full-room Involvement – A stage of fire in structures that creates firestorm-like conditions, igniting all combustible materials in the room or area and leading to significant fire spread if not controlled and extinguished.

GIS – Geographic Information System – A technology system that captures, stores, analyzes, manages and presents data that are linked to location.
Hazmat or Hazardous Material – A chemical, biological, radiological or reactive substance or product that can be dangerous during use, transport or storage. All PFA firefighters are trained to Hazardous Materials Operations level or above.

Hazmat Incident – An emergency situation that requires specialized training and equipment to mitigate releases of hazardous materials.

HEaP – Hearing Enhancement and Protection program – An employee-based team researching methods to improve communications on the fireground through technology.

HMMMP – Hazardous Materials Management Plan

HR – Human Resources – Refers to the specific program within the Poudre Fire Authority or the City of Fort Collins that oversees functions related to human resource management and benefits administration.

IAFC – International Association of Fire Chiefs – A professional association that represents and supports chief officers, company officers and fire and emergency service managers within the international emergency response community.

IAFF – International Association of Fire Fighters – The firefighters’ trade union associated with the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO). PFA’s Local is 1945.

IC – Incident Commander – The individual who oversees resources, assignments and actions on a scene or event, typically an emergency incident.

ICC – International Code Council – A code-development organization created in 1994 to review and approve numerous professional safety codes.

ICMA – International City/County Management Association – The premier local government leadership and management organization.

ICS – Incident Command System – A procedural system developed to manage emergency and other large-scale incidents. ICS integrates personnel, procedures, facilities and equipment into a common organizational structure designed to provide standard emergency operations and reduce the potential for miscommunication.

IFC – International Fire Code – Code that contains provisions to regulate fire hazards in existing buildings, as well as provisions for the installation, testing and maintenance of fire protection features in both new and existing buildings.

IFSTA – International Fire Service Training Association – An organization established in 1934 to improve training, operations and safety in the fire service.

IGA – Intergovernmental Agreement – Any recognized agreement between two or more governments or levels of government, typically to upgrade services, consolidate resources and save money through economies of scale.

Incident Priorities – Life Safety, Incident Stabilization, Property Conservation

Incident stabilization – Achieved when actions performed by emergency personnel stop an incident from getting worse.

Infrastructure – Facilities on which the continuance and growth of a community depend.
**In-sourcing** – Use of employees to perform preventive maintenance and repairs on department equipment.

**International Fire Code Committee** – Committee that considers code changes presented by member organizations and private companies, to incorporate into International Code Council documents.

**ISM – Integrated System Management** – The Strategic Management System provides a sustainable methodology that aligns employees, committees and processes to achieve the mission and vision.

**ISO – Insurance Services Office** – A leading source of information about property/casualty insurance risk. ISO collects information on municipal fire-protection efforts in communities throughout the United States.

**J**

**Jurisdiction** - The 235 square-mile area served by PFA, composed of the City of Fort Collins and the PVFPD.

**K**

**King Tube** – An advanced airway used by PFA EMTs to assure a patent and effective airway during patient care.

**L**

**Ladder** – See Truck.

**LCES – Larimer County Emergency Services** – The division of the Larimer County Sheriff’s Office responsible for rescue and wildfire suppression in areas outside the jurisdiction of fire districts.

**LCSO** – Larimer County Sheriff’s Office

**LEED – Leadership in Energy and Environmental Design** – Rating standards developed by the US Green Building Council for environmentally sustainable design and construction of structures.

**Life Safety** – The first incident priority, which focuses on the safety of citizens and firefighters during emergency events.

**LNG** – Liquid Natural Gas

**LPG** – Liquid Propane Gas or Liquefied Petroleum Gas

**M**

**Master Stream** – A means to provide high-volume water flow, usually in excess of 500 gallons per minute and from a single nozzle.

**MCR – Medical Center of the Rockies** – Hospital located in Loveland and operated by University of Colorado Health that serves as the major Trauma Center in the region.

**MDT** – Mobile Data Terminal

**Metropolitan Fire Planners** – An international organization for fire department strategic planners.

**MHz** – Megahertz
MIS – Management Information System
MSEC – Mountain States Employers Council
Multi-Apparatus Companies – Fire companies responsible for multiple types of apparatus for response to different emergencies such as an engine company with water tender or brush unit.

NCRCN – Northern Colorado Regional Communication Network
NEMSIS – National Emergency Medical Service Information System
NFA – National Fire Academy – The national fire-service training school operated by the US Fire Administration and located in Emmitsburg, Maryland.
NFIRS – National Fire Incident Reporting System
NFPA – National Fire Protection Association – Organization established in 1896 to reduce fire, electrical and building hazards through codes and standards, research, training and education.
NIMS – National Incident Management System – A FEMA-based system to assist public and private responders in mitigating incidents, regardless of cause, size, location or complexity, with the intent of reducing loss of life and property and harm to the environment.
Non-Hydranted Area – Areas, typically rural, that are not serviced by water hydrants.
NWCG – National Wildfire Coordinating Group

O&M – Operations and Maintenance
OD – Operational Directive – The written standards by which PFA practices emergency operations, used to guide operations in safe and predictable ways and to compare actual operations with accepted practices.
OEM – Office of Emergency Management
Operations – The division in PFA responsible for firefighting and emergency medical services.
Operations Team (Ops Team) – Comprised of the division chief of the Operations Division, the six shift battalion chiefs, and the Training Division battalion chief.
Opticom – Traffic-control devices located on fire apparatus and urban traffic signals that enable apparatus to obtain a green light when responding to an emergency call.

Paramilitary – An organizational structure that assigns employees various ranks and associated authority. This system is particularly important during emergency operations, in order to maintain a chain of command.
PD – Police Department
PDCA – Plan, Do, Check, Act – A business process for continuous improvement whose development generally is attributed to W. Edwards Deming from the 1950s.

PDFO – Professional Development for Fire Officers

Per Capita – Per unit of population; per person.

PFA – Poudre Fire Authority – The fire department serving the communities of Fort Collins, Timnath, Bellvue and LaPorte, Colorado, and unincorporated areas in Larimer and Weld counties. PFA was created in 1981 with the consolidation of the City of Fort Collins Fire Department and the Poudre Valley Fire Protection District. Also referred to as the agency throughout the documents.

PFA BOD – PFA Board of Directors – The five-person governing board of PFA, made up of two City Council members from the City of Fort Collins and two members of the Poudre Valley Fire Protection District, plus a fifth member who has historically been the Fort Collins City Manager.

PFA IGA – PFA Intergovernmental Agreement – The intergovernmental agreement between the City of Fort Collins and the Poudre Valley Fire Protection District that formed the Poudre Fire Authority.

PFA Risk Profile – Guides decisions and actions during emergency response; “We may risk our lives a lot, in a highly calculated manner, to protect savable lives. We may risk our lives a little, in a highly calculated manner, to protect savable property. We will not risk our lives at all to save lives or property that are already lost.”

PFI – Plan for Improvement – Department system that allows any employee to submit ideas to redesign or innovate a process within the organization.

PFT – Peer Fitness Trainer – Individuals certified as fitness trainers through the Wellness Fitness Initiative.

PPA – Positive-Pressure Attack – A tactic utilizing fans to clear smoke and heat from inside a building in conjunction with a coordinated hoseline fire attack.

PPE – Personal Protective Equipment – The ensemble worn by firefighters during the performance of their firefighting duties, including specialized jackets, pants, helmets, gloves, self-contained-breathing-apparatus and other items to prevent injury from smoke, heat, trauma or communicable disease.

Profitability – Minimizing citizen taxes.

Property Conservation – The third Incident Priority, which relates to saving structures or other personal property from further damage during a fire or other emergency event.

PSD – Poudre School District – The public school district serving the Fort Collins area.

PST – Peer Support Team - Employees who have been trained under a mental health professional in stress management, critical incident stress, and crisis intervention techniques in order to provide personnel with resources and support for these experiences.

Public Outreach Committee – Employee committee that works on education of life and safety programs and issues in the community.

PVFPD – Poudre Valley Fire Protection District, a.k.a., the Fire District.

PVFPD BOD – Poudre Valley Fire Protection District Board of Directors.

PVH – Poudre Valley Hospital – The major hospital located in Fort Collins. Operated by University of Colorado Health.
### Q

QA – Quality Assurance  
QI – Quality Improvement

### R

**Recruit** – A newly hired firefighter attending the basic training academy.  
**Recruit Academy** – Training school for new-hire firefighters to learn the basic skills needed to perform the job of firefighter.  
**Rescue** – See Squad.  
**Revenue** – Sources of income for financing the operations of PFA.  
**RFP** – Request for Proposal  
**RIT** – Rapid Intervention Team – A company assigned to a fire or other hazardous situation as a back-up crew to be used in an emergency.  
**Ride-along** – A program that allows citizens to go on emergency calls with a fire.  
**RMS** – Records Management System  
**ROI** – Return on Investment – Drive up service quality and drive down costs.  
**Rotational Position** – Positions in the CSSD, Training and Administration staffed by uniformed personnel for 2- to 5-year periods. After serving a period of time, personnel are transferred back to their line position.

### S

**SAR** – Service Area Request - Request for information from a City Councilmember that must be completed within five business days.  
**SCBA** – Self-Contained Breathing Apparatus – An air pack worn by firefighters to provide breathable air in a dangerous atmosphere.  
**Shift** – One of three shifts that provide emergency response on a 24-hour basis.  
**Senior Leadership Team** – See Senior Staff.  
**Senior Staff** – A group composed of personnel holding the rank of division chief or higher, and select civilian positions.  
**Smartphone** – Mobile telephone offering advanced capabilities, often functioning more like a personal computer.  
**SME** – Subject Matter Expert  
**SMS** – Strategic Management System  
**Snozzle** – A trade name for a water-tower apparatus that combines telescopic and articulating technology, flows large volumes of water and is operated via remote control.  
**Squad** – Fire apparatus that carries specialized rescue equipment found on trucks, but without an aerial ladder and elevated master stream.
**Squad Company** – A fire company that performs the same support functions as a truck company, but whose apparatus does not have an aerial ladder or elevated water stream.

**Steering Committee** – A strategic planning committee composed of organizations with which PFA frequently interacts at a response level, planning level or administrative level.

**Strategic Plan** – PFA's 10-year plan (reviewed annually) outlining the organization’s vision for the future, including mission, vision, targeted outcomes, goals, objectives, program strategies and financial plan.

**Succession Planning** – A process for identifying and developing internal personnel with the potential to fill key or critical organizational positions. Succession planning ensures the availability of experienced and capable employees that are prepared to assume these roles as they become available.

**Support Staff** – Personnel who provide services to support direct delivery of emergency response and risk reduction efforts to citizens.

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**T**

**Technical Rescue** – Rescue from water, ice, rocks, building collapse and other perilous areas.

**Tower** – See Truck.

**Thermal Imaging** – Infrared devices that detect temperature variations, which allows firefighters to see objects in zero-visibility situations.

**Time Trade** – A firefighter voluntarily agrees to work on-duty for another firefighter.

**Training Academy** – See Recruit Academy.

**Training Division** – Group of firefighting personnel tasked with creating and delivering required and needed training to firefighters to maintain skills and certification hours; technically it is not one of the three PFA divisions, although it is colloquially referred to as a division.

**Travel Time** – Amount of time for an emergency crew to drive to the scene of an incident. It is the third component of the emergency response time.

**Truck** – Fire apparatus with 100-foot aerial ladder, ground ladders and specialized equipment for ventilation, extrication, and high- and low-angle rescue.

**Truck Company** – Firefighters trained to perform support functions to assist engine companies, such as search and rescue of victims, placement of ladders, ventilation, extrication and utility shutoff.

**Turnout Time** – Amount of time required for fire companies to assemble at the apparatus after receiving a signal from the 911-dispatch center, dress for the response, mount the apparatus securely (seatbelts) and depart on the apparatus. It is the second segment of the overall emergency-response time.

---

**U**

**Uniformed Personnel** – Fire department employees trained to serve in the role of firefighter, captain or chief officer. Also referred to as uniformed position.

**Unity of Command** – The principle that each responder is to be under the direct supervision of one supervisor. This protects the safety of the personnel operating at the incident and helps ensure their accountability.
UCH – University of Colorado Health – The primary hospital system in the region served by Poudre Fire Authority. Also provides ambulance services in the agency’s response area.

USAR – Urban Search and Rescue – National teams mobilized by the Federal Emergency Management Agency, trained and equipped to respond to large-scale emergencies. These teams are composed of members from local fire departments and other agencies.

USFS – United States Forest Service

Volunteer – An unpaid worker who provides services to PFA as a public service, to gain skills or as a personal interest. Examples are volunteer firefighters and volunteer mail carriers.

Volunteer Stations – PFA has three fire stations staffed with volunteer firefighters. PFA provides and maintains all firefighting equipment and apparatus at these three stations. PFA volunteers provide emergency medical and wildland fire suppression.

VTC – Video Teleconference

VPN – Virtual Private Network – Network that uses a public telecommunications infrastructure, such as the internet, to provide remote users with secure access to their organization’s network.

VMV – Values, Mission and Vision.

Water Tender – Firefighting apparatus designed to deliver water to a fire in non-hydranted areas. These units carry from 1,800 to 5,750 gallons of water and are capable of filling and dumping the water quickly so that a continuous water supply can be delivered for firefighting operations.

Wildland Firefighting – Fire operations in primarily undeveloped areas involving vegetation and potentially threatening structures. Wildland fires typically present challenges with emergency-vehicle access, terrain, vegetation, weather and water supply. All PFA firefighters are trained in wildland firefighting.

Wildland-Urban Interface – An area where development has occurred in what would normally be a wildland environment. Fire in these areas can quickly involve multiple structures, usually has limited water for firefighting and is difficult to access with structural firefighting apparatus.

WMD – Weapons of Mass Destruction – A weapon that can kill and/or cause significant harm on a large scale.

YFAP – Youth Fire Awareness Program