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2019

BOULDER FIRE-RESCUE FESSAM



**Commission on
Fire Accreditation
International**

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Category I: Governance and Administration

For purposes of this Category, Governance is defined as the recognition of the authority that allows an organization or agency to legally form and operate. In fulfilling this responsibility, the legal entity that oversees this formation process reflects the public interest, protects the agency from undesirable external interference, determines basic policies for providing services, and interprets the agency's activities to its constituency. Administration is defined as the activities that carry out the implementation of the policies established by the authority having jurisdiction. In fulfilling this responsibility, the agency or organization carries out the day-to-day operations.

The legal entity and governing authority define the duties and responsibilities of the agency in an official policy statement. An organization's charter or local or state/province general statutes likely contain an agency's official policy statement.

The chief executive or chief fire officer should provide staff leadership in developing policy proposals for the legal civil authority having jurisdiction, so those officials can take action to implement public policy based upon knowledgeable input from public safety leadership. Keeping an elected governing board and/or high-ranking individual informed on all matters affecting the agency and delivery of emergency services is the primary responsibility of agency leadership.

It must be recognized that other organizations participate in the governance of the agency, such as the state/provincial and federal governments through legislation, regulations, and funding procedures, and other organizations through associations and bargaining units. The governing board coordinates all of these diverse interests to set the direction of the agency.

The agency administration exercises responsibility for the quality of the agency through an organized system of planning, staffing, directing, coordinating, and evaluating. The agency administration is entrusted with the assets and is charged to uphold its mission and programs, to ensure compliance with laws and regulations, and to provide stability and continuity.

For many volunteer fire service organizations, the governing board is within the municipal or county government and is the executive/legislative body for municipal or county governance, some elected

directly by the public, such as special districts. In the absence of a municipally appointed fire chief or chief executive officer, for purposes of accreditation, the duly elected or appointed volunteer fire chief shall be the individual responsible for the criteria and performance indicators.

In many city or county municipal organizations a separation of powers exists that give the governing body legislative responsibility while giving administrative responsibility to a strong mayor or city manager. The chief fire officer/chief executive officer in such organizations generally reports directly to the mayor, manager, or designee. It is vital that the leadership of every agency understand who actually sets policy for the government structure they are working in and their role in implementing that policy.

Criterion 1A: Governing Body

The governing body and/or agency manager is legally established to provide general policies to guide the agency, approved programs and services, and appropriated financial resources.

Summary:

The town of Boulder was incorporated on November 3, 1871, and town trustees and constable were declared fire wardens by municipal code the same year. In 1875 the department was formally established with formation of a hook and ladder company. Boulder is a home-rule city council/city manager form of government, and the fire chief is appointed by the city manager. City council sets the priorities for the city. The city manager, as the city's chief executive, is expected to carry out council objectives through his/her appropriate departments. The fire department is managed by a fire chief, who reports directly to the city manager. Annual approval of the department's services and programs is provided through the budget acceptance process, which culminates in adoption by the city council in October every year. The department is authorized to provide all-hazards prevention and response activities by virtue of the adopted municipal code, and its actions are governed by the code, an adopted labor contract and policies and procedures of the city manager.

Performance Indicators:**CC 1A.1 The agency is legally established.****Description**

The State of Colorado authorizes municipalities such as Boulder to organize their fire protection services as well as to contract or employ emergency medical services. Under the authority of the city manager, the Boulder municipal code authorizes the fire chief and the fire department without limitation to suppress or extinguish fires, provide rescue and emergency medical services, manage hazardous materials incidents, conduct fire prevention activities and fire inspections as well as plan for and respond to public disasters and emergencies.

Appraisal

The department has been legally established by local ordinance since 1875. Its responsibilities have been expanded under the code since then to encompass all hazards mitigation activities not previously envisioned by Boulder's founding citizens.

Plan

The fire chief shall ensure that any additional services or service expansions contemplated through the annual budget process shall receive a legal review for authority to do so under existing code provisions. A review of this criterion shall be conducted by the fire chief's office by March 31 of each year.

References

[Early Boulder Series: No. 2 Fire Protection by Sanford Charles Gladden \(available on site\)](#)

[Boulder Municipal Code, Title 2, Chapter 5](#)

[C.R.S. 31-30-101](#) – Authority to Provide for Classified Departments

[C.R.S. 31-15-201](#) – Administrative Powers

CC 1A.2 The agency complies with legal requirements of local, state/provincial, and federal governments (i.e. inspection reports, regulatory references, meeting minutes, and legal opinions).

Description

As a home rule municipality, the city of Boulder has broad latitude to conduct its affairs including the provision of public safety. The fire department's primary governing documents are the city charter, the municipal code, the city manager's policies, and the collective bargaining agreement with Local 900 of the International Association of Fire Fighters. Through the city's Legal and Human Resources departments, the department complies with all applicable state and federal workforce and intergovernmental laws. Fire department facilities are compliant with applicable codes when constructed and/or remodeled. Where appropriate, the department uses best practices derived from sources such as the National Fire Protection Association, the International Association of Fire Chiefs, the International Association of Fire Fighters, and other industry sources, though none have been formally adopted per se.

Appraisal

The department has consistently complied with all applicable local, state and federal government requirements for its services. In the past three years, though there have been a few individual grievances filed by Local 900 for individual firefighters, all organizational grievances have been amicably settled either through a letter of agreement or policy adjustment.

Plan

The fire chief's office will continue to monitor legal developments at the federal, state, and local level through the city attorney's office. The grievance process will continue to be the formal process for resolving contractual interpretations, and the fire chief shall ensure that legal requirements for the organization are reviewed at least once annually by March 31 each year.

References

[City of Boulder and IAFF, Local #900 Collective Bargaining Agreement](#)

[City Policies, Procedures, and Guidelines \(internal link, available on-site\)](#)

[Boulder Municipal Code, Title 2, Chapter 5](#)

[C.R.S. 29-20-105.5](#)

Wildland Availability Grievance Response Email – Qualifications Issue (Calderazzo email 2017) on-site

1A.3 The agency has a methodology to monitor and track applicable local, state/provincial, and federal requirement changes.

Description

The department's primary approach to monitoring and tracking rules and policy changes that affect the delivery of services is through the city's policy advisor. The city's policy advisor routinely posts legislation and advocacy opportunities via email and during weekly staff agenda meetings held every Monday. Department directors including the fire chief are queried concerning proposed state legislation that impacts public safety and other priorities of the city.

The department also has an assigned attorney from the city attorney's office, who counsels the department on applicable state, federal, and local laws as well as policy updates. Moreover, each program manager for the department is expected to assess legal developments pertaining to their assignment during their formal program appraisal each year.

In addition to city-monitored legislative and policy changes, the department participates in the Colorado Fire Chiefs' Association and through Local 900 of the International Association of Firefighters and the Colorado Professional Firefighters Association, receives updates on state and federal legislative news.

Appraisal

Though the department has multiple avenues to stay abreast of law and policy changes, there has been no formal process for legal review other than those performed by program managers and the city's policy advisor. The city's policy advisor, however, has been diligent in soliciting input on any state-level policy changes around public safety in the last three years.

Plan

By January 2020, the fire chief's office shall ensure that the checklist for annual program appraisals includes an assessment of current applicable legal requirements.

References

[Sample email to fire chief from policy advisor on proposed legislation \(Mandating CO detectors legislation\)](#)

[Sample update email from the Colorado Fire Chiefs' Association](#)

[Program Appraisal Strategic Document](#)

1A.4 The governing body of the agency periodically reviews and approves services and programs.

Description

The department's approach to receiving approval for its services and programs is through the annual budget process and with the publication of its annual report in the first quarter of each year. In March/April of each year, the department submits its formal budget request, which includes funding for its services and programs along with performance targets. The initial budget request is reviewed by the Executive Budget Team (EBT), which is composed of members of the city manager's office, the Finance department, and two rotating director-level positions. Once the department's requests are approved around June/July by the EBT, the complete package of city services and programs are submitted to the city council for formal approval in September/October. Approval of the budget constitutes the approval of the department's services and programs for the following calendar year.

In addition to the above means, the department uses the city's study session process to inform the city council of any new initiatives and services it may undertake. The study session is designed to apprise the council and the community in an environment that encourages questions and exploration, but without the need for formal approval. Formal approval and community input are saved for the annual budget period.

Appraisal

The process for informing city council during study sessions and the budget hearings have helped publicize and prioritize the department's services and programs. However, there continues to be a lack of understanding in the community for the full range of services the department provides based on feedback given during the most recent master plan update. Moreover, the department has struggled in the last few years to publish an annual report because of workload.

Plan

The fire chief's office shall ensure that an annual memo (information packet) is formally submitted to city council during the first quarter of each year detailing the department's programs and services, performance for the prior calendar year and any gaps noted. The updated standards of the cover document with its listing of services shall be shared periodically with the city council during a study session as trends are identified; this shall be coordinated by the fire chief through the city clerk's office for scheduling. The next update with city council shall be undertaken in early 2020 as part of the master plan update process.

References

[August 28, 2018 Study Session Summary](#)

[2019 City of Boulder Approved Budget and city manager's message](#)

[2020 Fire Department Budget Request to EBT](#)

1A.5 The method used to select the agency's chief fire officer/chief executive officer includes evaluation of candidate qualifications and credentials.

Description

The chief officer is selected by evaluating the executive intent of the city leadership related to public safety as well as engaging a search firm to research relevant background information related to the knowledge, skills, and abilities that are contemporary at the time of the opening. These qualifications include post-secondary education in a related field as well as fire service specific executive leadership development.

Appraisal

The last fire chief was appointed in 2015 and the process was effective at identifying a qualified individual who is still the current incumbent. The qualifications identified during the process were effective at selecting a qualified candidate that has been successful in the position.

Plan

The department will continue to utilize the process outlined above to select the chief fire officer. As these processes occur in extended intervals, this process is usually not updated between hiring cycles.

References

[Fire Chief Job Description](#)

1A.6 The role and composition of various policy making, planning, and special purpose bodies are defined by the governing body in an organization chart.

Description

The City of Boulder has numerous special purpose advisory and policy-making bodies in addition to the city council itself. Those that primarily affect the fire department's operations are the Planning Board, the Open Space and Mountain Parks Board, the Transportation Advisory Board, and the Human Relations Commission. Any public policy established by the aforementioned boards may be called up by the city council and modified if so desired.

Appraisal

Though the city council and special commissions all may impact the fire department's operations, no organizational chart beyond the association of council through the city manager to the department has been created.

Plan

The fire chief's office shall develop an organizational chart that includes the relationship of all applicable boards and commissions to the department in addition to the current city organizational chart by December 2019 and include the same in the updated master plan. The chart shall include the board's potential areas of focus for department operations.

References

[Boards and Commissions web page](#)

[2019 City of Boulder Budget, p. 4](#)

1A.7 The governing body or designated authority approves the organizational structure that carries out the agency's mission.

Description

The organizational structure of the fire department is approved every October through the annual budget process. A department organizational chart is submitted with budget requests and the city publishes the approved budget with a citywide organizational chart included. A generalized organizational chart is included in the budget book for the fire department.

Appraisal

The department has submitted a revised organizational chart every budget cycle and has indicated where position additions and subtractions impact its structure. Positions have been added and approved by city council in the last three years in accordance with the department's adopted 2012 master plan and annual budget requests. However, it has not always been clear to the executive budget team which functions each administrative employee, or full-time equivalent (FTE), serves.

Plan

The fire chief's office will continue to produce the organizational chart with the annual budget request but will include which functions administrative FTEs serve during the 2021 budget cycle.

References

[2019 City of Boulder Budget document, p. 4, 99](#)

[2020 Fire Department Budget Request submission](#)

1A.8 The governing body has policies to preclude individual participation of governing board members and staff in actions involving possible conflict of interest.

Description

The City of Boulder has established strict rules for ethical behavior for both elected and appointed officials in the municipal code. All officials are required to provide written notice of any potential conflict of interest to the appropriate board, city council and/or the city manager as soon as reasonably possible. The city manager has also instituted guidelines for staff members around conflicts of interest. Conflicts of interest and outside employment requests must be approved by the department director, director of human resources and/or the city manager.

Appraisal

The department has been diligent in preventing conflicts of interest in the last three years. In 2016 and again in January of 2019, department members were asked to provide the administration with an updated outside employment request form. All requests were approved, and no personnel-related issues around conflicts of interest have arisen. However, the department does not have a consistent review process for outside employment applications in employees' personnel files to ensure they are current.

Plan

The fire chief's office shall review outside employment applications annually in January and check with the employees to ensure they are current. Additionally, each January, the fire chief's office shall put out a call with an advisory to encourage department members to update their outside employment requests for their personnel file.

References

[Boulder Municipal Code, Chapter 7, Code of Conduct](#)

[City of Boulder Conflict of Interest Policy \(effective date: 2/7/02\)](#)

[2016 Department Advisory re: Outside Employment Requests](#)

[2019 Department Advisory re: Outside Employment Requests](#)

1A.9 A communication process is in place between the governing body and the administrative structure of the agency.

Description

The fire chief's primary connection with the governing body is through the city manager's office. The city manager is the conduit for most communications with council each week at city council meetings as questions or concerns arise. There are weekly staff agenda-setting meetings (for city council), where all directors participate, and the city manager and fire chief meet monthly for department updates.

The city has also established a "hotline" where community questions are answered by directors and shared directly with the members of city council. Study sessions are also used periodically to update the city council on department activities and initiatives. Lastly, every January the city council holds an annual retreat where directors are asked to help them set the annual workplan.

The department publishes its strategic plan, annual report, and standards of cover for public consumption on the city website and when updated, the department schedules an opportunity for the city council to accept those documents formally.

Appraisal

The department has numerous ways to interact with the city council and the city manager and has not experienced any challenges in communications with the governing body. The fire chief has been asked multiple times to weigh in on community discussions either through the hotline, email or through scheduled study sessions on department-related issues.

Plan

The fire chief shall hold an annual workplan meeting with the deputy chiefs in early January to ensure that fire department initiatives and projects for the year are considered during the city council retreat and plotted on any staff-generated workplan for the city as a whole. This formal process shall begin in 2020 prior to the city council annual retreat.

References

[August 28, 2018 Study Session Summary](#)

[Boulder Council Hotline web page](#)

[Sample staff agenda meeting agenda](#)

Sample monthly fire chief/city manager appointment

[2019 sample fire department email response to a community question \(Station 4 and CU South\)](#)

[Standard of Cover on Website](#)

1A.10 The governing body publishes a mission statement.

Description

The fire department publishes its mission statement in its master plan document. The city publishes its vision and values on its website and follows the tenets of the Boulder Valley Comprehensive Plan (BVCP).

Appraisal

The city has not established its own strategic plan separate from the BVCP, which is updated in collaboration with the county but has created a vision and values statement that attempts to describe the city's core values and strategic focus. Each department of the city creates its individual master plan coordinated through with the city manager's office, and all master plans include a mission statement for the respective department.

Plan

The fire department's master planning team will use the 2019 update of the master plan to evaluate its current mission statement and revise as appropriate.

References

[2012 Fire Department Master Plan, p. 9](#)

[Boulder Valley Comprehensive Plan, p. 11](#)

2019 Fire Department Master Plan update draft (on-site)

Criterion 1B: Agency Administration

The organizational structure aligns with or supports the agency's mission, purposes, goals, strategies, and objectives.

Summary:

The department is organized around two main lines of business or divisions based on whether the customer is internal or external. Seventy percent of the department's resources is expended in response, and the balance is allocated to support and prevention activities. Much of the department's work has historically involved attention to improving response and response times. However, its most recent strategic goals have shifted focus somewhat to prevention-related activities; thus, resources have been added in that area.

Performance Indicators:

CC 1B.1 The administrative structure reflects the agency's mission, goals, objectives, size, and complexity.

Description

The department is organized under two main lines of business: administrative support and operations. Each line of business is managed by a deputy chief, who in turn, supervises program managers for each of the department's main programs. Programs include Training, Wildland, Hazardous Materials, Water Rescue, Community Risk Reduction, and Safety, among others. Managers for programs may either be a company officer or chief officer depending on the program in question.

Appraisal

The department's structure has been evaluated every year during the annual program and budget evaluation process. Where appropriate, recommendations have been made to add staff where specific management and expertise were needed. In the last three years, a safety officer, fiscal administrative officer, medical director and data analyst/project manager were added to address challenges in those respective areas. A station captain program has been instituted to allow for managerial budgeting and decision-making for stations at that level rather than wait for coordinated assistance from the administration.

Plan

The fire chief and planning team shall use the 2019 master plan update process to identify staffing needs related to master plan goals. The fire chief shall make 2021 staffing recommendations for consideration by the city's EBT by April of 2020.

References

[Department organizational chart](#)

[ERP Advisors Technology Assessment](#)

2019 Master Plan update (draft available on site)

1B.2 Financial, equipment, and personnel resource allocation reflects the agency's mission, goals, and objectives.

Description

The bulk of the department's resources (70 percent) is attached to its emergency response activities. Seven stations and nine companies (including the battalion chief) provide all-hazards response throughout the city's 25 square miles of service area. An eight-member wildland team provides overhead and mitigation services for the city's 70 square miles of open space from Fire Station 8 which is co-located on fire training center property. The remaining 30 percent of the department's resources is attached to its prevention-related activities and support services including training.

Appraisal

Though the department has added a public educator in the last three years, its ability to conduct comprehensive community risk reduction efforts is somewhat limited with just two full-time educators. Additionally, with a possible push to an advanced life support (ALS) response model with all-hazards firefighters, the department has identified a need for overhead and support positions for EMS governance and financial services. Through its 2019 master plan process, the department's planning team has identified specific support and response positions necessary to implement the plan's 3 to 5-year goals.

Plan

Identified positions critical for carrying out master plan goals and objectives shall be requested as appropriate through each annual budget process. Moreover, the community risk reduction team has identified key community outcomes in 2020 that it is striving for in the master plan update and will use that information to develop full-time equivalent (FTE) requests for years 2021-2023.

References

[2019 City of Boulder Budget, p. 103](#)

[Fire department standards of cover deployment information](#)

[Fire department organizational chart with FTEs](#)

2018 Fire Department Master Plan update draft (on-site)

1B.3 Personnel functions, roles, and responsibilities are defined in writing and a current organization chart exists that includes the agency's relationship to the governing body.

Description

Each of the department's positions has an associated job description, and the department has a current organizational chart that details personnel assignments and lines of authority. The city organizational chart published annually in the budget document defines the department's relationship to other departments and the city's lines of authority. Administrative specialists within the department are assigned to different programs to support each program's clerical and organizational needs. Additionally, the department has a long-standing agreement with the open space and mountain parks (OSMP) department to provide wildland fire support to OSMP land outside the incorporated city limits.

Appraisal

Though the department has job descriptions for every position and a labor contract that lists all response-related positions, it has been many years since current roles have been evaluated in conjunction with the job description. There have been concerns that roles and responsibilities, particularly among administrative specialists and wildland team members, no longer match the associated job description and their assigned support duties within each program. Moreover, though the wildland team has grown from a single support person for OSMP, it has grown to eight professional wildland firefighters

Plan

The fire chief's office shall review with Human Resources and the Open Space and Mountain Parks (OSMP) Department the roles and responsibilities of the administrative specialists and the wildland specialists by the end of 2019 to ensure that their assignments and job descriptions match with department administrative needs and OSMP expectations.

References

[Fire department organizational chart with FTEs](#)

[City Organizational Chart \(from budget book, p. 4\)](#)

Category II: Assessment and Planning

Assessment and planning are defined as the processes used to identify the community's fire protection and other emergency service needs to identify potential goals and objectives. All agencies should have a basic source of data and information to logically and rationally define the organization's mission.

Assessment and planning is critical to the establishment of service level objectives, standards of cover, and ultimately, the quality of program outcomes.

The overall purpose of using these processes is to establish a long-range general strategy for the operation of the system.

Criterion 2A: Documentation of Area Characteristics

The agency collects and analyzes data specific to the distinct characteristics of its legally defined service area(s) and applies the findings to organizational services and services development.

Summary:

The City of Boulder is located northwest of Denver, Colorado at the base of the foothills of the Rocky Mountains. Boulder Fire Rescue (BFR) protects more than 21 billion dollars' worth of property within the city limits, which encompasses 27 square miles of land and is surrounded by 71 square miles of city Open Space and Mountain Parks. BFR is a full-service fire department, responding to more than 11,000 incidents annually. These incidents are comprised of structure and wildland fires, medical emergencies, rescue situations, hazardous material releases and natural disasters. BFR also provides fire-safety education to the public, from children and youth (preschool through college age) to seniors and works with local businesses and organizations by inspecting buildings and reviewing construction plans for fire prevention code compliance.

Historical information pertaining to fire department operations, i.e. call type, fire loss, injury and life loss, property loss, etc. is currently captured in Firehouse Records Management System (FHRMS). The information is then reported on in a variety of ways including web-based dashboards and automated reports.

The City's fire risks are defined by pre-set criteria and documented in the department's Community Risk Assessment/Standard of Cover (CRA/SOC). To conduct this risk assessment, The department divided the city into five (5) planning zones. These 5 zones were determined by city limits and major arterial roads within the city (table below). Each of the 5 zones was further divided into subzones to gather a manageable set of data beneficial to determine risk in each zone.

Performance Indicators:

2A.1 Service area boundaries for the agency are identified, documented, and legally adopted by the authority having jurisdiction.

Description

Boulder Fire Rescue (BFR) protects property within the city limits, which encompasses 27 square miles of land and is surrounded by 71 square miles of City Open Space and Mountain Parks that fall under County jurisdiction for fire protection. The department's service area boundaries are identified using geospatial information systems (GIS) and are documented on the city's open data portal. The service area boundaries are also reflected in the CRA/SOC and MySidewalk dashboard.

The city boundary is approved by the council through annexations of land. The "service area" is a growth management concept in the Boulder Valley Comprehensive Plan. That concept splits the Boulder Valley into three areas, Area I: land annexed by the city and generally receives a full range of urban services; Area II: land adjacent to the city that is eligible for annexation; Area III: land that is not eligible for annexation and that the city and county wish to remain as a rural character.

Combined, areas I and II are considered city services area. The planning department's master plan considers these areas because eventually the city will annex them. The most unique characteristic within the service area is the blue line. In 1959 a charter amendment was passed, establishing a "blue line" above which restricted city water service to altitudes below 5,750 feet to protect the mountain backdrop from development.

When service area boundaries are amended, the fire chief is notified and invited to provide comment if necessary.

Appraisal

BFR jurisdictional boundaries have been easily identified on maps and in the 911 computer-aided dispatch systems. Maps that include street, local highway network, jurisdictional boundaries, and other geospatial data have been available to all units via mobile data terminals.

Plan

BFR will continue to provide service within the predefined boundaries, maintain and update the GIS data and map layer. The department will continue to work with other agencies and amend agreements as necessary to provide the best coverage possible.

References

[History of Boulder – Blue Line](#)

[Boulder City Limits GIS Map](#)

[Interactive City of Boulder Map \(with annexation history and blue line\)](#)

[Open Data Portal - GIS Response Area](#)

CRA/SOC Section I: Jurisdiction Profile Pg.11

[Growth Management Concept Map](#)

[MySidewalk Dashboard](#)

2A.2 Boundaries for other service responsibility areas, such as automatic aid, mutual aid, and contract areas, are identified, documented, and appropriately approved by the authority having jurisdiction.

Description

Other service area responsibility areas are identified, documented, and appropriately approved by the authority having jurisdiction. BFR has automatic/mutual aid agreements with all surrounding jurisdictions and with the ambulance provider American Medical Response (AMR). Ambulance zones are defined by a contractual agreement with the city. Boundaries are displayed using geospatial information systems (GIS). The department does not have any contract areas to which it responds.

BFR shares several geographical boundaries with neighboring emergency service agencies. This includes Boulder Rural Fire Department, Rocky Mountain Fire Department, and Four Mile Fire Department. The service area boundaries are also reflected in the CRA/SOC.

Appraisal

BFR jurisdictional boundaries have been identified on maps and in the 911 computer-aided dispatch systems. Maps that include street, local highway network, jurisdictional boundaries, and other geospatial data have been available to all units via mobile data terminals. The methods for identifying and documenting service responsibility areas have functioned adequately.

Plan

The department will continue to maintain GIS data related service area boundaries and will update the map layers as required.

References

CRA/SOC Section I: Jurisdiction Profile pg. 14

CC 2A.3 The agency has a documented and adopted methodology for organizing the response area(s) into geographical planning zones.

Description

In 2016, BFR drafted a new methodology for organizing the response area(s) into geographic planning zones. The process was completed by using a building risk assessment form to assess risk for each occupancy within the city. The buildings were then categorized in one of four categories: special, high, moderate, and low risk.

Occupancies were grouped based on risk and type and assigned one of five main planning zones. These five zones were determined by city limits and major arterial roads within the city. Each of the 5 zones was further divided into subzones to gather a manageable set of data beneficial to determine risk in each zone. A description of the process and details about each area is documented in the CRA/SOC Section II: Documentation of Area Characteristics.

Appraisal

The CRA/SOC represents BFR's first iteration of the planning zone methodology. This approach has been adequate to establish a methodology of assessing risk in the community and commensurate response and mitigation efforts.

Plan

The department will continue to utilize the planning zones in place and update the CRA/SOC Section III: Documentation of Area Characteristics, annually in March of each year. As part of this effort, the effectiveness of the planning zones to categorize risk will be evaluated.

References

CRA/SOC Section II: Documentation of Area Characteristics pg. 21

Planning Zone Map CRA/SOC pg. 38

[Building Rating Score Sheet](#)

[BFR Risk Assessment Map](#)

CC 2A.4 The agency assesses the community by planning zone and considers the population density within planning zones and population areas, as applicable, for the purpose of developing total response time standards.

Description

To assess fire risk within the city, the Department divided the city into five planning zones. These five zones were determined by city limits and major arterial roads within the city. Each of the 5 zones was further divided into subzones to gather a manageable set of data to determine risk in each zone. A description of the process and details about each area is documented in the CRA/SOC Section II: Documentation of Area Characteristics. The city of Boulder's population density is considered urban; there is one response time standard as outlined in the CRA/SOC. Population density has been assessed by each planning zone using Census estimates. The information is then displayed on a map using ArcMap GIS Software. The map is published in the CRA/SOC.

Information on the population density of the city can also be found on the MySidewalk Dashboard.

Appraisal

The City of Boulder population density is in line with the definition established by the Boulder Valley Comprehensive Plan (BVCP) and US Census. The MySidewalk dashboard has been an essential planning tool for BFR. Analysis has shown that some of the department's performance matches the expectation in each zone, while some have not. Counterintuitive results in certain zones (A04, A05) have led to questions about the validity of the data.

Plan

The project manager of data and analytics will analyze the data in the questionable zones. The department will continue to utilize the planning zones in place and update the CRA/SOC Section III: Documentation of Area Characteristics, annually in March of each year. BFR will monitor the population in the city using the MySidewalk dashboard to ensure response time standards are in-line.

References

2018 Boulder Community Profile

[MySidewalk – Community Profile](#)

[Boulder Valley Comprehensive Plan](#)

Population Density by Planning Zone CRA/SOC pg. 144

Population Density by Subzone CRA/SOC pg.145

2A.5 Data that includes property, life, injury, environmental, and other associated losses, as well as the human and physical assets preserved and or saved, are recorded for a minimum of three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.

Description

BFR records, stores, archives, and recalls information pertaining to property loss, life, injury, environmental, human and physical assets preserved or saved and other associated losses. In 2004 the department began using Firehouse Records Management System (RMS) the RMS is compliant with the National Fire Incident Reporting System 5.0 (NFIRS 5.0).

In the beginning of 2019, a consultant was hired to validate the department's technology needs. A report of their findings has been completed. BFR is pursuing a new RMS to better meet the needs of the department.

In 2018, BFR staff meet with American Association of Insurance Services (AAIS) to discuss a future partnership. The partnership would involve data sharing between agencies with the hopes of utilizing technology to obtain accurate fire loss data.

Appraisal

While Firehouse meets all requirements of NFIRS 5.0 and has met the needs of the department in the past; it no longer meets those needs. The department will begin the process for acquiring a new records management system in late 2019.

Loss data has not been uniformly established and therefore has variability that is related to the report writers' approach in determining the value and associated loss. A change to this process is needed.

Plan

BFR will evaluate additional means of data collection to include tax assessor data to more accurately determine property values and losses associated with incidents. In addition, the department will continue to work with AAIS to develop a tool for calculating loss through insurance claims. This will allow BFR to integrate tax assessor data into fire loss statistics. Procedures and methods will be documented, by the project manager of data and analytics in the Data Plan.

References

[CRA/SOC IV: Current Deployment and Performance pg 89](#)

[ERP Technology Needs Assessment](#)

Boulder Fire-Rescue

Fire and Emergency Services Self-Assessment Manual (FESSAM)

Tax Assessor Data Download (on-site)

[Data plan \(DRAFT\)](#)

AAIS Draft Survey 123 (on-site)

2A.6 The agency utilizes its adopted planning zone methodology to identify response area characteristics such as population, transportation systems, area land use, topography, geography, geology, physiography, climate, hazards and risks, and service provision capability demands.

Description

BFR identifies population, transportation systems, area land use, topography, geography, geology, physiography, climate, hazards and risks, and service provision capability demands in the CRA/SOC. Population density is analyzed by planning zone and census block. The MySidewalk dashboard is used to display population density by planning zone and census block in an easily digestible format.

Population demographics are derived from the U.S. Census Bureau and the American Community Survey. This data is referenced to ensure the deployment of appropriate equipment based on demand.

Response time predictions are calculated using the ArcGIS Network Analyst. Wildland urban interface planning is shown on the Wildland Urban Interface maps.

Appraisal

The department has identified and documented the features of the area served within the CRA/SOC. The planning zones have not yet been fully evaluated over time for response area characteristic changes due to the establishment of this process in 2019.

Plan

The data and analytics project manager will continue to identify tools, data sources, analyze and report on response area characteristics as well as establishing a methodology for doing so. Procedures and methods will continue to be documented in the data plan. The CRA/SOC will be updated annually, at which time the response area characteristics will be reviewed.

References

[Data plan \(DRAFT\)](#)

[MySidewalk Community Profile](#)

[2018 Boulder Community Profile](#)

CRA/SOC Section II: Description of Area Characteristics pg 21

2A.7 Significant socio-economic and demographic characteristics for the response area are identified, such as key employment types and centers, assessed values, blighted areas, and population earning characteristics.

Description

BFR identifies socio-economic and demographic characteristics for each response area in the CRA/SOC by planning zone and on the MySidewalk Dashboard. Within the dashboard is the “Community Profile” page, where information related to population, vulnerable populations, housing density, age and vacancy as well as overcrowding. Within the data is a review of total population, trends related to the geographic distribution of the population and subcategories like age, generation and race/ethnicity. Information regarding vulnerable populations is available. Vulnerable populations are those who have a lesser ability to prepare and recover from disaster. They include populations under the age of 5 and over 65, populations living with a disability, populations with low educational attainment, populations that are economically disadvantaged, and populations that experience language isolation. Population earning characteristics are outlined in the Boulder Community Profile, a supplement to the budget planning process, which is updated annually.

Appraisal

The department has identified socio-economic and demographic characteristics for the response area. BFR has found that the MySidewalk Dashboard and CRA/SOC to be a useful tool for analyzing the characteristics of each response area. The dashboard is updated monthly and provides easily digested response area information.

Plan

The data and analytics project manager will continue to update MySidewalk monthly and the CRA/SOC annually.

References

[MySidewalk Community Profile](#)

CRA/SOC Section II: Documentation of Area Characteristics pg. 21

2A.8 The agency identifies and documents all safety and remediation programs, such as fire prevention, public education, injury prevention, public health, and other similar programs, currently active within the response area.

Description

Safety and remediation programs are documented and administered by the Community Risk Reduction Division by public life safety educators. Programs are provided to businesses, educational facilities, homeless shelters and residential stakeholders. The programs and documents are appraised in Category 5B of the Fire and Emergency Services Self-Assessment Manual (FESSAM). Operations delivered outreach is documented on the fire activity calendar, and in Firehouse under the Inspections Module. The Wildland Division also conducts public outreach, an in-depth description of the program can be found in Category 5K.

Appraisal

BFR has not created a formal process for identifying and tracking field delivered programs. Individual events or divisions have tracked their efforts but have not organized or reported back to a central point. BFR should create a process to identify and track safety and remediation programs. Regularly reporting on these programs to stakeholders will help better identify organizational efforts and community needs.

Plan

Many of the field-delivered outreach is recorded using the BFR Activity Calendar, and therefore can be exported into a PowerBI Dashboard. In Q1 2020, the data and analytics project manager will compile this information and work with the public safety educators to identify additional programs that are not captured in the Activity Calendar. This will inform the final process for identifying and tracking all field-delivered programs.

References

Activity Calendar (on-site)

RMS Inspection Module (on-site)

2A.9 The agency identifies critical infrastructure within the planning zones.

Description

Critical infrastructure is identified within the planning zones. There are a multiple publications and exercises that have been done to identify critical infrastructure within city limits. The City of Boulder has identified and documented critical infrastructure in the City of Boulder Multi-Hazard Mitigation Plan.

The Boulder City/County Office of Emergency Management (OEM) has identified and documented critical infrastructure within the county in the 2014-2019 Hazard Mitigation Plan. This information was compiled in the Community Risk Assessment/Standard of Cover.

ppraisal

Critical infrastructure has been identified, and the information has been easy to access. However, the planning zones have not been fully integrated into the specific locations of these facilities and features.

Plan

BFR will continue to utilize the information available and make recommendations when the need arises for change. In addition, the project manager for data and analytics will oversee an effort to incorporate OEM data into planning zones for cross-reference and assessment by the end of 2020.

References

[City of Boulder Resilience Strategy](#)

[City of Boulder Multi-Hazard Mitigation Plan](#)

[Innovation and Technology](#)

[Snow and Ice control](#)

[Flood Recovery](#)

Criterion 2B: All-Hazard Risk Assessment and Response Strategies

The agency identifies and assesses the nature and magnitude of all hazards and risks within its jurisdiction. Risk categorization and deployment impact considers such factors as cultural, economic, historical, and environmental values, and operational characteristics.

Summary:

Boulder Fire-Rescue identifies and assesses the nature and magnitude of all hazards and risks within its jurisdiction. Risk categorization and deployment impact consider such factors as cultural, economic, historical, and environmental values and operational characteristics. The methodology for assessing the risks within the jurisdiction is outlined in the Community Risk Assessment/Standard of Cover (CRA/SOC).

Several documents are used to inform this process. Structural fire risk has been identified using a risk assessment score sheet. The wildfire risk within the City and County of Boulder is evaluated in the Community Wildfire Protection Plan (CWPP).

The City of Boulder has also developed a Multi-Hazard Mitigation Plan to help make the city and its residents less vulnerable to future natural hazard events. The purpose of hazard mitigation is to reduce or eliminate long-term risks to people and property from natural hazards. In addition to the city gathering information, Boulder County OEM publishes a 5-year Hazard Mitigation Plan as well.

Performance Indicators:

CC 2B.1 The agency has a documented and adopted methodology for identifying, assessing, categorizing, and classifying risks throughout the community or area of responsibility.

Description

The department documents the methodology for managing all risks in the CRA/SOC. The CRA/SOC identifies the hazards within jurisdictional boundaries and their associated threat levels. These hazards include weather, fire, medical, rescue, hazmat and non-emergent risks. The document outlines the consequences and impacts of the various hazards and their relationship to services provided by the department. Several documents are used to inform this process. Structural fire risk has been identified through the use of a risk assessment score sheet. The wildfire risk within the City and County of Boulder is evaluated in the Community Wildfire Protection Plan (CWPP).

The City of Boulder has developed a Multi-Hazard Mitigation Plan to help make the city and its residents less vulnerable to future natural hazard events. The purpose of hazard mitigation is to reduce or eliminate long-term risks to people and property from natural hazards. In addition to the city gathering information, Boulder County OEM publishes a 5-year Hazard Mitigation Plan as well.

Appraisal

Although the department has adopted this methodology within the last three years, the department has not adjusted the response model or community risk reduction programs accordingly. However, after this analysis the department began community conversations around ALS and began to deliver Wildland Urban Interface (WUI) based outreach. The feedback has been folded into the 2019 master plan update and the outreach program for wildfire preparedness.

Plan

The department will continue to use the risk assessment process and CRA/SOC as the primary risk management methodology. The process allows the department to adequately manage risks within the city.

References

[2014-2019 Hazard Mitigation Plan](#)

[City of Boulder Community Wildfire Protection Plan \(2010\)](#) (currently being updated)

CRA/SOC Section IV: All Hazard Risk Assessment and Response Strategies pg. 65

[Building Rating Score Sheet](#)

2B.2 The historical emergency and non-emergency service demands frequency for a minimum of three immediately previous years and the future probability of emergency and non-emergency service demands, by service type, have been identified and documented by planning zone.

Description

Historical emergency and non-emergency service demand frequency, by service type, are identified and documented by planning zone. Incident information is kept in the department's Firehouse RMS, and the Tritech CAD. Documentation of the historical emergency and non-emergency service demand frequency, by service type, is discussed in the CRA/SOC and displayed on the MySidewalk Dashboard.

Appraisal

To date, the department has utilized the future probability of emergency and non-emergency service demands, by service type for fire station relocation discussions, in the last three years.

Plan

The data and analytics project manager will use MySidewalk, the RMS and CAD data to create a model to project the future probability of emergency and non-emergency service demands, by service type. Evaluating future demands for service will help the department plan for future station locations and apparatus requirements. This project will begin in Q1 of 2020.

References

Firehouse RMS

Tritech CAD

[MySidewalk Dashboard](#)

CRA/SOC Section V: Current Deployment pg 89

2B.3 Event consequence loss and save data that includes property, life, injury, environmental, and other losses and saves are assessed for three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.

Description

Event consequence data has been identified and documented. Event consequence loss and save data that includes property, life, environmental, and other losses are contained within Firehouse RMS, and personnel injury data is kept in paper form.

Appraisal

Currently, loss data exist for information only and has not been analyzed. The department should analyze event consequence data. Data quality has been an issue, as loss information is subjective. Paper documentation for injuries has made it hard to analyze trends and archive information

Plan

In 2018, the department hired an analyst; the addition of this position will help in the evaluation of event consequence data. The department will utilize the Fire Program Appraisal process for evaluation of event consequence data. In addition, BFR will partner with AAIS to increase the reliability of loss information reported. In addition, the department will investigate tools for injury documentation that can be analyzed more effectively.

References

Firehouse Report (on-site)

Injury Notebook (at HQ)

[Program Appraisals Q1/Q2](#)

CC 2B.4 The agency's risk identification, analysis, categorization, and classification methodology has been utilized to determine and document the different categories and classes of risks within each planning zone.

Description

BFR's risk identification, analysis, categorization, and classification methodology has been utilized to determine and document the different categories and classes of risks within each planning zone. Fire risk is determined by assigning a score to the categories of life hazard, community impact, hazard index, hydrant location, building use and construction, number of stories and square footage, and suppression system. The score for each of these categories is added to determine overall risk. The scores are documented on a map at fire headquarters. Additional Fire, Hazmat, and Target Hazard Risk are identified by the International Building Code through the Community Risk Reduction Division. Occupancy Types are displayed on a PowerBI Dashboard.

BFR's service demand has been evaluated categorically (Fire, EMS, HazMat, TRT and other). The risk is documented in a PowerBI dashboard. Vulnerable populations are determined by the US Census and documented on the MySidewalk dashboard.

Overall community risk is determined by the City of Boulder Public Works Department as well as the County of Boulder Office of Emergency Management. The risk is documented in the City Hazard Mitigation Plan, which is reviewed on an annual basis and was most recently updated and adopted in 2018, and OEM's Natural Hazard Mitigation Plan, also published in 2018. Both plans are updated every 5 years in accordance with FEMA's update policy.

The department has identified all confined space on the University of Colorado Campus and will be working on completing the same for the City.

Appraisal

Overall risk has been validated and verified by BFR. A detailed EMS risk assessment based on age and gender has not been completed due to a lack of patient data. BFR did not start collecting patient information until the second half of 2018. There is limited visual information related to confined space in the city.

Plan

The medical director has drafted initial performance measures for the EMS program and will evaluate EMS data for trends in January 2020. In addition, the department will outline information needed for

confined space assessment and create a timeline for evaluation. This project will begin in March of 2020. Confined space will be evaluated in the city.

References

[City of Boulder Hazard Mitigation Plan](#)

[Boulder County Hazard Mitigation Plan](#)

[International Building Code](#)

[CRR Methodology](#)

CRA/SOC Section IV: All-Hazard Risk Assessment and Response Strategy pg. 65

[Power BI and ESRI Dashboard Screenshots](#) (full version on-site)

2B.5 Fire protection and detection systems are incorporated into the risk analysis.

Description

Fire protection and detection systems are considered in the risk analysis as outlined by the CRA/SOC. Commercial buildings were assessed for risk and scored based on a set of criteria, one of which is fire protection and detection systems.

Appraisal

Buildings were assessed for risk and scored; however, the process was not documented therefore it cannot be recreated. Efforts will be directed towards combining permitting and occupancy data.

Plan

The project manager of data and analytics will re-design the process throughout 2020. The intent will be to create a data-driven automated process using data from Firehouse and Energov. The methodology will be documented in the data plan.

References

CRA/SOC Section IV: All Hazard Risk Assessment and Response Strategy pg. 65

2B.6 The agency assesses critical infrastructure within the planning zones for capabilities and capacities to meet the demands posed by the risks.

Description

Critical infrastructure is documented in the CRA/SOC. The department uses a variety of maps to identify critical infrastructure within each geographic planning zone.

Appraisal

To date there has been an evaluating all types of critical infrastructure, however there has not been a methodology for assessing the positive or negative contributions that each type of critical infrastructure can have on incident outcomes.

Plan

The department will continue to assess critical infrastructure in the risk assessment process and incorporate these features into automating the import of this data during 2020.

References

CRA/SOC Section IV: All Hazard Risk Assessment and Response Strategy pg. 65

Criterion 2C: Current Deployment and Performance

The agency identifies and documents the nature and magnitude of the service and deployment demands within its jurisdiction. Based on risk categorization and service impact considerations, the agency's deployment practices are consistent jurisdictional expectations and with industry research. Efficiency and effectiveness are documented through quality response measurements that consider overall response, consistency, reliability, resiliency, and outcomes throughout all service areas. The agency develops procedures, practices, and programs to appropriately guide its resource deployment.

Summary:

BFR utilizes the CRA/SOC as the primary planning document for evaluating the department's deployment effectiveness and response performance. The planning zones established are utilized to assess response times which are represented both in total response time as well as its subcomponents to include alarm handling, turnout, and travel time.

A critical task analysis serves as the foundation of establishing effective response force for all risk categories. These are commensurate with their associated dispatch levels. As part of the annual CRA/SOC update, revisions are identified that can impact the deployment of resources. The department is currently actively engaged in mitigating high-volume calls that represent lower acuity to increase the overall reliability of the response system.

Performance Indicators:

CC 2C.1 Given the levels of risks, area of responsibility, demographics, and socio-economic factors, the agency has determined, documented, and adopted a methodology for the consistent provision of service levels in all service program areas through response coverage strategies.

Description

Service levels have been evaluated on an adhoc basis considering demographics, socio-economic status and risk by the management team in conjunction with the master plan rewrite, pilot response projects and the development of the CRA/SOC. The department uses MySidewalk for much of this work.

Appraisal

The current practice has provided insight, and the department has modified response policies, procedures and dispatch protocols. However, there hasn't been a regularly scheduled and documented methodology for consistent provision of service levels in all program areas.

Plan

Service levels and the CRA/SOC will be evaluated annually in February by the management team.

References

[MySidewalk Dashboard](#)

CRA/SOC Section IV: All Hazard Risk Assessment and Response Strategies pg. 65

CC 2C.2 The agency has a documented and adopted methodology for monitoring its quality of emergency response performance for each service type within each planning zone and total response area.

Description

The department utilizes response time performance as the primary determinant of response quality. This is documented in the CRA/SOC and reviewed on an ongoing basis. Besides utilizing the CRA/SOC, the department conducts after-action reviews to evaluate the effectiveness of tactics utilized by responding companies. The department is currently establishing a more robust approach to emergency medical incidents. As part of this effort, the medical director is currently establishing quality metrics, such as cardiac survival rates to further measure the quality of the response performance.

Appraisal

Utilizing response performance as the foundation of monitoring the quality of the response system has been effective to establish baseline measures. The department has not fully developed its medical performance indicators due to data limitations.

Plan

BFR will continue to monitor response performance quality through time-based approaches. In addition, the department will implement a new RMS by January of 2021 that will incorporate data elements to further study the effectiveness of response performance in the service area.

References

[MySidewalk Dashboard](#)

CRA/SOC Section V: Current Deployment and Response Performance pg. 89

[2019 Master Plan Feedback Summary Documents](#)

[2012 Master Plan Update](#)

[2019 Master Plan Update Goals](#)

[2019 Master Plan Update Outline](#)

2C.3 Fire protection systems and detection systems are identified and considered in the development of appropriate response strategies.

Description

Fire protection systems and detection systems are identified throughout the response area. They are identified through plan review, pre-fire planning and inspection programs. These efforts have identified most of the systems being used in the city.

BFR does not use the presence of suppression systems to alter the response. Responses strategies are determined by risk, occupancy type, and incident category (fire, ems, hazmat etc.). Fire incidents get the same apparatus response no matter what type of system is or is not installed in the occupancy. On scene actions are dictated by fireground conditions. The City of Boulder experiences a relatively low incidence of structure fires. Therefore, the approach of sending a consistent response does not negatively impact response reliability in a statistically significant way.

Appraisal

The current practice is under review. False alarms represent a significant total of alarm responses. triage.

Plan

The department will continue to deploy the appropriate equipment and personnel to mitigate the incident as if suppression systems were not in place. Consideration is being given to stop responding to alarm activated calls on CU campus entirely and have the police respond to triage. This will be started in Q3 of 2020. The project manager of data and analytics will analyze these systems in the response area and determine any recommendations for changes to response strategies.

References

CRA/SOC Section IV: All Hazard Risk Assessment and Response Strategies pg. 65

[Building Rating Score Sheet](#)

Dispatch Incident Types CRA/SOC Appendix: Pg 168

Sprinkler Information (Energov on-site)

CC 2C.4 A critical task analysis of each risk category and risk class has been conducted to determine the first-due and effective response force capabilities, and a process is in place to validate and document the results.

Description

The critical tasks for each risk category are defined in the CRA/SOC for each risk category. Critical tasking was first formally defined in 2018 and reviewed again in 2019. Results are documented in the CRA/SOC and validated using industry best practice and NFPA 1710. Prior to 2018, critical tasking was based on call types in cad and departmental policy.

During the 2019 assessment of critical tasking, it was found that the department was sending too many resources to certain incidents. The department is currently conducting a deployment study to align the critical tasking with the resources sent to each incident. The department is working on aligning deployment with the BVFC to provide for a seamless response within the county.

The project manager of data & analytics validates the critical tasking of each risk class annually.

Appraisal

The critical task analysis has been used to help define the critical task analysis for the Boulder Valley Fire Consortium (BVFC). However, there has been some concern that all members of the BVFC may be committing too many resources to certain risks.

Plan

The department will conduct training evolutions to evaluate modified deployment strategies and share these findings with the BVFC.

References

CRA/SOC Section V: Current Deployment and Performance pg. 117

[2019 Deployment Evaluation](#)

CC 2C.5 The agency has identified the total response time components for delivery of services in each service program area and found those services consistent and reliable within the entire response area.

Description

BFR has identified the total response time components as the processing, turnout, first unit travel time, ERF travel time, first unit total response time, and ERF total response time. The response time definitions are documented in the CRA/SOC: Current Deployment and Performance, under the heading Response Time Intervals.

All response times are available to the public, they are published to the City of Boulder Open Data Catalog daily, to the MySidewalk Dashboard monthly. Turnout times are reported daily to the management team. Baseline response time charts are reported annually in the CRA/SOC.

Appraisal

BFR has appropriately identified the following response time components: processing, turnout, travel, total response time. All times except for call processing have been consistent and reliable within the entire response area. Accurate call processing times have not been available due to the lack of a connection to the CAD and phone database, Intrado. Access to the database has been restricted by the Boulder Regional Emergency Telephone Authority (BRETSA).

Plan

The department would like to work with the communications division to obtain raw data from the Intrado phone system. This will allow the project manager of data and analytics to more accurately report performance reporting.

References

[Response Time Components](#)

[Turnout Report](#)

[City of Boulder Open Data Catalog](#)

[MySidewalk Dashboard](#)

2C.6 The agency has identified the total response time components for delivery of services in each service program area and assessed those services in each planning zone.

Description

Total response time components for delivery of services in each service program area are identified and assessed in each planning zone and documented in the department's CRA/SOC. The methodology for assessing each program area is also outlined in the CRA/SOC. Response time components are displayed on the MySidewalk and real-time ESRI Operations Dashboard. Dashboards can be accessed on any computer, and the Incidents Dashboard is displayed at fire headquarters.

To ensure consistent service delivery with the ambulance provider, the project manager of data and analytics began discussions with City GIS, in Q3 2019, to create a geofence to capture true arrival times for the ambulance contract.

Appraisal

All times except for call processing have been consistent and reliable within the entire response area. Accurate call processing times have not been available due to the lack of a connection to the CAD and phone database Intrado. Access to the database is restricted by the Boulder Regional Emergency Telephone Authority (BRETSA). Although the MySidewalk dashboard is a comprehensive tool for data visualizations, there is an opportunity for the line to utilize the information more. Despite detailed performance criteria and reporting, there is still not an accurate way of tracking and verifying AMR's contracted response performance. Tracking performance has been reduced to the ambulance providers self-reporting on performance and BFR viewing an already "cleaned" report.

Plan

The department will attempt to work with the communications division to obtain raw data from the Intrado phone system. This will allow the project manager of data and analytics to more accurately report performance reporting. The project manager of data and analytics will continue to work with City GIS to create a geofence for ambulance time reporting.

References

CRA/SOC Section V: Current Deployment and Performance pg. 116

[MySidewalk Dashboard](#)

[Power BI and ESRI Dashboard Screenshots](#) (full version on-site)

CC 2C.7 The agency has identified efforts to maintain and improve its performance in the delivery of its emergency services for the past three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.

Description

BFR has identified efforts to maintain and improve its performance in the delivery of its emergency services for the past three years through the self-assessment process, a 2017 White Paper, and an ALS Feasibility study. The result of these efforts are documented in the CRA/SOC: Evaluation of Current Deployment and Service.

The most recent effort by BFR to improve performance was in 2018 when BFR submitted an issue statement to the GELA hosted by Colorado University (CU). The issue focused on the increase of non-emergency incidents and canceled units within the system. The department's issue was accepted in 2019. In June 2019, a group of program participants was assigned to BFR to create a low-cost solution for the department. The idea pitched was a light response unit with both a proactive and reactive approach.

In July 2019, the operations deputy chief began discussions with the communications center regarding a reduction in Fire responses to PD initiated EMS incidents. Conversations are on-going with the hopes that the Priority Dispatch Advanced SEND protocol will be implemented by mid-2020. Implementing this protocol would reduce the number of units canceled en-route.

Appraisal

In 2019, the formalized quarterly appraisal process was implemented; it is too early to measure the efficacy of the program appraisal process. To date, the exercise has brought more awareness to data management and performance measurement.

Plan

In February 2020, the data and analytics project manager and deputy chief of support will evaluate the efficiency and effectiveness of the program appraisal process.

References

[GELA Report](#)

[2017 EMS White Paper](#)

[Fitch and Associates Final GIS Report](#)

[Fitch and Associates Final Data Report](#)

[Program Appraisals Q1/Q2](#)

2C.8 The agency's resiliency has been assessed through its deployment policies, procedures, and practices.

Description

The City of Boulder has adopted a sustainability and resiliency framework. This framework guides budgeting and planning processes by providing consistent goals necessary to achieve Boulder's vision of a great community and the actions required to achieve them. The core challenges in the city of boulder resiliency strategy are: more frequent and severe occurrence of natural events (flooding and wildfires); ecological and social stresses tied to hazards that will negatively impact and exacerbate each other; rising housing and commercial real estate costs which may limit the diversity of residents and businesses and threaten long-term economic vitality.

Move-up priorities to ensure a resilient deployment strategy are outlined in the department's Operational Directive Series 2100 Standard of Cover. The ESRI operations dashboards and MDT show a live view of the location of all apparatus.

The department has partnered with BVFC department's to help with drawdown during extended incidents.

Appraisal

The methods in place appear to have been effective, however, they have not been measured. Additionally, the department has not assessed a threshold for out of service apparatus. There has not been a process put in place to automatically notify the deputy chief of operations when the levels are low.

Plan

To utilize the battalion chief's dashboard in real time to monitor drawdown of the department and notify the deputy chief of operations of current status.

References

[Sustainability and Resilience Framework](#)

[City of Boulder Resilience Strategy](#)

[City of Boulder Flood Zones Map live / screenshot](#)

[Power BI and ESRI Dashboard Screenshots](#) (full version on-site)

[Series 2100 Standard of Cover](#)

Criterion 2D: Plan for Maintaining and Improving Response Capabilities

The agency has assessed and provided evidence that its current deployment methods for emergency services appropriately address the risk in its service area. Its response strategy has evolved to ensure that its deployment practices have maintained and/or made continuous improvements in the effectiveness, efficiency, and safety of its operations, notwithstanding any outside influences beyond its control. The agency has identified the impacts of these outside influences to the authority having jurisdiction.

Summary:

BFR utilizes contemporary data analysis tools to measure the response performance of its emergency service provision on a daily, monthly, quarterly and annual basis. These tools are specific to the purpose of the analysis. For example, a daily turnout report is sent to command staff via e-mail to identify incidents for follow-up with crews. Quarterly program manager meetings are conducted to report response performance while an annual assessment is done as part of the CRA/SOC update process.

Performance Indicators:

CC 2D.1 The agency has documented and adopted methodology for assessing performance adequacies, consistencies, reliabilities, resiliencies, and opportunities for improvement for the total response area.

Description

The department's methodology for assessing performance adequacies, consistencies, reliabilities, and resiliencies are based on the model provided by the Commission on Fire Accreditation International's improvement methodology as shown in the Community Risk Assessment: Standards of Cover, 6th Edition. The benchmark targets are based on the department serving an urban area and establish the department's goals for call processing, turnout, travel and total response time. Within the SOC, the department compares its current performance (baseline), to the established benchmarks.

BFR monitors and reports performance on a quarterly basis using performance measures that are directly tied to industry research. The performance measures are documented in the quarterly program appraisals. When significant deviation is noted, the data and analytics project manager provide additional review and analysis to determine probable root cause and potential corrective action. The department also monitors response time performance with the MySidewalk dashboard, updated monthly, and multiple real-time ESRI Operations Dashboards. All dashboards can be viewed on any computer, the Incidents Dashboard is displayed at fire headquarters.

Appraisal

The methods in place appear to have been effective, however, they have not been measured. Additionally, the department has not assessed a threshold for out of service apparatus. There is also no way to automatically notify the deputy chief of operations when apparatus levels are low.

Plan

BFR will continue to utilize the battalion chief's dashboard in real time to monitor drawdown of the department and notify the deputy chief of operations of current status. In addition, turnout time response performance reporting will be improved for better utilization by department staff.

References

[MySidewalk Goals Report](#)

[Power BI and ESRI Dashboard Screenshots](#) (full version on-site)

[Daily Turnout Email](#)

[Program Appraisals Q1/Q2](#)

2D.2 The agency continuously monitors, assesses, and internally reports, at least quarterly, on the ability of the existing delivery system to meet expected outcomes and identifies the remedial actions most in need of attention.

Description

BFR began to establish the framework for formal and documented appraisals in 2018. Program managers were asked to define the program's mission and goals and develop performance measures for their program. In April 2019, the first formal program appraisal for each program area was completed. The process in place going forward is to complete a program appraisal quarterly.

In addition to the formal appraisals, a turnout times report is emailed daily to all chief officers and discussed at staff meetings. Monthly performance reporting is available on the web-based MySidewalk Dashboard. Reporting includes response times for all components and risk levels, incident details and goals met for each specific station. The tool includes graphical and geospatial analysis.

As of July 2019, the project manager of data and analytics is working with city GIS to automate ambulance compliance. Currently, performance is measured daily by an automated reporting system (First Watch) and is monthly self-reported by AMR. The project manager of data and analytics is also designing power BI Dashboards for each program area to track performance. The dashboards are scheduled to be completed in Q2 2020.

Appraisal

In 2019, the formalized quarterly appraisal process was implemented. To date, the exercise has brought more awareness to data management and performance measurement.

Plan

The data and analytics project manager and deputy chief of support will evaluate the efficiency and effectiveness of the program appraisal process by Q2 of 2020.

References

[MySidewalk Response Report](#)

[MySidewalk Incident Report](#)

[MySidewalk Goals Report](#)

[MySidewalk Baseline Performance](#)

[MySidewalk Station Reports](#)

[AMR Daily Report – First Watch](#)

[AMR Monthly Reporting](#)

[Power BI and ESRI Dashboard Screenshots](#) (full version on-site)

[Program Appraisals Q1/Q2](#)

CC 2D.3 The performance monitoring methodology identifies, at least annually, future external influences, altering conditions, growth and development trends, and new or changing risks, for purposes of analyzing the balance of service capabilities with new conditions or demands.

Description

As defined in the 2019 Standards of Cover, the Department's performance monitoring methodology includes monthly and annual reporting of department performance on-call process, turnout, travel and total response time for the 1st arriving unit and effective response force for each service type and risk level. The Department updates and revises the CRA and SOC annually.

The city publishes an annual community dashboard report that details the city's population, housing, non-residential development growth. Each year the city considers current development activities when preparing the Capital Improvement Program.

The Boulder Valley Comprehensive Plan includes the city's Urban Service Criteria and Standards ("Standards"), which are a prerequisite for new urban development. The Standards provide a basis for linking the phasing of growth to the planned provision of a full range of urban services. The comprehensive plan land uses are updated every 2.5 years, and changes to the Standards are made as needed.

Appraisal

The practice of evaluating future external influences, altering conditions, growth and development trends, and new or changing risks has been done on an adhoc basis, but at least annually with the development of the budget.

Plan

Future external influences, altering conditions, growth and development trends, will be incorporated into the update of the CRA/SOC and will be evaluated annually in February by the management team. Beginning next year program managers will meet quarterly with management staff to monitor and evaluate performance and recommend program changes.

References

[MySidewalk Dashboard](#)

CRA/SOC Section IV: Evaluation of Current Deployment and Performance pg. 141

[2018 Community Profile](#)

Boulder Economic Council

2D.4 The performance monitoring methodology supports the annual assessment of the efficiency and effectiveness of each service program at least annually in relation to industry research.

Description

The department's performance monitoring methodology supports the annual assessment of each program. BFR has defined outcome measures for each program based on industry research. The department is currently gathering the data required for each measure.

Daily reports analyze turnout times, while quarterly reports include response activity, response time analysis, and fire incident outcomes. Property loss/save data is published in the CRA/SOC and a Power BI dashboard which is scheduled to go live in Q1 2020. The department also monitors performance with the MySidewalk dashboard, updated monthly, and multiple real-time ESRI Operations Dashboards.

Appraisal

The daily reporting on turnout has had a limited reach as it has only been sent to chief officers. This limits the ability of the fire department to communicate progress. Therefore, the need exists to develop a better communications strategy to distribute performance report to a broader audience.

Plan

The department will re-work the distribution list for the daily turnout email by Q4 2019. As references in 3D.3, the department will develop a communications strategy to determine if the department is reaching the appropriate audiences. This will include internal participants as well.

References

[Daily Turnout Email](#)

[Program Appraisal Folder](#)

[MySidewalk Dashboard](#)

[Power BI and ESRI Dashboard Screenshots](#) (full version on-site)

2D.5 Impacts of incident mitigation program efforts, (such as community risk reduction, public education, and community service programs), are considered and assessed in the monitoring process.

Description

Incident mitigation programs in the City of Boulder include community risk reduction and public education. The public education team reviews and reports on program activity and effectiveness in conjunction with the quarterly staff meetings. The division has also started using the MySidewalk Dashboard and CRA/SOC to evaluate current trends within the community.

Appraisal

Historically, these programs have only measured the number of individuals contacted or classes provided. The public education program has historically not used risk data specific to the City of Boulder which has limited the impact of the services provided in this area. This has reduced the ability of the department to understand the risks present in the community and measuring the effectiveness of the risk reduction programs (pre/post knowledge reviews, trending of response data after program delivery, etc.).

Plan

The public education team will implement and evaluate tools to measure program effectiveness. The project manager of data and analytics will complete the dashboards and reports related to community risk reduction, public education and community service programs to depict the state of each program. Each program manager will be required to gain insight into those incidents that fall outside of the BFR benchmarks and discuss them during quarterly staff meetings.

References

[MySidewalk Dashboard](#)

[Power BI and ESRI Dashboard Screenshots](#) (full version on-site)

[Daily Turnout Email](#)

[Program Appraisals Q1/Q2](#)

CC 2D.6 Performance gaps for the total response area, such as inadequacies, inconsistencies, and negative trends, are determined at least annually.

Description

Performance gaps for the total response area are identified in the CRA/SOC. As defined in the 2019 Standards of Cover, the department's performance monitoring methodology includes inadequacies, inconsistencies, and negative trends. The department updates and revises the CRA and SOC annually.

The department evaluates performance gaps in all programs quarterly. Response times are evaluated monthly, and turnout times are evaluated daily. Program managers meet quarterly to monitor and evaluate performance and recommend program changes.

Appraisal

Utilizing the CRA/SOC to identify gaps for the total response area has worked well, as the document has been intended for this purpose. Containing all information in one document has streamlined the information needed for evaluations of the service area.

Plan

The department will continue to update the CRA/SOC annually and document gaps for the total response area within the update. This will be accomplished as part of the quarterly and annual response performance evaluations described above.

References

[MySidewalk Dashboard](#)

[Power BI and ESRI Dashboard Screenshots](#) (full version on-site)

[Daily Turnout Email](#)

[Program Appraisals Q1/Q2](#)

CC 2D.7 The agency has systematically developed a continuous improvement plan that details actions to be taken within an identified timeframe to address existing gaps and variations.

Description

A documented continuous improvement plan was put in place in 2018. The continuous improvement plan includes performance-based budgeting, quarterly reporting on performance measures and an update on gaps identified in the “plan” section of the Self-Assessment Manual. In July 2019, the department began an evaluation of a strategic work plan tracker in order to record progress on each initiative.

Appraisal

Quarterly meetings have ensured progress is being made towards program-specific strategic goals as well as the department’s strategic goals. It is too early to measure the efficacy of the program appraisal process. To date the exercise has brought more awareness to data management and performance measurement.

Plan

In February 2020, the deputy chief of support and project manager of data and analytics will evaluate the efficacy of the continuous improvement framework.

References

[Program Appraisals Q1/Q2](#)

[Program Based Budget](#)

[Strategic Plan Workplan Tracker Shell](#)

[MySidewalk Goals Report](#)

2D.8 On at least an annual basis, the agency formally notifies the authority having jurisdiction (AHJ) of any gaps in the operational capabilities and capacity of its current delivery system to mitigate the identified risks within its service area, as identified in its standards of cover.

Description

The department submits the Council Action Guide (CAG) in November to keep city council informed on issues of strategic focus and related progress for the upcoming year. In addition, the annual budget process puts forward funding requests to fill service delivery gaps. These requests are ultimately reviewed and approved by the city council. These requests are partially informed by the CRA/SOC.

Appraisal

The current process of reporting service gaps has been adequate at mitigating significant risks in a timely fashion. However, the department has not established a process of reporting response performance trends and service gaps directly to Council.

Plan

As references in 3D.3, the department will develop a communications strategy to determine if the department is reaching the appropriate audiences. In addition, the department will collaborate with the city manager to evaluate the possibility of using an annual briefing paper related to the CRA/SOC update to report gaps in service on a more granular level.

References

[Council Action Guide \(CAG\)](#)

2019 EBT Packet

2D.9 On at least an annual basis, the agency formally notifies the AHJ of any gaps between current capabilities, capacity, and the level of service approved by the AHJ.

escription

The department submits the Council Action Guide (CAG) in November to keep city council informed on issues of strategic focus and related progress for the upcoming year. As part of these gaps in service, levels are reported and identified.

Appraisal

The current process of reporting service levels has been adequate at reporting gaps between current capabilities and capacity. However, the department has not established a process of reporting response performance trends and service gaps directly to Council.

Plan

By the end of March each year, the department will prepare an information packet (publicly accessible and publicly distributed memo) to city council detailing the department's service levels, its master plan progress, the prior calendar year's performance and any gaps noted as preparation for the department's budget request for the following fiscal year. This update will begin in 2020 and occur annually thereafter.

References

[Council Action Guide \(CAG\)](#)

2D.10 The agency interacts with external stakeholders and the AHJ at least once every three years, to determine the stakeholders' and AHJ's expectations for types and levels of services provided by the agency.

Description

The City of Boulder planning and public engagement framework calls on robust public outreach. Public outreach is focused on reaching internal and external stakeholders. The process ensures that there is ongoing communication with stakeholders throughout the assembly of the plan. This includes reporting progress and obtaining on-going feedback during the development, implementation, and evaluation of the department's goals and objectives. Engagement opportunities may include focus groups, kiosks, surveys, and listening sessions. The department is utilizing all of these during the 2019 master plan update assembly. The city conducts a community survey every three years that identifies overall satisfaction and trends in city service delivery.

Appraisal

The feedback has been valuable for the assembly of the final plan. However, it has been challenging to engage underserved members of the community due to language and cultural barriers. In addition, the community is too broad to identify specific trends within departments.

Plan

By the end of March each year, the department will prepare an information packet (publicly accessible and publicly distributed memo) to city council detailing the department's service levels, its master plan progress, the prior calendar year's performance and any gaps noted as preparation for the department's budget request for the following fiscal year. This update will begin in 2020 and occur annually thereafter.

References

[Be Heard Boulder](#)

[City of Boulder Engagement Framework](#)

[2019 Master Plan Feedback Summary Documents](#)

[2012 Master Plan Update](#)

[2019 Master Plan Update Goals](#)

[2019 Master Plan Update Outline](#)

Category III: Goals and Objectives

Agencies should establish general organizational goals designed to implement their assigned mission and short-range plans. Additionally, agencies should establish goals and objectives to direct the priorities of operational programs (to include at least those outlined in Category V) and support services. All goals and objectives should be developed consistent with the elements of the published Strategic and Capital Improvement Plans.

Objectives are specific statements designed to document the steps necessary to achieve the agency's goal statements and apply to a specific time period. For purposes of accreditation, objectives should be consistent with the elements of the acronym "S.M.A.R.T."

Specific

Measurable

Attainable

Realistic

Time-bound

Criterion 3A: Strategic Planning

A strategic plan (3 [initial accreditation candidates] to 5 [currently accredited agencies] years in the future) is in place, and along with the budget is guiding the activities of the agency. The plan is submitted to the appropriate authority having jurisdiction (AHJ).

Summary:

Boulder Fire-Rescue (BFR) has a published strategic plan. The document is called a “Master Plan” but functions in the same manner as strategic plans do in other organizations. The Master Plan is the primary document that governs the agency’s activities and priorities. The BFR Master Plan is considered a living-document and is generally updated every five years. The latest version will be complete by December 2019 and has a five-year planning window. The plan is linked to the budget and is the highest level of guidance that is consulted during the annual budget development process. After work is completed by staff to develop the document, City Council accepts the Master Plan.

Performance Indicator:**CC 3A.1 The fire service agency has a published strategic plan.****Description**

Boulder Fire-Rescue (BFR) has a published Master Plan that is generally updated every five years as part of the City of Boulder planning framework. The city considers this the strategic plan for the agency. This document is published both in print and online formats. The publication of the Master Plan occurs as part of the City Council's acceptance process.

Appraisal

The Master Plan has been made available both electronically and in paper format and through this mechanism, is accessible by department personnel, stakeholders, and residents. The Master Plan has been successfully accessed using these means.

Plan

BFR will continue to publish its Master Plan using this approach. Outdated plans will be archived in the department files.

References

[BFR Website](#)

[2012 Master Plan Update](#)

[2019 Master Plan Update Goals](#)

[2019 Master Plan Update Outline](#)

3A.2 The strategic plan is approved within the agency and submitted to the governing body or administrative officer with responsibility over the fire agency and to whom the chief fire officer/chief executive officer reports.

Description

The City of Boulder's Master Plan development and acceptance process is very prescriptive in terms of approval and city council acceptance. Master plans in the City of Boulder are ten-year plans, intended to be updated at the five-year mark. A team of internal stakeholders develops the plan. During this process, the executive leadership of the department, as well as the city manager's office, provides direction and focus. The department provides written updates in the form of council memos during the development process. Once complete, the department presents the updated document to the city's Planning Board as well as city council for acceptance.

Appraisal

The 2012 Master Plan was formally accepted by city council in 2013. Master Plan goals have been referred to in the annual budget process for funding appropriation since fiscal year 2013.

Plan

The department will utilize the methods in place through quarterly program review meetings and by engaging in active communication with the city manager's office.

References

[2012 Master Plan Update](#)

[2019 Master Plan Update Goals](#)

[2019 Master Plan Update Outline](#)

[City of Boulder Planning Guide](#)

Criterion 3B: Goals and Objectives

The agency's general goals and specific objectives direct its priorities in a manner consistent with its mission and are appropriate for the community it serves.

Summary:

The department ensures that the mission, vision and values are incorporated into the master planning process through involvement of its elected officials, executive city staff, and fire department members. In addition, resident feedback is an integral part of the process of building relevant goals and objectives.

The agency communicates goals and objectives through the publication of its master plan, which is published and disseminated through various means to ensure it reaches intended audiences.

Performance Indicator:

CC 3B.1 The agency publishes general organizational goals directed toward achieving its long-range plans. The agency publishes corresponding specific objectives to implement these goals and incorporate the measurable elements of time, quantity, and quality.

Description

The long-range organizational goals are captured in the master plan that also contains corresponding objectives. The range of the master plan is generally five to ten years in length. The city planning department publishes a Capital Improvement Plan (CIP) that plans for major capital expenditures such as fire stations and vehicles not on the equipment replacement cycle. These vehicles would be specialized response apparatus such as an interagency command post. BFR also participates in the citywide master plan coordination committee. The Boulder Valley Comprehensive Plan (BVCP) contains high-level, long-range planning goals and objectives that are meant to impact not only the City of Boulder but also surrounding communities in the Boulder Valley.

Appraisal

The planning documents described above have been effective at accurately documenting goals and objectives that are meaningful and propel the organization forward. BFR was able to gain two new positions, build a wildland fire station, and pilot a light response vehicle (LRV) using this approach. The department has identified that there is no city-wide strategic plan to direct multi-year citywide goals and funding priorities. Priorities are established annually and given to departments during the budget process which has made it difficult to coordinate the department's goals with other city initiatives.

Plan

BFR will continue to publish the Master Plan and refer to it during the budget development process as well as community engagement events. The department will publish the 2019 Master Plan on the internal SharePoint site.

References

[2012 Master Plan Update](#)

[2019 Master Plan Update Goals](#)

[2019 Master Plan Update Outline](#)

[2019-2023 CIP](#)

[2019 Budget](#)

[Boulder Valley Comprehensive Plan](#)

3B.2 The agency assesses its current status when establishing goals and objectives.

Description

During the assembly of the master plan, several steps are taken to assess the current status of the of the department. The process begins by looking at the previous plan to determine which objectives have been accomplished or need to be carried over and reevaluated. The city's strategic planning framework requires departments conduct both internal and external technical research, and stakeholder engagement. During the 2019 Master Plan assembly, the BFR CRA/SOC is used to assess community risk and relevant deployment objectives. The CIP is also reviewed on an annual basis and included in the master planning efforts.

Appraisal

The process used to assess the agency's status has successfully identified several key areas of concern during the 2012 master plan that have now been accomplished. The 2019 process has identified EMS service delivery as a key issue to address which aligns with the current call volume.

Plan

BFR will continue to utilize the current approach to ensure that the Master Plan assesses the current status of the of the department. This approach will also be integrated into the quarterly program managers meetings to ensure these factors are looked at on an ongoing basis.

References

[2012 Master Plan Update](#)

City of Boulder Planning Guide

[Master Plan Coordination](#) - internal website

[City Plans and Projects Handbook](#)

[2019 Master Plan Development Overview \(ppt\)](#)

3B.3 The agency invites internal and external stakeholder participation in the development, implementation, and evaluation of the agency's goals and objectives.

Description

The City of Boulder planning and public engagement framework calls on robust public outreach. Public outreach is focused on reaching internal and external stakeholders. The process ensures that there is ongoing communication with stakeholders throughout the assembly of the plan. This includes reporting progress and obtaining on-going feedback during the development, implementation and evaluation of the department's goals and objectives. Engagement opportunities may include focus groups, kiosks, surveys, and listening sessions. The department is utilizing all of these during the 2019 master plan assembly.

Appraisal

The feedback has been valuable for the assembly of the final plan. However, it has been challenging to engage underserved members of the community due to language and cultural barriers.

Plan

The city is currently piloting alternative outreach platforms to include utilizing text messaging to reach these demographics.

References

[City of Boulder Engagement Framework](#)

[2019 Master Plan Feedback Summary Documents](#)

[Be Heard Boulder](#)

[2019 Master Plan Development Overview \(ppt\)](#)

3B.4 Published materials accurately portray the agency's goals and objectives as well as mission, vision, and values in context.

Description

The BFR Master Plan is accepted by council and passed through several review cycles throughout this process. These include review by the Master Plan Executive Steering committee and the city's Master Plan committee. Finally, the city manager analyzes all documents of strategic nature to ensure they are accurate and reflect the agency's mission.

Appraisal

This process works to ensure that the BFR master plan is aligned with the master planning efforts of the department and the overall framework of the city. The constant alignment measures this effectiveness of these planning efforts. The mission, vision, and values have been consistently included in the current and last master plan.

Plan

BFR will continue to integrate the mission, vision, and values into the master plan by following the outlined process above. Through quarterly program managers' meetings, the agency will ensure these are accurately reflected in all planning documents.

References

[2012 Master Plan Update](#)

[2019 Master Plan Update Goals](#)

[2019 Master Plan Development Overview \(ppt\)](#)

3B.5 The governing body responsible for establishing policy reviews the agency's goals and objectives.

Description

The BFR Master Plan is accepted by council and reviewed by the Master Plan Executive Steering committee. The executive steering committee is made up of several key city staff members to include the Deputy City Manager. Furthermore, final acceptance of the plan is made by the city council as part of its regular council process at the recommendation of staff.

Appraisal

The process has been effective at ensuring the council has the appropriate level of oversight in the review of the goals and objectives of the agency. This is demonstrated by successful acceptance of the 2012 Master Plan.

Plan

The City of Boulder and BFR will utilize the current process to ensure that the governing body continues to review the agency's goals and objectives as part of the master plan acceptance process.

References

[2012 Master Plan Update](#)

[2019 Master Plan Update Goals](#)

3B.6 When developing organizational values, the agency consults its members.

Description

The Master Plan is informed by reaching out to the members of the organization at several crucial input opportunities. These include an electronic internal engagement survey, inclusion on the planning team, participation during the EMS business plan, and technology needs assessment feedback interviews. These opportunities allow members to provide feedback and influence the assembly of the plan.

Appraisal

This process has allowed members to provide valuable feedback that has aided the assembly of the plan. Involving members of Local 900 has improved the accuracy of internally focused initiatives.

Plan

BFR will continue to solicit active participation of members in the master planning process. This will occur during master planning updates and more frequently through the program manager's meetings to engage these stakeholders directly.

References

[2019 Master Plan Sessions \(Photos\)](#)

[Survey Monkey Results – Internal Engagement Summary](#)

[SWOT Summary](#)

[2019 Master Plan Development Overview](#)

Criterion 3C: Implementation of Goals and Objectives

The agency uses a management process to implement its goals and objectives.

Summary:

Boulder Fire Rescue has an established process to manage the goals and objectives of the organization. These include program managers that are assigned specific areas of responsibility. Also, the Deputy Chiefs are responsible for overseeing the progress of programs under their purview and ensuring that they meet the intended outcomes of each area.

The agency will develop a master plan workplan to help manage the various goals and objectives after the acceptance of the 2019 Fire Master Plan.

Performance Indicator:

CC 3C.1 Some form of organizational management process is identified and used to track progress and results of agency goals and objectives relating to general organizational and operational programs.

Description

BFR utilizes a program-based budgeting framework to ensure that each of the agency's goals and objectives is managed and progress is tracked at the program level of the organization. Each program manager is delegated the responsibility of overseeing their assigned program areas and ensuring that goals and objectives are accomplished through specific, quantifiable performance measures for each program.

Appraisal

The process of utilizing program-based budgeting is new to BFR, and it is difficult to ascertain the efficacy of this approach at this early stage. However, there have been several revelations based on the work produced by this approach; for example, the effective integration of this approach into the City's resiliency budgeting process as well as the ability to tie goals to performance measures.

Plan

BFR will continue to grow the program-based budgeting methods to ensure that the department manages its goals and objectives effectively. An example of this will be the annual review of program performance in February of each year, beginning Q1 2020.

References

[Quarterly Meeting Minutes](#)

[Program Appraisals](#)

[HRA Advisors – Resiliency Budgeting](#)

CC 3C.2 The agency designates personnel to lead the implementation of respective goals and objectives.

Description

Overall plan accomplishment is the responsibility of the fire chief. High level goals are assigned to one of the two deputy chiefs who assign program level objectives to program managers. Program managers lead the implementation of goals and objectives.

Appraisal

The department has had success with this approach as it creates ownership at the appropriate level to ensure the outcomes of the department are being accomplished. An example of this success is found in the development of performance measurements by each program manager.

Plan

The department will expand the program appraisal process throughout 2019 to align with the program-based budgeting approach. This process will include developing a specific program appraisal template to support program managers in their efforts. The focus will be on establishing the effectiveness of programs to accomplish the objectives outlined in the master plan and the specific program goals and objectives.

References

[Quarterly Meeting Minutes](#)

[Program Appraisals](#)

3C.3 All members receive information explaining the agency's goals and objectives.

Description

Upon completion of the Master Plan, the department publishes the document to the internal SharePoint site. The document is available on the department's website for review and reference by agency personnel. Program managers receive regular support to explain these goals through meetings and check-ins during budget preparation.

Appraisal

While the program-based budgeting approach is working effectively, greater attention needs to be given to the communication of these goals to the whole department. Previous master plans have been widely communicated to other city departments and stakeholders, but internal audiences have been largely excluded from this process.

Plan

The agency will continue to mature its program-based budgeting process to increase the sophistication of its communications process. The executive team will develop a communications plan to include station visits and the fire department blog for the rollout of the 2019 Master Plan update to inform members about the contents. Additionally, all members will receive a copy through the Target Solutions platform.

References

[2019 BFR Master Plan Draft Goals](#)

[Quarterly Meeting Minutes](#)

[Department Master Plan Update January 2019](#)

[Department Master Plan Update April 2019](#)

3C.4 The agency, when necessary, identifies outside resources that can be consulted in regards to accomplishing an agency's goals and objectives.

Description

The department has working relationships with the City Planning Department as well as the City Manager's Office. The department regularly consults with the City Budget Office to ensure adequate resources are in place to meet the goals of the agency. Boulder Fire Rescue can leverage the use of consultants to assist in analyzing the effectiveness of programs. These relationships collectively ensure that the department is appropriately positioned to meet its responsibilities.

Appraisal

While the department has struggled for adequate funding to be able to meet its various obligations and responsibilities, the relationships outlined above have been effective at identifying critical gaps in its ability to accomplish its objectives. An example of this is the recently installed station alerting system that is intended to decrease call processing and turnout times. This effort was supported by the City Manager's office when the department objectively identified the need to address this critical area.

Plan

The department will continue to use these relationships, along with the City's budgeting process, to establish functional approaches to engaging outside help to accomplish the goals and objectives of the agency.

References

[Station Alerting Advisory A17-067](#)

[Station Alerting Advisory A17-084](#)

[ERP Advisors – Technology Needs Assessment](#)

Criterion 3D: Measurement of Organizational Progress

Processes are in place to measure and evaluate progress towards completion of specific objectives and overall system performance. The goals and objectives are re-examined and modified periodically.

Summary:

Boulder Fire Rescue uses quarterly program managers' meetings as the primary mechanism to ensure that organizational progress is being made. This process guarantees that goals are examined on a regular basis. The city's master planning framework makes sure that all master plans are updated every five years to maintain currency and that environmental factors are continually considered and addressed as necessary. In addition, the department will be developing a workplan to track the specific progress of each goal.

The master planning process is directly tied to the annual budget preparation for the City of Boulder as it delineates the planning framework with specific resources to help accomplish goals and objectives. Thus, the Executive Budget Team (EBT) considers the master plan a crucial component in evaluating the priority of budget requests.

Performance Indicators:

CC 3D.1 The agency's goals and objectives are examined and modified at least annually for quality and to ensure they remain current and consistent with the agency's mission, vision, and long range plan(s).

Description

BFR utilizes quarterly program managers' meetings, and the annual budget preparation process to examine and modify the goals and objectives outlined in the master plan. During the quarterly meetings, program managers, along with the executive team of the department, review program performance and accomplishments by utilizing objective and quantifiable performance measures. The city's budget request process requires departments to request funding through the lens of the master plan. This, in turn, creates a formal conversation with the EBT focused on ensuring the plan is current and consistent.

Appraisal

A benefit of the approach outlined above is that goals and objectives are linked with funding and performance. BFR adopted this method in 2018 and is still learning more about the efficacy of this approach. At this point, the department has seen positive results by driving more consistent conversations around the master plan goals and objectives. There are challenges surrounding data acquisition in multiple program areas.

Plan

To improve the cohesive monitoring of the BFR master plan goals and objectives, the department will develop a strategic workplan after the completion of the 2019 Master Plan update. The workplan will document progress of goals and be evaluated quarterly by the fire chief, deputy chiefs, senior budget analyst and the data and analytics project manager. Evaluating the workplan will ensure the document remains dynamic.

References

[2012 Master Plan Update](#)

[2019 Master Plan Update Goals](#)

[2020 Workplan \(under development\)](#)

CC 3D.2 The agency evaluates administrative and operational processes to determine improvements in efficiency and execution in pursuing organizational objectives.

Description

The department utilizes the continuous improvement framework through the fire-service accreditation model to identify areas of improvement in departmental operations. Specifically, this is done using performance measures as part of the program-based budgeting process and the Fire and Emergency Services Self-Assessment Manual (FESSAM). Collectively these tools are used to ensure the efficiency and execution of organizational objectives.

Appraisal

The program-based budgeting system is new to BFR but has shown some signs of early success. In 2018 the department was able to refine program goals to ensure they were targeting valid organizational objectives. In 2019 the department has been encouraging program managers to report out on their program efficiencies and performance during quarterly staff meetings. This process has not been formalized yet.

Plan

In Q1 2020 BFR will evaluate the ability of the program-based budget system to determine needed improvements related to efficiently executing organizational objectives during the quarterly program managers' meetings. Program appraisals will become a standard agenda item in 2020 quarterly staff meetings.

References

[Program Based Budgeting Goals](#)

[Quarterly Meeting Minutes](#)

3D.3 The agency provides progress updates to the governing body, its members, and the public regarding goals and objectives.

Description

Historically BFR has published an annual report that discusses the accomplishment of organizational goals and objectives. In 2017 the annual report format was redeveloped to make it more readable, however due to organizational workload a 2018 annual report has not been published.

The department also submits the Council Action Guide (CAG) in November to keep city council informed on issues of strategic focus and related progress for the upcoming year. BFR has also used periodic council study sessions to update on department goals and objectives.

Appraisal

The annual report as it stands is not linked to program-based budgeting or the continuous improvement process. The annual report format and process needs to be evaluated and re-designed to ensure the content is relevant to the goals and objectives. While the annual report has provided progress reports, it is unclear on the audience that is being reached using this method. This limits the ability of the fire department to communicate progress and the need for support outside of the above-listed processes. Therefore, the need exists to develop a better communications strategy to distribute the annual report to a broader audience.

Plan

During 2020, BFR will create a memo to update council on the goals and objectives for the department. The memo will be written in March after the CRA/SOC update in February. The department will use city council study sessions to update council on different priorities as requested by council or the city manager. The department will also develop a communications strategy to determine if the department is reaching the appropriate audiences.

References

[2017 Annual Report](#)

[Council Action Guide \(CAG\)](#)

[August 14, 2018 Study Session Memo](#)

Category IV: Financial Resources

This category evaluates an agency's financial condition to determine its ability to fund operational priorities and its prognosis for long-range quality of service given what can be a dynamic and adverse fiscal environment. Resources must be adequate to maintain the various programs to which an agency made a commitment. Whether the agency is public or private, stability of revenues (demonstrated by a consistent history through at least the past three years) is fundamental.

The chief fire officer or chief executive officer, professional staff, and governing board share responsibility for planning, management, and stability of financial resources. The chief fire officer and administrative staff have the ultimate responsibility of budget preparation. Since the budget is the financial expression of agency programs and priorities, it should be developed through appropriate consultation with the governing board of the authority having jurisdiction (AHJ), departments, divisions, and other units.

Financial policies covering financial planning, revenue, and expenditures should be developed by the professional staff and adopted by the governing board. Financial policies shall be reviewed and revised on at least an annual basis to ensure continued relevance and address any gaps.

In approving the budget, the governing board approves the acquisition and allocation of resources consistent with agency goals, objectives, and stated priorities.

NOTE: An agency that received the Distinguished Budget Presentation and Certificate of Achievement for Excellence in Financial Reporting (Certificate) from the Government Finance Officers Association (GFOA) of the United States and Canada for their Budget and Comprehensive Annual Financial Report (CAFR) may submit those certificates and their Budget and Comprehensive Annual Financial Reports as prima facie compliance with criterion 4B and therefore does not need to address performance indicators 4B.1 through 4B.10.

Criterion 4A: Financial Planning

Agency planning involving broad staff participation activates financial planning and resource allocation. The agency's plan for financing shall reflect sound strategic planning and a commitment to its stated goals and objectives. The agency must deem financial support for programs and services adequate to maintain the number and quality of personnel and other operational costs.

Summary:

The City of Boulder's and Boulder Fire-Rescue's financial planning occurs in tandem with the annual budgeting process. As an internal city department, Boulder Fire-Rescue (BFR) staff works with the city's Central Finance Office, Budget Office as well as the City Manager's Office to determine the city's projected economic and financial condition for the upcoming budget year. BFR staff also works with the aforementioned departments to govern the city's long-term strategic and financial goals that are set by the Boulder City Council at their annual retreat that occurs in the beginning of every fiscal year. The city's long-term goals are outlined in the ten-year Boulder Valley Comprehensive Plan. The city's long-range financial goals are contained in Blue Ribbon Commission reports that are intended to be conducted every five years. It is from this broader city context, and financial resource availability, that the BFR staff builds the proposed departmental budget to meet the service standards that are expected by City Council and the community.

Financial and resource planning at the department (BFR) level operates according to a program-based budgeting model that separates the department's budget into offices of primary responsibility and nineteen individual budget programs. Each of these programs has identified goals, objectives and performance measures that align with the goals and objectives as outlined in the department's five-year Master Plan, as underpinned by the department's Standards of Cover and the Community Risk Assessment. The budget programs are governed by designated program managers who work at varying rank levels across the department and individually bear responsibility for their program's performance and fiscal stewardship. BFR assess program performance on a quarterly basis. Additionally, prior to the beginning of each calendar year, BFR conducts year-end performance reviews to assess financial resource allocation across the department. This helps to determine if inter-department reallocation is needed or if a budget request for additional funds should be submitted to Central Budget, the City Manager and City Council for inclusion in future budgets. Budget requests are prioritized across the department to determine which are most pressing to address service level deficiencies or appropriate service enhancements. The requests must, at a minimum, align with the department's Master Plan, Standard of Cover and Risk Assessment.

Budget requests are then submitted to the City's Manager's Executive Budget Team (EBT) that is tasked with reviewing and prioritizing all citywide budget requests or reallocations. The EBT is a group of 7-10 executive/department directors that are appointed by the City Manager. The EBT review process ultimately culminates in approval or rejection of budget requests that get submitted to Council in the City Manager's Annual Recommended Budget. City Council then determines whether the budget requests are aligned with long-term citywide strategy and goals and approves, rejects or amends them.

Performance Indicators:

4A.1 The governing body and regulatory agencies give the agency appropriate direction in budget and planning matters within their scope of services.

Description

The governing body for Boulder Fire-Rescue is the Boulder City Council. The Boulder City Council adopts an annual budget in compliance with Boulder Revised Code as well as applicable Colorado Revised Statutes. The budget is used as an operational and financial plan to achieve the community's goals and desired outcomes as supported by long-range strategic documents such as the Boulder Valley Comprehensive Plan and the city's Resilience and Sustainability Framework. The city council communicates its priorities to city executive staff through the lens of these strategic documents with the expectation that departmental budgets will reflect these directives.

The city council provides annual direction to city staff at the beginning of the calendar year which is also the beginning of the budget development process for the next fiscal year. The budgeting process is a nine-month iterative process that requires all city departments to work collaboratively. This includes Boulder Fire-Rescue staff who works with the Central Finance and Budget Offices to gain an understanding of City Council's priorities during a given budget year. The first third of the budget development process involves setting the yearly action plan and financial context. The City Manager's Office communicates this message annually via budget guidelines and operating budget guiding principles. The second phase of the budget development process is an internal hearing in which BFR makes its case to the City Manager's Office for budget reallocation or additional budget support. Finally, the third phase is the presentation of the recommended city budget to the city council and the public. All along the process BFR gains feedback on its entire budget and has the opportunity to shift course, if necessary, to address changing circumstances and priorities. Ultimately, BFR staff builds a departmental budget that is in alignment with the city's needs.

Appraisal

The annual action plans issued by city council have lacked consistency or connection with messages from previous budget cycles for many years. And it is from this strategic void that BFR was, and continues to be, left on its own to determine how to structure its budget to maintain consistency with changing city priorities. This has historically lead to the BFR budgets reflecting short-term conditions rather than long-term service standards.

Plan

Boulder Fire-Rescue will continue to work closely with the City Manager's Office, Finance, the Budget Office and City Council to determine city priorities and their effect on BFR's service standards. The 2019-2020 update to the 2012 Fire Master Plan is forcing this issue. And in this effort, BFR staff will encourage the City Manager's Office and the city's Central Finance Office to work with City Council to expand the Boulder Valley Comprehensive Plan into short- and medium-term actionable budget strategies that more clearly define specific budget planning goals and objectives on an annual and multi-year basis.

References

[Boulder Revised Code Article VI – Section 93](#)

[Colorado Revised Statutes Title 29 Article 1](#)

[2015 Boulder Valley Comprehensive Plan Update, pages 87-88](#)

[City of Boulder Sustainability and Resilience Framework](#)

[City of Boulder 2019 Operating Budget Guiding Principles and Memo](#)

[2012 Fire Master Plan](#)

CC 4A.2 Policies, guidelines and processes for developing the annual budget are defined and followed.

Description

The City of Boulder's Central Budget Office is responsible for setting the city's budget preparation guidelines, policies and calendar. The City of Boulder utilizes a budgeting module within its financial enterprise system that serves as a budget and transactional record for both operating and capital budgeting purposes. The budget construction process occurs within the system and relies on a centralized workflow that ensures proper account coding, accurate fund balance accounting, and approval structures.

The city's Central Budget Office provides a set of operating budget development policies, short-term strategic budget messages and a budget development calendar by the end of the first quarter of a given calendar/fiscal year.

The Budget Office makes these guidelines and policies available via the city's intranet as well as by hard copy at request. These policies, guidelines, and calendars are clearly articulated to all departments, including BFR, and ensure that all departmental budgets are developed in accordance with Boulder Revised Code, Colorado regulatory requirements, and the city's strategic and budget action plans.

Appraisal

The city budget policies and guidelines have been somewhat effective in recent years, but they could have benefitted from more regular review and update as financial conditions and processes evolved in the City of Boulder. This is especially evident in policies related to capital budgeting. The policies have historically been vague in directing departments on how to establish and communicate clear relationships between operating and capital budgeting which has lead to capital investment plans being created and approved in isolation. And these capital projects have created associated operating/maintenance and replacement burdens that continue to remain unaddressed in the city's operating budget. This has led to facilities and equipment falling into states of disrepair as is evidenced by the state of the Facilities Maintenance Backlog and Facilities Renovation and Replacement Schedule.

Plan

BFR will continue to coordinate with the Central Budget Office to review and update budget policies, guidelines and processes as requested (by providing end-user perspective) to ensure a continuation of efficient and effective budget development. As BFR builds out its first real capital investment plan, BFR

will work with the Central Budget Office as a test case to amend budget policies in ways that reflect budgeting best practices especially regarding the interplay between capital and operating expenditures. In turn, it is expected that the Central Budget Office will continue to provide current and clearly articulated policies, guidelines and calendars in a timely manner during budget development.

References

[City of Boulder 2019 Operating Budget Guiding Principles and Memo](#)

[2019 Budget Calendar](#)

[Boulder Revised Code Article VI – Section 93](#)

[Colorado Revised Statutes Title 29 Article 1](#)

[2019 City of Boulder Budget Capital Improvement Plan, page 61-63](#)

[City of Boulder Facilities Maintenance Funding Options](#)

[City of Boulder Facility Renovation and Replacement Schedule](#)

4A.3 The financial planning/budget adoption process provides transparency for all expenditures and revenues for the agency.

Description

Colorado State Law (C.R.S 29-1-106) and the Boulder City Charter requires that a public hearing be held related to the proposed annual budget. The public hearing is posted and advertised online and in the local newspaper prior to the hearing. Colorado State Law (C.R.S 29-1-603) and Boulder City Charter also require that an annual audit be conducted on the City's financial statements. This audit confirms whether the city's financial statements conform with the generally accepted accounting principles (GAAP). The results of the audit are made available to City Council during a public meeting as well as posted to the city's website.

Appraisal

The City of Boulder has exceeded the statutory transparency requirements for many years. There has never been an instance where the city was ever flagged by the state for failing to meet transparency requirements. For example, the 2019 proposed budget, as was the case with prior year budgets, was made publicly available on the city website less than two weeks after submission to council and was provided online in an interactive format via a "Balancing Act" tool whereby the community could make direct suggestions about budget allocations (although the city has discontinued this tool due to lack of community interest and use). The city also provided an opportunity for feedback from the community by hosting at least three public meetings regarding budget development and adoption in which public comment was welcomed and facilitated. All the meetings were publicly televised both on a public access television channel and live-stream internet feeds. Once adopted, the city made the budget available on its website and provided hard copies for loan at the city's library branches.

Plan

The City and BFR will continue to make the budget process transparent by deliberating the budget in public, continuing to post the budget to the city website, and making the budget available electronically online and in hard copy at the city's library branches.

References

[Boulder City Charter Article VI- Section 93, Section 105](#)

[Colorado Revised Statutes 29-1-106](#)

[Colorado Revised Statutes 29-1-603](#)

[2018 City of Boulder CAFR and Audit Results pages 13, 17-19](#)

[2019 City of Boulder Budget Balancing Act](#)

4A.4 The budget process involves input from appropriate persons or groups, including staff officers and other agency members.

Description

The budget process requires collaboration among departments within the larger city organization as well as the departmental program and staff level. From a citywide perspective, the city budget process requires cooperation between individual departments, such as Boulder Fire-Rescue, the City Manager's Office, Central Finance and Budget Offices. This cooperation is achieved through a memo and a hearing process by which BFR receives budget development guidance during the initial stages of the budget development process, and BFR, in turn, provides budget proposal materials that are submitted through the Budget Office and presented to the City Manager's Office. These documents cover financial and budget policy issues as well as specific budget reallocation and/or additional requests. BFR receives feedback on its budget preparations at multiple stages through the budget development process with BFR's senior budget analyst in near constant contact with the city's Finance and Budget offices.

Also from the context of the larger city organization, the budget process requires collaboration between service level departments, such as BFR, and internal service departments that provide administrative overhead and financial management. A good portion of the BFR's equipment, fleet, and capital maintenance funding is managed by the Support Services Division in the Public Works department and the Information Technology department through restricted internal service funds. BFR staff works closely with these internal service departments to strategically plan for maintenance and replacement of its capital stock including apparatus, PPE, equipment, computers, fleet vehicles and more.

From an internal department perspective, BFR transitioned to a program-based budgeting model in 2018-2019 to solicit greater departmental feedback. Prior to the launch of program-based budgeting, BFR's budget was managed exclusively by the Office of the Chief. The new process aligns program budget responsibility of the department's functional program areas to program managers. These mid-level personnel manage the day-to-day operations of their programs, monitor spending and prepare annual budgets and budget requests.

Appraisal

Collaboration with and among city departments (including BFR) and city executive management has been effective during the budget development and management process for many years. Collaboration among internal BFR departmental personnel in budget development and management was a new

concept for the department in 2018 and will require further refinement. With the decentralization of budget responsibility in 2018, the program managers and station captains were still in the process of learning citywide budgeting and fiscal management philosophies, policies and procedures. Additionally, the performance management element of the program-based budgeting mechanism was still under development and yet to be fully rolled out.

Plan

BFR will continue to transparently and collaboratively work with other city departments as well as the city's executive management to develop and manage its departmental budget in alignment with city priorities. BFR plans to apply data and performance-driven objectives to frame the budget conversation with internal departmental program managers and, with this data in hand, will continue its rollout and refinement of program-based budgeting in the coming years. Combined, this will ensure that all the key stakeholders in BFR's budget actively participate in annual budget development.

References

[2019 Budget Request Template](#)

[2019 Budget Calendar](#)

[BFR Program Based Budgets Performance Metrics](#)

4A.5 The annual budget, short and long-range financial planning, and capital expenditures are consistent with agency priorities and support achievement of the agency's strategic plan and goals and objectives.

Description

The City of Boulder's budget is an annual reflection of the city's plan to achieve the tenets set forth the Boulder Valley Comprehensive Plan (BVCP). The BVCP is the vision for the entire Boulder Valley that covers all aspects of community from land use, to the natural environment, to social and economic character, to service delivery standards for local government. Additionally, the City of Boulder relies upon a financial strategy called the Blue Ribbon Commission along with the Community Sustainability Framework to translate Boulder's long-term goals into medium- and short-term objectives. Taken a step further, City of Boulder's departmental master plans provide further specification on the operational and funding priorities of individual departments to achieve the community's vision. BFR is included in this strategic framework with its Fire Master Plan that is updated roughly every five years.

Appraisal

The Boulder Valley Comprehensive Plan has not provided a strategic plan for the city nor BFR in achieving the communicated vision, especially as it relates to public safety. The has forced the city to rely on the Resilience and Sustainability Framework to direct city efforts at a more strategic level, in accordance with financial plans as described in the Blue Ribbon Commission. In practice, the Resilience and Sustainability Framework has provided little more than a listing of the categories of community priority but has not provided any sort of rank priority or methods to achieve them. The Blue Ribbon Commission was designed as a fiscal strategy document that should provide real-time influence on the financial direction of the city. To do so, it needed to be updated at least in 2015 to keep current with changing financial conditions. However, the last update was nearly nine years ago in 2010. Thus, these insufficient strategic documents have left, and continue to leave, a strategic void in which departmental master plans become the most important strategic documents within the city. These master plan documents have tended to drive budget decisions in the years in which they are updated for a department which has created a reactionary budgeting style rather than a forward looking and strategic approach.

Plan

BFR will continue to work with the City Manager's Office and city Finance to structure its budget and financial planning in as close alignment with city strategy as best it can determine. However, BFR will encourage the development of a more precise and concise strategic plan that lays out priorities,

especially pertaining to public safety. In the absence of such a strategy, BFR will continue to rely on its master plan to direct departmental priorities in the hopes that they continue to resonate with the community in the medium and long-terms.

References

[2019 City of Boulder Budget](#)

[2019 City of Boulder Budget Capital Improvement Plan](#)

[2015 Boulder Valley Comprehensive Plan Update, pages 87-88](#)

[City of Boulder's Blue-Ribbon Commission 2008 Report on Revenue Stabilization](#)

[City of Boulder's Blue-Ribbon Commission 2010 Phase II Report](#)

[2012 Fire Master Plan](#)

4A.6 Budgeted expenditures are consistent with projected financial resources.

Description

The City of Boulder develops every annual budget to balance to anticipated revenues. In the event of revenue windfalls or shortfalls, the city makes mid-year adjustments through the Adjustment to Base process to align revenues and expenditures.

Appraisal

The City of Boulder has run a balanced budget for the last five years without negatively affecting any fund balances, unappropriated reserves, or restricted reserves. In fact, in five of the last six budget cycles (2014-2019), Boulder amended the budget mid-year to account for additional revenue-supported spending. The mid-year adjustments added an average of \$10.3 million to the city's general fund budget equating to an average of nearly 7.9%. The only exception to this trend was in 2018 when the city was forced to make mid-year spending reductions to be in line with lower projected sales tax receipts. Even then, the expenditure reductions exceeded the revenue shortfall (which never actually materialized) and this led to budget surpluses at year-end. Nevertheless, expected future revenue deterioration motivated the city to expand expenditure reduction initiatives into 2019. Boulder Fire-Rescue contributed to this fiscally responsible approach by offering its share of strategic reduction initiatives that amounted to a \$400,000 or 2% reduction.

Plan

The City of Boulder will budget expenditures to be in line with projected revenues. The city will also continue to monitor revenues throughout the year and make mid-year budget adjustments as necessary. Boulder Fire-Rescue will continue to be responsive to city austerity measures when requested.

References

[City of Boulder Budgets 2012-2018](#)

[2019 City of Boulder Budget](#)

Ordinance 7972– Adjustment to Base June 2014

Ordinance 8406 – Adjustment to Base June 2015

Ordinance 8120 – Adjustment to Base June 2016

Ordinance 8183 – Adjustment to Base June 2017

Ordinance 8183 – Adjustment to Base June 2018

Ordinance 8248 – Adjustment to Base June 2019

Criterion 4B: Financial Practices

Financial management of the agency exhibits sound budgeting and control, proper recording, reporting, and auditing.

NOTE: An agency that has already received the Certificate of Achievement for Excellence in Financial Reporting (Certificate) from the Government Finance Officers Association (GFOA) for their Comprehensive Annual Financial Report (CAFR) may submit that certificate and their Comprehensive Annual Financial Report as prima facie compliance with this criterion. (The agency need not address performance indicators 4B.1 – 4B.10). Reciprocity for this is acknowledged by review of the GFOA's process for reviewing CAFRs submitted to its Certificate Program.

Summary:

The City of Boulder received a Certificate of Achievement in Excellence for Financial Reporting from the Government Finance Officers Association of the United States and Canada for its Comprehensive Annual Financial Report for 29 consecutive years. The City submits these reports as prima a facie compliance with this criterion.

[City of Boulder 2018 CAFR, pages 10-13](#)

Performance Indicators:

4B.1 Financial resources management adheres to generally accepted accounting practices (GAAP) as used by Government Finance Officers Association (GFOA) of the United States and Canada, National Advisory Council on State and Local Budgeting Practices (NACSLBP), or authority having jurisdiction (AHJ), and all financial management including: budgeting, accounting, and reporting. Appropriate safeguards are in place for expenditures, fiscal reports are provided for administrative decision making, and sufficient flexibility exists to meet contingencies.

Description

See Criterion for 4B

4B.2 Financial administration responsibilities are organized into specific assignments, which are supported by specific clearly-defined policies.

Description

See Criterion for 4B

4B.3 The agency explains projected operating deficit (expenditures exceeding revenues in a budget year) and develops a plan to rectify the deficit.

Description

See Criterion for 4B

4B.4 The agency establishes and meets a schedule for review of financial reports.

Description

See Criterion for 4B

CC 4B.5 Qualified auditors conduct annual independent financial audits for the prior fiscal year. If deficiencies exist, the agency makes plans to resolve audit exceptions.

Description

See Criterion of 4B

4B.6 The agency and any subsidiary entities or auxiliaries have financial risk management policies and programs that protect the agency and its assets.

Description

See Criterion for 4B

4B.7 Programs designed to develop financial support from outside sources are planned and coordinated to reflect the objectives of the agency. Agency policies govern all fund raising activities; comply with GAAP and/or other recognized financial principles; and are subject to public disclosure and periodic independent financial audits.

Description

See Criterion for 4B

4B.8 Any revenue producing organizations permitted to use the agency's name and/or reputation conform to agency principles of financial operation.

Description

See Criterion for 4B

4B.9 The agency provides financial management policies on any grant program where funding is received from an outside source. Provisions to ensure compliance with all granting agency requirements must be outlined and monitored.

Description

See Criterion for 4B

4B.10 The agency has adopted policies of the financial management program which sets, and utilizes fees and charges.

Description

See Criterion for 4B

Criterion 4C: Resource Allocation

Appropriately allocated financial resources support the established organizational mission, the stated long-term plan, goals and objectives, maintain the quality of programs, and services.

Financial stability is a fundamental aspect of an agency's integrity. The agency must ensure that programs and services provided can be supported by the necessary fiscal resources using sound budgetary practices.

Summary:

The City of Boulder uses its annual budget as the operating tool to achieve priorities and goals as set by the community and enacted by City Council through the legislative process. The budget is developed in alignment with long-term financial strategies while also reflecting changing economic and financial conditions. The City of Boulder achieves its service mission through the revenues generated by a combination of sales tax, property tax, and fee revenues. The city funds its operations and capital investment through a series of restricted funds that designate both revenues and expenditures for specific voter-approved purposes. Boulder Fire-Rescue is supported by the General Fund.

The City of Boulder's General Fund is governed by a series of policies and guidelines that ensure the long-term stability of the fund. These policies and guidelines set the standard for revenue projections, fund management including cash flow and yield optimization, industry-standard procurement practices, and contingency planning. Within the context of these controlling policies, the City of Boulder prioritizes available resources to achieve community outcomes that are consistent with the community's need and vision.

Performance Indicators:

CC 4C.1 Given current and anticipated revenues, the agency can maintain adopted levels of service.

Description

The Boulder Revised Code, as well as Colorado state law, dictates that the City of Boulder must manage a balanced budget and take all required steps to ensure continued operational funding for services and capital investment. The first part of the annual budget process involves an analysis of economic conditions locally, regionally, and nationally. This analysis takes current conditions and compares the economic environment with the city's long-range financial plan that is intended to be updated every five years. This exercise informs the city's position on projected sales and use tax receipts, property tax receipts, and fees for service in the short-, medium- and long-term. These revenue projections form the basis of the following year's expenditure budget, especially as it relates to the General Fund which supports almost all of Boulder Fire-Rescue's operations and capital maintenance. The General Fund derives nearly 70% of its \$135 million from the Sales and Use Tax and Property Tax both of which can be greatly influenced by local, regional and national economic factors. The operating and capital budgets are adjusted at least twice a year during the Adjustment to Base Budget Process based upon prevailing short-term economic and service need conditions.

Appraisal

City Sales and Use Tax revenues have increased year-over-year for the past six fiscal years with a compound annual growth rate (CAGR) of 4.3% over the period, ending 2018 with \$135 million in annual collections. Property tax revenue has experienced even stronger growth since 2012 with an 8.0% CAGR over the period ending at \$44 million in annual collections. Even with the strong revenue growth, the City of Boulder recently experienced a budget deficit in 2018 with structural deficits projected indefinitely into the future. These deficits were the result of the nature of revenue projections being misinterpreted during the 2013-2017 budget cycles that lead to a misalignment of one-time revenues with ongoing expenses. A resurgence of the Construction Use Tax following the 2008-2009 real-estate lead recession led to outsized construction use tax revenues that were projected to continue at the same elevated levels into the future. This methodological mistake was realized in 2018 when real estate development normalized, and, despite overall citywide revenue increases, the city trimmed its expenditure budget with Boulder Fire-Rescue experiencing a 2.3% budget reduction. The department was able to absorb this reduction with no effect to adopted levels of service at current demand.

Plan

The City of Boulder reduced its budget in 2018 and 2019 and has adopted a more conservative approach to budgeting for future years that involves using more robust revenue projection methods as well as expense control using strategies such as administrative function consolidation (including staffing reductions) and streamlining of duplicative city functions. The city is also actively exploring putting tax increase ballot measures before voters to shore up funding for essential public services. The combination of these efforts will allow the City and BFR to grow funding for core services and ensure that services are maintained.

References

[City of Boulder Financial and Management Policies](#)

[Boulder Revised Code Article VI– Finance and Record](#)

[City of Boulder Revenue Report – December 2018](#)

4C.2 The governing body has an investment policy.

Description

The investment of city funds is governed by the City of Boulder Investment Policy and Colorado Revised Statutes. The City of Boulder's investment policy allows for delegation of authority to the city's Chief Financial Officer who is tasked with developing the policy, updating it as necessary, and funding investments in accordance with the policy. The city implements a conservative investment strategy that prioritizes the preservation of capital and maintaining sufficient liquidity while earning fair returns on investments.

Appraisal

The city's investment policy has been adequate in minimizing risk, but has lagged from an investment performance perspective as stated in city policy. As of March 31, 2019 the city's cash investment portfolios have reflected sufficient liquidity with 3.37% of the portfolio maturing within 30 days. The city's cash investment portfolio has generated annualized returns of 1.99% which has lagged the benchmark (the trailing two-year average on the 24 month Treasury) by 0.65%.

Plan

The city's Chief Financial Officer will continue to manage investments in alignment with the adopted City of Boulder's Investment Policy and will also periodically reevaluate and update the policy to keep it consistent with the city's stated policy goals, optimal risk management, and competitiveness given prevailing market conditions. In the medium term, the city will shift the weighted average maturity of the portfolio from its current level of 1.50 years to closer to 2 years to achieve a better annual yield and close the gap in performance relative to the 2-year Treasury benchmark.

References

[Boulder Revised Code 2-10-4 – Investment Objectives](#)

[Colorado Revised Statutes Title 15, 15-1-304, Standard for Investments](#)

Council Agenda Item 3P – March 7, 2017 - Second reading and consideration of a motion to adopt Ordinance 8169 amending Title 2 “Investment of City Funds”

[2019: Quarter 1 City of Boulder Investment Report](#)

4C.3 Policies, guidelines, and processes exist for procurement practices within the agency.

Description

The City of Boulder's Purchasing Division within the Central Finance Office is responsible for developing, maintaining and enforcing citywide purchasing policies, guidelines and processes to ensure all departments remain in accordance with applicable law and industry best practice. The Purchasing Division provides comprehensive policies that are available to all city staff via the city's intranet. These purchasing guidelines cover all methods and manners of procurement and include prescriptive guidelines for purchases within the city's purchasing card program, competitive bidding procedures including RFP management, vendor type specific contracting methods, and overall purchasing criteria. The policies and guidelines are ultimately underpinned by directives that are written in to the Boulder Revised Code. In general, the Purchasing Division maintains indirect control over the procurement process by delineating procedures based on the dollar amount of purchases with breakpoints at \$999, \$9,999, and \$49,999.

Appraisal

The City of Boulder's Purchasing Division has done an adequate job of managing procurement policies, guidelines and processes citywide. The division last made recommendations on updates to purchasing policy within the Boulder Revised Code in 2012 and the division has captured the procurement process within the city's ERP financial system by programming designated approval workflows, document retention requirements, and audit file structures. Processing procurement within this system has forced, and continues to force, departmental compliance with review, approval and competitive bidding procedures. Purchasing policies and guidelines have been successful in ensuring that all city departments, including Boulder Fire-Rescue, have prudently and responsibly managed public funds in providing its service portfolio.

Plan

The City of Boulder's Purchasing Division will continue to maintain and enforce the set of policies and guidelines while continuing to reevaluate purchasing process changes needed to further economize the purchasing process in the city. Specifically, the Purchasing Division is proposing a shift to more centralized vendor management for recurring purchases in 2020, i.e., supplies, equipment and third-party services that are common among departments. This centralization is anticipated to lead to better contract negotiating leverage and lower overall cost through volume discounting.

References

[City of Boulder Purchasing Matrix](#)

[Purchasing Process Flow Chart](#)

[Proposal Review Guidelines](#)

[Informal Bids/Proposal Bidding Procedures](#)

[Sole/Single Source Justification Policy](#)

[Boulder Revised Code Section 2-8](#)

4C.4 Plans exist for the payment of long-term liabilities and debts.

Description

The City of Boulder maintains a Debt Policy as part of its set of overall Financial and Management Policies. The debt policy states that the City of Boulder's debt load cannot exceed three percent of the assessed valuation of taxable property within the city. Debt shall only be considered for capital purchases and projects, and the debt shall not extend the useful life of the financed asset. The city tracks all continuing disclosure requirements following the issuance of debt. The term(s) and interest rate(s) for issued debt is in accordance with the language of the debt-issuance ordinance as submitted and approved by voters. The city sells bonds to the responsible bidder with the lowest true interest cost to the city when using competitive bond sale methods. The types of permissible debt are municipal bonds, interfund loans, equipment leases (vehicles excepted), and sale/leaseback agreements.

Appraisal

As of December 31, 2018, the City of Boulder had a total of \$24.3 million in General Obligation bonds supporting both Governmental and Business-Type Activities. None of this debt is supported by property tax and is therefore not governed by legal debt margin requirements. However, if property tax was used to service the debt, the \$24.3 million compared to a total assessed property valuation of \$3.7 billion within city limits yielding a 0.66% indebtedness ratio that falls under the 3% cap. All debt was used to finance the purchase and/or construction/acquisition of capital assets with useful lives extending beyond respective amortization schedules. The weighted average interest cost on all outstanding debt is 3.8% which falls within competitive rates for the time periods of issued debt ranging from 2006 through 2018.

Plan

The City will continue to maintain compliance with its debt policy as set forth in its financial and management policies.

References

[City of Boulder Financial and Management Policies](#)

[2018 City of Boulder CAFR pages 258-259, 284](#)

4C.5 The agency projects future asset maintenance costs are projected with related funding plans.

Description

The City of Boulder has a six-year rolling Capital Improvement Plan (CIP) that is included as part of the annual budget. Capital maintenance, at \$249 million in cumulative spending over the six years, is the largest budgeted category of capital spending over the time period. The other five include land acquisition, capital enhancement, capital planning studies, and new capital projects. Fire station major maintenance is part of the capital maintenance funding budget and represents BFR's only representation in the CIP outside of an approved fire station relocation that was funded through a special temporary 0.03 cent sales tax. BFR's capital projects and funding stream is managed by the city's Facilities and Asset Management (FAM) division within the Department of Public Works. FAM has budgeted and projected to spend a cumulative total of \$885,000 on fire station major maintenance by 2024.

The Capital Improvement Plan dictates that any project included in the CIP as an acquisition or new capital project include annual operating and maintenance costs as part of the project. These costs are to be fully funded on an ongoing basis out of the city's operating budget.

Appraisal

Projected capital maintenance funding (as well as an absence of capital enhancement funding) for Boulder Fire-Rescue's assets has been insufficient in keeping the department's facilities maintained and constructed to an acceptable and safe standard. According to study conducted in 2015, "all of Boulder's fire stations are missing critical features for the crews and the emergency services that BFR provide the community. Station(s) lack appropriate living and safety features...Boulder's fire stations do not compare well with other stations in the region." The City of Boulder did take efforts to remedy space constraints with Fire Station 3 by voting in a temporary tax to fund the station's relocation. Construction on this new station is slated to begin in 2021.

Plan

Boulder Fire-Rescue will work with Finance, FAM and the City Manager's Office to stress the importance of capital investment in fire infrastructure. BFR will seek to establish a dedicated source of funding for capital enhancement, maintenance, and replacement to ensure that infrastructure needs are no longer ignored.

References

[2019 City of Boulder Budget Volume II \(Capital Improvement Plan\) pages 33-35, 61-63](#)

[Budget Operating and CIP Guiding Principles](#)

[Study Session – April 14, 2015: Fire Department Operations – Service Sustainability and Resilience](#)

4C.6 Financial plans avoid the use of one-time funding sources to cover ongoing costs unless plans are provided to ensure a means of continuity for personnel resources and capital assets.

Description

The City of Boulder maintains strict policies regarding the recognition and matching of one time and ongoing revenues and expenses. The City of Boulder's Financial and Management Policies explicitly prohibit the use of one-time funds to pay for ongoing expenses. This principle is repeated in the budget development guidelines that are distributed to city staff every year in preparation of the city's budget.

Appraisal

The city has done an adequate, but not perfect, job of identifying both one-time and ongoing revenues and one-time and ongoing expenditures and not linking the latter to the former and vice versa. This budget policy has served the city well for the most part. However, as noted in Indicator 4C.1, the city failed in its recognition of construction use tax revenue that was generated following the recession of 2008-2009. The city enjoyed several years of heightened construction use tax revenue as the real estate industry recovered from multiple years of almost non-existent real development activity. This higher base was incorrectly projected to continue indefinitely into the future and this led to ongoing expenditure approval that did not have a sufficient revenue base to support it.

Plan

In the effort to achieve more accurate revenue forecasting, the city is planning to implement an econometric revenue forecasting model that will more accurately capture one-time and volatile revenue streams such as construction use tax. The city is also more strictly enforcing its expenditure/revenue matching policy that links one-time revenues to one-time expenditures. It is anticipated that this revenue model and recommitment to spending discipline will prevent future one-time (cyclical) revenue sources from being erroneously considered ongoing leading to budget deficits.

References

[City of Boulder Financial and Management Policies – Section 1: Budget Policy](#)

[City of Boulder Budget Operating Guiding Principles](#)

4C.7 The governing body has adopted a general fund reserve policy and established a time frame to meet established reserve fund levels. Operating revenues or expenditures should be established as the basis of the fund policy.

Description

The City of Boulder does not have a city council approved general fund reserve policy. Instead, the General Fund reserve policy is set administratively by the city manager. The city began with a 15% reserve in 2015 and has been diligently directing a cumulative 1% annually to the reserve every year since. During the 2018 budget year, the City of Boulder maintained an 18% General Fund reserve with a stated administrative policy of increasing this reserve to 20% by the year 2020. During the budget development process, this additional 1% reserve is withheld from resource availability discussions and becomes an automatic inclusion in the budget, notwithstanding unforeseen circumstances. The Government Finance Officers Association recommends that the city maintain at least 2 months' worth of operating reserve which amounts to 16.7%.

Appraisal

The City of Boulder has consistently achieved its stated target of building towards a 20% General Fund reserve by 2020 with 19% targeted in 2019. As mentioned above, the city began with a 15% reserve in 2015 and has been directing a cumulative 1% annually to the reserve every year since. Given Boulder's risk profile, the city's finance office is adequately maintaining city reserve levels above the recommended 16.7%

Plan

The City Manager's Office and the Finance department will continue to work towards the 20% General Fund reserve by 2020. BFR will support the City Managers Office and Finance department in this effort and also encourage the General Fund reserve policy to be officially adopted by council rather than leave it as an administrative directive.

References

[City of Boulder 2019 Budget Volume I – pages 16, 173](#)

[City of Boulder Financial and Management Policies](#)

4C.8 The agency maintains contingency funds in accordance with generally accepted accounting practices (GAAP) recommendations and anticipate budgetary restrictions and or shortfalls.

Description

All of City of Boulder’s operating funds are required to maintain a fund reserve of at least 10% of annual appropriations. These contingency funds are set aside and can only be appropriated for use with specific council intent via adopted ordinance. These reserves demonstrate the city’s commitment to fiscal responsibility as evidenced by the city’s AAA (Standard & Poors) score.

Appraisal

The City of Boulder has maintained at least 10% reserve funding in all operating funds. The City’s enterprise funds has maintained an average of nearly 25% in reserve.

Plan

The City of Boulder will continue to meet its reserve policies for all its operating funds.

References

[City of Boulder Budget Volume I – pages 243-244](#)

Category V: Programs

This category is defined as the agency services, activities, and responses provided for the community or facility that are designed, organized, and operated in compliance with the agency’s mission, goals, and objectives. Category VIII – Training and Competency, however, appraises the level of proficiency with which personnel actually perform within these programs.

The key elements used to evaluate these services are: adequacy, deficiency, effectiveness, methods, and results of programs. For purposes of accreditation, these terms are defined within the glossary.

The agency’s mission, goals, and objectives should determine the applicability of all the listed programs. The agency should decide the relevancy of each criterion in their self-assessment manual. For criteria in Category V “Programs” that are not applicable to the agency, the agency should briefly explain why it does not provide this program.

Criterion 5A: Community Risk Reduction Program

The agency operates an adequate, effective, and efficient program to manage community risks as identified in the community risk assessment and standards of cover. The approach is comprehensive and includes both prevention and mitigation strategies such as life safety, hazard risk reduction, plan review, code compliance, and the detection, reporting, and control of fires. The agency should conduct a thorough risk-analysis as part of activities in Category II to determine the need for specific community risk reduction program.

Summary:

Boulder Fire Rescue (BFR) Community Risk Reduction (CRR) Division currently consists of the Chief Fire Marshal, Deputy Fire Marshal (DFM), two Fire Inspectors, one Fire Protection Engineer (FPE), two Fire and Life Safety Educators and one Administrative Assistant. All positions are full time with the FPE, Safety Educators and Administrative Assistant being civilian held positions. The Chief Fire Marshal, DFM, Fire Inspector and FPE also serve in the role as the BFR fire investigators. Each individual position performs various tasks that accomplish the fire and life safety goals of the CRR Division.

CRR is responsible for the enforcement of the city's adopted fire code, issuing construction permits for new and remodeled fire protection systems as well as conducting a final acceptance test of the new or remodeled fire protection systems. Community outreach consisting of general/targeted education programs, specific training for "at-risk" groups, training on specific risk such as flood and wildfire and programs that help ensure the safety and health of our community are also managed within CRR.

Overall, the Chief Fire Marshal manages the CRR division and reports to the Deputy Chief of Support Services. The DFM and Fire Code Inspector oversee the enforcement of the fire code. This is mainly accomplished through a detailed inspection program that is managed within CRR as well as performing target inspections for specific occupancies. The FPE reviews engineered plans for fire protection systems and issues appropriate construction permits. This program conducts appropriate inspections associated with construction permits and approval for final occupancy. Community outreach is managed by two Life Safety Educators.

The City of Boulder has adopted the 2012 International Fire Code (IFC) with amendments as well as the 2012 International Wildland-Urban Interface Code (WUI) as its fire code. The 2018 IFC and WUI is scheduled to be adopted by the end of 2019 and going into effect the first quarter of 2020.

CRR also conducts fire investigations when necessary. The Chief Fire Marshal serves as the lead investigator with the DFM, Fire Code Inspector and FPE serve as department investigators as well. Investigations are conducted on an as-needed on-call program. A fire investigator is utilized if the origin or cause of the fire or explosion is not readily known and/or the fire officer in charge of the scene needs assistance.

Performance Indicators:

CC 5A.1 The authority having jurisdiction has an adopted fire prevention and building code(s).

Description

Currently, the City of Boulder has the 2012 IFC with amendments adopted. The adoption of the 2012 IFC with amendments became effective in the first quarter of 2013. The City of Boulder adopts a series of codes published by the International Code Council (ICC) to work as a set (or a family) including the International Building Code (IBC), International Mechanical Code (IMC), International Plumbing code (IPC), International Residential Code (IRC), International Wildland Urban Interface Code (IWUIC) as well as several other. In cooperation with the Chief Building Official, recommendations are made to City of Boulder's city council for the adoption of the codes as a set. Input for the IFC adoption, with amendments, is given by the Chief Fire Marshal. Upon approval by city council, the adopted fire code is codified as a municipal ordinance (Boulder Revised Code - BRC).

Appraisal

The adoption process has been in conjunction with the other I-codes that are used within the city. This acceptance process has proven to be positive and effective in code adoption. The City of Boulder does not have a time frame for the adoption of the most current or published I-codes. It was agreed mutually that the 2015 set of I-codes would not be adopted based on minimum changes that occurred within that edition.

Plan

Chief Fire Marshal will continue to keep an open dialog with the Chief Building Official concerning the timely adoption of the most recent IFC. Boulder Fire-Rescue will continue to maintain the adopted IFC with minimal amendments.

References

[Boulder Revised Code, Title 10, Chapter 8, pg 1](#)

2012 International Fire Code (FMO's Office)

2012 International Wildland-Urban Interface Code (FMO's Office)

CC 5A.2 The code enforcement program ensures compliance with applicable fire protection law(s), local jurisdiction, hazard abatement, and agency objectives as defined in the community risk assessment and standards of cover.

Description

Boulder Fire-Rescue's Community Risk Reduction (CRR) Division has a code enforcement program which complies with the adopted fire code. The enforcement program consists of two parts: plan review/permit issuance and fire code inspections of existing buildings.

All development and construction documents are reviewed and approved, and permits are issued for any work that involves fire protection systems. Inspections are conducted on permitted work at various stages of the construction. Inspections are based on the adopted fire code, and the respective standards referenced in the code.

Existing buildings are inspected by an engine company officer, the Fire Code Inspector, and Deputy Fire Marshal. Frequency of inspections varies depending on the type and risk associated with the building. Buildings that are considered a high hazard (chemical plant), large occupancies or occupant load, hospitals, education facilities, fraternal organizations are example of buildings that are inspected annually. Other buildings that have a lower risk occupant such as business occupancies and mercantile are inspected every other year. The goal of fire inspections is to initially achieve voluntary compliance by the building's owner/occupant by informing them of the code violation with an educational approach. In cases where compliance cannot be accomplished, or the violation creates a severe or immediate threat to life safety, an escalated enforcement method can be implemented including legal action.

The fire code inspection program is recorded in the department's Firehouse software system and managed by the Fire Code Inspectors. Existing buildings are reviewed for code compliance on an annual basis, or every other year, depending on the use of the building or space. Engine company officers conduct most initial inspections. Certain occupancies, such as schools, mobile food vehicles, the cannabis industry, and fraternal housing, are conducted by CRR staff. All re-inspections are conducted by CRR staff. When a maintenance inspection reveals there are violations concerning building, mechanical or electrical issues, CRR staff informs and works with the Building Code Compliance supervisor to have the violations corrected.

Appraisal

The engineering review of new or remodeled construction is adequate and achieves compliance with the adopted fire code and referenced standards through the process described above. All inspections for both new and existing construction are conducted to achieve code compliance either through direct compliance or application of alternative materials and methods as coordinated through the review process. In April of 2018, the City of Boulder implemented a new permitting software system that allows all plans to be submitted and tracked electronically. Permits are issued through an online portal. This is a significant improvement to the tracking and record retention for the review and approval of the fire suppression system.

Businesses who are inspected and have violations identified during an engine company inspection are given a certain time to correct the violation(s) before a re-inspection occurs. All noted violations are closed and resolved at the end of the inspection year.

Fire protection systems that require periodic inspections, testing, and maintenance are required to have the ITM reports submitted to BFR through The Compliance Engine (TCE). The TCE is a cloud base software tracking system that the inspecting contractor uploads their reports for review by BFR.

Plan

Evaluation and analysis of all phases and components of the fire inspection program will continue to pinpoint possible improvements to increase the program's effectiveness.

References

2012 International Fire Code

Power BI – CRR Dashboard on site

[Power BI and ESRI Screenshots](#)

CRA/SOC – page 77

Common Violation/Re-inspection Time Form

CC 5A.3 The program has sufficient staff with specific expertise to meet the community risk reduction program goals, objectives and identified community risks.

Description

Community Risk Reduction (CRR) Division consists of the Chief Fire Marshal, Deputy Fire Marshal, two Fire Code Inspectors (FCI), two Life Safety Educators (LSE) and one Fire Protection Engineer (FPE). The two LSE and the FPE are civilian employees within the department. The Chief Fire Marshal, Deputy Fire Marshal, FCI and FPE may also serve as fire investigators. All positions are full time. These positions have been deployed in a manner to meet the goals of the community risk reduction program.

Programs include public education, public relations/information, fire code or life safety violation complaints, annual existing business inspections, plan review and permit issuance, permit inspections, land use/development reviews and fire and explosion investigations.

Public education and outreach events are organized and performed by the two LSEs. Assistance from other CRR staff, as well as personal from engine companies, are utilized when needed for a planned event.

Appraisal

The workload in these programs has been identified as being higher than in previous years.

Development activity has been increasing and the demand for public education services is also on the rise. In addition, the division does not currently conduct inspections on multifamily residential occupancies.

Plan

CRR staff will continue to maintain the current level of performance with the resources available. By the end of 2019, the Chief Fire Marshal will evaluate divisional workload. This evaluation will include the potential for reprioritizing tasks, utilizing modern technology, and the possibility of adding additional personnel in order to keep up with increasing demand. Multifamily residential occupancies will start being inspected (common areas and exterior areas) in the 2020 inspection cycle.

References

[CRR Division Org Chart](#)

[Job Descriptions for CRR Staff](#)

[Boulder Fire Rescue – Fire permit #'s by year](#)

5A.4 A plan review process ensures that adopted codes and ordinances determine the construction of buildings and infrastructure (such as hydrants, access, street width).

Description

The Community Risk Reduction (CRR) office reviews plans and issues permit for all new and remodeled fire protection systems. This review process is done through the city's online Land Management, Licensing, Permitting and Code Enforcement System (EnerGov). All reviews, comments, approvals or requests for re-submittal and permit issuance is completed through the Energov program and is a completely paperless process. Plans that are submitted for review are reviewed within a two-week window of submission. Some circumstances may exist that will extend the two-week window such as incomplete submissions and/or the construction schedule.

New development plans are also reviewed through the Energov system by which the city planners add documents that require or would like input from the fire department. These reviews are typically concerning emergency access and water supply.

Appraisal

The online plan review process allows the contractor to track their plans from when they are uploaded, when the plan review is initiated, comments from plan reviewer are made, and notifies them that the plans have been approved. In addition, the process also issues an invoice for plan review fee and allows them to print their permit. This has been proven effective as BFR is generally able to meet its review timelines and inspections indicate that projects are code compliant at the conclusion of the review and inspection process.

The Energov system also maintains and informs plan review staff that the contractor license is current as well as if the contractor has any outstanding or past due fees. If the contractor license has expired a permit cannot be issued. Likewise, if the contractor has not paid for their permit, they cannot request an inspection for that job. The Fire Protection Engineer handles most of the plan reviews concerning fire protection systems. The Chief Fire Marshal performs the new development review and works directly with the Planning Department.

Plan

The plan review process is current and up-to-date with no immediate plans to implement any changes. The Fire Marshal will continue to monitor plan review times to maintain a turn-around time of two

weeks and ensure construction projects are complying with the city's adopted fire codes and installation standards.

References

[Screenshot of Energov Portal](#)

[Tylertech.com/products/energov](http://tylertech.com/products/energov)

<https://bouldercolorado.gov/plan-develop/building-permits>

<https://bouldercolorado.gov/plan-develop/energov>

<https://bouldercolorado.gov/plan-develop/contractor-licensing>

<https://bouldercolorado.gov/plan-develop/fire-contractor-license>

CC 5A.5 The agency conducts a formal and documented appraisal, at least annually, to determine the impacts of the community risk reduction program and its efforts in risk reduction based on the community risk assessment, standards of cover, and measures performance against adopted loss reduction goals.

Description

BFR began to establish the framework for formal and documented appraisals in 2018. Program managers were asked to define the program's mission and goals and develop performance measures for their program. In April 2019, the first formal program appraisal for each program area was completed. The process in place going forward is to complete a program appraisal quarterly.

Beginning in Q1 2019, the department began to formally report on the reduce fire code violation time to remedy by 10% year over year (YOY), increase inspection of hood and sprinkler system installation by 5% YOY, relative to current state and 2-week turnaround time on inspection of new construction 75% of the time; increase % per year until 100% achieved.

Appraisal

In 2019, the formalized quarterly appraisal process was implemented. To date, the exercise has brought more awareness to data management and performance measurement.

Plan

The data and analytics project manager and deputy chief of support will evaluate the efficiency and effectiveness of the program appraisal process by Q2 of 2020. At that point, the annual report of CRR programs will be compared to the Community Risk Assessment to identify areas that need additional attention as well as areas where CRR programs are working.

References

[Program Appraisals Q1/Q2](#)

Power BI – CRR Dashboard (on site)

[Power BI and ESRI Screenshots](#)

5A.6 The community risk reduction program identifies the frequency that occupancies are inspected.

Description

Currently, every commercial building in the City of Boulder is inspected, at minimum, every other year. The frequency in which existing buildings are inspected is either annually or every other year based on their address; Operational Directive Series 3800 outlines the inspection process. When the department incorporated Firehouse software as its records management system, it was decided, based on the ability of the program, that even-numbered addresses are inspected on even years, and odd-numbered addresses are inspected on odd years. Occupancies that create a higher hazard or have a potential of higher life loss in an incident are inspected annually. Examples of occupancies that are inspected annually are assembly occupancies, occupancies that produce or have large quantities of hazardous materials, educational facilities, and manufacturers.

Occupancies such as large buildings that take a longer time to inspect, cannabis industry, educational occupancies associated with Boulder Valley School District (BVSD), and fraternities/sororities are inspected by the Deputy Fire Marshal or one of the two Fire Code Inspectors within CRR.

Most of these inspections are performed by Engine Company officers. Each officer has a specific benchmark that they must meet each month with 100% of the assigned inspection completed by September 1st.

Appraisal

The Firehouse RMS is limited in its ability to apply extensive risk filters to the scheduling of inspections. This has been identified as a need for the software's replacement. The frequency of inspections has been adequate as evidenced by the identified benchmarks as follow: March 1st – 10% complete, April 1st – 25% complete, May 1st – 40% complete, June 1st – 55% complete, July 1st – 70% complete, August 1st – 85% complete, September 1st – 100% complete.

Plan

CRR is currently evaluating the inspection program based on occupancies that present a higher risk in the community. An example of this would be to begin to inspect multi-family occupancies based on fire incidents and the potential for a greater life loss. With this evaluation, other occupancies that do not present high risk or have a history of low fire incidents will be extended and inspected at longer intervals. This evaluation will be completed by the end of 2019 and multi-family occupancies being to be inspected in 2020.

CRR is also exploring a different inspection software format to replace FireHouse in order to manage the inspections and have the ability to collect better data for future inspections analysis. A new software inspection program should be implemented in 2020.

References

[Boulder Fire-Rescue Operational Directive, Series 3800 Section B](#)

5A.7 The agency sets specific, targeted, and achievable annual loss reduction benchmarks for fire incidents and fire casualties based upon the community risk assessment and baseline performance.

Description

The City of Boulder experiences relatively low fire loss when compared to similar communities. This is in part due to the relatively high socio-economic standing of the community as well as a well-implemented building and fire inspection program. Due to this, Boulder Fire-Rescue does not set specific annual loss reduction benchmarks for fire incidents and fire casualties but rather implements performance standards and benchmarks for the inspection and code enforcement program as outlined in its program performance metrics.

Appraisal

The performance benchmarks are evaluated on a quarterly basis during the program appraisal process. These metrics are reported to ensure that the benchmarks are met, or that countermeasures are implemented if not being achieved within identified parameters.

Plan

BFR will continue to evaluate program performance benchmarks on a quarterly basis. In addition, fire loss and injuries are tracked as part of the annual program review by February of each year and measures will be taken if patterns are identified that require community risk reduction interventions.

References

Community Risk Assessment/Standard of Cover, Page 77

Power BI – CRR Dashboard (on site)

[Power BI and ESRI Screenshots](#)

5A.8 Fire inspection personnel should receive annual continuing education to maintain proficiency.

Description

Each member of Community Risk Reduction (CRR) is encouraged to attend training specific their expertise each year as the budget allows. The Assistant Fire Marshal, Fire Protection Engineer as well as the Chief Fire Marshal are all a minimum of Fire Code Inspector-I certified through the International Code Council (ICC). This certification requires the inspector to have a minimum number of continuing education units for renewal of the certificate (every three years).

Affordable, local training, specifically for fire inspectors occurs every March at the Colorado Education Institute sponsored by the Colorado Chapter of the ICC. Engine companies receive inspection training every year in January from CRR staff.

Appraisal

CRR members have been taking advantage of offered classes somewhat sporadically. However, this has not been for lack of offerings and is more related to inspector tenure and workload. However, all personnel receives some level of training on an annual basis. In the past, participation hasn't been tracked consistently.

Plan

The department will continue to support training for CRR staff who wish to expand or increase their knowledge by attending classes that have a direct relation to their job. BFR utilizes Target Solutions and will begin to track required CEU for recertification beginning first quarter of 2020.

References

[Sample Continuing Education Certificate](#)

[Sample of ICC Certifications](#)

Criterion 5B: Public Education Program

A public education program is in place and directed toward reducing specific risks in a manner consistent with the agency's mission and as identified within the community risk assessment and standards of cover. The agency should conduct a thorough risk-analysis as part of activities in Category II to determine the need for a specific public education program.

Summary:

Public education programs are managed through the Community Risk Reduction Division, under supervision from the Chief Fire Marshal. Two Life Safety Educators coordinate, facilitate and teach educational programs that address community needs, as well as public requests. The scope of educational programs that are delivered to the community address various ages, schools, businesses, and socio-economic backgrounds.

Many programs that are in place address general fire and life safety risks. Education topics include, but are not limited to, fall prevention, fire safety and prevention, wildfire safety, flood safety, business safety, home safety, and emergency preparedness. The department also offers car seat safety checks by appointment or drop-in, classroom, and workplace safety presentations, fire extinguisher training, free smoke and carbon monoxide alarm installations, an Annual Citizens' Academy and attends community events to provide safety information.

Performance Indicators:

CC 5B.1 The public education program (such as development and delivery) targets specific risks, behaviors, and audiences identified through incident, demographic, program data analysis, community risk assessment, and standards of cover.

Description

Boulder Fire-Rescue delivers programs to address common trends in the United States regarding fire risk and unsafe behaviors and is beginning to utilize community-specific trends identified through the community risk assessment. Historically, the department has focused much of its public education efforts on pre-K to third-grade students and the college-age population.

The fire safety program for pre-K through third-grade students is taught in every public and some private, classrooms in elementary schools throughout the city. This equates to over 200 classes a year. Homework is sent home ahead of time for parents to review the fire safety messaging and the work to be completed by the family before the classroom visit.

Because Boulder is home to a large university, the department has addressed the college-age fire risk through two primary programs: The Resident Assistant Fire Academy and the Greek Leadership Fire Academy. The RA Fire Academy is a half-day presentation for the University of Colorado-Boulder's resident assistants (approximately 250 students annually). This program has been duplicated throughout the country and taught at the National Fire Academy. The Greek Leadership Fire Academy is a hands-on, all-day academy at the fire training center and strives to develop trusting, professional relationships between the fire department and the Greek leadership system in Boulder.

An annual Citizens' Fire Academy has been taught the past six years which provides safety information and educates the community members on the services the fire department provides while they get to know the firefighters that deliver that service.

Appraisal

The public education program targets fire education in pre-k through third grade and the college population but are lacking with regards to outreach programs to other at-risk populations. The department will continue utilizing the community risk assessments and standards of cover to design and deliver public education to the most at-risk audience.

At this time, senior programs are mostly requested by senior facilities. The department should evaluate if these programs are sufficient in addressing the needs of this population. Evaluation should also be done regarding programs for the non-English speaking, middle- to high-school-aged children, and the University of Colorado-Boulder's off-campus housing demographic. Low acuity calls, such as reoccurring calls to the same address (nuisance fire alarms) or non-emergent medical/assist calls to individuals or facilities are addressed as time allows, however, more time often required to properly address the high-volume, low-risk calls. Roadway safety programs should also be considered.

Plan

Annually, the division will compare risk reduction efforts to the community risk assessment and standard of cover to determine if the programs being delivered are still relevant. Once the risks are evaluated, a thorough needs assessment will be conducted to determine what types of outreach efforts will be most effective. Evaluation of senior programs will be completed by the end of 2020.

References

[Citizens Academy Pre and Post Test](#)

[Citizens Academy Pre and Post Test Questions](#)

[RA Academy Information](#)

Community Risk Assessment/Standard of Cover Section II: Description of Agency Programs and Services pg. 42

[MySidewalk Dashboard](#)

CC 5B.2 The program has sufficient staff with specific expertise to meet the public education program goals, objectives, and identified community risks.

Description

There are currently two full-time life safety educators assigned to the Community Risk Reduction Division. Prior to 2016, one full-time educator served the community for 15 years. There are also many firefighters within the operations division that help provide car seat safety checks to community members while on shift. Some firefighters will assist the two life safety educators teaching in the elementary schools in the fall as budget allows.

The two Life Safety Educators each hold higher education degrees and maintain specific certifications directly related to the job they perform. Examples of certifications are Fire and Life Safety Educator I, Child Passenger Safety Technician, Youth Firesetting Intervention Specialist I as well as the Incident Command System (ICS) and “red-card” in wildland fire.

The life safety educators work steadily with community partners, such as the local housing authority to strengthen relationships and programs such as proper use of 911 system, flood safety, and evacuation of their facilities.

Appraisal

Several of our programs reoccur each year at specific times of the year and rely on off-duty as well as on-duty firefighters to assist in the delivery of the program. Due to budget cuts in the past several years (starting in 2017) the department’s budget has not been able to support over-time or training for firefighters to assist in program delivery. This has presented challenges in maintaining sufficient staff for certain programs.

BFR does not have a dedicated Public Information Officer (PIO) which limits the amount of information available to the public about fire and life safety programs. The lack of a PIO also limits the public safety messaging (use of social media) that can be made available for public distribution.

Plan

The department will continue to provide the current community risk reduction programming based on available resources as well as community demand. The department will continue to utilize identified risks, behaviors, and audiences identified through incidents, program data analysis, community risk

assessments, and standards of cover to design and deliver the public education to the most at-risk audience.

In order for BFR's fire and life safety programs and community outreach to remain successful as well as improve a PIO must be employed to help with information and social messaging.

References

[Pub Ed Org Chart](#)

CC 5B.3 The agency conducts a formal and documented appraisal, at least annually, to determine the impacts of the public education program and its efforts in risk reduction based on community assessment, standards of cover, and measures performance.

Description

BFR began to establish the framework for formal and documented appraisals in 2018. Program managers were asked to define the program's mission and goals and develop performance measures for their program. In April 2019, the first formal program appraisal for each program area was completed. The process in place going forward is to complete a program appraisal quarterly.

Beginning in Q1 2019, the public education division established milestones and performance measures. The established measures are as follows: Milestone: establish a baseline testing program to measure content retention using pre and post-test (multi-year) for each type of education program. Pilot testing on 1 grade initially, increase percentage of student contact vs. Boulder student population 5% year-over-year and increase interactions with firesetters by any percentage year-over-year.

To measure teaching efficacy, there is a pre and post-test conducted with citizen academy participants to assess the knowledge base and gain. Additionally, there are anecdotal stories of children knowing what to do in a fire from what they were taught in the classroom by the firefighters.

Appraisal

In 2019, the formalized quarterly appraisal process was implemented. To date, the exercise has brought more awareness to data management and performance measurement.

Plan

The data and analytics project manager and deputy chief of support will evaluate the efficiency and effectiveness of the program appraisal process by Q2 of 2020. The public fire and life safety educators will evaluate the risk analysis to identify communities and populations need further education on risk reduction strategies or programs. Additional programs will be developed using the information from these evaluations.

References

[Program Appraisal PubEd Q1/Q2](#)

[Power BI and ESRI Dashboard ScreenShots](#)

[Citizens Academy Pre and Post Test](#)

[Citizens Academy Pre and Post Test Questions](#)

5B.4 There are programs in place that identify large loss potential or high risk audiences (such as low socio-economic status, age, cultural/ethnic differences where appropriate), forge partnerships with those who serve those constituencies, and enable specified programs to mitigate fires and other emergency incidents (such as home safety visits, smoke alarm installations, free bicycle helmet programs, falls prevention programs, etc.).

Description

The City of Boulder has unique demographics primarily driven by the university, its close proximity to the wildland urban interface, and an aging population. In order to assess these risks, the department utilizes the MySidewalk dashboard (software platform that use's geospatial analysis and forms an interactive dashboard to share the data) identify large loss potential and high-risk audiences. The dashboard includes a "Community Profile" section that breaks down the city by population, vulnerable populations, housing density, housing age, housing vacancy, and overcrowding. Specific targeted programs to respond to this risk include child safety seat installations and inspections, smoke and Carbon Monoxide alarm installations, wildland fire outreach, fall prevention, Citizens Fire Academy, CU Resident Advisory academy, CU Greek Leadership academy, and education programs at Boulder Valley Schools - Elementary (1st – 3rd grade in school visits).

Appraisal

Program utilization rates have been consistent with an increase in demand over the last few years. BFR has identified that certain programs have been conducted due to their demand from the community, rather than their targeting specific risks. Therefore, it has been challenging to balance this demand and to still apply limited resources to other identified risks. Mechanisms (My Sidewalk) are in place to better identify large-loss potential and high-risk audiences to better identify, understand, and reach target audiences.

Plan

During 2020, BFR will analyze local data to assess the educational direction of the CRR program and implement changes to enhance the life safety education/community risk reduction and community education program accordingly. The Department will continue to deliver public education programs at regularly scheduled functions and, upon request, from any interested groups.

References

Community Risk Assessment/Standard of Cover Section II: Description of Agency Programs and
Services pg. 42

[MySidewalk Dashboard Community Profile](#)

5B.5 The agency should evaluate the juvenile firesetter intervention program. This program should refer all juveniles identified as involved in fire-play or fire setting behavior for educational intervention or other intervention services.

Description

BFR uses the Federal Emergency Management Agency (FEMA) model for the juvenile firesetter intervention program. Evaluations and risk assessments are conducted for parents and children involved in fire incidents in the community. Children found to be at low risk of future firesetting are given educational classes, while children and their families who are found to be at moderate or high levels of future firesetting are referred to mental health professionals for treatment. Typically, the education division is notified by the District Attorney's office.

Appraisal

Over the last several years, BFR has seen fewer referrals to the program. There has not been an effort made to increase contacts as the current staff does not have the capacity to handle additional cases. When the materials are used, the evaluation and education for the juvenile firesetter are adequate.

Plan

Beginning in Q2 2020, the CRR, public education will reach out to the Boulder Police Department, Boulder Valley School district and response staff to better inform them about this program. The city website should also be updated to include detailed information on the program.

By 2021, the department will increase interactions with juvenile fire-setters by 5 % year-over-year. In order to meet this increase interaction BFR will need to add an additional Life Safety Educator. At current staffing, any this percent increase will not be possible. The increase in staff will also assist in other areas such as new or revised programs to specific at-risk audiences.

References

[City of Boulder – Juvenile Firesetter Website](#)

Juvenile Firesetter Program Documents (on site)

Juvenile Firesetter Contacts – Confidential (S:/)

Criterion 5C: Fire Investigation, Origin, and Cause Program

The agency operates an adequate, effective, and efficient program directed toward origin and cause investigation and subsequent classification of fires, explosions, and other emergency situations that endanger life or property. The agency should conduct a thorough risk-analysis as part of activities in Category II to determine the need for fire investigation program.

Summary:

Boulder Fire Rescue (BFR) is the Authority Having Jurisdiction (AHJ) pertaining to origin and cause determination, as well as the circumstances concerning fire or explosion per the City of Boulder, adopted fire code, 2012 International Fire Code (IFC).

The Chief Fire Marshal serves as the lead fire investigator and reviews each investigation report that is performed throughout the year. BFR has four fire investigators who rotate investigation duties through an “on-call” schedule. Fire investigators meet the applicable qualifications defined by *NFPA 1033 Professional Qualifications for Fire Investigator*. All investigators utilize the National Fire Protection Association (NFPA) 921 *Guide for Fire and Explosion Investigations*, for each investigation as well as other nationally recognized publications as reference guides for the origin and cause determination. Determination of origin and cause is initially made by the incident commander/first officer of a fire incident. If the origin and cause cannot be determined, a fire investigator is requested. For all intentionally set (incendiary) fires and nonintentional fires or explosions that result in death or injury, a fire investigator must be notified. The investigator will be requested via the communications center. Written reports document the investigator’s findings and are maintained in BFR record management software (RMS).

BFR has an excellent working relationship with the Boulder Police Department (BPD). If the origin and cause investigation determines the fire was potentially incendiary in nature, BPD serves as the lead investigation organization.

Performance Indicators:

CC 5C.1 The agency's fire investigation, origin, and cause program is authorized by adopted statute, code, or ordinance.

Description

Boulder Revised Code Section 10-8-2 adopts the 2012 International Fire Code (IFC) in which section 104.10 allows the fire code official to investigate any fire, explosion or other hazardous condition within the City of Boulder.

Boulder Fire-Rescue (BFR) conducts fire investigations occurring within the city limits under the provisions of the adopted fire code. Criteria for an investigation is further specified in Boulder Fire-Rescue's Operational Directive, Series 2700.

Appraisal

The adopted fire code gives the fire code official the authority to investigate any fire, explosion or other hazardous condition occurring within the City of Boulder. The authority provided by the 2012 IFC has been adequate in providing authorization for BFR to conduct fire/explosion origin and cause investigations. The department has not experienced any challenges related to the authority to conduct fire investigations.

Plan

BFR will continue to conduct fire investigations to determine the origin, cause, and circumstances of every fire and explosion occurring within city limits under the authority granted by the adopted fire code.

References

[Boulder Revised Code, Title 10, Chapter 8, Section 2](#)

2012 International Fire Code (In-office)

[Series 2700 Investigation Origin and Cause, Operational Directive](#)

CC 5C.2 The agency uses a consistent approach to the scientific method which is utilized to investigate and determine the origin and cause of all fires and explosions.

Description

Fire investigations are conducted to determine the origin and cause of fires based upon the scientific method as described in *NFPA 921 Guide for Fire and Explosion Investigations*. Designated fire investigators are trained through the National Fire Academy's Fire and Arson Investigation course and/or other recognized fire and explosion courses. Based on training received, fire investigators meet the applicable qualifications defined by *NFPA 1033 Professional Qualifications for Fire Investigator*.

Investigators utilize a standard report to document investigations in the RMS. The report begins with an overview of the incident, followed by documentation of the fire (photos, police report etc.), statements and the conclusion (origin, heat source, fuel source, event, cause).

Appraisal

BFR investigated a total of 44 fire between 2016 and 2018. Of the 34 fires, 25 were listed with a cause of "undetermined" per NFPA 921. This is typically due to lack of sufficient evidence to classify it as another known cause. Accidental was determined to be the cause of 14 of the fires occurring during this time period. Two fires were a result of a natural cause (lightning) and three were determined to be incendiary. All three incendiary fires occurred in 2018.

BFR investigators utilize *NFPA 921* and a standardized reporting format which results in a consistent approach to investigations and documentation. Each investigator utilizes the same methods and documents their investigation in the same manner.

Plan

BFR will continue utilize methods and procedures to conduct investigations of fire origin and causation that are based upon the scientific method and as defined by *NFPA 921*. Continuing education and training opportunities will be provided to ensure fire investigation education and training stays current with trends and scientific findings in the fire investigation field. Provisions to facilitate review of investigation reports to verify proficiency and use of the scientific method will be incorporated into the fire investigation procedure.

References

[NFPA 921, Guide for Fire and Explosion Investigation, Chapter 4](#) (dept account, in office)

[NFPA 1033, Standard for Professional Qualifications for Fire Investigator](#) (dept account, in office)

[Series 2700 Investigation Origin and Cause, Operational Directive](#)

Investigation Report – Sample on site

CC 5C.3 The program has sufficient staff with specific expertise to meet the fire investigation, origin, and cause program goals, objectives, and identified community risks.

Description

BFR has four fire investigators that work Monday through Friday and rotate shifts through an “on-call” schedule. Investigators consist of a lead investigator (Chief Fire Marshal), Deputy Fire Marshal, Fire Code Inspector, and Fire Protection Engineer. The on-call investigator is available to respond to any requested investigation and is notified through city dispatch. The schedule has investigators remaining on-call for three straight days with nine days off.

Each investigator attends training of their choice throughout the year as it becomes available. Two of the investigators have attended the National Fire Academy’s Fire and Arson Investigation course. Typically training consists of basic NFPA 921, evidence collection, burn patterns and interview and interrogation techniques. The lead investigator is a certified fire and explosion investigator (CFEI) though the National Association of Fire Investigators.

Appraisal

The short on-call time has limited the number of investigations per investigator, thus providing a satisfactory work-life balance. Short on-call time has also allowed the investigator to complete investigation reports before their next on-call rotation. Considering the number and type of investigations within the City of Boulder, the staffing level of investigators has been adequate. Not all investigators are certified fire investigators and do not have training requirements. The Chief Fire Marshal is required to maintain his certification. Investigators should be required to attain and maintain a minimum level of training.

Plan

The project manager of data and analytics will design a dashboard for the investigations program to measure workload in 2020. By 2021 all fire investigators will be Certified Fire and Explosive Investigators (CFEI).

References

[NFPA 921, Guide for Fire and Explosion Investigation](#) (dept account, in office)

5C.4 The agency has established written agreements and procedures, that are reviewed and revised at least annually, with relevant local, regional, state/provincial, and federal fire investigation agencies to ensure appropriate and consistent scene processing, evidence collection, and information sharing.

Description

Under the Colorado Revised Statutes *Title 18. Criminal Code Article 4. Offenses against property Part 1 Arson*, when a fire or explosion is suspected of being criminal in nature or a death is involved, the scene is then under the control of Boulder Police. The fire investigator assists as a subject matter expert regarding origin and cause for the police's investigation.

BFR has received assistance from the Colorado Bureau of Investigations (CBI), Bureau of Alcohol, Tobacco, & Firearms (ATF) and the Mutual Agency Fire Investigation Team of Boulder County (MAFIT) on large or unusual fires in the past. K-9 accelerant dogs are available at request from CBI as well as MAFIT when needed.

Appraisal

When needed, there is adequate support from other agencies to conduct and complete fire and explosion investigations in the City of Boulder, however there are no formal agreements and procedures in place.

Plan

The department in partnership with the City Attorney's office will evaluate the relationships that exist and establish which require agreements. The evaluation will begin in Q1 of 2020.

References

[NFPA 921, Guide for Fire and Explosion Investigation, Chapter 4 \(dept account on-site\)](#)

[Series 2700 Investigation Origin and Cause, Operational Directive](#)

[Colorado Statute: Arson](#)

CC 5C.5 The agency conducts a formal and documented appraisal, at least annually, to determine the impacts of the fire investigation, origin, and cause program and its efforts to reduce fires based on community assessment, standards of cover, and measures performance.

Description

The number of fire investigations conducted by on-call fire investigators is considered small by population and demographics of the City of Boulder. There were 12 investigations conducted in 2016, 13 in 2017 and 19 in 2018. With the low number of investigations, as well as a small Division, information regarding fires is passed on directly to educators so they may follow-up on behavioral and/or education opportunities. All investigation reports are peer-reviewed for content, accurate information, and input purpose.

From 2004 to 2008, the division averaged 25 fire investigations per year. From 2012 to 2016, the average dropped to 14.6 investigations per year. This is approximately a 40% reduction in fire investigations conducted by fire investigators.

BFR began to establish the framework for formal and documented appraisals in 2018. Program managers were asked to define the program's mission and goals and develop performance measures for their program. In April 2019, the first formal program appraisal for each program area was completed. The process in place going forward is to complete a program appraisal quarterly.

Appraisal

In 2019, the formalized quarterly appraisal process was implemented. To date the exercise has brought more awareness to data management and performance measurement. .

Plan

The data and analytics project manager and deputy chief of support will evaluate the efficiency and effectiveness of the program appraisal process by Q2 of 2020.

References

[Program Appraisal – Q1 /Q2](#)

Criterion 5D: Domestic Preparedness, Planning, and Response

The agency operates an all-hazards preparedness program that includes a coordinated multi-agency response plan designed to protect the community from terrorist threats or attacks, major disasters, and other large-scale emergencies occurring at or in the immediate area.

Summary:

The responsibility for operating an all-hazards preparedness program falls under the Boulder Office of Emergency Management (OEM). Boulder OEM plans, coordinates and supports a wide range of activities that help prepare for, respond to, and recover from disasters and large-scale emergencies, while also reducing vulnerabilities to hazards. The mission of Boulder OEM is to develop, coordinate and lead a comprehensive emergency management program. The office seeks to enable effective preparation for, efficient response to, and recovery from emergencies and disasters in order to save lives, reduce human suffering, protect resources and develop a more resilient community.

Performance Indicators:

CC 5D.1 The agency publishes an all-hazards plan that defines roles and responsibilities of all participating departments and/or external agencies. The agency identifies and authorizes an appropriate multi-agency organizational structure to carry out the all-hazards plan predetermined functions and duties.

Description

Responsibility for publishing an all-hazards plan defining the roles and responsibilities of all participating departments and/or external agencies falls under Boulder OEM. Boulder OEM is authorized to carry out the all-hazards plan functions and duties. The City of Boulder has a Hazard Mitigation Plan (HMP), originally approved by city council on August 19, 2008. The purpose of hazard mitigation is to reduce or eliminate long-term risks to people and property from natural hazards. The City of Boulder has developed this plan to help make the City and its residents less vulnerable and more resilient to future natural hazard events. The HMP was updated and formally adopted by city council in 2018 and is jointly implemented by the City and Boulder OEM. The plan is reviewed annually and updated every five years to help increase community awareness, reduce the vulnerability of people, property and environment to natural hazards, and reduce the impact of natural hazards on our community. In addition to the HMP, there is also a published Emergency Operations Plan (EOP), a joint City of Boulder and Boulder County plan that defines the roles and responsibilities from participating agencies during response operations. The latest version of this plan was updated and approved in 2016 while an ongoing revision is slated to be completed in late 2019. The EOP includes functional annexes (i.e., resource mobilization plan, mass care plan, mass fatality) and hazard-specific annexes (i.e., wildfire, hazardous materials, search and rescue, severe weather).

The Hazard Mitigation Plan (HMP) is updated on a 5-year cycle, the Emergency Operations Plan (EOP) every three years and operational annexes and hazard specific plans every 2-years. The HMP and EOP are considered “Apex” planning documents which means they are at the top in the overall hierarchy of existing planning annexes.

Appraisal

Several plans were adopted, as noted above, and are revised and evaluated on a routine schedule. Keeping the plan current helps the city to be better prepared for natural hazards, provides the opportunity to apply for federal grants through the Department of Homeland Security and allows property owners to be eligible to receive discounted flood insurance premiums through the National Flood Insurance Program's (NFIP) Community Rating System (CRS). Boulder OEM solicits input from

all stakeholders, none of which is more evident than during the HMP process which includes data from over a dozen municipalities, special districts, and its community members.

Plan

The development, maintenance, and revision of all plans will continue as stated in the previous sections. Boulder OEM has worked with stakeholders as subject matter experts to develop annexes for inclusion in the EOP. Boulder OEM and its Multi-Agency Coordination (MACS) Group test the processes and procedures in these plans regularly. Each plan when completed goes through a training and table-top exercise series before operational implementation. After each exercise an after- action review is conducted to collect best practices and identify gaps in planning. An improvement plan is developed to address gaps and if needed a subsequent training / exercise cycle completed. OEM staff are trained to the FEMA- Homeland Security Exercise Evaluation Practitioner (HSEEP) standard and 3 staff members are certified as Master Exercise Practitioners (MEPS). These certifications establish a standard for exercise design and delivery from tabletop to full scale exercises.

References

[City of Boulder Hazard Mitigation Plan Website](#)

[City of Boulder Hazard Mitigation Plan](#)

[Boulder Emergency Operations Plan](#)

[Boulder All-Hazards Resource Mobilization & Management Plan](#)

[Boulder Damage Assessment Plan](#)

[City of Boulder's Debris Management Plan](#)

[Boulder EOP Flood Annex](#)

[Boulder EOP Hazmat Annex](#)

[Boulder EOP Wildfire Annex](#)

[Boulder EOP Search and Rescue Annex](#)

5D.2 The agency complies with the National Incident Management System (NIMS), or appropriate incident management system, and its operational methods are compatible with all external response agencies.

Description

All operational personnel are required to be trained and certified in ICS 100 and 200 and IS 700 and 800 per NIMS. Personnel of higher ranks or responsibility are also mandated to complete ICS 300 and 400. Boulder OEM's staff have gone through the L449 ICS Train-the-Trainer course and are certified to instruct ICS 100, 200, 300, 400, 402 (ICS for Executives) and G191 (ICS/EOC Interface). At least one ICS 300 and ICS 400 course is offered locally every spring, with attendees from local jurisdictions receiving priority enrollment.

Boulder OEM also is responsible for the management and administrative coordination of the Boulder Type III all hazards Incident Management Team (IMT). ICS 100 and 200 and IS 700 are requirements of all individuals on the active team roster. The Boulder IMT is a city resource that is available for incident support on planned events or unplanned incidents directly or indirectly the City.

Appraisal

The Boulder Emergency Operations Plan has been written with adherence to the six Homeland Security Presidential Directives (HSPD) #5 NIMS standards (Command and Management, Preparedness, Resource Management, Communications and Information Management, Supporting Technologies, Ongoing Management and Maintenance.).

Plan

Continue to provide annual course opportunities locally to train new personnel with applicable NIMS courses, utilize NIMS principles, and use the National Response Framework (NRF) during operations. Additional training opportunities are also available through the State's Homeland Security Grant Program and Denver's Urban Area Security Initiative (UASI) grant funding opportunities at no cost to the student.

References

[ICS 300 and 400 training course rosters \(2015-present\)](#)

[Memorandum of Understanding for Support and Management – Boulder Incident Management Team and Boulder OEM Board](#)

5D.3 The agency identifies and documents outside agency support.

Description

Outside agency support is provided to Boulder OEM during non-disaster and disaster times through three efforts. (1) Managing a local Multi Agency Coordination Group, (2) integrating with local professional associations and operational planning groups (i.e. Boulder County Fire Chiefs Association, Hospital & Medical Response Group, Boulder Volunteer Organizations Assisting in Disasters (VOAD) and Boulder County Law Association. (3) Regional and state level coordination. These relationships provide staff to support exercises or provide personnel to fulfill roles in the EOC. The relationships also provide communication, information and resource management networks that are heavily utilized during disaster response.

The Boulder MACS Group members and organizations are vital to Boulder EOC activations as well as providing support and coordination activities during large-scale disasters and emergencies. The Boulder MACS Group meets monthly and its membership consists of local municipalities with Boulder County and the county itself, state (CU Boulder, Colorado Division of Homeland Security and Emergency Management) and federal (NIST, NWS) agencies, special districts (fire, water and school districts), nonprofit organizations and private sector representatives. There are over 700 individuals on the Boulder MACS Group distribution list, and Emergency Support Function (ESF) roles are filled by MACS Group members during EOC activations.

Boulder OEM is also a part of the Boulder Health and Medical Response Partnership which serves the role of a traditional healthcare coalition with representation from EMS, public health, long-term care, coroner's office, acute care, hospitals, and behavioral health, amongst others. Additional attendance at first responder associations fosters collaboration and allows for OEM to solicit participation and ensure operational coordination. Being involved in these associations permits OEM to hold trainings, exercises, develop plans and complete post incident improvement processes.

In addition to the established partnerships within the City of Boulder and Boulder County, Boulder OEM also has membership on the North Central All-Hazards Region's (NCR) Board of Directors and Denver's UASI Urban Area Working Group. The NCR is one of nine emergency preparedness and response regions within Colorado and is organized around ten counties and their cities, districts, towns and municipalities: Adams, Arapahoe, Boulder, Broomfield, Clear Creek, Denver, Douglas, Elbert, Gilpin and Jefferson Counties.

The documentation of these activities is memorialized through meeting minutes, training and exercise plans, WebEOC (documentation center, information sharing system, resource management, shelter management, missing persons, animal management & provide situational awareness display boards), regional and local plans, agreements (Boulder OEM IGA, IMT IGA with OEM Board, and after action / improvement plans).

Appraisal

The MACS Group concept has been in place for over 25 years and continues to be supported by all involved. Robust participation of their ESFs during EOC activations since 2009 and validates the value this group provides the city and its neighboring jurisdictions.

WebEOC has served as the record keeping database for all EOC activations. With WebEOC being a web-based platform, IT staff support routine performs system backups to ensure that data from current and recent incidents is captured (if there is a widespread internet outage and online data cannot be available).

Plan

Boulder OEM will remain committed to continuing ongoing partnerships and other initiatives intended to foster relationships with outside entities.

References

[Boulder EOC Organizational Chart](#)

[HAMR Roster](#)

[NCR Board roster](#)

[WebEOC Boulder license - registered users](#)

Meeting Agendas & Minutes (onsite)

[BFR Aid Agreements](#)

5D.4 The agency has processes to record information and provide data on needed resources, scope, nature of the event, and field resources deployed to local, state/provincial, and federal agencies.

Description

Resource management is a primary responsibility of emergency management in the City of Boulder and Boulder County. The ability to mobilize resources efficiently is contingent on the development of a local resource management system. The Boulder OEM resource management system is comprised of governance documents, resource ordering infrastructure, resource databases, and operational procedures and policies.

The Boulder All-Hazards Resource Mobilization & Management Plan (the Mobilization Plan) defines resource mobilization practices in Boulder County. The Mobilization Plan is a comprehensive document that is constructed based on local, regional and statewide governance. The Mobilization Plan also contains the policies and procedures for mobilizing resources in Boulder County, includes reference materials identifying all hazards resource inventories, and all operational policies and procedures to execute resource mobilization and management.

The City of Boulder and Boulder County's Mobilization Plan is approved by Boulder OEM's Board of Directors (Boulder County Sheriff, Boulder Police Chief, Boulder Fire Chief). The resource mobilization activities of this plan are executed through the Boulder EOC and its Resource Mobilization section. Enforcement of the Mobilization Plan is only applicable to the agencies that, through agreement, adopt the Mobilization Plan and become participating agencies or organizations.

Boulder OEM uses WebEOC software for planned drills and exercises as well as large-scale events where coordination of resources, and deployment of those resources, is critical for effective incident management. WebEOC connects Boulder OEM with other crisis response and consequence management centers through its fusion capability, as previously mentioned.

Appraisal

The Mobilization Plan was adopted, as noted above, and last evaluated and revised in 2018. This occurs on a pre-established schedule every other year.

The Boulder EOC has also undergone technology upgrades to enhance its capabilities to track resources and keep a historical record. Boulder OEM has upgraded WebEOC to version 8.5 in October of 2018, which now includes better functionality and features to track personnel and resources (amongst other capabilities).

Plan

Boulder OEM will continue to use the systems in place.

References

[Boulder's Office of Emergency Management All-Hazards Resource Mobilization & Management Plan](#)

[WEB EOC Screenshot](#)

5D.5 The agency, at least annually, conducts tests of and evaluates the all-hazards plan and domestic preparedness, planning, and response program.

Description

Boulder OEM evaluates its Emergency Operations Plan (EOP) and its annexes, HMP, and Recovery Plan on a scheduled rotation. At a minimum, regular utilization of the EOP takes place during two regularly scheduled Boulder EOC exercises each year: a flood exercise is conducted every April (per requirements of the NFIP's CRS), while October is dedicated to a different, all-hazards event. Furthermore, the EOP is tested through large-scale incidents that require the EOC to be activated. These are conducted as multi-agency and multijurisdictional with all Boulder MACS Group partners participating. After action reports and improvement plans are also generated after such activities. Boulder OEM, in partnership with Boulder County and the City of Boulder, also tests the countywide outdoor emergency sirens on the first Monday of each month from April through August. The audible siren tests occur twice on each testing day. However, if there is severe weather during one of the planned audible tests, they may be canceled for that day. Siren tests ensure that all systems and procedures are working correctly during the season of peak flood danger, which is typically early spring to late summer.

Appraisal

The process for participating in these exercises has worked well and uses HSEEP and MEP standards for development, implementation and after action- improvement planning. Lessons learned have been evaluated, incorporated into improvement plans, and integrated into existing plans and operational procedures.

Plan

Maintain productive working relationships as a result of the participation of these exercises and EOC activations.

References

[City of Boulder Hazard Mitigation Plan](#)

City of Boulder's Recovery Plan (onsite)

[Boulder EOC Exercise - Activate Like It's 1983 Exercise plan \(Oct 2018\)](#)

[Boulder EOC Exercise - Activate Like It's 1983 AAR \(Oct 2018\)](#)

[Boulder EOC Exercise - 2019 Flood Expln \(Apr 2019\)](#)

[Boulder EOC Exercise - 2019 Flood AAR \(Apr 2019\)](#)

5D.6 The agency conducts and documents a vulnerability assessment and has operational plans to protect the agency's specific critical infrastructure, including but not limited to materials, supplies, apparatus, facilities security, fuel, and information systems.

Description

Boulder OEM has conducted local Threat Hazard and Identification Assessments (THIRA) using a local process over the past six years focusing on natural hazards. A formal process was used in developing the Hazard Mitigation Plan and it also was a natural hazards focus. In 2019 Boulder OEM initiated a formal THIRA following the Department of Homeland Security THIRA process. This process focuses on human caused, technological and natural hazards scenarios. This process includes identifying a prioritizing risk, identifies vulnerabilities, defines impacts and assess local capabilities. The process assesses the City of Boulder's disaster response and recovery infrastructure, COOP planning processes, and departments assess the critical resources needed to operate their mission essential functions and to determine what is required if relocation is necessary.

ESF 29 (Cybersecurity) conducts routine vulnerability assessments and has operational plans in place to protect and secure the computer systems and network.

Appraisal

As of result of these activities the City of Boulder has developed training and exercise programs most recently a City-wide wildfire exercise in March of 2019. Invested resources into mitigation projects related to minimizing flood impacts through public work's projects since the 2013 flood. Developed capabilities applied to local incidents such as the 2016 Cold Springs Fire, 2017 Sunshine Fire and in the state fires in 2019. The City of Boulder's IT staff has implemented increased protective measures to protect its infrastructure systems against malicious cyberattack attempts through the North Central Regional Cyber plan and exercise series initiated in 2018.

Plan

Boulder OEM will continue to provide its standard of service in on going THIRA activities, COOP planning and is working to improve this issue by working closely with its ESF 29 partners from both the City of Boulder and Boulder County (as mutual aid from both jurisdictions is essential during a cybersecurity incident). A cybersecurity tabletop exercise is scheduled for February of 2019, and Boulder OEM is currently working with City of Boulder's IT to update its facility emergency plans (FEP), continuity of operations (COOP) plan, and outline shared roles and responsibilities as ESF 29 between the city and Boulder County's IT staff.

References

[Disaster operations plan](#)

[BFR COOP](#)

5D.7 The agency has a documented Continuity of Operations Plan (COOP), that is reviewed and updated at least every 5 years, to ensure essential operations are maintained.

Description

Boulder OEM is responsible for supporting all departments within the City of Boulder and Boulder County with developing and maintaining their FEP and COOP plans. All FEP and COOP plans are housed in WebEOC and available to all City employees through a generic username and password allowing them access to their respective departmental/facility plan(s). In 2018, Boulder OEM met individually with all City departments to work on both plans, as well as assisted with the creation of a disaster summary sheet that each department now can use as a resource for responding to large-scale disasters. These disaster summary sheets were tested during a citywide wildfire tabletop exercise in July of 2018.

Also, Boulder OEM provides four FEP/COOP workshops each year that are available for any department planner to attend while individual department facilitations are always available upon request. In 2019 a focused effort on updating FEP / COOP capabilities with a table-top exercise with the focus on testing department's implementation capability.

Appraisal

FEP and COOP planning occurred for fire department and other city departments over the past two-years and is an ongoing activity that departments engage in. During our latest self-assessment process, it was identified that even though departments may have satisfactory FEP and COOP plans documented, there is a variance in department's ability to fully execute plans. Additionally, the fire department's COOP, while updated periodically, has not been assigned to a specific position within the command structure for consistent updating.

Plan

Boulder OEM will continue to provide its standard of service in the FEP and COOP planning areas but is focusing future support efforts to incorporate further developing processes around how departments can execute their respective FEP and COOP plans. BFR will assign COOP reviews on an annual basis for updating by the deputy chief of support services. This assignment may be delegated but will begin in January 2020 and every January thereafter.

References

[City of Boulder's Facility Emergency Plans Overview](#)

[City of Boulder's COOP Plans Overview](#)

[Disaster summary sheet template](#)

[COOP and Emergency Planning Workshop](#)

[BFR COOP](#)

5D.8 The agency has processes in place for intelligence sharing with other public safety agencies.

Description

Boulder OEM has good working relationships with local public safety partners to share information as needed. They, in turn, have a strong connection to the Colorado Information Analysis Center (CIAC). Boulder OEM attends weekly executive staff meetings for both the Boulder County Sheriff's Office and Boulder Police Department to foster and maintain these close partnerships. Boulder OEM also participates in the Department of Homeland Security's Terrorism Liaison Officer (TLO) program designed to facilitate the flow of information from local to federal law enforcement operations.

For all EOC activations that involve intelligence sharing, the Boulder Information Analysis Center (BIAC) has been developed and incorporated into the EOC organizational structure. The EOC manager is the individual responsible for facilitating information flow between the policy group, ESF 13 (public safety) liaison(s), and an intelligence officer who is pre-identified by the lead law enforcement agency (LEA) involved in the incident.

Boulder OEM provides severe weather monitoring which works with the National Weather Service and Urban Drainage Flood Control District's meteorological contractor to develop threat analysis information. Once a threat is determined to exist Boulder OEM uses Web EOC, Everbridge notification system and social media platforms to share information with first responders. This information is designed to wake up operational systems and increase situational awareness to a threat to allow for first responders time to make operational decisions, engage in public warning and prepare for response.

Appraisal

These systems have been used on weather incidents since 2011 and used during floods in 2011 and 2013 along with numerous severe weather events. The CIAC and TLO systems have been used within law enforcement agencies over the past seven years using the standards of information sharing as defined by CIAC policy. Locally law enforcement agencies have assumed the lead in sensitive information and intelligence sharing since 2009 and it has worked well.

Plan

Boulder OEM will continue to participate in the TLO program and support its public safety partners to facilitate information sharing.

References

[EOC Org Chart](#)

[CIAC Mission](#)

Criterion 5E: Fire Suppression

The agency operates an adequate, effective, efficient, and safe fire suppression program directed toward controlling and/or extinguishing fires to protect people from injury or death and reduce property loss. If identified risks are outside the scope of the agency's capabilities, Category X performance indicators should address the agency's ability to receive aid from mutual aid partners in those areas. The agency should conduct a thorough risk-analysis as part of activities in Category II to determine the need for specific fire suppression programs.

Summary:

The department responds from seven strategically located fire stations using Automatic Vehicle Location (AVL) for closest unit dispatching. Engines vary in pumping capacity, with a minimum pumping capacity of 1000 GPM, as outlined in the Standard of Cover and Category 9A Water Supply, the City of Boulder has an exceptional water supply.

Apparatus is equitably distributed throughout the city; first line equipment is as follows: four engines, two quints (75' straight) one ladder, and one Battalion Chief's truck in the City of Boulder. The Standard of Cover informs equipment placed on each apparatus.

BFR maintains a daily minimum staffing of 25 on each shift, with 32 personnel assigned to each shift. The department uses Telestaff to fill any vacancies from vacation or leave; personnel sign up for overtime, and the system initiates the call-backs. If no one fills the vacancy, the Battalion Chief on duty will initiate a mandatory overtime call back, according to the labor agreement.

Staffing has historically proven to be adequate and effective for the mitigation of fire suppression activities. Operating directives, Policy and Procedures, and the Incident Management System form the basis for fire extinguishment operations.

Performance Indicators:

CC 5E.1 Given its standards of cover and emergency deployment objectives, the agency meets its staffing, response time, station(s), pumping capacity, apparatus, and equipment deployment objectives for each type and magnitude of fire suppression incident(s).

Description

The Department meets its deployment objectives for each type and magnitude of fire suppression emergency incidents. The Community Risk Assessment/Standard of Cover (CRA/SOC) establishes critical task analysis, effective response force, and baseline/benchmark response times, based on all types and magnitude of incidents. Seven stations serve a population of approximately 108,000 in an urban setting. Fire apparatus is dispatched based on closest available unit.

The Department has established a minimum daily staffing of 25 personnel to provide basic life support, initiation of firefighting, and appropriate actions for non-fire incidents. Minimum engine staffing is three personnel. Minimum shift staffing includes one battalion chief. Cross-staffed units a dive unit, and rescue trailer. Achievement of minimum staffing is verifiable in Telestaff. The Departments baselines and benchmarks are established for each response interval, including alarm handling, turnout, travel and total response time. The department sends the same initial response to all structure fires, a second alarm is requested for additional personnel when the need arises

Appraisal

BFR has met its staffing, response time, station(s), pumping capacity, apparatus, and equipment deployment objectives for each type and magnitude of fire suppression incident(s). In mid-2018, when defining the SOC, the department evaluated the response capabilities sent to each type of incident. Changes to deployment have been identified and a plan for implementation will be completed by Q2 2020. The department has also identified the need to place two units at station 3, a peak hour unit has been proposed.

Plan

The department will complete its evaluation of the appropriate level of response dispatching for each type of incident and will evaluate the peak hour unit proposal by the end of Q2 2020. The outcomes of this project will include making policy changes and necessitate implementing changes in CAD for proper unit deployment.

References

[Series 2600, Fireground Response, Operational Directive](#)

[Series 2100, Standards of Cover, Operational Directive](#)

[Local 900 Contract](#)

Standard of Cover Section V: Current Deployment and Performance

[MySidewalk Baseline Performance](#)

[MySidewalk Goals](#)

[Boulder 1 Proposal](#)

CC 5E.2 The agency uses a standardized incident command/management system, which is supported by agency policy and training programs.

Description

BFR utilizes the incident command system (ICS) at all incidents for which it has management responsibility, and during live fire exercises. All members of the department are trained in the National Incident Management System (NIMS) and are required to maintain a minimum certification level of NIMS 100, 200, and 700. All job descriptions have been updated to include the requirements for NIMS certification based on the current position and rank within the department.

The department uses the Blue Card Hazard Zone Incident Commander certification program as an ICS training, certification, and evaluation platform for all chief officers, company officers, and acting company officers. All officers and acting officers are required to complete the initial Blue Card certification program which consists of a combination of online didactic instruction and simulation labs. Additionally, each certified member must meet the required amount of annual continuing education and simulation training to recertify as Blue Card Type IV/V incident commanders.

Blue Card is utilized by all mutual aid partners within the county and provides the platform for seamless integration of the ICS system for all mutual and auto aid incidents and training evolutions.

Appraisal

The use of Blue Card as the platform for the ICS has provided the infrastructure for consistent communications, common terminology, and clear expectations in an operational environment. Blue Card has become institutionalized throughout the region as the standard incident management system. The standardized approach reports created uniformity in communications and tactical operations. However, the costs associated with initial certification and renewal have become burdensome for many regional departments which has spawned recent conversations about developing a local hazard zone certification process in lieu of the Blue Card certification process.

Plan

The use of ICS as an effective command and control structure will continue to be evaluated as part of each After Action Review. BFR will continue to train and certify members in the Blue Card Hazard Zone Incident Command platform until a local certification process is fully adopted throughout the region.

References

[Series 2300, Incident Command System, Operational Directive](#)

[Series 2600, Fireground Response, Operational Directive](#)

BFR Annual Training Plan (on site)

[Blue Card Training](#)

CC 5E.3 The agency conducts a formal and documented appraisal, at least annually, to determine the effectiveness of the fire suppression program and its impact on meeting the agency's goals and objectives.

Description

BFR began to establish the framework for formal and documented appraisals in 2018. Program managers were asked to define the program's mission and goals and develop performance measures for their program. In April 2019, the first formal program appraisal for each program area was completed. The process in place going forward is to complete a program appraisal quarterly.

In addition to formal program appraisals, informal appraisals occur at the station level. All incident reports are quality checked (QC) by the Battalion Chief for their shift. After Action Reviews (AAR) for small incidents are conducted on an as-needed basis while large incidents require a formal AAR be conducted in accordance with Series 2300, section 2310.

Daily turnout reports are sent to management staff, the report highlights all calls that fall outside of the acceptable range: 60 seconds for EMS; 80 seconds for Fire. Historical data is published monthly on the MySidewalk Dashboard. The project manager of data and analytics is also designing power BI Dashboards for each program area to track performance. The dashboards will be completed in Q1 2020.

Appraisal

In 2019, the formalized quarterly appraisal process was implemented. To date the exercise has brought more awareness to data management and performance measurement.

Plan

The data and analytics project manager and deputy chief of support will evaluate the efficiency and effectiveness of the program appraisal process by Q2 of 2020.

References

[Program Appraisal Fire Q1/Q2](#)

[After Action Review Guidelines](#)

[Turnout Times Daily Report](#)

[MySidewalk Dashboard](#)

[Power BI and ESRI Dashboards Screenshot](#)

Criterion 5F: Emergency Medical Services (EMS)

The agency operates an EMS program with a designated level of out-of-hospital emergency medical care that meets the needs of the community.

NOTE: EMS is a major element of many fire service agencies. Fire service personnel are frequently the first responder to medical emergencies. For that reason, emergency medical response can be organizationally integrated with fire suppression activity. Care should be exercised not to create a priority or resource allocation conflict between the two program activities. Agencies that only provide first responder services must also complete this criterion.

Summary:

Boulder Fire Rescue (BFR) provides non-transport Basic Life Support (BLS) services to the citizens of the City of Boulder. Approximately 80% of all BFR calls are EMS related. BFR plays an active role in caring for these patients and is an important first piece of the system's response model.

Chapter 5 of the Boulder Municipal Code vests "the provision of rescue and emergency medical services" with the fire department. To discharge this assignment, BFR uses a system of BLS and ALS response/patient transport. All sworn, in-field personnel are required to maintain minimum certifications as a Firefighter and an Emergency Medical Technician. BLS operations are provided from seven fire apparatus (four Engines, two Quints, and one Ladder) as well as one Battalion Chief's truck.

The second level of EMS response in Boulder involves ambulances staffed with one EMT-B and one EMT-Paramedic. Advanced Life Support is subcontracted to American Medical Response (AMR), a licensed, third-party provider. Every 1-5 years the contract for ALS care and transport is renegotiated. All revenue generated through patient billing goes to the third-party provider to pay for operations. Furthermore, the City of Boulder pays an additional "living wage" subsidy of \$535,000 to AMR to continue operating in Boulder.

National Standards and the BFR Standards of Cover (SOC) establish staffing, apparatus, and response time goals and performance. Therefore, the contract between AMR and BFR requires the ambulance company to meet minimum response standards. AMR is out of compliance when ALS ambulance is not on scene within 11 minutes. For higher acuity calls, both a BFR unit and the private ambulance response is required to ensure quicker response times. Monthly reports are sent to BFR to monitor and confirm compliance to response standards as set forth in the ambulance providers' contract.

Performance Indicators:

CC 5F.1 Given its standards of cover and emergency deployment objectives, the agency meets its staffing, response time, station(s), apparatus, and equipment deployment objectives for each type and magnitude of emergency medical incident(s).

Description

BFR provides BLS emergency medical response with cross-trained and certified firefighter/emergency medical technicians (FF/EMT). BFR currently has 112 Emergency Medical Technicians and three Paramedics that provide staffing and deployment options for meeting care goals. As stated earlier, BLS operations are provided from seven fire apparatus (four Engines, two Quints, and one Ladder) as well as one Battalion Chief's truck. These apparatuses are housed in seven stations around the City of Boulder. AMR provides 2-6 additional ambulances for ALS coverage. The combined response force of BFR units and AMR ambulances includes a total of 10-15 units for 27 square miles of the city and 71 square miles of open space. BFR utilizes priority dispatch to interact with 911 callers having medically related complaints. The closest and most appropriate unit(s) is dispatched to each incident.

In the summer of 2019, BFR enhanced BLS care to include the acts allowed by Chapter 2 of the Boulder County protocols, to include king tubes, Narcan, and IO.

Private ambulance providers are contracted to provide ALS and patient transport to medical facilities. The ambulance providers are required to meet response time criteria of 7 minutes 90% of the time and 11 minutes 98% of the time.

Appraisal

The SOC effectively identifies the BLS EMS deployment objectives based on the risk of the event. BFR has met its staffing requirement to adequately provide coverage based on the current SOC.

Areas of concern include matching the appropriate response to the patient's acuity, ensuring ALS response is adequately monitored through the outside agency, maintaining skill proficiency and knowledge base, and updating EMS equipment as needed due to technology updates and advances in medicine.

Plan

BFR started the task of evaluating EMS response. A white paper on the subject was produced, and outside consultants (Fitch and Associates) were solicited. Initial feedback from the consultants assessed

six different EMS delivery models. Moving forward, the plan is to evaluate the consultant report and compare this to our internal evaluation. The decision will be made during the next year to determine a course of action based on the reports. This may include changing the coverage and response model.

BFR will continue to track response times and revise the response model with the goal of improving patient outcomes and system efficiency. A user-friendly dashboard will be created to enhance access to and analysis of response times. These will be reviewed quarterly by the medical director.

BFR will continue to recruit and train an effective EMS workforce. Training will be developed and monitored through the Training Division and Training Chief.

BFR will continue to meet quarterly with the priority dispatch center. The focus will be on quality and performance measures. The purpose is to identify factors that may negatively influence alarm handling times. An update to the current response model is underway.

References

[Fitch and Associates Final GIS Report](#)

[Fitch and Associates Final Data Report](#)

ProQA Meeting Report

[Boulder County Protocols](#)

[AMR Daily Report – First Watch](#)

[AMR Monthly Reporting](#)

[Series 2500 Emergency Medical Response, Operational Directive](#)

CRA/SOC Section IV: Evaluation of Current Deployment and Performance pg. 141

CC 5F.2 The agency has standing orders/protocols in place to direct EMS response activities to meet the stated level of EMS response.

Description

The National Registry of Emergency Medical Technician’s curriculum provides standards for EMS providers. The Colorado Department of Public Health and Environment establishes the Code of Colorado Regulations as it pertains to emergency medical services. Specifically, Chapter Two, *Rules Pertaining to EMS Practice and Medical Director Oversight*, constitutes the scope of practice and acts allowed by EMS providers within the State of Colorado. Additionally, BFR utilizes standard operating procedures and Boulder County EMS Protocols to direct EMS response activities. These documents guide EMS providers during patient care interactions to ensure safe and high-quality care.

The Boulder County EMS Protocol committee meets every other month to update and review protocols. The medical director for BFR is a member of that committee. Furthermore, a new edition of the Boulder County EMS Protocols is approved for use annually. The Boulder County EMS Protocol committee releases its updated protocols after the release of Denver Metro Protocols. This enables adequate time to review an alternative system’s changes.

Appraisal

The use of Boulder County EMS protocols and department SOP provide BFR with a comprehensive set of operational guidelines for EMS. This allows BRF to meet its stated BLS response level.

Plan

BFR will continue to utilize the SOPs and Boulder County EMS protocols. The department EMS related SOPs will be updated in 2019. BFR will continue to have representation at the Boulder County EMS Protocol committee meetings to assess and give input into protocol development.

References

[Series 2500 Emergency Medical Response, Operational Directive](#)

[Boulder County EMS Protocols](#)

[2017 EMS White Paper](#)

CC 5F.3 The agency has online and offline medical control.**Description**

BFR utilizes online and offline medical control. On-line medical control is provided through the on-duty emergency department physicians at Boulder Community Health. Field personnel can employ on-line control if they have questions or issues surrounding patient care in the field. The need for on-line control is outlined in the Boulder County EMS Protocols. Access to on-line medical control is through direct telephone contact on a recorded line. As a secondary means of communication, Boulder Community Health has access to a radio system should the cellular or land-line system fail.

Off-line medical control is provided through BFR's medical director.

Appraisal

BRF's current on-line medical control system has been effective at allowing real-time communication with emergency department staff and physicians. Off-line medical control has remained consistent. Boulder County has a well-established EMS protocol committee that will continue to direct patient care guidelines and protocols.

Plan

BFR will continue to utilize Boulder Community Health as on-line medical control. The medical director will continue to be involved in maintaining off-line medical control, including active participation in the Boulder County EMS Protocol committee.

References

[Boulder County EMS Protocols](#)

CC 5F.4 The agency creates and maintains a patient care record, hard copy or electronic, for each patient encountered. This report contains provider impression, patient history, data regarding treatment rendered, and the patient disposition recorded. The agency must make reasonable efforts to protect reports from public access and maintain them as per local, state/provincial, and federal records retention requirements.

Description

BFR uses Firehouse records management system (RMS) to produce an electronic patient care report (ePCR). Reporting in the EMS module began in late 2018. The ePCR contains patient demographics, provider impression, patient history, data regarding treatment rendered and patient disposition. The RMS meets the Colorado State EMS data collection requirements but is not compliant with the National EMS Information System (NEMSIS). The RMS system is used internally and restricted from public access and viewing. Copies of incident reports are maintained for a period of 5 years.

Appraisal

The current records management system produces adequate ePCR. Prior to 2018 there was minimal patient encounter records. A program was developed by the medical director to enhance BFR's charting. Education was given to the crews on proper documentation. The ePCR are protected from public access and viewing and is currently in compliance with the State of Colorado but is not NEMSIS compliant. The current system meets the basic needs of the department, but the system is antiquated and will be unsupported in the next few years. A consulting firm was hired in 2018 to evaluate the current RMS. Recommendations were made and are being evaluated.

Plan

The department will continue to document EMS incidents through the RMS as described above. BFR will continue to comply with state requirements for preservation and incident documentation. In late 2019, alternative RMS(s) will be evaluated and tested.

References

[ERP RMS Consultant Report](#)

Firehouse EMS Report (on site)

[Boulder County Protocol committee Meeting Minutes](#)

CC 5F.5 The agency has a Health Insurance Portability and Accountability Act (HIPAA) or equivalent (e.g., Freedom of Information and Protection of Privacy [FOIP] for Canada) compliance program in place for the EMS program that meets federal and state/provincial guidelines, and all personnel are properly trained in HIPAA/FOIP regulations and procedures.

Description

BFR does not meet the definition of a covered entity under HIPAA for which the U.S. Department of Health and Human Services has adopted a standard; this is because BFR does not transmit any information in an electronic form in connection with a transaction. Furthermore, the department does not bill for emergency medical services and is supported entirely by tax revenue. Nor does BFR share reports with third-party vendors or billing agencies.

Appraisal

BFR is currently in compliance with state and federal law, and the department maintains strict patient confidentiality. Furthermore, all care providers are educated regarding HIPAA and patient confidentiality through the NREMT curriculum. Personal health information access is restricted to those who are identified by HIPAA as having a legal need. All Requests for Records must be submitted to the department's Record Custodian. Patient Records are password protected in an electronic records database and cannot be printed without an additional password.

Plan

Monitor legislative changes and comply with any changes made as they affect BFR. Previously, there was no specific training regarding HIPAA outside of NREMT curricula. However, in 2019, a new departmental policy regarding HIPAA compliance has been drafted and submitted to the Deputy Chief of Operations. Once approved, the policy will be distributed to all personnel. In conjunction with this policy dissemination, computer-assisted training will be required which will include a section on HIPAA issues to address the protection of patient information to meet federal standards and maintain patient confidentiality. The new RMS will be reviewed to ensure patient information security and that it remains in compliance with HIPAA.

References

[HIPPA Code](#)

HIPPA Training on Target Solutions (on site)

Series 2500 Emergency Medical Response 25xx (Draft) – Ops Chief’s Office

5F.6 The agency has a quality improvement/quality assurance program (QI/QA) in place to improve system performance and patient outcomes.

Description

Currently, BFR does not have a formal QI/QA program in place. Reports are quality controlled by the Battalion Chief on duty through the RMS. BFR has relied on the QI/QA process of the private ALS/transport vendor and Boulder Community Health (BCH). The medical director evaluates runs through association with the private vendor. Additionally, all alerts and emergent returns are evaluated by BCH's EMS Outreach Coordinator. If issues are noted, the medical director is contacted directly.

During BFR's EMS review process in 2018, response times were evaluated, but this was not part of a coordinated or formal QA process.

Appraisal

BFR should establish a formal and internal QI/QA program. Per charter, BFR is tasked with establishing a provision for emergency medical services. Because of this, BFR should take a more active role in ensuring a robust and reliable QI/QA program that reviews medical care including both BLS and ALS responses.

Plan

Currently, BFR is evaluating its response to all medically related calls. This will become paramount with the addition of ALS in the future. In 2020, a QI/QA policy will be established and distributed. This policy will establish a monthly QI/QA review process of critical action calls. A percentage of all calls will be reviewed, and follow-up will be given to the crew members providing care.

References

[Power BI and ESRI Dashboard Screenshots](#) (full version on-site)

CC 5F.7 The agency conducts a formal and documented appraisal, at least annually, to determine the effectiveness of the EMS program and its impact on meeting the agency's goals and objectives. This should include an evaluation of the agency's standard operating procedures, protocols, and equipment.

Description

BFR began to establish the framework for formal and documented appraisals in 2018. Program managers were asked to define the program's mission and goals and develop performance measures for their program. In April 2019, the first formal program appraisal for each program area was completed. The process in place going forward is to complete a program appraisal quarterly.

In 2019, BFR identified the need for tighter internal control of the EMS to ensure quality measures were being met. Until 2019, outside vendors were relied upon to evaluate their delivery of EMS with intermittent reporting to BFR. In March 2019, the project manager of Data and Analytics was given access to the Computer Aided Dispatch (CAD) system. This access will allow for an automated report to validate ambulance responses. The project manager of data and analytics is currently working with the City GIS department to automate this process.

Appraisal

In 2019, the formalized quarterly appraisal process was implemented. To date the exercise has brought more awareness to data management and performance measurement.

Plan

The data and analytics project manager and deputy chief of support will evaluate the efficiency and effectiveness of the program appraisal process by Q2 of 2020. By April 2020, the project manager of data and analytics will create a report to validate AMR responses.

References

[Program Appraisal Q1/Q2](#)

[Fitch and Associates Final GIS Report](#)

[Fitch and Associates Final Data Report](#)

[AMR Daily Report – First Watch](#)

[AMR Monthly Reporting](#)

5F.8 The agency has developed a plan or has already implemented a cardiopulmonary resuscitation (CPR) and public access defibrillation program for the community.

Description

CPR and AED instruction is taught by AMR or BFR on a case by case basis, upon request. For the past five years BFR has participated in World CPR day with AMR by teaching hands-only CPR to the community. BFR does not have any CPR instructors on the line. Participants have included senior groups, the Optimist Club and a local tennis club. Mannequins, AED's and handouts are provided by AMR.

BFR does not have a public access defibrillation program for the community.

Appraisal

There is a need to enhance the current CPR program and implement a PAD program in the city of Boulder. In 2015, BFR tried to connect the community to Pulse Point, but had trouble integrating the system into the existing CAD. During the most recent master planning process it was identified that additional staff would be required to teach hands only CPR to the community.

Plan

The 2019 Master Plan identified the need to revisit pulse point and hire additional staff to teach hands-only CPR. By Q1 2021, AED locations will be added to fire inspections and collected using ESRI collector app.

References

[2019 Master Plan Feedback Summary Documents](#)

[2012 Master Plan Update](#)

[2019 Master Plan Update Goals](#)

[2019 Master Plan Update Outline](#)

Criterion 5G: Technical Rescue

The agency operates an adequate, effective, efficient, and safe program directed toward rescuing trapped or endangered persons from any life-endangering cause (e.g., structural collapse, vehicle accidents, swift water or submersion, confined space, cave-in, trench collapse, fire). The agency must conduct a thorough risk-analysis as part of activities in Category II to determine the need for specific technical rescue programs. Agencies that only provide first responder services must also complete this criterion.

Summary:

The department responds from seven strategically located fire stations using Automatic Vehicle Location (AVL) for closest unit dispatching.

Boulder Fire Rescue (BFR) has well-defined dive, ice, and swift water rescue programs which meet the department's needs, but these can be further enhanced. However, the department does not have a defined program for any other type, or magnitude, of technical rescue incident.

BFR is presently working with the agencies of the Boulder Valley Fire Consortium (BVFC) to build a defined technical rescue response across the consortium for structural collapse, confined space, trench/excavation collapse, and rope rescue incidents. The BVFC Technical Rescue Taskforce working group is meeting with the three dispatch centers; City of Boulder, Boulder County, and the City of Longmont to start the process of building a comprehensive response plan for each high-risk discipline into dispatch. This response buildout will follow the model of the Boulder County Hazmat Authority.

All members have received basic level training for structural collapse, trench and excavation, confined space, and rope rescues. These training have been occurring over the last five years, and the frequency of these training has increased over the previous two years.

The BFR training division has a confined space and trench/excavation training props, and the training center has several rope anchors embedded into the training tower for rope access training. Several members have attended a technical rescue academy covering all these disciplines while several others have extensive backgrounds in rope rescue systems. All members receive annual training on swift water rescue and ice rescue which is delivered by members of the water rescue team.

Performance Indicators:

CC 5G.1 Given the agency's standards of cover and emergency deployment objectives, the agency meets its staffing, response time, station(s), apparatus, and equipment deployment objectives for each type and level of risk of a technical rescue incident(s).

Description

The Department meets its deployment objectives for each type and level of risk of technical rescue incidents. The Community Risk Assessment/Standard of Cover (CRA/SOC) establishes critical task analysis, effective response force, and baseline/benchmark response times, based on all types and magnitude of incidents. Seven stations serve a population of approximately 108,000 in an urban setting. Fire apparatus is dispatched based on the closest available unit.

The Department has established minimum daily staffing of 25 personnel to provide basic life support, initiation of ICS, and appropriate actions for technical rescue incidents. Minimum shift staffing includes one battalion chief and three personnel on each of the eight apparatus.

Operational Directive Series 3100 Technical Rescue states that for all technical rescue incidents, the first arriving officer will complete an on-scene radio report, establish command utilizing ICS, develop an initial incident action plan and request additional resources as needed.

Critical Tasking is outlined in the CRA/SOC Section V: Current Deployment and Performance. The Department's baselines and benchmarks are defined for each response interval, including alarm handling, turnout, travel and total response time.

Equipment is placed on apparatus based on equipment type and apparatus location. The water rescue unit (2521) is centrally located at Station 3. Rope rescue equipment, hydraulic extrication equipment, and Rescue 42 struts used for vehicle and light structural stabilization is carried on one engine (2502) and on the three front-line aerial apparatus (2516, 2506, and 2507). Confined space equipment Department's on a rescue/hazmat vehicle (2523) at Station 7. Structural collapse and trench rescue equipment are carried in an 8' x 24' trailer, also at Station 7. The water rescue unit, confined space unit, and the structural collapse/trench trailer are all cross-staffed.

Appraisal

The staffing patterns in BFR have proven to be adequate to meet minimum staffing requirements as outlined in the policy. The agency's deployment of equipment has proven capable of providing the needed resources for all low/moderate risk technical rescue emergencies and high-risk water rescue emergencies. However, the critical task analysis of high-risk technical rescue emergencies such as structural collapse, confined space, and trench rescue showed a gap in the agency's ability to provide the level of expertise and equipment to sustain operations beyond initial response.

Plan

BFR plans to address all aspects of technical rescue through partnering with the members of the Boulder Valley Fire Consortium (BVFC) to create a county-wide technical rescue response. The first official meeting was Dec. 10, 2018, at the training center. The goal of the consortium is to have the system built out and fully operational by Q3 of 2020. Once implemented, this response structure will provide the necessary equipment and staffing to all high-risk technical rescue incidents without overburdening any one agency. BFR will continue with shift-level training for all members and additional training for members who show a desire be a part of the BVFC response team.

References

[ICS Standard Operating Guidelines](#)

[Operational Directive Series 2100 Standard of Cover](#)

[Operational Directive Series 3100 Technical Rescue](#)

[Operational Directive Series 3000 Dive and Water Rescue Operations](#)

[DRAFT BVFC Standard of Cover](#)

CRA/SOC Section V: Current Deployment and Performance pg. 89

5G.2 The agency establishes minimum training and operational standards; compliant with local, state/provincial, and national standards, and that all personnel who function in the technical rescue program meet training and operational standards.

Description

BFR does not currently have an established department minimum standard for training for technical rescue, although technical rescue classes are made available as opportunities present themselves. All firefighters receive basic technical rescue training in the fire academy and maintain proficiency at the Firefighter 1 and 2 level. Specific training requirements will be defined in the BVFC's technical rescue response standard that is being developed. The training conducted meets the local, state and national standards for technical rescue and are structured. Each discipline topic builds on the last to continue advancing BFR's skills and knowledge set.

Appraisal

BFR does not have a standard to measure against for training and operations addressing technical rescue. BFR members have received training on the technical rescue disciplines with the majority receiving training for each specialty multiple times.

Plan

The BFR Training Division will continue to address minimum training standards by offering the technical rescue disciplines on a rotating basis, i.e., at a minimum, conduct a training on structural collapse, confined space and trench/excavation on a three-year rotating schedule (one discipline each year). Rope rescue training will start its own annual training plan by utilizing several department members who will facilitate additional instruction during their shifts. The Colorado Division of Fire Prevention and Control is currently in the process of validating certifications for Awareness, Operations and Technician level for technical rescue. Once these certifications are available, BFR will use these as a minimum requirement for personnel that participates in technical rescue incidents in the city and as part of the BVFC TRT Taskforce.

References

NFPA 1670 (available on-line)

NFPA 1006 (available on-line)

CDFPC Certifications (when available)

CC 5G.3 The agency conducts a formal and documented appraisal, at least annually, to determine the effectiveness of the technical rescue program and its impact on meeting the agency's goals and objectives. This appraisal must include a full-scale evaluation of the response components, including mutual aid, when part of the deployment model.

Description

BFR began to establish the framework for formal and documented appraisals in 2018. Program managers were asked to define the program's mission and goals and develop performance measures for their program. In April 2019, the first formal program appraisal for each program area was completed. The process in place going forward is to complete a program appraisal quarterly. Program appraisals are completed for both water rescue and all other technical rescue incidents.

Historical data is published monthly on the MySidewalk Dashboard. The project manager of data and analytics is also designing power BI Dashboards for each program area to track performance. The dashboards will be finished in Q1 2020.

Appraisal

In 2019, the formalized quarterly appraisal process was implemented. To date, the exercise has brought more awareness to data management and performance measurement. BFR is also exploring the possibility of creating a countywide Technical Rescue Authority.

Plan

BFR plans to address all facets of technical rescue through partnering with the members of the BVFC to create a defined technical rescue response across the consortium. With this defined response, an annual review of the effectiveness of the program will be established; this will identify any adjustments that must be made. The data and analytics project manager and deputy chief of support will evaluate the efficiency and effectiveness of the program appraisal process by Q2 of 2020.

References

[Program Appraisal – Technical Rescue Q1/Q2](#)

[Program Appraisal – Water Rescue Q1/Q2](#)

[MySidewalk Dashboard](#)

[Power BI Dashboard Screenshots](#)

Criterion 5H: Hazardous Materials (Hazmat)

The agency operates an adequate, effective, efficient, and safe hazardous materials program directed toward protecting the community from the hazards associated with the uncontrolled releases of hazardous and toxic materials. The agency must conduct a thorough risk-analysis as part of activities in Category II to determine the need for specific hazardous materials program. Agencies that only provide first responder services must also complete this criterion.

Summary:

Boulder Fire-Rescue (BFR) is a member of the Boulder County Hazardous Materials Response Authority (Authority). The Authority is comprised of five agencies (Cities of Boulder, Longmont, Louisville, Lafayette, and Boulder Rural Fire Protection District). The Authority is governed by a Board of Directors (4 members), and an Advisory Board. The Board of Directors handle all of the legal and financial operations of the Authority, approves the annual budget that is managed by the Advisory Board and holds the responsibility for ensuring all necessary agreements for interagency operations are in place and current. The Advisory Board is comprised of one person from each agency providing personnel to the Authority. The Advisory Board establishes all Standard Operating Guidelines (SOGs) for the Authority and handles the day to day response level operations of the Authority. The Authority went live on October 2, 2017.

Agencies that do not supply personnel alternatively supply funding. Funding in the amount of \$1.58 per capita is paid by each participating agency. The Boulder County Sheriff's Office (BCSO) contributes funds for all unincorporated areas of the County. These agencies are represented on the Board of Directors but hold no seat on the Advisory Board.

The Authority maintains a list of all responders, their training records, and an inventory of equipment.

Performance Indicators:

CC 5H.1 Given the agency's standards of cover and emergency deployment objectives, the agency meets its staffing, response time, station(s), apparatus, and equipment deployment objectives for each type and magnitude of hazardous materials incident(s).

Description

BFR meets its staffing, response time, station(s), apparatus, and equipment deployment objectives for each type and magnitude of hazardous materials incident(s). BFR tries to maintain 24 members at the technician level, spread evenly over three shifts. BFR allows any member that wishes to become a hazmat technician the ability to attend the class.

The Authority's Standard of Cover states that 13 technicians must be on scene within 90 minutes for a suburban/rural incident and 60 minutes for a suburban event. This Standard of Cover is for all incident risk levels. Each designate emergency response authority (DERA) has the authority to mitigate and handle an incident in their jurisdiction without calling for an Authority response. When an authority response is requested, said response will be to the Standard of Cover. To date, the Authority is meeting the Standard of Cover 100% of the time

Should an event occur in the City of Boulder, BFR will send an initial response of one company for a hazmat minor or multiple companies and the Battalion Chief for a hazmat major. This initial response may or may not include hazmat technicians and should have an arrival time of 4 to 6 minutes. At this time, no initial dispatch will include a full Authority response. If the initial arriving officer deems it necessary, all on duty BFR hazmat technicians not on the initial responding apparatus will respond to the scene, to include the response of 2523 from Station 7 with the hazmat trailer. These technicians will begin establishing the hazmat command structure for the incident, under the original incident command structure in place. The on-scene technicians would start any rescue operations not already in motion and will deny entry, isolate and identify the product involved and perform any defensive control actions necessary that can be accomplished with the on-scene technician and operations level resources (damming, diking, diverting, booming). The Incident Commander holds the responsibility and the authority to request a full Hazmat Authority response. The department will continue ongoing operations until the balance of Authority responders arrive from the county. The Authority maintains a list of all responders (84 total) and an inventory of all equipment. As new apparatus or equipment is purchased, they are staged to meet response objectives; vehicles are owned by host agencies.

Appraisal

The Authority model works well for BFR, as it allows BFR to provide a better service to the citizens of the city. A BFR unit must go out of service to respond to a call in order to pull the hazmat trailer, reducing the available resources in the city. Currently, BFR does not backfill staff if a HazMat Tech is out of work due to the current IAFF contract. The current contract states that overtime positions will be filled on an hours-based system that is tracked in Telestaff. Any member can accept an overtime position to fill a spot left vacant by a technician being off work.

Plan

BFR will continue with the Authority model. At the advisory board level, the Authority is looking into a long-term vehicle replacement program. One of the first vehicles the Authority is looking to purchase is a smaller, more maneuverable vehicle to pull BFR's hazmat trailer.

References

[HazMat Authority \(BCHMT\) Standard of Cover](#)

[HazMat Authority Agreement](#)

[HazMat Authority Inventory](#)

[Union Contract](#)

[Operational Directive Standards of Cover](#)

[Operational Directive HazMat Operations](#)

5H.2 The agency maintains appropriate training, operations policies, and documentation that response personnel are compliant with all applicable hazardous materials regulations and laws.

Description

The Authority maintains training records, Standard Operating Guidelines (SOG's), and documentation that response personnel are compliant with all applicable hazardous materials' regulations and laws. All technicians operating with the Authority have been trained to the NFPA 472 Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents technician level. As of 2019 the updated standard all technicians operating with the Authority will be trained to, for initial and recertification, will be NFPA 1072 Standard for Hazardous Materials/ Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications.

The Authority maintains training records and requires members to attend 70% of all training offered. Ten sessions are offered annually, with only seven being required. All BFR hazmat technicians receive their technician level training through the Authority or through company based trainings (CBTs). In addition, BFR holds hazmat training at the operations level for all uniformed personnel and maintains training records for their personnel in Target Solutions (a learning management system). This includes Operations and Technician Level Certifications and any JPRs that were completed by the employee. The Training Captain validates all training.

Appraisal

The Authority model works well for BFR, and it allows BFR to provide better training to personnel for a reduced price. BFR has been able to receive grant funding for Technician training and has the highest participation in monthly exercises offered by the Authority. However, due to a lack of participation from other agencies, the Authority is currently discussing moving the training requirement to 50% participation.

Plan

BFR will continue to be members of the Hazmat authority.

References

[HazMat Authority \(BCHMT\) Standard of Cover](#)

[Training Participation Data](#)

[Standard of Cover SOG](#)

[Minimum Training Requirements SOG](#)

CC 5H.3 The agency conducts a formal and documented appraisal, at least annually, to determine the effectiveness of the hazardous materials program and its impact on meeting the agency's goals and objectives. This appraisal must include a comprehensive evaluation of the response components, including mutual aid, when part of the deployment model.

Description

Upon formation of the Authority, all DERAs in Boulder County signed the governing documents. These documents clearly define each DERAs' responsibilities and the Authority's responsibilities. Each DERA is responsible for maintaining their per capita contribution to the Authority and for the billing of the generator for any incident within their jurisdiction. Each DERA providing personnel to the Authority is responsible to maintain appropriate staffing to meet their agency commitment of personnel and equipment to the Authority. The Authority holds no responsibility or authority to operate in any jurisdiction until requested by the DERA. Once Requested, the Authority has the responsibility to mitigate or facilitate the mitigation of the incident they were requested to.

The advisory board meets every two months wherein an agenda is created, and minutes are taken. The Authority receives a copy of each hazmat incident run within the county. During the meetings, response times, resource and equipment allocation, and training targets are assessed. Incident mitigation is also discussed at these meetings. All of this information is used to bolster the Authority response, to be more efficient and beneficial for all the DERAs in Boulder County.

December 2018 marks the first full operational year, and the beginning of budget discussions to include an assessment of the fees that are being paid to the organization. The feasibility of an Authority-funded apparatus replacement schedule is also being discussed.

BFR began to establish the framework for formal and documented appraisals in 2018. Program managers were asked to define the program's mission and goals and develop performance measures for their program. In April 2019, the first formal program appraisal for each program area was completed. The process in place going forward is to complete a program appraisal quarterly.

Historical data is published monthly on the MySidewalk Dashboard. The project manager of data and analytics is also designing power BI Dashboards for each program area to track performance. The

dashboards will be completed in Q1 2020. The Project Manager of Data & Analysis was granted CAD access in March 2019 and is working on creating a report to validate the hazmat responses.

Appraisal

The Authority model has worked well for BFR; it allows BFR to provide a better service to the citizens of the city and better training to personnel for a reduced cost. In 2019, the formalized quarterly appraisal process was implemented. To date the exercise has brought more awareness to data management and performance measurement.

Plan

BFR will continue to be members of the Hazmat authority. The data and analytics project manager and deputy chief of support will evaluate the efficiency and effectiveness of the program appraisal process by Q2 of 2020.

References

[Meeting Minutes](#)

[Training Participation Data](#)

[Authority end of year statistics](#)

[Program Appraisal Q1/Q2](#)

5H.4 The agency complies with all aspects of applicable hazardous material regulations such as, annual refresher training, medical monitoring of response personnel, annual physical examinations as applicable per standards, and exposure record retention.

Description

The Authority maintains training records and requires members to attend 70% of the ten sessions that are offered annually. In addition, BFR maintains training records for their personnel in Target Solutions. This includes Operations and Technician Level Certifications and any JPRs that were completed by the employee. The Training Captain validates all training.

The Authority is currently in discussions about medical monitoring. Although BFR requires annual physicals, not all agencies are able to offer them to their employees. The Authority is drafting a policy to send members for a Hazmat physical. Exposures are handled per individual agency policy, and records are kept by the agency.

Appraisal

The Authority model has worked well for BFR; it allows BFR to provide a better service to the citizens of the city and better training to personnel for a reduced price. The Authority model has allowed for large- or small-scale hazmat incidents to be handled by the appropriate resources from multiple agencies while allowing each individual agency to maintain staffing and coverage in their jurisdictions to continue to provide service for all other incidents that occur simultaneously yet completely separate from the hazmat incident.

Plan

The advisory board for the Hazmat Authority runs the day-to-day business and response of the Authority. The advisory board reports to the Chiefs' Board of Directors for the Authority. The Chiefs' oversight works well. The Authority model works well for BFR, and it allows BFR to provide better training to personnel for a reduced price.

References

[Training Participation Data](#)

Target Solutions (on a local machine)

Criterion 5K: Wildland Fire Services

The agency operates an adequate, effective, and efficient program directed toward a wildland fire.

This criterion report applies to agencies that have direct responsibility for operating programs that provide wildland firefighting. The agency should address this criterion if there is an identified wildland risk in the risk-assessment commensurate with Category II, and/or if there are apparatus in service which directly support wildland fire services, which may include suppression, mitigation, and educational components.

If the agency determines this criterion is not applicable, the agency should still provide a brief explanation of why it does not provide this program.

Summary:

The Boulder Fire-Rescue (BFR) Wildland Division provides comprehensive wildland fire services through several avenues. All BFR line personnel hired in 2005 or later are required to maintain the National Wildfire Coordinating Group (NWCG) requirements for basic wildland firefighting including the work capacity test for arduous work. Within those line responders is a wildland specialty team of 15-20 members who add to BFR's operational capacity. The goal for the specialty team members is to achieve and maintain the NWCG qualification of Engine Boss, and to move through NWCG's level 200 course work as well as participate in local, regional and national wildfire deployments. Outside of the 24-hour line responders, BFR employs a wildland division of eight management FTEs (full-time employees) that manage the other facets of the wildland program. This group is comprised of one Division Chief (program manager), one Wildfire Administrator and six Wildfire Operations Specialists. All wildland division staff are qualified at a minimum to Type-4 Incident Commander and Task Force Leader levels. In addition, this group provides general oversight of wildfire services such as: outreach and education, fuels reduction, wildfire and incident management training, and overhead and management to extended attack or complex wildfires.

Performance Indicators:

CC 5K.1 Given its standards of cover and emergency deployment objectives, the agency meets its staffing, response time, station(s), apparatus, and equipment deployment objectives for each type and magnitude of wildland fire services incident.

Description

Outside of the 24-hour line responders, BFR employs a wildland division of eight management FTEs that manage the other facets of the wildland program. This group is comprised of one Division Chief (program manager), one Wildfire Administrator and six Wildfire Operations Specialists.

BFR operates and maintains four pieces of wildland specific apparatus: two type 3 urban interface pumpers and two type 6 brush trucks. Unit 2538 (type 3) is housed at station 2 in the west-central area of the city and is crossed staffed by the station's engine company. Unit 2532 (type 6) is housed at station 5 in the northwest portion of the city and is also crossed staffed by the engine company. Units 2539 and 2533 (type 3 and 6 respectively) are housed at fire station 8. Fire station 8 houses the wildland division and is not staffed for 24-hour response. These two pieces of apparatus may be staffed either by wildland division personnel, severity staffing (for high fire danger or to be utilized as surge capacity by other engine companies) or callback (off-duty) staffing.

BFR's deployment for wildland fires are tiered due to the complex factors influencing wildland fire behavior. For the purposes of this report, a wildland fire is defined as a fire covering wide areas of natural vegetation. For a tier one deployment, the initial response to any wildland fire is one engine (type 1) and one wildland unit (either type 3 or type 6). The critical task of the first due engine is to perform a size up and an initial radio report to determine the complexity and growth potential of the incident. Dispatch also sends a notification to the on-call wildfire duty officer for any wildland fire. The on-call wildfire duty officer role is assigned to one of the members of the wildland division who is required to respond if on-duty or to monitor the call if off-duty during low and moderate fire danger and respond to incidents if the adjective fire danger is high or above. This person is also responsible for the coordination of mutual aid or external cooperator support functions if the incident exceeds the capabilities of the initial responding units.

The second tier is a vegetation fire that is larger than one acre in size or has significant growth potential. This larger or more complex incident may also be subjective in nature as the first-in incident commander may or may not realize the full potential of the fire. The alarm for this incident calls for two engines

(type 1), both staffed wildland trucks, one Battalion Chief, one Safety Officer and all on-duty wildland personnel. Off-duty response is coordinated through the assigned wildland duty officer.

The third tier of deployment would be for any incident larger or more complicated than the second-tier alarm can handle. This tier involves a response from mutual aid partners and could possibly expand to include a regional incident management team.

Appraisal

While staffing is adequate, the wildland division lost one FTE in 2017 so the department could hire a budget analyst. This has put some strain on the division when staff is out due to vacation, sick time, or deployments. It would be ideal to recoup the FTE for better staff management and to have the appropriate staffing available to adjust for changing fire weather and fire danger.

Since the wildland division relies heavily on line staff for initial attack, response times are adequate. When looking at the tiered deployments, on-duty response times are quicker than off-duty response times. The wildland division's staff comprise the incident management component of the response and can be delayed during off-duty hours.

Regarding the adequacy of the division's facilities, the wildland station, which was completed in 2015, has ample room for equipment and staff. The station is part of the training center campus and can be utilized to accommodate outside agency support during large scale incidents or to serve as a part of a large incident command post.

Wildland apparatus is adequate; however, the placement of the apparatus is not ideal for deployment. Two pieces of the department's wildland fire apparatus (type 3 and type 6) are housed at station 8. This is not a 24/7 staffed station thus creating a time delay whenever wildland units need to be staffed for a response. Additionally, the wildland division has the equipment necessary to perform their job in a safe and effective manner from a response standpoint, but there is a need for line firefighters to have their own set of wildland PPE. As it stands now, there is enough equipment on each frontline engine to outfit three firefighters, but there is not enough PPE to outfit any reserve apparatus.

Plan

In the next budget cycle, recover the lost wildland FTE to create a better staffing model. The position would most likely change from the old position description to a full-time wildland fire education coordinator. This position could then actively coordinate and implement most of the outreach from a

wildland program perspective. This will help the operations staff remain more operations focused, yet still allowing them to remain a part of the implementation of outreach when appropriate.

In addition, there is a need to address wildland apparatus placement. The current staging of wildland apparatus is not ideal due to the current staffing schedule within the division. Thus, a plan to move the two units at station 8 to 24-hour staffed stations would be ideal for response. Optimally the type six would be moved to station 4 and the type 3 would be moved to station 5. This would place all wildland apparatus in 24/7 staffed stations on the west side of the city, closest to the largest wildland urban interface risk.

Since 2015, the division has requested wildland PPE for each person on the line. The request will be put into the 2019 budget for approval.

References

Notes from Original Plan

Equipment Inventory

Vehicle Inventory

[Operational Directive – Series 2800 Wildland Fire Response](#)

[Operational Directive – Series 2100 BFR Standards of Cover](#)

CC 5K.2 The agency conducts a formal and documented appraisal, at least annually, to determine the effectiveness of the wildland fire services program, to include suppression, mitigation, educational activities, and its impact on meeting the agency's goals and objectives.

Description

BFR began to establish the framework for formal and documented appraisals in 2018. Program managers were asked to define the program's mission and goals and develop performance measures for their program. In April 2019, the first formal program appraisal for each program area was completed. The process in place going forward is to complete a program appraisal quarterly.

Historically the wildland division has conducted an annual summary of incidents, deployments and training hours. Wildland incident deployment information includes the number and type of responses from frontline units as well as after-hours wildland division response. The program also tracks time for personnel and equipment that are sent on regional and national deployments. Training for internal and external stakeholders is tracked by student hours delivered. The mitigation portion of the program is measured with acres treated. This happens in conjunction with the division's OSMP partners and includes mechanical thinning and prescribed fire implementation. Wildfire education and outreach data has been collected as far as how many sessions have been delivered. The division is currently developing performance measures surrounding the home assessment program. Aside from measuring how many homes have been assessed, the division will evaluate risk at the property level, community engagement, and assisting homeowners in risk reduction.

Informal reviews of the division also occur on several occasions throughout the year. These reviews include meetings with executive staff, the community risk reduction and training divisions, and the local 900 to discuss the future of the program and what our formal program measures will entail.

Appraisal

While the evaluation of the wildland division was useful, it was determined in 2017 that the department was not measuring the effectiveness of the program. In 2019, the formalized quarterly appraisal process was implemented. To date the exercise has brought more awareness to data management and performance measurement.

It has historically been the wildland program that will teach training related to wildfire education and outreach. Public outreach and education goals typically belong in the CRR Division. Due to the seasonal

nature of wildland fire suppression and mitigation, the objectives or operational needs of the wildland division versus the outreach and education obligations sometimes compete for priority. An example would be during the spring when it is most appropriate to conduct wildland refresher training, it is also the most advantageous time to conduct a prescribed fire. With limited staff resources, the division's ability to complete the current objectives seems to be insufficient. Clearly defining the program and its measures for performance will help in determining if the division is meeting the appropriate objectives.

Plan

The data and analytics project manager and deputy chief of support will evaluate the efficiency and effectiveness of the program appraisal process by Q2 of 2020.

References

Annual Stats 2017, 2018 - Division Metrics SharePoint on site

[Program Appraisal Wildland Division Q1/Q2](#)

5K.3 The agency has developed a wildland risk assessment including: a fuel management plan, fire adaptive communities plan, and an inspection and code enforcement program.

Description

BFR has developed a wildland risk assessment that includes a fuel management plan and an inspection and code enforcement program. The City of Boulder's Open Space and Mountain Parks (OSMP) has a published fuels management plan titled The Forest Ecosystem Management Plan (1999). OSMP creates an annual report based on their fuels management plan and will complete an update by 2020.

In addition to the Forest Ecosystem Management Plan, the city has a Community Wildfire Protection Plan. This document serves as the primary wildland risk assessment tool and has a fuel management plan as well.

The wildland division has developed a fire adapted communities plan and are conducting curbside home assessments for 100% of WUI residences. In 2018, the department participated in the International Association of Fire Chiefs' (IAFC) Fire Department Exchange (FDX). FDX provided the department with in-person and online exchange platforms to share interface outreach and mitigation challenges and broaden the department's knowledge base. The result of FDX was the "post exchange action plan". This plan outlines what steps the agency will take after the exchange of ideas with other departments that share similar wildland fire risks. The two action plans that were adopted include: develop a fire adapted community working group and develop both a curbside and detailed home assessment for properties in the wildland-urban interface.

Appraisal

The documents outlining priorities for fuels treatment have been advantageous to the program for determining a path forward, however, it is time to update them. The Forest Ecosystem Management Plan was authored in 1999 and is a very lengthy document. It has taken almost twenty years to get close to completing its implementation, but it is time to update this document. The same can be said for the city's Community Wildfire Protection Plan. While this document has served the city and division well, it is over eight years old, and most of the outlined projects within it have been addressed. Thus, it will need to be revised to meet today's challenges.

The products created from the IAFC FDX will be of great value to the program in moving to address the current wildfire risk. Creating a database of home risk assessments and establishing the fire adaptive community working group will be another step to fully account for the risk facing the city.

Plan

The wildland division will update the Community Wildfire Protection Plan, begin the home assessment process and develop the fire adapted community coalition in 2019. The program will also need to initiate the process of updating the Forest Ecosystem Management Plan or discuss the creation of a new fuels' management plan in conjunction with OSMP in the next two to three years.

References

[City of Boulder Community Wildfire Protection Plan \(2010\)](#)

[FEMP General Information](#)

[Forest Ecosystem Management Plan \(1999\)](#)

[2016 FEMP Annual Report](#)

[IAFC FDX](#)

PEAP

CC 5K.4 The agency conducts or participates in a wildland fire training and certification/qualification program that meets wildland fire services operational needs and complies with local, state/provincial, and national/international standards.

Description

The BFR Wildland Division conducts or participates in wildland fire training and a certification/qualification program that meets wildland fire services operational needs and complies with local, state/provincial, and national/international standards.

The wildland division trains to the level defined by the National Incident Management System's (NIMS) Wildland Qualifications System Guide 310-1 and National Wildfire Coordinating Group (NWCG). The division tracks and ensures all wildland fire training meets or exceeds NWCG standards department-wide.

Appraisal

Existing training is good; however, additional training is needed to increase operational capacity throughout the department. Currently, NWCG training is prioritized to provide it to the wildland specialty team. However, not enough wildfire specific training is being offered to all line firefighting positions. All firefighters receive the required annual RT-130 fire line refresher class. This is good for baseline skills and safety, but more wildfire skills and depth of knowledge is needed department wide.

Plan

Beginning in 2019, the wildland division will start to deliver wildland-focused skills training. Utilizing the NWCG 200 level training curriculum, one class per quarter will be offered to increase the wildland fire skill set of any interested department member. This series of classes focuses on the operational skills of the wildland firefighter and includes chainsaw and portable pump operations, initial attack strategies and intermediate fire behavior.

References

Training Progression for Wildland Team Roles/Positions

[NIMS 310-1](#)

[NWCG On-Line Training](#)

Category VI: Physical Resources

Physical resources are defined as fire stations, training facilities, fire apparatus, and other capital expenditures and outlays that make up the property assets of an agency. Special attention is required to obtain and maintain appropriate quality physical resources.

Facilities that are leased and/or jointly operated may also be considered for agency use if this is accomplished in accordance with properly adopted and clearly established policies.

If work is contracted outside the agency and/or to another department within the parent agency, it is incumbent on the agency to ensure that facilities, equipment, staff, record keeping, and procedures are consistent with the performance indicators and core competencies listed herein.

Criterion 6A: Physical Resources Plan

Development and use of physical resources is consistent with the agency's established plans. A systematic and planned approach to the future development of facilities is in place.

Summary:

BFR analyzes response data to ensure it is meeting the strategic planning goals and objectives. This information is also utilized to determine the need to evaluate the replacement or relocation of facilities. The department is in the process of relocating fire station 3 based on response data. This move should garner positive results regarding stated performance measures.

The department has a formal process to assess the current facilities to determine if repairs or upgrades are needed in conjunction with the city's facility asset management division (FAM). FAM has a master plan that contains several goals that are pertinent to the planning and future development of Boulder Fire-Rescue Department's (BFR) facilities. The support services division will continue to work with FAM to create a service level agreement. The deficiencies noted in the current system will be addressed at this level.

Performance Indicators:

6A.1 The development, construction, or purchase of physical resources is consistent with the agency's goals and strategic plan.

Description

BFR develops and constructs physical resources in accordance with the goals and objectives of the Fire Master Plan. The CRA/SOC defines response time expectations. The chosen location for future fire stations is then analyzed using GIS to determine if the physical location will meet deployment objectives.

FAM provides facility construction and project management services to the department. Fire stations are listed in the facility renovation and replacement schedule. This schedule shows an approximate date that renovations should occur. Major renovations are coordinated through BFR's support services division. Replacement of physical resources is on an as needed basis with no current overall schedule.

Appraisal

BFR evaluated response times to determine which location would be most suitable for the relocation of Station 3. The relocation should better allow BFR to meet the response time standard of four-minute travel times, 90% of the time, as set forth in the 2015 Boulder Valley Comprehensive Plan (BVCP) and applicable National Fire Protection Association (NFPA) standards. The BVCP is considered the currently accepted service level by BFR's governing body.

Plan

The department will continue to collaborate with FAM to coordinate renovation projects and upgrades to the facilities. As the new Fire Department Master Plan is developed, processes will be refined and developed to meet stated strategic planning goal and objectives.

References

NFPA 1500, *Standard on Fire Department Occupational Safety, Health, and Wellness Program* - (Department Account)

[Boulder Valley Comprehensive Plan, 2015](#)

Community Risk Assessment / Standard of Cover, p118-136 2019

[City of Boulder's Colorado Fire Rescue Master Plan Update, 2012](#)

[2019 Master Plan Update Goals](#)

[2019 Master Plan Update Outline](#)

[Space Needs Assessment of Boulder Fire-Rescue Department, 2015](#)

CC 6A.2 The governing body, administration, and staff are involved in the planning for physical facilities.

Description

Internal planning for the department's physical facilities is outlined in the department's Master Plan. The 2012 BFR Master Plan goals and objectives are compiled by administration and staff and approved by city council. The 2012 Master Plan identified the need to evaluate station needs for redeveloping areas, evaluate location, size, and design of all BFR facilities for effectiveness and efficiency, develop a fire materials and equipment storage solution, and use Leadership in Energy and Environmental Design (LEED) targets for facility development. The plan is created with extensive administrative and staff input and accepted by city council upon completion. Currently, the 2019 Master Plan update is going through final draft stages.

In 2015, a Space Needs Assessment was conducted. From the results, council determined that station 3 should to be relocated as it sits in the 100-year flood zone and the city's high hazard flood zone. This effort has been funded by the renewal of the Community, Culture, and Safety Tax (CCS) which is supporting a significant portion of the purchase and construction of the new fire station.

Appraisal

The Master Plan process works well for the department as it allows administration and staff the opportunity to discuss priorities for physical facilities. There has been a gap in communicating critical facility needs to the city council in conjunction with other city facility priorities due to competing demands and limited budgets.

Plan

The department will complete the 2019 Master Plan. The support service division will work to develop and implement a service level agreement with FAM to capture and address issues with the current system. As the station 3 relocation becomes finalized, the department will work with the city to address stated strategies and objectives.

References

[2005 FAM Master Plan](#)

[2012 Master Plan Update](#)

[2019 Master Plan Update Goals](#)

[2019 Master Plan Update Outline](#)

[Fitch and Associates Final GIS Report](#)

[Fitch and Associates Final Data Report](#)

Criterion 6B: Fixed Facilities

The agency designs, maintains, and manages fixed facility resources that meet the agency's goals and objectives.

Summary:

The department maintains seven fire stations which house eight frontline apparatus as well as an eighth station dedicated solely to wildland fire management and response. Additionally, the department leases a structure, also known as the fire barn, that houses two reserve pumpers. Fire Headquarters, which includes fire administration, community risk reduction, operations and support services, is located in a City leased building. The fire training division is housed separately at the Boulder County Regional Fire Training Center. All facility support for all resources is coordinated as needed with FAM.

The department works cooperatively with FAM to ensure that all buildings and their systems are in good repair and properly maintained. FAM also provides facility construction and project management services to the department. Most scheduled station renovations have been completed and are up to date. However, five of the department's eight fire stations are over 40 years old, and, except for the wildland station, all lack critical features found in modern fire facilities. For example, several of the stations have been identified as being significantly undersized and crowded, and firefighting bunker gear is stored on dedicated racks located on the apparatus bay floor at each station.

Performance Indicators:

6B.1 Each function or program has adequate facilities and storage space. (e.g., operations, community risk reduction, training, support services, and administration).

Description

The department maintains seven fire stations which house eight frontline apparatus along with support vehicles and specialty apparatus (e.g., Dive Van, HazMat, Wildland). Support trailers for hazmat and confined space response are stored outside of the hazmat specialty station in a vehicle parking area. Each station has one to two outbuildings that are utilized to store various equipment and supplies. Firefighting bunker gear is stored on dedicated racks on the apparatus bay floor at each station except for station 5. An eighth station dedicated to wildland response is adjacent to the fire training center and houses a type 3 wildland apparatus, a type 6 wildland apparatus, and several support vehicles. In addition, the department leases a structure known as the fire barn that houses two reserve pumpers. This space is also used to store extra fire fighting equipment.

Opened in 2010, the Boulder Regional Fire Training Center is utilized for departmental training needs. This facility is located on 10 acres of property east of the Boulder Reservoir and consists of a main building, a training tower, and a burn building. The main facility has one large room that can be divided, two smaller conference rooms, and offices for the training staff. Located in the main facility is a kitchen, restrooms with locker room facilities, laundry, and weight training area along with storage areas for equipment and gear. There is a large apparatus bay that can be utilized for training space as well as fire apparatus parking.

Fire Headquarters, which includes fire administration, community risk reduction, operations and support services, is in a building which the city leases. Two medium and one small conference rooms are located at this location. There is limited storage space available at this location.

Appraisal

Five of the department's eight fire stations are over 40 years old. According to the 2015 needs assessment, all stations, except for the wildland facility, lack critical features found in modern fire facilities such as dedicated areas for clean bunker gear storage, adequate space for exercise, and storage areas for equipment. These frontline stations lack appropriate living and safety features for firefighters such as individual locker room area, separate sleeping space for gender diversity, decontamination areas for emergency medical equipment and uniforms, or automatic fire sprinklers. Conditions at fire station 3 have been identified to have profound negative effects on employee health and safety. Several of the

stations have been identified as being significantly undersized and crowded. The aforementioned report deemed station 4 as inappropriate for continued use as a fire station. The Space Needs Assessment Report (2015) summarized the adequacy of the department's facilities and storage space. The Fire Barn is not an appropriate storage facility for reserve or equipment storage. This is a shared location with the west portion being used for hay storage by a sheep farmer. While there is heat provided by ceiling heater fueled by a propane tank, there are considerable environmental shortcomings such as the presence of dirt, hay odor and mice.

The training facility has limited office space for the existing staff. There is no current office space available for expansion of the division. As with all department facilities, there is limited storage available within the facility. Three Connex shipping containers are located on the grounds and are utilized to store equipment.

Facility and storage space at Fire Headquarters is limited. The two medium conference rooms are capable of seating 10-12 people are shared with several other city departments. The ability to store extra non PPE gear is restricted by the lack of space at headquarters.

Plan

The need to relocate or rebuild several stations has been identified and will be incorporated into the Fire Master Plan update. The acquisition of property for Station 3 was completed in January 2019 and will consider the above-mentioned reports to ensure adequate space is provided to support department operations. The relocation plan for station 4 is dependent on available inventory of suitable building sites.

The city has interest in developing an 8.8-acre site that was formerly a hospital campus located in central North Boulder over the next 10 years. If fully developed, the plan is to consider the relocation of the fire department's administrative headquarters to that location.

References

[Daily Camera, 2017 City will spend \\$8 million](#)

[Space Needs Assessment of Boulder Fire-Rescue Department, 2015](#)

6B.2 Buildings and outbuildings are clean and in good repair, and the surrounding grounds are well kept. Maintenance is conducted in a systematic and planned manner.

Description

FAM is responsible for coordinating and managing the maintenance and replacement of city facilities and equipment. The department, in conjunction with FAM, has a formal process to assess the current facilities as well as determine the need to make repairs or upgrades. This process is typically performed during the fourth quarter and involves a walkthrough of all the facilities. The department's safety captain, FAM, and the administrative battalion chief are involved in this walkthrough. Maintenance templates, the International Fire Code, and safety checklists are utilized to ensure compliance with NFPA 1500. The support service division meets with a FAM representative multiple times a year to discuss the scope and projected budget of projects.

All fire stations, including the fire training center, have been determined to be essential facilities. Essential facilities are assets that have been deemed to be a part of the city's critical infrastructure.

Crews at the fire stations are responsible for the general everyday cleaning of the station. Fire crews are responsible for determining the need for any repairs to the station. When a needed repair is noted, a FAM work order is created by either email or a phone call. In instances when an urgent repair is needed after regular business hours, an on-call technician is available through the FAM phone line. When a work order is created, the administrative battalion chief is notified via email. These repair requests are reviewed and, if needed, followed up by the administrative battalion chief.

Appraisal

To date, most of all scheduled station renovations have been completed and are current. The scheduled fire station 4 renovation was to be completed in 2018. This was postponed to 2019 and has not been picked back up. Work orders are generated by email or a phone to request service; however, the department does not have the ability to track the status of these repair requests. There are no standards to determine which repairs should take priority or an expected time frame for a repair's completion. This does not allow the department to have a real-time assessment of the outstanding repairs that are needed at any one time.

Regarding day-to-day cleaning and maintenance, there is no department policy that addresses routine station cleaning. The cleaning of stations occurs as a result of the station officers expressed expectation. The operations division sees a need for a policy that addresses the department's expectations for cleaning and light maintenance at the fire stations. The shift battalion chief is expected to make periodic

inspections of personnel and review the general condition of fire apparatus and facilities. The battalion chief identifies areas that need improvement and assigns the responsibility to the station officer.

Plan

The department plans to continue the coordination of service for the facilities and grounds through FAM. The support services division, along with the station captain, will coordinate the renovation project for fire station 4 which will occur in 2020.

The support service division will begin to draft a service level agreement with FAM to develop a means of tracking work orders as well as project status in 2019. The development of a policy that addresses cleaning and light maintenance at the station level will be developed by the fire station captain group in the fall of 2019.

References

[2005 FAM Master Plan](#)

[List of Facilities served by FAM](#)

[Facility Renovation and Replacement Schedule](#)

[City of Boulder's Position Description, Battalion Chief, 2015](#)

[Boulder Fire-Rescue's Facility Inspection Template](#)

[International Fire Code, 2012 Inspection Sheet](#)

CC 6B.3 Facilities comply with federal, state/provincial, and local codes and regulations at the time of construction, required upgrades for safety are identified, and where resources allow, addressed. For those items that warrant further attention, a plan for implementation is identified in the agency's long-term capital improvement plan (i.e. fire alarm systems, sprinkler system, seismic, vehicle exhaust system, asbestos abatement, etc.).

Description

BFR's facilities comply with all building codes and fire codes adopted by the City of Boulder in effect at the time of their construction. Every station is equipped with vehicle exhaust systems, but not all stations have been equipped with smoke alarms, CO detection, or fire sprinklers. The wildland station, fire training center, and four of the seven fire stations are equipped with fire sprinklers. In 2019, the process began to retrofit all stations with smoke alarms and CO detectors.

All facilities are inspected annually by department representatives to ensure that they meet the required standards and codes. In addition, all facilities have been evaluated for asbestos and, where immediate issues exist, abated. In addition, all undisturbed areas known to contain asbestos have been identified and catalogued for reference during renovation work.

The 2005 FAM Master Plan outlines several objectives related to BFR facilities, FAM will responsively address ongoing maintenance and repair needs, maintain facilities in a safe condition and in compliance with applicable codes and regulations, provide for the inspection and periodic renovation of buildings and major building components when they reach the end of their expected service life, and properly prioritize facility maintenance, renovation and replacement needs to best utilize available resources.

Appraisal

According to FAM, there are no records of an ADA compliance evaluation for fire facilities. The system in the station that captures the apparatus exhaust is approximately 25 years old with no major upgrades to the hardware and structure available, it is outdated and has become expensive to maintain. Over the last three years, the department has spent between \$10,000 - \$14,000 dollars per year to maintain and repair this system. Moreover, there is currently only one vendor in the area that services the type of system the department operates.

Plan

The department, along with FAM, will continue to maintain the current Niederman system. The department has identified critical safety needs such as CO and station fire detection and alarm system. These needs are currently on the capital improvement list and will be corrected by FAM during station

renovations. In addition, any major remodel will initiate the need for fire sprinkler retrofit as required by building code.

References

[Exhaust System costs for Stations 2016-19](#)

[Email from M. Simon regarding ADA](#)

Capital Improvement Needs IP (July 2019)

Criterion 6C: Apparatus and Vehicles

Apparatus resources are designed, purchased, and maintained to adequately meet the agency's goals and objectives.

Summary:

BFR designs and purchases apparatus according to a defined replacement schedule. Annual budget contributions are made to an apparatus replacement fund that is managed jointly by BFR and the fleet services department. Apparatus are designed and specified by the department's Apparatus Specification Committee. Apparatus and vehicles are designed to meet all safety and performance standards set forth in NFPA 1901: *Standard for Automotive Fire Apparatus*. A replacement schedule exists for all apparatus and support vehicles. The replacement schedule is primarily based on the age of the vehicle and informed by applicable standards, condition of the vehicle, and department needs. The deployment of the apparatus supports the goals, objectives, and stated level of service of the department.

Performance Indicators:

CC 6C.1 Apparatus types are appropriate for the functions served (e.g., operations, staff support services, specialized services, and administration).

Description

BFR's apparatus meet the needs of the community as identified in the community risk assessment. BFR has eight front-line apparatus and one command vehicle. Specialized equipment and vehicles are stored at several of the fire stations. This equipment includes a dive van, hazardous materials truck and trailer, a confined space trailer, 2-Type 3 wildland trucks, 2-Type 6 wildland trucks, a reserve command vehicle and three reserve apparatus.

Staff vehicles are assigned to all chief officers that work at fire headquarters as well as to the chief officer and two captains assigned to the training division. The community risk reduction division has staff vehicles for each permanently assigned individual to utilize for on-call duties (i.e., fire scene investigation) and division related assignments.

The wildland division operates out of station 8. Stored in this building is a type 3 and a type 6 wildland truck, a terra-torch/trailer, a UTV with trailer, as well as a structure protection trailer. The wildland division also has one staff vehicle assigned to the division chief as well as several other vehicles that are readily available for emergency use.

Fire apparatus are designed to meet NFPA standards and specifications set forth by the Insurance Services Office (ISO) for fire suppression apparatus. An apparatus design committee is utilized to develop specifics of each fire apparatus needed based on such factors as pump capacity, horsepower, suspension type, axle size, and compartmentation to serve the multiple functions of the department.

Appraisal

All apparatus and their deployment support the goals, objectives, and stated level of service of the department. Apparatus is appropriate to meet the level of risk. A deployment model of four engines and one truck for structure fires is utilized by the department. The department can meet this 4/1 response model to reported structure fires 100% of the time.

Plan

The department will continue to evaluate response data to determine that performance criteria are being met. ISO requirements will be considered, and changes to applicable NFPA standards will be reviewed and met. As the scheduled replacement date for apparatus comes due, the current specifications shall be reviewed for compliance as well as the applicability to current levels of service and anticipated function.

BFR will standardize apparatus specifications to streamline the purchase process of all Type 1, Type 3 and Type 6 apparatus by the end of 2020.

References

[Standards of Cover, Series 2104, Response](#)

Community Risk Assessment/Standard of Cover, 2019 pg. 51-58, 164

6C.2 A current replacement schedule exists for all apparatus and support vehicles based on current federal and state/provincial recognized standards, vehicle condition, department needs, and requirements.

Description

Historically, the department has maintained a ten-year frontline status for all fire apparatus. Afterward, some apparatus would be rotated into a reserve status for five years which would result in an approximate 15-year service life. In 2018, due to budget reductions, the department modified the number of years for frontline status from 10 to 11 years. Replacement schedule of staff vehicles also changed from a seven-year service life to ten beginning in 2019. Wildland apparatus, due to various use factors such as regional and national deployments, are evaluated on a case by case basis. Both mileage and years of service are considered. To prepare for delivery of a new pumper in August 2019, the apparatus committee and EVT evaluated historical repair and maintenance data during the first quarter of 2019.

Appraisal

The fleet replacement schedule has met the department needs. From a cost evaluation standpoint, the shift from 10 to 11 years of frontline service should not negatively affect department capacities. To date there hasn't been a formal way to determine which apparatus should be moved to reserve status and which should be moved to surplus upon delivery of new apparatus.

Plan

The change to the replacement cycle will be evaluated in Q1 2021. Apparatus repair and maintenance costs will be analyzed throughout 2020 to determine the result of this change to the replacement cycle.

References

[2019 Approved Operating Budget, p.104](#)

[EVT evaluation email](#)

6C.3 A process is in place for writing apparatus replacement specifications that allows for employee input.

Description

Apparatus and vehicles are designed to meet all safety and performance standards set forth in NFPA 1901: *Standard for Automotive Fire Apparatus*. An apparatus design committee is utilized to develop specifics of each fire apparatus needed based on such factors as pump capacity, horsepower, suspension type, axle size, and compartmentation to serve the multiple functions of the department. This process incorporates the experience of these engineers to influence and determine final apparatus design. The department is currently moving to standardize the specifications to enhance the efficiency of this process. This includes limiting the customization of individual apparatus and considering the CRA/SOC as part of the design process.

Appraisal

The apparatus replacement process has adequately provided the department with changes to design and performance characteristics of apparatus. For example, in 2015, a shorter and smaller fire pumper was designed by the apparatus committee and was placed in service. These two identical fire pumpers have a shorter than traditional wheelbase, a smaller water tank capacity, and a decrease of compartment space. This reduction in size resulted in the elimination of various types of equipment normally carried on a fire pumper such as vehicle extrication tools, a chainsaw and a ventilation fan.

Plan

The department will continue to utilize the process in place for writing replacement specifications.

References

NFPA 1901: Standard for Automotive Fire Apparatus – Department Account on site

CRA/SOC

Criterion 6D: Apparatus Maintenance

The inspection, testing, preventive maintenance, replacement schedule, and emergency repair of all apparatus are well established and meet the emergency apparatus service and reliability needs.

Summary:

BFR has established procedures for the repair, maintenance, and emergency repair of all apparatus and staff vehicles. The Administrative Battalion Chief oversees apparatus maintenance and repair. The testing of fire pumps, ground ladders, and aerial ladders are performed annually. The department works with the city's fleet services in order to maintain the apparatus in a response ready state. Fleet services employs an emergency vehicle technician who performs maintenance and repair of apparatus. Scheduled preventative maintenance for all frontline apparatus occur at six-month intervals. The fleet facility is of adequate size and capability to handle the needs of the department. The fleet service coordinator is on call 24/7 and is notified via cell phone when afterhours emergency repairs are needed.

Performance Indicators:

CC 6D.1 An apparatus maintenance program is established. Apparatus maintenance, preventative maintenance, inspection, testing, and emergency repair is conducted by trained and certified technicians in accordance with the manufacturer's recommendations, and federal and/or state/provincial regulations. Attention is given to the safety, health, and security aspects of equipment operation and maintenance.

Description

Apparatus maintenance is completed by the City of Boulder's Fleet Maintenance Division. Trained and certified technicians conduct apparatus maintenance, preventative maintenance, inspection, testing, and emergency repair in accordance with the manufacturer's recommendations, and federal and/or state/provincial regulations. Attention is given to the safety, health, and security aspects of equipment operation and maintenance.

The emergency vehicle technician (EVT) and most fleet division technicians are ASE (Automotive Service Excellence) certified and undergo periodic trainings to maintain or increase technical skills. One EVT is on staff within the fleet division and performs all required maintenance, inspection, testing and repairs. Fleet division technicians are available outside of normal working hours for emergency repairs as dictated by a service level agreement.

Appraisal

Fire apparatus are on a periodic maintenance (PM) schedule of every six months. Staff vehicles are on a PM schedule of every 4000 miles with wildland apparatus evaluated on a mileage and time consideration. The fleet maintenance division has been able to meet the department's expectation of the established maintenance program.

Plan

The department will continue to work with the City of Boulder's Fleet Maintenance Division to identify areas of possible improvement. Biweekly meetings between the support service division and fleet management will continue, and issues that arise will be discussed.

References

[Fleet Fire Operational Agreement 2019](#)

6D.2 The maintenance and repair facility is provided with sufficient space and equipped with appropriate tools.

Description

The City of Boulder's Fleet Maintenance Division facility is an approximately 20,000 sq. ft. apparatus maintenance facility that was originally constructed in 1989. One half of the facility is used to service larger city apparatus (plow trucks, fire apparatus, public works vehicles). This site has nine bays with one dedicated wash bay. This large vehicle area is equipped two 50,000 lb. heavy duty lifts as well as one 75,000 lb. heavy duty lift. The second half of the building is an eight-bay service facility equipped with five two-post lifts and one alignment rack. The facility has limited storage capacity.

Appraisal

The current maintenance facility is adequate for the needs of the department. The facility has the equipment necessary for the routine maintenance and repair of the fire apparatus. The fleet facility currently lacks some equipment that is needed to fully service all the fire apparatus such as a super heavy-duty transmission jack needed to lower/lift a fire pump out of the trucks. The facility lacks a hydraulic lift that can raise the department's largest fire apparatus, a 100' aerial platform, above ground level in order to work from below.

Plan

The department will continue to utilize the current maintenance facilities. Fleet management and the support service division will study the feasibility of upgrading the current hydraulic lifts or purchasing a super heavy-duty jack. There is no timeline for the feasibility study. The justification for the cost needs to be compared to the expected frequency of use as well as possible space limitations.

References

Fleet [photos](#) and blueprint

6D.3 An adequate number of trained and certified maintenance personnel are available to meet the program needs.

Description

The department's vehicle maintenance program utilizes one certified EVT as well as ASE certified mechanics. The EVT is available during normal business hours and is available outside of these hours if necessary. The ASE certified mechanics are utilized when non-fire apparatus specific issues are identified and the EVT is unavailable due to another department related need.

Appraisal

The department has the minimum number of trained and certified mechanics to maintain the fleet. There are normally three heavy duty mechanics (1 EVT, 2 ASE certified) on duty during weekday business hours, 0730-1530 hrs. There is currently only one certified EVT with no other mechanic trained or pursuing EVT certification. Due to situations in which the EVT is not available (training, vacation, illness), there is not an on-call replacement for the EVT.

Plan

Working with fleet maintenance division, the support service division will pursue the need for a second EVT.

References

[Fleet Fire Operational Agreement 2019](#)

[EVT Certifications](#)

[EVT Pierce Certifications](#)

6D.4 The level of supervision is adequate to manage the program.

Description

The Boulder Fire-Rescue Department's apparatus maintenance program is directly managed by the support services division's administrative battalion chief. The support service division's deputy chief ultimately oversees the entirety of this program. The administrative battalion chief works directly with the fleet service coordinator to plan and coordinate all major repairs or unexpected repairs. The station captains directly coordinate with the fleet service coordinator for minor repairs and to schedule preventative maintenance.

Appraisal

2019 is the first year for the station captains to coordinate with fleet regarding minor repairs and routine maintenance directly. The station captains can approve any repair under \$500. It is too early to evaluate the effectiveness of this change in operations. The level of supervision of the fleet maintenance program appears to be adequate and allows department apparatus and fleet vehicles to be appropriately maintained.

Plan

The impact, both financial and resource-wise, of the decision for the station captains work directly with fleet will be evaluated at the end of 2019. There is no plan to change the level of supervision at fleet services.

References

[BFR Station Book, 1st ed., 2019](#)

[Support Services Responsibilities, Advisory A18-023, 2018](#)

6D.5 The reserve vehicle fleet is adequate, or a documented contingency plan is in place for the event that apparatus must be taken out of service.

Description

The department maintains one reserve aerial and two reserve engines. Additionally, there is one reserve command vehicle. There are no specialty vehicles such as HazMat apparatus, brush trucks, or dive vans in the reserve fleet. In situations where there is not an available reserve apparatus to replace a frontline apparatus, the matrix below is utilized

<p>1st Engine Out of Service</p>	<ul style="list-style-type: none"> • 2523 moves to Station 1 and is staffed by the crew from 2501. • 2501 is moved to the station needing an apparatus.
<p>2nd Engine Out of Service</p>	<ul style="list-style-type: none"> • 2538 is staffed by the crew from Station 2. (3 SCBA’s and spare bottles from O.O.S. apparatus placed in a compartment on 2538) • 2502 is moved to the station needing an apparatus.
<p>3rd Engine Out of Service</p>	<p>Preferred: Boulder Rural to provide coverage for District 6.</p> <ul style="list-style-type: none"> • Station 6 is taken out of service. Boulder Rural to cover District 6. • Crew from 2506 is distributed within the system. • 2506 is moved to the station needing an apparatus.
	<p>In the event Boulder Rural is unable to provide coverage for District 6:</p> <ul style="list-style-type: none"> • 2506 is maintained in District 6. • 2523 moves to district needing an apparatus. • Crew from 2501 distributed on 2516, 2570, and/or 2503.

In 2018, the aerial ladder platform was out of service due to major damage for Memorial Day 2018 roughly through October 1st of 2018. During this period, the department operated with only two reserve apparatus. During wildland deployments, the type 3 and type 6 apparatus can be unavailable for an extended amount of time. When this occurs, an open space & mountain parks’ wildland apparatus is loaned to the department if available.

Appraisal

The department has an adequate reserve apparatus fleet consisting of two engines and one 75’ quint. During 2018, the department faced a significant challenge when the frontline aerial platform was out of service for an extended amount of time. The 75’ reserve quint replaced that apparatus during that time.

Plan

As of September 2019, the department has taken possession of a new fire pumper to replace the engine at station 5. Due to the apparatus replacement schedule and funding system, one apparatus will be decommissioned and retired. A multifaceted criterion will determine the most cost-effective decision based on such items such as mileage, repair history, and cost to operate.

References

[Operational Directives, Series 2100, Standards of Cover](#)

CC 6D.6 The inspection, testing, preventive maintenance, replacement schedule, and emergency repair of all apparatus is well established and meets the emergency apparatus service and reliability of the agency.

Description

The department, in conjunction with the fleet services division, has a well-established program to address the needs of preventative maintenance, replacement schedule, and emergency repair of all apparatus. Preventative maintenance is scheduled at six-month intervals for fire apparatus and predetermined mileage amounts for staff vehicles. There is an established fleet replacement fund that is managed by Public Works Support Services to which the department contributes into each year. Both the fleet service coordinator and the operations supervisor are on call after hours. The emergency vehicle technician (EVT) incorporates an apparatus inspection of the entire truck into every vehicle repair and preventative maintenance. Over the course of the last five years, either a department engineer or EVT was assigned the responsibility for completing the annual pump testing.

Appraisal

The current system for the inspection, testing, preventive maintenance, replacement schedule, and emergency repair of all apparatus are sufficient to maintain the required service levels. The senior budget analyst, support service's deputy chief and administrative battalion chief evaluate these items as needed as well as on an annual basis. Necessary adjustments are made to the programs in order to ensure that goals are met, and the reliability of the fleet is maintained. In August of 2019, a Service Level Agreement was completed between Fleet Services and the fire department.

Plan

Training that is instructed by the EVT regarding routine maintenance and inspection of the apparatus is scheduled for 2019. The modification of the apparatus check sheet to reflect the new inspection expectations will be a result of this training. The department will continue to monitor the programs and adjust when deemed necessary.

References

[Public Works – Support Services: Fleet Services Website \(external website\)](#)

[Fleet Fire Operational Agreement](#)

Criterion 6E: Tools and Small Equipment

Equipment and supplies are adequate and designed to meet the agencies goals and objectives.

Summary:

Department apparatus are equipped with a variety of tools and equipment needed to achieve the recommendations set forth in NFPA 1901. Several apparatus are equipped with specialized equipment such as vehicle extrication and rope rescue. The department utilizes a research and development committee to evaluate new equipment and tools. BFR lacks a formal program for tools and small equipment. Equipment inspections are performed by apparatus operators, and deficiencies are dealt with in a timely fashion. Equipment maintenance and testing are conducted according to manufacturer's recommended schedules by qualified personnel.

The administrative battalion chief oversees the provision of supplies and materials for the department. The contracted ambulance service is responsible for providing the medical supplies and acts as the vendor for the department. Individual station supplies and materials are the responsibility of the station captain. Station supplies are delivered directly to the individual stations. Fleet services provide some needed supplies, such as absorbent and fluids for the apparatus.

Performance Indicators:

6E.1 Tools and equipment are distributed appropriately, are in sufficient quantities, and meet the operational needs of the specific functional area or program (e.g., fire suppression, community risk reduction, investigations, hazmat, etc.).

Description

The department distributes tools and equipment in an appropriate manner in order to meet the operational needs of the department. All department apparatus are equipped with a compliment of equipment and tools that meet recommendations set forth in NFPA 1901. Each apparatus is equipped with specialty equipment for surface ice rescue, swift water emergencies, and wildland incidents. Company officers are responsible for ensuring that apparatus are appropriately equipped with the proper inventory of tools and equipment. The department utilizes a research and development committee for vetting suggestions for new equipment and tools.

Appraisal

Departmental policy dictates that apparatus inventories shall list the required firefighting and rescue equipment authorized to be carried by all emergency response vehicles, however, it does not dictate when or under what circumstances a physical inventory of the tools and equipment should be made. There is a need to create a policy that dictates when an apparatus inventory should be performed. There is also a need to reevaluate the language in the current policy that addresses missing equipment, the procedures to follow when equipment is found to be missing, and ultimately how that equipment is to be replaced. All extra equipment and tools are stored in the fire barn. There is a very limited amount of new or usable spare equipment at the fire barn. Crews are directed to check at the barn if a tool is needed and if not available, to contact the administrative battalion chief. The administrative battalion chief will order the needed equipment or coordinate a repair with a vendor. Due to a not having a departmental inventory system for equipment, an accurate and complete inventory of this equipment is needed.

Plan

BFR will develop a policy that directs when an apparatus inventory is required. The department will continue to pursue the purchase an electronic inventory system. An inventory of the current extra equipment and tools located in the fire barn will be conducted in 2020. Once this inventory is complete,

a departmental inventory of necessary tools and equipment will be developed. The department will use the results of the tools and equipment inventory to create a replacement budget based on historical data.

References

NFPA 1901: *Standard for Automotive Fire Apparatus*- Department Account

[Administrative Policy, Equipment and Apparatus Maintenance, Series 2009-Apparatus Inventories](#)

[Advisory regarding R&D committee](#)

6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.

Description

The department currently replaces equipment on an as needed basis. As equipment becomes damaged beyond repair or is no longer consistent with the department's goals and objectives, it is removed or replaced. When an apparatus is taken out of service, an evaluation of the tools and equipment is performed. Equipment deemed to have adequate service life remaining is placed in a cache at the fire barn. The department annually budgets for an equipment replacement fund and utilizes these monies when needed. The administrative battalion chief is responsible for working with the senior budget analyst to create a proposal, gather vendor bids and submit purchase requests to the finance department.

Appraisal

The system used for major purchases, equipment listed on the equipment replacement fund list, and higher dollar items is convoluted and takes an extended amount of time. Purchases of equipment comes out of the equipment replacement fund or the operational funds. The department does not have direct access to the equipment replacement funds and must work with Public Works and Finance in order to purchase needed equipment. The finance department must approve vendors not registered with the city which can take over a month to complete. This process is time consuming and restricts the ability to purchase equipment individually as it needs to be replaced. There is a threshold of approximately \$1,500-\$2,000 that must be met in order to utilize equipment replacement fund monies. Purchases resulting in amounts less than this must come out of the department operational funds. There is a departmental capital inventory spreadsheet that was completed in 2015 that lists the majority of the departmental equipment such as hose, appliances, and engine equipment. There is some equipment listed that is not eligible for equipment replacement funds. The current system used to replace small tools, minor equipment and items not budgeted for in the equipment replacement fund works adequately but is not sustainable.

Plan

The administrative battalion chief is in the process of creating an accurate inventory that includes a replacement cycle for all department equipment. There are no plans to change the current systems utilized to replace small tools and equipment due to the funding structure in the city. As equipment continues to break, the department will purchase the needed equipment using operational funds.

The admin BC will continue to create proposals and apply for monies to acquire the needed equipment and identify areas where program oversight could benefit the department.

References

[2015 Capital Replacement Worksheet](#)

[City of Boulder's Financial Policies, Section 3.5](#)

CC 6E.3 Equipment maintenance, testing, and inspections are conducted by qualified personnel, following manufacturer's recommended schedules.

Description

Maintenance, testing, and inspection of equipment are performed in accordance with the manufacturer's recommendations. Apparatus operators are responsible for determining the operational readiness of all tools and equipment at the beginning of each tour. If a piece of equipment is found to be damaged, broken, or missing, the company officer is required to contact the battalion chief. QRAE meters are tested every week and calibrated every 90 days; sensors are replaced as needed. A program manager maintains thermal imaging cameras (TICs), and TIC batteries are conditioned annually.

Hydraulic extrication equipment, aerial ladders and ground ladders are annually serviced and maintained by certified third-party services. Qualified department personnel maintain small engines including chainsaws and rotary saws. Department line personnel also conduct hose testing annually according to the standards of good practice as defined by IFSTA and in conformance with NFPA 1962. Annual pump testing is conducted by the Emergency Vehicle Technician (EVT) and is assisted by the engine companies.

Appraisal

The routine equipment inspection and maintenance is performed as a part of daily and weekly apparatus checks. A program for maintenance and testing of specific equipment such as TIC's and meters is working adequately. Hose testing is coordinated by the Fire Station Captains and administrated by the Administrative BC. The procedure listed in the department policies for documenting hose testing is obsolete. The RMS system that the procedure references has incorrect or incomplete hose data. The Administrative BC distributes a spreadsheet that references NFPA 1962 information. Utilizing this spreadsheet has allowed for a more accurate documentation of hose testing information in comparison to utilizing Firehouse software. Personnel are trained to meet the standards for each certification, when not certified, personnel have proven to be a subject matter expert in that area. This is adequate to support the needs of the department.

Plan

The department will continue to pursue an electronic records and inventory system. As it has been noted, an RFP process for an inventory system will be completed by the fall of 2019. There are no immediate plans to change the equipment maintenance, testing, and inspection program.

References

[Hose Testing Documentation](#)

[Ladder Testing Documentation](#)

[Administrative Policies, Series 2000, Equipment and Apparatus](#)

NFPA 1962, *Standard for the Care, Use, Inspection, Service Testing, and Replacement of Fire Hose, Couplings, Nozzles, and Fire Hose Appliances* - Department Account

6E.4 An inventory control and maintenance tracking system is in place and current.

Description

The driver of each apparatus is required to complete an inspection, as well an equipment check, at the start of their tour of duty. This inspection, as well as a weekly apparatus check, is documented according departmental policy. Departmental policy also requires an inventory list of all required firefighting and rescue equipment is kept in the apparatus manual.

The department utilizes Firehouse as its RMS software. All routine maintenance and repairs are to be documented in Firehouse. Apparatus operators are responsible for documenting all needed repair maintenance by the end of the tour. Fleet maintenance personnel have access to the RMS system. According to Administrative Policy, Equipment and Apparatus Maintenance, Series 2001, General Apparatus Maintenance, all apparatus operators are required to verify repairs performed by fleet maintenance by operating the equipment after the repair is completed. Fleet services also utilizes a separate system, Asset Works, to track all maintenance and repairs performed.

Appraisal

The current RMS system, Firehouse, is utilized as the departmental inventory control and maintenance tracking system. Repair orders are entered into the system by the driver operators when needed repairs are found. The EVT and Fleet Services has access to this system and the repair orders are accessed when the apparatus is taken in for repair. This system would be considered below adequate at best. The system does not allow for easy access of inventory or repair orders. Data entry by users is cumbersome and current inventory information, specifically equipment, is not reliable. Because the system is not reliable, inventories are not current, and an accurate picture of current inventory status is not available. In 2018, a third-party consultant recommended that the department research and obtain a “best-of-breed” inventory system. Fleet services is currently scheduled to undergo an upgrade of their Asset Works system. The upgrade will generate automated preventative maintenance reminders as well as have the capability to generate more detailed apparatus repair history and cost analysis. This upgrade should be completed by the end of 2019.

Plan

The RFP process for a new RMS and logistics software will begin in the fall of 2019. The department will have a new RMS and logistics software in place by 2020.

The administrative battalion chief will create a program to manage fire hose, nozzles, and appliances by the spring of 2020. This program will address the scope of the department's needs and utilize the logistics software that the department will purchase.

References

[Series 2001, General Apparatus Maintenance, Administrative Policy](#)

[Series 2009, Apparatus Inventories, Administrative Policy](#), Administrative Policy

[ERP Technology Consultant Report](#)

6E.5 Supplies and materials allocation is based on established objectives and appropriate to meet the operational needs of the specific functional area or program (e.g., fire suppression, community risk reduction, investigations, hazmat, etc.), and is compliant with local, state/provincial, and national standards.

Description

The department provides or facilitates the delivery of all needed supplies and materials to meet the operational needs of the functional area or program. Each division is responsible for supplies and materials needed to accomplish its stated mission. Depending on the type of supplies or equipment required, the station or division will take the appropriate action. Ultimately, the provision of supplies and materials is the responsibility of the administrative battalion chief.

Medical supplies are provided through the contracted ambulance service for the city. The coordination for the delivery of the medical supplies is handled directly through the on-duty ambulance captain. Disposable medical supplies used on medical incidents by the engines are replaced on scene from the ambulance. The department is billed for all equipment and non-disposable supplies.

At the station level, the station captain is ultimately responsible for making sure their station has the needed supplies and materials. Supply Works is the vendor that the department uses for most of the cleaning chemicals, paper goods, batteries, and cloth cleaning products used in the stations. All station supplies are delivered directly to the individual stations.

Fleet services provides some additional supplies to the fire stations such as diesel exhaust fluid (DEF) for the apparatus. When the station needs DEF, crews travel to the fleet services building, fill empty containers, and transport them back to the stations. Fleet services also provides absorbent for department use. A bulk supply is delivered to station 7, and it is distributed to the stations as needed.

Appraisal

The current system meets the needs of the department. The station captain program was designed to control costs at the station level. All orders made for Supply Works are charged to the station captain's purchasing card which they reconcile on a monthly basis and can track costs effectively. 2018 was the first year of tracking station supply costs, and the station captains were provided a station budget for 2019.

Plan

The department will continue to review current expenses and compare these to the forecasted budget. An evaluation will be performed at the end of the year to appraise the accuracy of the forecasted budget and make adjustments as needed.

References

[BFRD Station Book, \(1st ed.\), 2019](#)

[2019 Station Captain Budgets](#)

[AMR Service Contract](#)

Criterion 6F: Safety Equipment

Safety equipment is adequate and designed to meet agency goals and objectives. For the purposes of this criterion, safety equipment includes personal protective equipment (PPE) and related equipment (e.g., self-contained breathing apparatus).

Summary:

Boulder Fire Rescue (BFR) provides safety equipment that meets *NFPA 1971: Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*. BFR provides two sets of in-date gear for all line personnel and 1 set of PPE to all non-line, SCBA trained, response ready personnel. BFR has SCBA equipment on all apparatus as well as command response staff vehicles. The members also meet minimum accepted standards for PPE on medical and rescue type incidents. This is accomplished by providing safety glasses and body substance isolation equipment like Tyvek suites, gloves, and glasses.

The Safety equipment that is provided for incidents requiring SCBA and BSI are trained on at regular intervals. The crews can document the checking of equipment, and the training of equipment on a regular basis with target solutions.

Performance Indicators:**CC 6F.1 Safety equipment is identified and distributed to appropriate personnel.****Description**

Safety equipment is distributed to all firefighters. Safety equipment consists of two sets of structural firefighting bunker gear, a helmet, hood, gloves, and boots. Basic wildland equipment is also provided to members, this includes boots, pants, shirt and gloves. Wildland equipment is provided on an as needed basis. The remainder of the ensemble (helmet, shelter, line pack) are provided on the apparatus for each position on the apparatus.

Appraisal

Safety equipment has adequately been identified and distributed. All members are given a full complement of PPE. However, the manner in which the department maintains inventory is antiquated. As indicated by the ERP technology needs assessment, the department should implement new logistics software.

Plan

BFR will implement a new logistics software by Q4 2020 to address the needs of supporting safety equipment inventory maintenance.

References

[Safety Equipment Budget](#)

[ERP Technology Needs Assessment](#)

[Bunker Gear and Helmet Replacement Schedule](#)

SCBA Spreadsheet

6F.2 Distributed safety equipment is sufficient for the functions performed.

Description

Safety equipment is always available and kept in a storage area at the training center. Safety equipment is distributed to personnel for the functions performed. The tracking and distribution of equipment is done manually by the Health and Safety Officer. Limited equipment may be exchanged by the Battalion Chief if there is an immediate needed.

Special operations safety equipment adheres to the standard set forth by the department. The equipment needed for special operations (Dive rescue, Technical Rescue, Wildland) are budgeted by individual program areas.

Appraisal

Distributed safety equipment has been sufficient for all functions performed. However, the department has outgrown the current tracking and distribution system as indicated by the ERP technology needs assessment. The department would benefit from a logistic system with scanning and tracking capabilities in place to provide real time, up to date tracking of equipment.

Plan

The department will continue to distribute safety equipment as currently scheduled until a new solution is implemented. By Q4 2020 a new logistics software will be in place.

References

[ERP Technology Needs Assessment](#)[Bunker Gear and Helmet Replacement Schedule](#)

SCBA Spreadsheet

6F.3 Safety equipment replacement is scheduled, budgeted, implemented, and adequate to meet the agency's needs.

Description

The replacement of safety equipment is scheduled and budgeted for. Included within the replacement schedule is approximate inflation costs, to help avoid budgetary shortfalls. Despite this it is difficult to keep up with inflation costs.

Appraisal

Current tracking and distribution systems have been reliable for record keeping purposes; however they are inadequate and in-efficient for the current needs of the department. The potential for missed, expired, or outdated equipment is tremendous and is a likelihood not an exception. As services provided increases this could need a significant increase to maintain the proper funding level.

Plan

BFR will implement a new logistics software by Q4 2020 to address the needs of supporting safety equipment inventory maintenance.

References

[ERP Technology Needs Assessment Bunker Gear and Helmet Replacement Schedule](#)

SCBA Spreadsheet

6F.4 Safety equipment maintenance, testing, and inspections are conducted by trained and qualified personnel, and appropriate records are kept.

Description

Bunker gear is inspected by a bunker gear inspector annually. The inspectors are trained by our gear manufacture. The inspectors recommend replacements and repairs that are needed.

SCBA's are inspected and maintained by either a warrantee that the SCBA techs send off, or by minor repairs that are completed in house. The SCBA masks are completed in house. The SCBA program administer conducts annual flow tests and calibrations of the equipment. The air bottles and compressors are also maintained in house by a certified compressor and air bottle tech.

In 2019, the department conducted a technology needs assessment with ERP consulting. ERP found that the current system in place for keeping records of safety equipment maintenance, testing, and inspections is antiquated and should be replaced. Using ERP's recommendations, the department evaluated two different logistics software options in August 2019. A decision will be made by the end of 2019 regarding new logistics software.

Appraisal

Safety equipment has been maintained in a manner consistent with current standards. Safety equipment has been kept current and up to date on maintenance. The method used to record maintenance, testing and inspection records has served the department for record keeping purposes, however the system no longer meets those needs.

Plan

The department will maintain the qualifications and ongoing trainings of the compressor and air bottle tech. SCBA's, bottles and PPR will remain on a 10-year replacement schedule. By Q4 2020 a new logistics software will be in place.

References

[ERP Technology Needs Assessment](#)

[ERP Technology Needs Assessment Bunker Gear and Helmet Replacement Schedule](#)

SCBA Spreadsheet

6F.5 A safety equipment inventory control and maintenance tracking system is in place and current.

Description

The department maintains four excel spreadsheets to track equipment repairs and maintenance of bunker gear, flashlights, boots and helmets.

In 2019, the department conducted a technology needs assessment with ERP consulting. ERP found that the current system in place for inventory control and maintenance tracking is antiquated and should be replaced. Using ERP's recommendations, the department evaluated two different logistics software options in August 2019. A decision will be made by the end of 2019 regarding new logistics software.

Appraisal

The way the department records inventory and maintenance has served the department for record keeping purposes, however the system no longer meets those needs.

Plan

BFR will implement a new logistics software by Q4 2020 to address the needs of supporting safety equipment inventory maintenance.

References

[ERP Technology Needs Assessment](#)[Bunker Gear and Helmet Replacement Schedule](#)

SCBA Spreadsheet

Category VII: Human Resources

Human resources are defined as all aspects of personnel administration, except those of training and competency, which are addressed in Category VIII. The heart of any organization is its people, and this category is designed to appraise the importance and results of the human resources program. Completing the human resources section may involve members from other governing entities or other elements of the community.

Criterion 7A: Human Resources Administration

General human resources administration practices are in place and are consistent with local, state/provincial, and federal statutory and regulatory requirements.

Summary:

The City of Boulder Fire-Rescue (BFR) Department is supported by the City of Boulder Human Resources (HR) Department. The official human resources manager is the director of HR. Several support personnel exist within the HR department, and the fire department supports these operational functions. Furthermore, the city has established policies and procedures to ensure compliance with local, state/provincial, and federal statutory and regulatory requirements which are reviewed for continuous compliance by the city attorney's office, and the collective bargaining agreement with IAFF Local 900, in conjunction with departmental policy, contain further guidance on HR practices that influence this aspect of the department's administration.

Performance Indicators:**CC 7A.1 A human resources manager is designated.****Description**

The designated human resources manager for the City of Boulder Fire-Rescue (BFR) is the director of human resources (HR) for the city. This position is responsible for the oversight and coordination of all human resources functions for the entire organization. The HR department assigns a business partner to BFR that serves as the primary contact for day-to-day human resources issues. In addition, the deputy chief of support serves as the primary liaison to the HR department and provides strategic coordination of HR functions in the department.

Appraisal

The designation of the HR manager has been clear, and lines of authority have been effectively delineated. The assignment of the business partner has provided BFR an easily accessible point of contact that has ensured timely resolution of issues for the department.

Plan

BFR will continue to strategically partner with the HR manager and coordinate all related activities with the designated HR business partner.

References

[Organizational Chart – HR](#)

[Organizational Chart - BFR](#)

[HR Business Partner Job Description](#)

7A.2 The human resources program has adequate staffing to accomplish the human resources administrative functions.

Description

Several BFR personnel provide initial human resources' administrative support through the facilitation of related paperwork. Internal investigations are managed by the deputy fire chiefs. The human resources department assigns an HR business partner that provides a conduit for the escalation of issues, the coordination of internal complaints, and hiring processes. The balance of HR functions is provided by various other personnel within the HR department such as benefits administration, pension coordination, and professional development.

Appraisal

The BFR's facilitation of initial administrative support has worked to process forms quickly. While the deputy chiefs can initiate most HR investigations, the increased workload caused by these matters has not been efficient. In addition, there is no formal position within the HR department to escalate issues of greater complexity to, leading to external investigators being retained at high expense. The HR department has been understaffed for several years due to rapid turnover. This has caused several HR personnel to take on additional duties which increases their workload and increases their span of control. Thus, BFR personnel have begun to facilitate some of these functions such as policy implementation.

Plan

BFR will review its internal support functions to include additional personnel to conduct internal investigations without reducing the workload capacity of existing personnel by 2022. In addition, the department will monitor staffing limitations in the HR department to adjust the timing of discretionary projects.

References

[Organizational Chart – HR](#)

[Organizational Chart - BFR](#)

7A.3 Policies are established to direct the human resources administrative practices in accordance with local, state/provincial, and federal requirements. The policies are reviewed annually and updated as needed.

Description

Human resources practices are identified in policy under sections addressing benefits & leave, compensation, employment, and workplace behavior. In addition, the collective bargaining agreement (CBA), as well as BFR policies, address human resource administrative practices in certain cases. All policies are reviewed by the city attorney's office (CAO) to ensure legal compliance with applicable requirements. The CAO also monitors changes in these regulations to trigger needed updates. Fire department policies are reviewed annually. The CBA is renegotiated bi-annually but is updated as needed, and it contains a provision to ensure no conflict with federal law exists. The city policies are not comprehensively reviewed annually, however, changes in law and business need drive updates. The HR department is engaging an external consultant to review all policies, which is expected to conclude before the end of 2019.

Appraisal

The policies outlining human resources practices is comprehensive and current, but they are distributed across several documents that are managed by different stakeholders. It is, therefore, possible for these documents to overlap and, at times, conflict with one another. This will require a greater coordination during policy review and update.

Plan

BFR and the HR department have begun to evaluate coordinating policies across the responsibilities of various stakeholders. As this process is very resource intensive, a time-bound goal has not been developed for this yet. The goal will be re-evaluated annually for inclusion in future departmental workplans.

References

BFR Policy Committee Meeting Minutes

SCOTUS Union Dues E-mail

[CAO Website \(internal\)](#)

[CAO Job Description](#)

[City of Boulder's Policy Development Guideline](#)

Criterion 7B: Recruitment, Selection, Retention and Promotion

Systems are established to attract, select, retain, and promote qualified personnel in accordance with applicable local, state/provincial, and federal statutory requirements.

Summary:

Boulder Fire-Rescue (BFR) and the City of Boulder attracts employees with a highly competitive salary structure, excellent benefits and good working conditions. BFR conducts contract negotiations every two years to ensure market competitiveness is maintained and that emerging issues and opportunities are identified. The City's HR department evaluates its benefits package every year to ensure employees are offered lucrative benefits that support its workforce. In addition, innovative practices such as flexible work schedule for non-line personnel, allowing dogs to be brought to work for office workers, as well as world-renowned recreational and natural environment contribute to high retention and effective recruitment.

Salary compression has been an issue for uniformed command staff due to compensation not being tied to the labor contract for non-management employees. This has created a succession planning challenge that the city is currently attempting to address. In addition, recruitment of a more diverse workforce for BFR has proven challenging both due to a competitive labor market and the lack of a comprehensive recruitment strategy. Both of these issues are currently being examined for appropriate solutions to these challenges.

Performance Indicators:

7B.1 A mechanism is in place to identify and announce potential entry level, lateral, and promotional positions.

Description

The mechanism for identifying positions for sworn personnel is based on the authorized staffing level of the department and overtime expenditures. The BFR is authorized for 124 FTEs under the 2019 budget. The department has been able to carry a limited number of over-hire positions above this level to reduce overtime impacts caused by long-term injuries and unanticipated vacancies. Civilian positions are identified and filled as needed. All entry level, lateral, and promotional positions are announced using the City of Boulder web-based application platform called NeoGov. This standardizes the process of announcing openings. One exception is the hiring of firefighters utilizing the Colorado Fire Testing Consortium, which is a group of Denver Metro agencies that use a standard written test. This testing is continuous, and qualified candidates are invited to apply for openings based on their written score and qualifications. All candidates selected using this approach are directed to apply under the NeoGov system.

Appraisal

The mechanism utilized to identify and announce potential entry level, lateral, and promotional positions is effective in filling the basic needs of the department. A limitation has been noted in the advertising of hiring cycles by the department to alert interested candidates to the timeframe of testing processes and the establishment of hiring lists.

Plan

BFR will establish a clearer policy outlining hiring and recruitment timelines for entry level and lateral uniformed positions by December 31, 2019. In addition, BFR will utilize the newly hired Talent Acquisition Manager to refine the recruiting strategy for the fire department.

References

[Career Opportunities - Internal](#)

[Career Opportunities - External](#)

[Talent Acquisition Manager Job Description](#)

7B.2 The agency administration and its members are part of the recruiting process.

Description

BFR utilizes its existing personnel for the recruitment of uniformed firefighter positions. This occurs through outreach opportunities in the community, participation in recruiting events with community partners, and utilizing local and regional professional organizations as a communications platform. This process is ongoing and is not driven by the need to fill current openings.

Recruitment for civilian positions is conducted on an as needed basis when openings occur. Personnel that are considered stakeholders both in the department and in partner departments are contacted to determine the characteristics necessary for a successful candidate. These personnel are then actively involved in identifying qualified candidates through professional networks and social media to make potential candidates aware of openings.

Appraisal

Initial entry firefighters take a consortium test that several member agencies draw from. This limits BFR's ability to target specific individuals during recruiting and ensure that they are hired by the department due to the multi-department competition created by the test. In addition, BFR pulls from the hiring list on an as needed basis making it difficult for identified candidates to apply in time for consideration.

Plan

BFR plans to develop a predictable testing cycle through establishing a hiring list with an annual testing and interview cycle by the end of 2020. This will allow BFR to announce this cycle during recruitment activities and allow interested candidates to apply in time for consideration.

References

[Talent Acquisition Manager Job Description](#)

[Job Description Template](#)

[Staffing Request Form](#)

CC 7B.3 Processes and screening/qualifying devices used for recruitment and selection of initial, lateral, and promotional candidates are job related and comply with all local, state/provincial, and federal requirements, including equal opportunity and discrimination statutes.

Description

The on-line application process used by BFR through the City of Boulder is designed to meet all legal standards to include EEOC guidelines. If any modification is necessary, the application is reviewed by Human Resources and the City Attorney's office before any changes are made. The hiring manager in charge of the process then coordinates with the HR business partner to ensure legal compliance. BFR routinely uses screening questions as part of the initial application that allow for unqualified candidates to be identified early. These questions are reviewed for legal compliance prior to posting. The department utilizes the Candidate Physical Agility Test (CPAT) for fitness testing which is independently verified for compliance with applicable law.

Appraisal

The process utilized for screening ensures legal compliance with applicable laws. Screening for uniformed positions is more involved than that for civilian positions and is therefore reviewed more thoroughly. The city attorney routinely reviews hiring practices, including screening of applicants for compliance.

Plan

BFR will continue to utilize resources in HR and the City Attorney's office to ensure legal compliance is maintained in screening of interested candidates.

References

[Talent Acquisition Manager Job Description](#)

[Screening Questions Example](#)

7B.4 The agency's workforce composition is reflective of the service area demographics, or the agency has put forth a reasonable effort by instituting an effective recruitment plan to achieve the desired workforce composition.

Description

BFR's workforce composition is largely reflective of the surrounding community but is not all encompassing. BFR lags in recruitment of females for uniformed positions. The demographics of the community is less culturally diverse than other areas of Colorado. There is a citywide initiative to advance racial equity, in partnership with Government Alliance on Race and Equity (GARE). This is an all-encompassing strategy which is intended to attract and retain a more diverse workforce to serve the City of Boulder.

Appraisal

BFR lacks a comprehensive and defined metrics to ensure efforts are coordinated to intentionally maintain diversity demographics. However, the department has been reflective of the community demographics as follows: Caucasian (81% community/82% BFR), Hispanic (9% community/11% BFR), Black (1% community/5% department). The department lags behind in the Asian demographic (5% community/2% department) with not enough data being available for the Pacific Islander demographic. Gender diversity matches industry trends at 10% female across the department.

Plan

BFR is developing objectives and clear metrics as part of the master plan update which will be completed in 2019. This effort is intended to improve the lack of an overall strategy in recruitment. In addition, BFR will participate in the GARE process to ensure these efforts are coordinated with overall city objectives.

References

[Government Alliance on Race and Equity \(GARE\)](#)

[Community Demographics](#)

[BFR Demographics](#)

7B.5 A new member orientation program is in place.

Description

New hires are required to attend the city's New Employee Orientation (NEO) where they learn about City Benefits, Wellness, BMEA, Risk, IT Security and other pertinent issues. Uniformed firefighters are placed through an additional two-week orientation that is specific to the fire department. In addition, recruit firefighter are required to successfully complete the Front Range Fire Consortium (FRFC) academy which is considered a part of the department orientation process.

Appraisal

Overall the fire department new hire orientation process works well based on the success rate of firefighters completing phase training within the expected timeframe. The city's general orientation has been identified as needing some improvement in terms of length and content.

Plan

BFR will continue to refine its orientation process as departmental needs change. In addition, BFR will partner with the City when it initiates a plan to improve the city's orientation process.

References

[New Employee Orientation – Learning at Work \(internal\)](#)

[NEO calendar](#)

[New Hire Checklist](#)

[FRFC Academy Overview](#)

CC 7B.6 A supervised probationary process is used to evaluate new and promoted members based on the candidates' demonstrated knowledge, skills, and abilities.

Description

In the City of Boulder probation, performance management, and merit matrices for employees differ based on whether they are Management Non-Union or in a bargaining unit (BMEA, IAFF, BPOA). Fire employees are either management non-union or IAFF employees. Management non-union employees are on probation for 9 months, at the completion of the 9-month period their supervisor conducts a pass/fail probationary review.

Article XI of the City of Boulder and IAFF Local #900 Collective Bargaining Agreement contains information on probationary periods for new employees and promotions or transfers. New employees are on probation for 12 months after the date of hire. New recruit firefighters complete a training program consisting of two distinct phases spread out over two years. This program begins at the conclusion of the recruit fire academy. The phase training process is currently being revised to allow members more time to complete the apparatus operator components of the program.

Appraisal

Both the management non-union process as well as the union process have been effective at ensuring that members are given the support and effective objective evaluation to complete their training effectively. The process used for non-union employees has been difficult for these employees to navigate due to timelines that are seen as confusing.

Plan

Human resources has expressed interest in changing the on-boarding process for management non-union employees, however these plans are tentative and not yet formalized. An HR strategy consulting firm will be retained to facilitate this work by the end of 2020 to assist in making these decisions. In addition, BFR will consider making changes to the phase training program in collaboration with Local 900 during the 2020 contract negotiations.

References

[City of Boulder Performance Management Process \(internal\)](#)

[City of Boulder and IAFF Local #900 Collective Bargaining Agreement](#)

7B.7 The agency has an employee/member recognition program.

Description

The City of Boulder Employee Recognition and Rewards program was established to acknowledge and celebrate the extraordinary contributions and outstanding work of City of Boulder employees. These awards recognize conduct in service to city values, years of service, and going above and beyond normal duties. In addition, BFR recognizes fire department members for outstanding service and contributions as part of the annual awards ceremony held in July of each year. This ceremony has recently been updated to be more formal and better align with the culture of the department. These awards recognize department specific contributions and acts of valor. Promotional and retirement ceremonies are held at the time of the event at the member's station and attended by command staff and family and recognized at each year's award ceremony.

Appraisal

The award and recognition program for both the city and the BFR has worked well to recognize employees that have gone above the scope of their work. This has been based on informal feedback and city surveys. BFR employee's have not always participated in the city awards ceremony due to shift work and a perception that the BFR award ceremony is the primary recognition opportunity for department members.

Plan

BFR in collaboration with the City's human resources division will continue to monitor the reception of these programs in recognizing members in a meaningful way. In addition, BFR will communicate the importance of the city's awards ceremony to BFR employee's in an effort to ensure better participation rates by fire department employees.

References

[City of Boulder Employee Recognition and Rewards Program \(internal\)](#)

2019 BFR Awards Ceremony Program

BFR Awards Policy

7B.8 The agency's working conditions and environment attract, diverse and qualified applicants, and retains a tenured workforce.

Description

BFR competes with other front range fire departments to attract and retain top talent. The labor market for fire department positions is very competitive due to rapid regional growth, which has had a correlated effect on the growth of fire department positions in the region. Due to a very attractive labor contract, including salaries that compete in the 90th percentile regionally, the department is able to compete in this job market relatively well, to include retaining employees. Voluntary turnover not related to retirements for uniformed positions has been 0.8% during the three-year accreditation period. Over 34% of BFR's workforce is over the age of 50 and, therefore, approaching retirement age.

Appraisal

While BFR's competitive salary and working environment has been effective at attracting and retaining high-quality employees, diversity has been a challenge in the department. This has been due to both the competitive Denver metropolitan labor market as well as a lack of a cohesive recruitment strategy. In addition, BFR has not developed a strategy for dealing with the aging workforce in terms of succession planning. However, BFR has retained a workforce that is now nearing retirement, creating further challenges.

Plan

BFR will participate in the city's efforts in the Government Alliance for Racial Equity (GARE) to build a recruitment strategy in conjunction with city efforts. This work will conclude in 2020 and is led by the city manager's office.

References

[BFR Demographics](#)

[Salary Table from Local 900 Contract](#)

[GARE Website](#)

[Pre-65 Demographic Study](#)

7B.9 The agency conducts exit interviews or periodic employee surveys or other mechanisms are used to acquire feedback and improve policies and procedures.

Description

When an employee voluntarily terminates, retires, transfers to another department, is promoted, or is transferred within a department, there are several steps that need to be completed by that employee and his or her department dependent on the reason they are leaving. Part of this process includes a voluntary in-person exit interview and an exit interview questionnaire. The questionnaire may also be completed by the employee and returned to HR if they so choose. The in-person interview provides immediate feedback within the department about any potential problems that need to be addressed. HR may also notice trends in reasons for leaving and identify changes that increase retention. The in-person interview is designed to gather "qualitative information" that may be useful to the management teams within these departments.

Appraisal

The process has been seen as moderately successful in that participation rates have been high and critical information is identified during these interviews. However, because the interviews are conducted by city HR staff, the objectivity of these interviews has been informally questioned at times. In addition, it has been identified that employees leaving the organization under duress often do not participate in the exit interview process.

Plan

The city human resources department is currently examining all of its processes to ensure they meet the needs of employees and the city and generate useful data. This work is expected to conclude during 2019 with recommendations being forwarded to the city's management team in early 2020.

References

[City of Boulder Exit Procedures \(internal\)](#)

7B.10 The agency conducts workforce assessments and has a plan to address projected personnel resource needs, including retention and attrition of tenured and experienced employees/members.

Description

Currently, BFR and the City of Boulder only hires for currently open or newly created positions. As a result, projecting personnel needs based on retention and attrition is not formally performed. However, BFR is studying preliminary data related to the age of its workforce that indicates that over 34% of uniformed employees are over the age of 50 and have at least 20 years of service. This is creating the need to begin to replace these members and to ensure knowledge transfer is ensured. This pattern also holds in the command staff, of which 67% are over the age of 50.

Appraisal

BFR and city HR has lacked the organizational capacity to develop comprehensive strategic initiatives that can develop comprehensive countermeasures to these issues. In addition, the executive command staff including the deputy and fire chief positions have often been hired from the outside due to a lack of qualified internal candidates due to a lack of intentional succession planning.

Plan

As part of the 2019 master plan update, intentional workforce development metrics are being identified to begin to address the lack of succession planning. In addition, BFR will formally study age and tenure statistics by the end of 2019 to develop a succession plan to address the department's aging workforce.

References

[BFR Demographics](#)

Criterion 7C: Personnel Policies and Procedures

Personnel policies and procedures are in place, documented, and guiding both administrative and personnel behavior.

Summary:

The City of Boulder and Boulder Fire-Rescue has a comprehensive set of policies and procedures that are formally published, accessible, and communicated to employees. These policies have been developed through iterative processes that take into account the unique operational realities of the department. In addition, an extensive collective bargaining agreement is in place that outlines stipulations specific to union employees, to include a structured grievance process.

All policies are communicated in writing to employees as soon as reasonable and changes and updates are made to reflect changes in business needs or applicable local, state, and federal laws. BFR uses an electronic tracking mechanism to ensure that employees are made aware of applicable changes and that employees' receipt of these update are recorded and monitored.

Performance Indicators:

CC 7C.1 Personnel policies, procedures, and rules are current, written, and communicated to all personnel.

Description

City of Boulder personnel policies, procedures and rules are communicated to all personnel during the orientation for new employees and are available via the internet through the Boulder@Work site and BFR SharePoint site. Personnel policies, procedures and rules are reviewed when changes are made. BFR policies are introduced to new employees during the phase work all new firefighters are required to successfully complete. In the case of BFR policy updates or additions, a process known as a “general order” is initiated that formally communicates the change and/or policy to all employees through email and the department SharePoint site. In addition, all employees must acknowledge that they have received, read, and understand the policy using the Target Solutions platform. Union contracts are negotiated every two years and communicated to employees during the ratification process. Changes between negotiations go through the seek and consider process or require a letter of agreement, both of which involve formal employee communications. In January of every year, the BFR policy advisory group, reviews the department’s issued advisories and general orders from the previous year to see what changes need to be made to policy. Advisories are informational updates while general orders represent policy changes.

Appraisal

BFR and HR do an adequate job of communicating personnel rules to all personnel through a variety of means. Having the policies available on-line allows for quick access of information. Having the ability for personnel to sign off on policies in Target Solutions ensures that employees are receiving the information as necessary and allows for accountability and tracking of the process.

Plan

BFR will continue to utilize the outlined process to ensure personnel policies are current and communicated to all employees.

References

[City Policies and Procedures \(internal\)](#)

[BFR Advisories and General Orders \(internal\)](#)

[BFR Policies and Procedures Series](#)

[BFR and Local 900 Collective Bargaining Agreement](#)

[Series 100 Section G/H](#)

CC 7C.2 The agency has a policy that defines and prohibits sexual, racial, disability, or other forms of harassment, bias, and unlawful discrimination of employees/members and describes the related reporting procedures. The policy and organizational expectations specific to employee behavior are communicated formally to all members/employees and are enforced.

Description

It is the policy of the City of Boulder to prohibit unlawful employment discrimination and harassment, as provided by Title VII of the Civil Rights Act of 1964 and other applicable federal, state and local law, against City of Boulder employees or applicants for employment at the City of Boulder. The policy can be found under the heading of “Workplace Behavior” on the Cities policy webpage. In addition, the labor contract of Local 900 complies with the most recent “sign-off” provisions ruled on by the Supreme Court and is strictly prohibits any stipulation or clause to be in violation state and federal law. The city provides regular training to both employees and supervisors these policies.

Appraisal

The policy prohibiting harassment of employees, along with the classes, handouts, and support provided by the City has been effective at limiting harassment in the workplace. Allegations of misconduct have been investigated to ensure policy is followed and a respectful work environment is maintained.

Plan

BFR will continue to support and remain in compliance with the City of Boulder non-discrimination and anti-harassment policy pursuant to all existing laws. The city attorney will continue to monitor changes in federal and state law and recommend changes as applicable.

References

[City Policies and Procedures \(internal\)](#)

[City of Boulder Non-Discrimination and Anti-Harassment Policy \(internal\)](#)

[Workplace Harassment: Where do you turn? \(internal\)](#)

[BFR and Local 900 Collective Bargaining Agreement](#)

[Title VII of the Civil Rights Act](#)

7C.3 A disciplinary system is in place and enforced.

Description

The City has a progressive disciplinary process which consists of an oral and written warnings, and depending on the issue, could include coaching, and/or a performance improvement plan (PIP). In 2017, BFR initiated a comprehensive positive discipline policy that ensures that corrective action is commensurate with the offense and focused on improving employee performance rather than punitive means. Therefore, the focus is on communication of expectations of change and improvement. This policy is stipulated in the contract with the IAFF Local 900. The goal is to prevent, limit, and minimize incidents that lead to three categories of problems: conduct, performance and attendance.

Appraisal

The positive discipline policy has been effective at navigating employee conduct, performance, and attendance issues. This has been evidenced by the lack of escalation of disciplinary issues. One area for needed improvement that has been identified is to involve human resources in the process earlier for coordination and communications.

Plan

BFR will continue to educate supervisors on the intent of the positive discipline policy and develop formal programs for raising supervisor awareness of the details of the process. This will be an ongoing effort focused on full utilization of the policy from company officers to chief officers.

References

[Corrective and Disciplinary Procedures](#)(internal)

[BFR and Local 900 Collective Bargaining Agreement](#)

[Positive Discipline Guideline](#)

7C.4 An internal ethics and conflict of interest policy is published and communicated to employees/members.

Description

The City of Boulder has an ethics committee as well as a conflict of interest policy published on the website. The committee administers compliance programs, educates city staff on ethics-related issues, and works to ensure policies are being followed. The committee reviews and manages each confidential report and forwards for further investigation as appropriate. Alleged criminal violations, such as theft, are referred to the Police Department; noncriminal allegations, which may include employee matters, ethics and policy violations, will be guided by city policies. Allegations may be forwarded to independent parties as needed.

The City of Boulder has partnered with Ethics Point, which is a independent third-party that provides employees with a way to anonymously and confidentially report workplace concerns through an employee Ethics Report System. You may report concerns 24 hours a day, 7 days a week using the secure Web site (www.ethicspoint.com), or by contacting Ethics Point at the toll-free number 1-888-355-0023. The anonymous information you provide will be sent to the City Manager's Office.

BFR policy defers to the City Conflict of Interest Policy and the department fully supports the city's process as outlined.

Appraisal

Utilization statistics indicate that the ethics line is utilized by personnel within the City of Boulder. A relatively low frequency of incidents has been known to occur involving ethics and conflict of interest on an annual basis. Specifics of these incidents are confidential and cannot be released.

Plan

BFR and the City of Boulder will continue to emphasize adherence to ethics policies and adjust them or the reporting process where needed. In addition, disciplinary action will be initiated when complaints are found to be proven and policy has been violated.

References

[Ethics Website \(internal\)](#)

[Ethics Reporting System Website \(internal\)](#)

[City of Boulder Conflict of Interest Policy](#)

7C.5 A [grievance/complaint procedure](#) is published and communicated to employees/members.

Description

Misunderstandings between city employees should be resolved on an informal basis between the parties involved. Supervisors and other city support resources can be utilized when necessary to facilitate this process. In cases where conflict between non-unionized management and non-management employees exists, the city policy on the resolution of management/employee problems is consulted. Members of Local 900 can bring forward formal grievances as outlined in the collective bargaining agreement. This formal process involves four progressively escalating steps that can ultimately elevate a grievance to the director of human resources if the fire chief is unable to satisfy the grievance. All grievances that occur under this process must be related to a specific part of the labor contract and has specific timelines for filing and response.

Appraisal

This appeal procedure is a published, comprehensive process adopted by City Manager. It has proven to be a reliable tool to effectively deal with employee grievances. The grievance process in place under the collective bargaining agreement is effectively utilized to navigate disagreements between management and union personnel. During the accreditation period, all grievances were effectively resolved within stated timelines.

Plan

BFR and the city will continue to utilize the processes as outlined and to ensure that employees who have grievances are treated fairly and are provided access to the appeal process. In addition, efforts will be made to create open dialogue between parties to mitigate the need for grievances through effective supervisor education and support.

References

[Resolution of Management Employee Problems](#)

[Local 900 Contract – Grievance Procedure – p.13](#)

Criterion 7D: Use of Human Resources

Human resources development and utilization is consistent with the agency's established mission, goals, and objectives.

Summary:

The City of Boulder offers comprehensive human resources support to its departments. BFR actively supports these efforts and also contributes to these programs through active participation by department members both as students as well as instructors. These programs are intended to support the city's goals and objectives and the workforce in building rewarding careers

All human resources systems are contemporary and relevant to support the employees of BFR and respond to industry changes. The city's human resources division partners with BFR to ensure that these systems are accessible and relevant to support department operations.

Performance Indicators:

CC 7D.1 A position classification system and a process by which jobs are audited and modified are in place.

Description

BFR has two primary position classification categories; management/non-union and IAFF Local 900. The management/non-union position classification system (grades) were implemented in 2012 that classify non-union employees across the city by their responsibility and level of supervision. The City of Boulder has a very broad mission that ranges from core services to supporting one of the largest municipal open space and parks programs in the country. This contributed to the city partnering with Gallagher Consulting to review and assess the city's current classification and compensation system in an effort to audit all positions in the city. Local 900 pay grades are tied to a traditional fire department rank structure and collectively bargained for every two years. While the classification of these positions is considered a management right, all changes to this system is done collaboratively with the union.

Appraisal

The position classification system has served the city well, however, some challenges have existed. These include grouping management positions with very disparate responsibilities in the same grade and difficulty in ensuring that public safety positions are comparable within this system to that used in other communities.

Plan

By the end of 2019, the Gallagher Group will review the 850 current Position Description Questionnaires (PDQs) in an effort to develop recommendations for an updated and consolidated classification structure, conducting market salary surveys, and reviewing all salary/comp related processes and policies. Final recommendations on all of the above will be presented to city leadership in the Fall, with any changes to be phased in/implemented thereafter, with employee updates along the way.

References

[Total Compensation \(internal\)](#)

[Classification and Compensation FAQ \(internal\)](#)

Local 900 Salary Table

7D.2 Current written job descriptions exist for all positions, and incumbent personnel have input into revisions.

Description

Current written job descriptions exist for all positions and are published on Boulder@Work as well as on BFR's intranet webpage. The process of updating job descriptions is not formal but follows a general process for management/non-union positions. This is usually tied to city-initiated updates or positions being vacated and updated for organizational relevancy. Finally, when job descriptions are found to be no longer aligned with current job requirements, a job study process can be initiated that formally studies these factors. In most instances, the incumbent or relevant supervisors are consulted or directly involved in the update process. This was most recently seen during the IT Analyst hiring process during which the job description was updated using department staff input. Local 900 positions are updated less frequently and usually tied to organizational changes such as the recent station captain program development. During these times, uniformed members are directly involved in these updates.

Appraisal

Job descriptions and employee involvement have been effective at supporting the work intended to be conducted by the department. All members are given access and the city's job study policy is comprehensive and serves to ensure descriptions are relevant.

Plan

As the city's position description process continues, BFR will initiate needed work to integrate recommendations as needed. This process will occur throughout 2019 and 2020.

References

[Fire Rescue Job Descriptions website \(internal\)](#)

[Sample Job Descriptions](#)

[Total Compensation website \(internal\)](#)

[City of Boulder jobs and paygrades](#)

[Classification and Compensation FAQ website \(internal\)](#)

[Boulder@Work \(internal\)](#)

7D.3 A personnel appraisal system is in place.

Description

The City of Boulder Performance Management Process in place for management/non-union focuses on driving engagement to give employees a sense of accomplishment through clearly defined goals and objectives. The program is focused on helping employees to feel they can make a difference, that they are empowered to make decisions to improve service, and that they can achieve balance at work and between work and life. Local 900 members are only formally evaluated during probationary and introductory processes but are evaluated in on-going manner on skill and job performance only.

Appraisal

HR continually reviews the effectiveness of the performance management process to confirm it is promoting a high-performance culture. As such, the process has been identified at being somewhat cumbersome to navigate and that its connection to pay for performance is not seen universally as being effective.

Plan

The HR department will continue to engage with ICMA on a full-scale evaluation of the personnel appraisal system in an effort to make recommended changes. This work is expected to conclude at the end of 2019.

References

[Performance Management website \(internal\)](#)

7D.4 Methods for employee/member input or a suggestion program are in place.

Description

The City of Boulder has a comprehensive process improvement program designed to improve processes in the city with employee input. This is formally known as the process improvement program and is a city driven program available to all city employees. In addition, members covered by the collective bargaining agreement have formal opportunities for improvement recommendations as part of the negotiations held every two years.

Appraisal

The program works well, however, employees have also directly engaged with their work groups and their managers to provide direct input to make program improvements.

Plan

BFR will continue to utilize the process improvement program and encourage employees to bring forward any ideas that could make improvements to their work group.

References

[Process Improvement Program website \(internal\)](#)

[Process Improvement Suggestion Form website \(internal\)](#)

7D.5 Career and professional development programs are in place for all members.

Description

There are a variety of programs in place to assist with career development. The Learning and Organizational Development (L&OD) group within HR offers a Career Lab that's designed for employee development. The Career Lab offers a variety of resources, and a reservable office space, for employees to use for their own career growth and development.

In addition, the fire department offers support for development opportunities through department provided training, officer development opportunities, and opportunities through outside training entities such as the National Fire Academy.

Appraisal

The offerings and opportunities provided by BFR and City Human Resources are adequate and appropriate and work within the City and Department budgets.

Plan

BFR will continue to offer these programs and identify opportunities to develop the careers of employees.

References

[Learning & Organizational Development website \(internal\)](#)

[Learning Academy website \(internal\)](#)

2019 Annual Training Plan (on site at training)

7D.6 The agency has a leadership development program and/or succession plan.

Description

The HR Learning & Organizational Development (L&OD) team is responsible for providing tools and resources that promote citywide talent development, leadership and a high-performance culture, and oversight of training programs. In addition, BFR's training division is responsible for fire specific leadership development opportunities that are supportive of departmental and personnel needs. In addition, the city provides a generous tuition reimbursement program to allow employees to seek higher education opportunities.

In addition, the Boulder Leadership Academy provided by the L&OD team, intends to develop skills that build leadership capacity through Innovation, Emotional intelligence, Principles of LEAD at UVA, and a greater understanding of the city business through our Sustainability + Resilience Framework.

Appraisal

Leadership development opportunities offered to incumbents has been comprehensive but not extensively utilized by members of Local 900. This has been found to be related to a lack of connection with this employee group and the city as a whole.

Plan

BFR will integrate workforce development initiatives as part of the 2019 master plan update currently under development.

References

[Learning & Organizational Development website \(internal\)](#)

[Boulder Leadership Academy website \(internal\)](#)

[City of Boulder Leadership Philosophy](#)

City of Boulder Leadership Philosophy website (internal)

[2019 BFR Master Plan Goals](#)

Criterion 7E: Personnel Compensation

A system and practices for providing employee/member compensation are in place.

Summary:

The compensation plan establishes a salary schedule as approved by the City Manager. The salary ranges are reviewed and revised periodically by the Human Resources Department (HR). IAFF Local 900 members collectively bargain every two years outside of the city's process for management/non-union employees. Both efforts are intended to maintain Boulder's relatively competitive compensation and benefits package.

City employees receive benefits upon the first day of employment. Changes in benefits take effect each January 1, with open enrollment occurring in the Fall of the prior year. These benefits include deferred compensation, a benefit bank plan (Flex spending), dental benefit, medical benefit, paid holidays, paid leave, life insurance, long term disability, prescription drug benefit, retirement, social security, supplemental benefits, unemployment, vision insurance plan, and workers' compensation.

Performance Indicators:

CC 7E.1 Rates of pay and compensation are published and available to all employees/members.

Description

BFR publishes compensation rates for its employees either through the collective bargaining agreement or the management/non-union pay matrix which is available to all employees. Local 900 employees are classified in specific rank-based positions that are subject to the collective bargaining process.

Management/non-union positions are compensated in ranges related to specific management levels. All pay and compensation information is available on the City of Boulder Internal Website. In the first Quarter of 2019, the City published employees' salaries on the Open Data Catalog.

Appraisal

The system of employee pay rate and compensation has been posted by HR to ensure employees have access to this data. The posting of salary data on the internal city website and the labor contract for each bargaining unit has been effective.

Plan

The city will continue to utilize the process of collective bargaining for IAFF employees and the city's HR practices for management/non-union employees. In addition, throughout 2019, BFR will actively participate in the city's efforts with the Gallagher consulting group to evaluate position structure and compensation practices of city employees.

References

[Total Compensation website \(internal\)](#)

[City of Boulder jobs and paygrades](#)

[Current City of Boulder Pay Practices website \(internal\)](#)

[Employee Salaries- Open Data Catalog](#)

7E.2 Member benefits are defined, published, and communicated to all employees/members.

Description

Employee benefits are listed on both an outward facing, public website, and an internal website. These locations contain comprehensive benefits information. This contains information pertaining to retirement, insurance, supplemental benefits, employee assistant programs, leave, and other benefits. During open enrollment of each year, the City hosts several orientation sessions for employees to update them on relevant changes to benefits for the upcoming year.

Appraisal

The process works well, as both prospective employees and current employees can access the information necessary to make informed decisions.

Plan

The City of Boulder IT department will continue to update the information as needed. There are plans in place to re-vamp both the internal and external website in the next 12 months.

References

[City of Boulder Benefits External Website](#)

[City of Boulder Benefits Internal Website](#)

Criterion 7F: Occupational Health and Safety and Risk Management

The agency's occupational health, safety, and risk management programs protect the organization and personnel from unnecessary injuries or losses from accidents or liability.

Summary:

The department's Health and Safety Captain is responsible for implementing occupational health, safety, and risk management programs. The health and safety captain is a 40-hour per week position assigned to the department's support services division.

Boulder Fire-Rescue has established procedures to minimize occupational exposure to communicable diseases, chemicals, and carcinogens. The Infection Control Plan identifies the risks and mitigation of communicable diseases. The department's fire ground procedures handle carcinogen exposure in the fire environment, and the hazardous materials response procedures address exposure to chemicals.

The department provides extensive initial employment training consisting of a 16-week academy that incorporates general safe work practices into skills training. Employees are trained on position-specific safety considerations when they are assigned to new roles within the department. Personnel are also evaluated on these safety practices during promotional exams. Furthermore, personnel are provided training whenever new processes, procedures, or equipment are introduced.

Performance Indicators:

7F.1 A specific person or persons are assigned responsibility for implementing the occupational health, safety, and risk management programs. Usually identified as the Safety Captain.

Description

The department has a full-time health and safety captain. The health and safety Captain is a 40-hour per week position assigned to the department's training division. The position reports to the Deputy Chief of Support.

The Health and Safety Captain responds to incidents when on duty. This response is limited to 40 hours during the week. The primary response is structure fires, high complexity incidents, or multi-unit responses. After hours, a battalion chief from the county who has taken the county safety officer class is dispatched to serve in this role. The health and safety officer may be called in off duty to conduct investigations of an accident, perform safety functions on an incident, or perform support services roles such as AAR's.

The health and safety Captain is responsible for the implementation of occupational health, safety, and risk management programs.

Appraisal

The position has provided adequate coverage for occupational health and risk management programs. However, the safety officer's role is not always filled on incidents by a BFR safety officer. This creates a gap in safety officer coverage for the department. The use of outside agency response to fill this position during off duty time results in delayed and sometimes inadequate coverage.

Plan

There are no plans currently to alter these practices due to funding. BFR will continue under the current model for safety response. The department has a health and safety committee. The committee continues to evaluate and recommend solutions to the Health and Safety of the department. The health and safety officer is in the process of creating a plan to address accident and injury reporting. The plan will include a process for the National Near Miss Reporting. This process will help track and find trends in health and safety.

References

[BFR Series 1500 Health and Safety and Risk Management](#)

[BFR Series 1600 Personal Protective Equipment](#)

[BFR Series 1700 Infection Control](#)

[HazMat Decontamination and Procedures](#)

[BFR Captain's Job Description \(Safety and Health Captain \)](#)

7F.2 The agency's policies and procedures report, evaluate, address, and communicate workplace hazards as well as unsafe/unhealthy conditions and work practices.

Description

The health and safety committee, which meets once a month, receives information from the city's loss prevention group. The information is limited to injury reporting and generally does not provide statistical information. Series 1600 and 1700 of the department's policies and procedures report, address, and communicate workplace hazards and unsafe/unhealthy conditions and work practices. The department's Infection Control Plan evaluates the hazards and unsafe/unhealthy work conditions. Series 1600 and 1700 and the Infection Control Plan also provide personal protective equipment requirements to mitigate the hazards and unsafe conditions.

In Q4 2018, an app was added to the apparatus iPhones to provide more procedural information to crews who may have experienced a bloodborne, airborne, or droplet borne pathogen exposure. The icon is found on the home screen and, when activated, will direct the user to a procedure consisting of eight questions. Instructions are found at the top of the procedure and tapping the provided phone numbers will initiate a call to one of the department's designated infection control officers.

Appraisal

The department's policies and procedures need improvement to sufficiently report, evaluate, and address workplace hazards and unsafe/unhealthy conditions and practices. The policies and procedures do not completely address all workplace hazards and need to be augmented to include all hazards. The infection control plan needs to be added to the department's procedures to be more easily referenced by personnel.

Plan

BFR will reevaluate the policies and procedures to ensure all workplace hazards and unsafe or unhealthy working conditions are reported and communicated. BFR will also update the Infection Control Plan in 2019 and include it in the department's procedures.

References

[BFR Series 1500 Health and Safety and Risk Management](#)

[BFR Series 1600 Personal Protective Equipment](#)

[BFR Series 1700 Infection Control](#)

[HazMat Decontamination and Procedures](#)

[Infection Control Icon Advisory](#)

7F.3 The agency documents steps taken to implement risk reduction and address identified workplace hazards.

Description

The department has limited documentation of steps taken to implement risk reduction and address identified workplace hazards. Minutes from Health and Safety Committee meetings, After Action Reviews, Near Miss reports, and Post Incident Analysis.

Appraisal

Documented After Action Reviews, Near Miss reports and Post Incident Analyses are periodic and only provided after significant events or injuries. BFR documentation of risk reduction steps and addressing workplace hazards are too infrequent and needs improvement. The Health and Safety meeting minutes are published via email to all department members monthly and document concerns brought to the committee, discussion of concerns, actions taken, and recommendations to address the concerns. Email communication has not been effective, nor has it provided a lasting document that can be referenced.

Plan

The department will evaluate additional options for documenting risk reductions steps and steps to identify workplace hazards. Also, the Health and Safety Committee meeting minutes will be archived on the training division SharePoint site for communication and reference by Q1 2020.

References

[BFR Series 1500 Health and Safety and Risk Management](#)

[BFR and Local 900 Collective Bargaining Agreement](#)

7F.4 Procedures are established and communicated specific to minimizing occupational exposure to communicable diseases or chemicals.

Description

Boulder Fire Rescue has established procedures to minimize occupational exposure to communicable diseases, chemicals, and carcinogens. The Infection Control Plan identifies the risks and mitigation of communicable diseases. The department's fire ground procedures address carcinogen exposure in the fire environment. The department's hazardous materials response procedures address exposure to chemicals.

Appraisal

The Infection Control Plan is provided by IC/EC, a third-party contractor, who is identified as a leading expert in the field. The plan is comprehensive and directly addresses minimizing occupational exposure to communicable diseases.

A component of the department's fire ground procedures addresses carcinogen exposure and provides procedures to minimize exposure. The procedure is based on the Firefighter Cancer Support Network white paper recommendations. The department is still working on procedures to minimize exposures associated with bunker gear storage in the apparatus bays.

The department's hazardous materials response policy adequately addresses occupational exposure to chemicals on emergency scenes. The department does not have adequate procedures to minimize exposure to chemicals in the stations or other routine environments.

Plan

The department will continue to update and communicate the Infection Control Plan under the current model. The department will continuously evaluate and improve upon minimizing occupational exposure to carcinogens, chemicals, and infectious diseases. The department will develop procedures to minimize routine exposure to these same hazards.

References

[BFR Series 1500 Health and Safety and Risk Management](#)

[BFR Series 1600 Personal Protective Equipment](#)

[BFR Series 1700 Infection Control](#)

[HazMat Decontamination and Procedures](#)

[IC/EC Information](#)

CC 7F.5 The agency's occupational health and safety training program instruct the workforce in general safe work practices, from point of initial employment through each job assignment and/or whenever new substances, new processes, procedures, or equipment are introduced. It provides specific instructions on operations and hazards specific to the agency.

Description

The department provides extensive initial employment training consisting of a 16-week academy that incorporates general safe work practices into skills training. As employees are assigned new job assignments, general safe practices are trained on and evaluated for promotions but not routine changes in job assignments. In addition, peer fitness trainers work with crews on a quarterly basis to address techniques in fitness, conditioning, strength, and nutrition. When new processes, procedures, or equipment are introduced personnel are provided training, however, it does not consistently address all hazards associated with the changes.

Appraisal

The department's current model for providing occupational health and safety training needs to be altered to include hazards associated with changes to new procedures and equipment and include routine changes in job assignments where appropriate.

Plan

By 2020, BFR will develop a formal occupational health and safety training program to address hazards associated with changes to new procedures and equipment and include routine changes in job assignments where appropriate.

References

[BFR Series 1500 Health and Safety and Risk Management](#)

[BFR Series 1600 Personal Protective Equipment](#)

[BFR Series 1700 Infection Control](#)

[HazMat Decontamination and Procedures](#)

7F.6 The agency uses near miss reporting to elevate the level of situational awareness in an effort to teach and share lessons learned from events that, except for a fortunate break in the chain of events, could have resulted in a fatality, injury, or property damage.

Description

The department has a policy that requires near miss reporting both internally and to the National Near Miss Reporting program. Within BFR Series 1500: Health and Safety and Risk Management is section 1508, which focusses on Near-Miss Reporting. The section outlines the reason reporting is required, the definitions, policy and areas of responsibility.

Appraisal

The department's policy has provided adequate guidelines for the department; however, the policy is not communicated effectively, and compliance is not measured.

Plan

Develop a process to improve communication of the policy and measure compliance. The Health and Safety Captain is in the process of developing a plan for injury reporting, recording and tracking. The process may take months to complete. Hopefully to be completed in the first half of 2020.

References

[BFR Series 1500 Health and Safety and Risk Management](#)

7F.7 The agency has a process in place to investigate and document accidents, injuries, legal actions, etc. The agency's information management system supports this process.

Description

The department relies on BPD to conduct accident investigations that involve moving vehicles and property damage. Internally, the department conducts investigations by first notifying the Battalion Chief. The incident should be documented with an incident report. The incident may be further investigated by the health and safety officer. This is at the discretion of a deputy Chief in the case that further information is needed. The Health and Safety officer may conduct oral interviews with recommendations given to the operations chief. Documentation of incidents internally are completed with an incident report form. In the event of outside injury or damage, a police report will be filed. Internally, an incident form is filed out with an additional injury/illness form submitted to the city risk reduction team.

The department does not have a formal process in place to investigate and document accidents, injuries, or legal actions. The department's Health and Safety Captain's job description states he or she is responsible for investigating and documenting accidents and injuries. There is no process to support the responsibility.

Appraisal

The department identifies who is responsible for investigating accidents and injuries, however, does not have a process in place that meets the performance indicator criteria.

Plan

BFR will develop a process to support the Health and Safety Captain meet their responsibility to investigate accidents and injuries. The department will also evaluate the benefits of developing an internal process for investigating legal actions.

References

[BFR Series 1500 Health and Safety and Risk Management](#)

Near Miss Reporting Procedure

[Captains Job Description](#)

7F.8 The agency incorporates risk management practices to increase the level of decision making and the ability to identify unsafe conditions and practices during emergency operations.

Description

The department incorporates a documented risk management philosophy to increase the decision-making ability during emergency operations. This philosophy is standard in the industry and provides a decision-making framework for personnel. To identify unsafe conditions and practices, department policy requires a 360-degree evaluation of the emergency scene prior to engaging in emergency operations. Also, the department standard of coverage also requires an Incident Safety Officer to be assigned to all structure fires, water rescues, wildland fires, and technical rescues.

Appraisal

The department has incorporated risk management practices to incidents. A safety officer has responded to most incidents when requested. When the department doesn't have a safety officer, a battalion chief from the county is sent.

Plan

The department will continue under the current model and assess areas for improvement.

References

[BFR Series 1500 Health and Safety and Risk Management](#)

[BFR Series 1600 Personal Protective Equipment](#)

[BFR Series 1700 Infection Control](#)

[HazMat Decontamination and Procedures](#)

Criterion 7G: Wellness/Fitness Programs

The agency has a wellness/fitness program for recruit and incumbent personnel. The agency specifies and communicates the provisions if employees/members do not comply with the wellness/fitness program. The department follows our internal 1500 policy for follow up and procedures for personnel in need of assistance, or have been identified with fitness or medical issues.

The city also provides wellness initiatives through the city health insurance. Links through the city web site provide on-line resources for health, fitness, and nutrition. The city, and Cigna, offer incentives to participate in these programs.

Summary:

The department provides initial medical and fitness evaluations prior to employment. Mandatory regular medical evaluations based on the IAFF/IAFC Wellness Fitness Initiative for incumbent personnel were initiated in 2019. Rehabilitative medical evaluations are performed through our occupational health providers and the city's worker's compensation program. Currently, the department requires incumbent personnel to participate in a regular fitness WFI evaluation.

The city also provides wellness initiatives through the city health insurance. Links through the city web site provide on-line resources for health, fitness, and nutrition. The city, and Cigna, offer incentives to participate in these programs.

[Well-Being@Work\(internal website\)](#)

[Well-being@work – wellness portal \(internal website\)](#)

Performance Indicators:**CC 7G.1 The agency provides for initial, regular, and rehabilitative medical, and fitness evaluations.****Description**

The department provides initial medical and fitness evaluations prior to employment. Mandatory regular medical evaluations based on the IAFF/IAFC Wellness Fitness Initiative for incumbent personnel were initiated in 2019. Rehabilitative medical evaluations are performed through our occupational health providers and the city's worker's compensation program. Currently, the department requires incumbent personnel to participate in the WFI fitness evaluation. Incumbent personnel receive post injury rehabilitative fitness evaluations through the city's worker's compensation program.

Appraisal

Appraising the department's regular medical evaluations is difficult because they were recently implemented. In 2019 the department implemented the IAFF/IAFC Wellness Fitness Initiative health exams for every member. These provided the first empirical data on the wellness of the department. The voluntary fitness evaluations have been in place for three years, however, data from the program is unreliable due to the low participation and sample size. This program has been evaluated for effectiveness.

Plan

The department will continue the initial medical and fitness evaluations prior to employment under the current model. The department will assess the results of the regular annual medical evaluations when they are completed. We will identify any areas of concern that can be addressed through education and training. The department is in the process of evaluating mandatory fitness evaluations for incumbent personnel. The health physicals will soon include Hazmat and Dive physicals.

References

[BFR Series 1500 Health and Safety and Risk Management](#)

[IAFF/IAFC Wellness Fitness Initiative 3rd Edition](#)

7G.2 The agency provides personnel with access to fitness facilities and equipment.

Description

The department provides most personnel with access to some level of fitness facilities and equipment. Station personnel have access to limited equipment in the stations and have access to city recreation centers or workout gyms. Personnel assigned to the training center have access to adequate work out equipment at the training center. Personnel assigned the headquarters are not provided at their work location but have access to the workout equipment at the training center.

Appraisal

The equipment provided at the training center is adequate for personnel to maintain and improve their physical fitness. The equipment located in the stations is not adequate to maintain their fitness levels. However, space is severely limited. The fitness facilities provided to station personnel vary from adequate to inadequate based on their location, available parking, and available equipment.

Plan

The department will incorporate adequate fitness equipment and space in all new station's construction. The department will also evaluate alternative fitness facilities for station personnel.

References

[BFR Series 1500 Health and Safety and Risk Management](#)

[IAFF/IAFC Wellness Fitness Initiative 3rd Edition](#)

Station fitness equipment inventory

7G.3 The agency provides wellness/fitness training to all employees/members.

Description

The department provides quarterly behavioral health and fitness to all personnel. The fitness training is provided by the Peer Fitness Trainers. The behavioral health training is provided by Peer Support team members. The department address general wellness in this training program.

Appraisal

The department initiated this training program in the beginning of 2018. The content of the programs is well developed and presented. The quarterly schedule is challenged by other training programs competing for time slots on the department calendar. Of the four scheduled trainings in the first year, one was canceled to accommodate other programs.

Plan

The department will evaluate including general health and wellness training to the current program. The department will also evaluate any benefits of increasing the frequency of the training program.

References

[IAFF/IAFC Wellness Fitness Initiative 3rd Edition](#)

7G.4 The agency provides an employee/member assistance program with timely access to critical incident stress debriefing and behavioral counseling resources.

Description

The city of Boulder and BFR provide employee assistance programs (EAP). The department provides EAP based on the IAFF/ IAFC Wellness Fitness Initiative. The program has two components; a contracted clinician and a peer support team. The contracted clinician is Building Warriors and provides counseling and critical incident stress debriefing (CISD). The peer support team members are department members who were chosen by department personnel and trained by Building Warriors to provide confidential support when needed. BFR also has a policy to inform personnel how to identify critical stress incidents, what support is available, and what options are available to stay in service or ask for time off after a critical stress incident.

The City of Boulder EAP offers employees and family members access to 6 free counseling sessions per issue per year. The program covers resiliency, emotional wellness, work-place success, wellness and balance, personal and family goals, legal and financial consultation access to Magellan Health Services. Detailed information can be found on the City of Boulder internal website.

Appraisal

The department's employee assistance program has been well developed and supported by policy. The utilization rates experienced by the department has met and exceeded expectations. Several members have been documented as having career ending issues avoided due to the success of the program.

Plan

The department will continue to provide EAP benefits to all employees. The department will continuously evaluate the program to identify areas for improvement.

References

[IAFF/IAFC Wellness Fitness Initiative 3rd Edition](#)

[City of Boulder EAP internal website](#)

[Employee Assistance Program Information internal website](#)

7G.5 A formal and documented appraisal is conducted, at least annually, to determine the effectiveness of the wellness/fitness programs and its impact on meeting the agency's goals and objectives.

Description

To date, the department has created performance measures to evaluate the wellness/fitness program and its impact on meeting the agency's goals and objectives. BFR began to establish the framework for formal and documented appraisals in 2018. Program managers were asked to define the program's mission and goals and develop performance measures for their program. In April 2019, the first formal program appraisal for each program area was completed. The process in place going forward is to complete a program appraisal quarterly.

Appraisal

In 2019, the formalized quarterly appraisal process was implemented. To date the exercise has brought more awareness to data management and performance measurement. The impact on the wellness/fitness program to manage its impacts is still being evaluated.

Plan

The data and analytics project manager and deputy chief of support will evaluate the efficiency and effectiveness of the program appraisal process by Q2 of 2020.

References

[Program Appraisal –Q1/Q2](#)

Category VIII: Training and Competency

Training and educational resource programs express the philosophy of the organization they serve and are central to its mission. Learning resources should include a library; other collections of materials that support teaching and learning; instructional methodologies and technologies; support services; distribution and maintenance systems for equipment and materials; instructional information systems, such as computers and software, telecommunications, other audio-visual media, and facilities to utilize such equipment and services. If the agency does not have these resources available internally, external resources are identified, and the agency has a plan in place to ensure compliance with training and education requirements.

Central to success of the training and educational process is a learning resources organizational structure and a technically proficient support staff. The training staff should provide services that encourage and stimulate competency, innovation and a continual learning cycle. The agency or system should provide those learning resources necessary to support quality training. The agency should depict their approach to recognized state/provincial and national fire service professional standards programs in their written responses to the performance indicators in this section.

Criterion 8A: Training and Education Program Requirements

A training program is established to support the agency's needs. The agency provides access to and guidance on educational programs that increase advancement potential and support the agency's needs.

Summary:

Boulder Fire-Rescue (BFR) training is provided by an in-house training division, educational contracts, and regional collaborative efforts. The fire academy (recruit) curriculum is guided by the Front Range Fire Consortium (FRFC), Colorado Division of Fire Prevention and Control (DFPC), and the Colorado Metropolitan Certification Board (CMCB). Continuing education/training and professional development are determined by the training division during development of the annual training plan. Training provided under the annual training plan is developed to bring current, risk focused and operationally relevant, multi discipline topics to BFR in various delivery models (single engine and multi-company). Organizational advancement is encouraged, and additional training is provided to individuals in the form of both self-paced and facilitated task books. Company based training is facilitated at the station level. These trainings are conducted throughout the year for the purpose of DFPC's JPR (job performance requirements) recertification and company development.

Performance Indicators:

CC 8A.1 The organization has a process in place to identify training needs. The process identifies the tasks, activities, knowledge, skills, and abilities required to deal with anticipated emergency conditions.

Description

The fire academy (recruit) curriculum is guided by the Front Range Fire Consortium (FRFC), Colorado Division of Fire Prevention and Control (DFPC), and the Colorado Metropolitan Certification Board (CMCB). The curriculum is developed by the FRFC based on the identified required tasks, activities, knowledge, skills, and abilities identified by each FRFC member department. The developed curriculum prepares recruits for anticipated emergency conditions within their home district/municipality, as well as preparing them for interoperability during mutual aid assignments.

Continuing education/training that is facilitated by the training division is focused on the high risk/low frequency events. Additionally, information gathered during post incident analysis and after-action reviews is used to conduct additional facilitated training sessions that specifically highlight areas for improvement. EMS training is facilitated under contract with our current private ambulance provider and their EMS educators. The EMS curriculum is based upon the requirements of current Colorado and National Registry training competencies for the providers' certification level. Additional EMS training hours can be completed through our Target Solutions online training portal. Company based training (CBT) is facilitated at the station level. CBTs are conducted throughout the year for the purpose of DFPC recertification and company development as identified by the company officer.

Moreover, BFR is an active member of the Boulder Valley Fire Consortium (BVFC), Boulder County Regional Fire Training Center (BCRFTC), Front Range Fire Consortium (FRFC), Colorado Fire Training Officer Association (COFTOA), International Society of Fire Service Instructors (ISFSI), National Fire Protection Association (NFPA) and participates in the Colorado Voluntary Certification Program through the DFPC. Through these organizations, BFR can collaborate on training programs, identify local and national trends that impact fire and rescue training, and identify areas for improvement in our training program. The department also provides members the opportunity to attend conferences, training sessions, and seminars. Members that attend these events are expected to develop a training session based on the knowledge, skills, and abilities that were gained through their experience which is to be delivered to the rest of the department.

In addition, BFR's specialty teams develop their own curriculum and coordinate their specialty training sessions through the training division.

Appraisal

The current process used by BFR effectively identifies training needs based on risk/frequency (incident data), certification maintenance, and service delivery (through post incident analysis and after-action reviews). Minimum standard requirements are addressed at the station level. Emerging fire service topics and high risk/low frequency training is facilitated by the training division. Even with a current program that is working well, the division has identified a few areas for improvement in the training program. For example, a gap has been detected between the training facilitated by the division and the training facilitated at the shift or company level.

Plan

In order to bridge that gap and bring continuity to the training program, the training division will develop specific topics for the company-based trainings that allow for consistency in certification maintenance. Quarterly JPR benchmarks will be tracked annually over the three-year certification period. These JPRs will be assigned and recorded through the Target Solutions' online portal and given completion dates. Additionally, the training division will work with department's data and analytics staff to identify important service delivery metrics that can be evaluated in the training environment. Utilizing these metrics as a part of the training plan's development will assist the division in developing instruction topics related to service delivery that include more dimensions than just post incident analysis and after-action reviews' observations.

Improvements to the tracking of JPR completion benchmarks will be complete by the end of 2019 with the implementation of the annual JPR completion benchmarks in 2020.

References

[FRFC Calendar and Class Curriculum](#)

[CDFPC Certification and Training Manual](#)

[CDFPC Boulder Fire-Rescue JPRs](#)

NFPA Standards related to DFPC certifications (472, 1001, 1002, 1021, 1041, 1403, 1410, 1500, 1521)

[COFTOA Training Manual](#)

[BVFC Initial Priorities Page 4 \(Task #6\)](#)

[2019 Annual Training Plan](#)

8A.2 The agency's training program is consistent with the mission statement, goals and objectives and meets its needs.

Description

The training division provides members with fire, rescue, and emergency medical services (EMS) training to meet the mission of the department. To accomplish this, the training division utilizes an annual training plan to determine focus topics in the various emergency response disciplines based on the CDFPC's job performance requirements and certifications for fire and rescue trainings. Additionally, requirements are based upon NFPA standards. Emergency medical services training is developed in alignment with Colorado State and National Registry criteria. This training is conducted through classroom learning, practical exercises, and skills verification. BFR tracks all annual training hours based upon state, national, and Insurance Service Office (ISO) requirements.

Appraisal

The BFR training program has been consistent with the mission statement, goals, and objectives of the department and meets its needs. The department has done a good job with initial and incumbent fire training by exceeding the minimum requirements set forth by the state, but there are some identified deficiencies with skills verification reporting, officer development, and inconsistent reporting of ISO hours by officers conducting company-based training. Increasing officer development and creating policies that outline the reporting expectations will correct these deficiencies.

Plan

The training division will begin process improvement effort related to training record data entry for all personnel. In addition, the training division will expand and adopt policies and procedures related to record keeping for the officers in the department. The training division intends to complete training policy and procedures by the end of 2019 and anticipate implementing the policies and procedures in 2020.

References

BFR Mission Statement

[CDFPC JPRs by Certifications held](#)

[CDPHE EMS CE Requirements](#)

[NREMT CE Requirements](#)

8A.3 The training program is consistent with legal requirements for performing mandatory training.

Description

BFR participates in the CDFPC Voluntary Firefighter Certification program thus is required to maintain firefighter certification under the policies and procedures of the CDFPC. The “Voluntary Certification Program for Fire Fighters” began on June 21, 1979, when House Bill 1243 was signed into law. The "Hazardous Materials Responder Voluntary Certification Program" was created by HB89-1223 which was enacted effective July 1, 1989. The general purpose of these certification programs is to measure the level of knowledge, skills and abilities possessed by firefighters and emergency medical responders (EMR), and to attest that these individuals meet nationally recognized standards. There are currently no legal requirements in Colorado for emergency responders to obtain or maintain firefighter or hazardous materials certifications. This program provides state, IFSAC and Pro Board certifications to participants. BFR currently participates in the certification programs for Firefighter, Driver Operator, Driver Operator Pumper, Driver Operator Aerial, Fire Instructor 1, Fire Instructor 2, Fire Instructor 3, Fire Officer 1, Incident Safety Officer, Live Fire (1403) Instructor, Fire and Life Safety Educator, Juvenile Fire Starter Intervention Specialist, Fire Code Inspector, Colorado State Proctor, Hazardous Materials Awareness/Operations, and Hazardous Materials Technician.

BFR also actively tracks training hours based on the ISO training criteria for recruit firefighters, incumbent firefighters, driver operators, and company officers. BFR currently provides medical services at the Colorado EMT-B level. Several members currently hold National Registry EMT (NREMT), Colorado Paramedic, and National Registry Paramedic (NRP) certifications. In cases where a member holds a higher certification than the service level provided by BFR, the department will assist personnel in maintaining certification in accordance to the certifying agency’s requirements.

BFR personnel must maintain their certifications as a firefighter and emergency medical technician (EMT) or paramedic.

Appraisal

The training programs in place have exceeded the minimum legal requirements for firefighter and EMT/Paramedic. In accordance with NFPA 1710, the BFR training program ensures that personnel are trained and competent in necessary knowledge, skills, and abilities based on the community’s specific hazards and risks. When conducting live fire evolutions, BFR has operated in accordance with NFPA 1403. In areas requiring legal counsel and direction, BFR utilizes the City Attorney.

Plan

Requirements for certification are currently not specifically established for each position at BFR. Requirements found within each job description are vaguely written to be “as required”. The training division will create a certification policy to align fire department positions to specific certifications.

Currently BFR has four different certification requirements for EMS training. The training division will increase our annual hours in EMS training to follow the National Registry requirements for all members. This will simplify the tracking process and ensure that by meeting the national requirements, personnel will meet and exceed the state requirements

The training division will also closely monitor changes from certifying agencies regarding recertification requirements and develop programs to meet those changes. Training division staff will need to remain active and connected to the CDFPC, CDPHE and National Registry in order to be aware of pending changes and make process improvements in a proactive manner.

References

[CDPHE EMT and Paramedic renewal requirements](#)

[National Registry EMT and Paramedic renewal requirements](#)

[CDFPC JPRs for current program participation](#)

NFPA 1500, 1710 and 1403

8A.4 The agency identifies minimum levels of training required for all positions in the organization.

Description

BFR has identified minimum standards based on the CDFPC and ISO criteria. All sworn personnel are required to obtain and maintain Colorado EMT-B, CDFPC Firefighter II, and CDFPC Hazmat Awareness/Operations. Personnel are required to obtain and maintain CDFPC Driver Operator Aerial and complete the Firefighter First Class task book prior to the completion of their second year of employment. All personnel preparing to act as lieutenant are required to complete a minimum of 130 hours of officer development training and complete the Acting Lieutenant task book. Personnel preparing to act into the position of Battalion Chief (BC) must complete the Acting BC task book.

All training is documented in Target Solutions, and the training division chief runs certification status reports biannually, activity reports monthly, and EMS training/certification reports quarterly.

Appraisal

The use of class specifications, along with minimum training requirements, have created consistency for the firefighter positions. The positions of engineer, lieutenant, captain, battalion chief and deputy chief do not currently have this consistency. This has created training resource allocation and succession planning issues within BFR.

Plan

Requirements for certification are currently not specifically established for each position at BFR and is vaguely written to be “as required”. The training division will create certification policies to align fire department positions to specific certifications. By aligning certification and training requirements to each position, BFR will be able to more effectively utilize training resources and create career paths for succession planning. The training division intentions are to complete training policies and procedures by the end of 2019. In doing so, the anticipated implementation of the policies and procedures will be during 2020.

References

[Local 900 Collective Bargaining Agreement – Appendix](#)

[Job Descriptions](#)

[Third Class Firefighter Phase Training](#)

[Second Class Firefighter Phase Training](#)

[Acting Lieutenant Task Book](#)

[Acting BC Task Book](#)

8A.5 A command and staff development program is in place that encourages pursuit of professional credentialing.

Description

Professional credentialing is encouraged of all command and staff personnel. Members are encouraged to pursue professional development through courses offered internally (training division and HR's learning and organizational development division). Currently the training division offers two 40-hour officer development academies per year which focuses on personal and professional development. The training division maintains three Blue Card Instructors and requires all officers and acting officers to complete the Blue Card program and receive Incident Command certification. Continued officer development is required to maintain this certification. The City of Boulder offers three level of development certificates related to professional development based on the foundational values of the organization. The city also provides a very generous tuition reimbursement program to personnel seeking college and university courses. Personnel are also encouraged to participate in external development courses offered through the CDFPC, NFA, CPSE, FRFC and NFPA. The department has personnel actively participating in, or having already completed the FRFC's Envision Leadership course, NFA Weekends hosted by the DFPC, NFA's Chief Officer Training Curriculum, NFA's Managing Officer program, and NFA's Executive Fire Officer program, and CPC credentialing.

Appraisal

The emphasis on professional development and professional credentialing is relatively new for BFR. This has been a significant cultural change and will take some time to become standard practice for personnel.

Plan

Requirements for certification are not currently established for each specific position at BFR, and requirements found within each job description are vaguely written to be "as required". The training division will create a certification policy to align fire department positions to specific certifications. Aligning certifications with positions will allow BFR to better create professional development plans for individuals and specifically highlight courses and training opportunities to create a clearer path for professional credentialing.

The division's goal is to complete the certification policies and procedures by the end of 2019 and further assess those policies and procedures in 2020. Based on contract negotiations and potential contract discussions, the training division does not anticipate full implementation until 2021.

References

[FRFC Envision Leadership Outline](#)

[NFA MO Information Sheet](#)

[NFA EFO Information Sheet](#)

[City of Boulder Employee Certificates](#)

[City of Boulder Learning @ Work](#)

[Officer Development Program Outline](#)

Criterion 8B: Training and Education Program Performance

Training and education programs are provided to support the agency's needs.

Summary:

Training and education are provided through various programs and are designed to support the BFR mission statement. All sworn personnel hold the following minimum certifications: CDFPC FFII, CO EMT-B, CDFPC Hazmat Operations. BFR also requires all members to successfully complete the Federal Emergency Management Agency's (FEMA) National Incident Management System (NIMS) 100, 200, and 700 level training courses. Lieutenants and captains are required to complete the 800-level training. Chief officers are required to complete 300 and 400 level training courses.

Personnel are required to obtain and maintain CDFPC Driver Operator Aerial and complete the Firefighter First Class task book prior to the completion of their second year of employment. All personnel operating on Ladder and Platform apparatus complete an annual Aerial Ladder-Platform (ALP) taskbook. All personnel preparing to act as lieutenant are required to complete a minimum of 130 hours of officer development training and complete the Acting Lieutenant task book. Personnel preparing to act into the position of Battalion Chief (BC) must complete the Acting BC task book.

All officers and acting officers are required to complete the Blue Card program and obtain and maintain the Blue Card Incident commander certification. BFR maintains two Blue Card instructors and a Command Training Center (CTC). All battalion chiefs and acting battalion chiefs are required to complete the Boulder Valley Fire Consortium's (BVFC) Incident Safety Officer (ISO) course or be certified as an ISO by the CDFPC or Fire Department Safety Officer Association. The training division provides initial and ongoing training for all personnel to obtain and/or maintain certifications.

Performance Indicators:

8B.1 A process is in place to ensure that personnel are appropriately trained.

Description

BFR has processes in place to ensure that personnel are appropriately trained. BFR is a member of the FRFC and sends all new recruits through their 15-week fire academy. During this time, the recruit firefighters are taught and evaluated based on the FRFC curriculum. The FRFC curriculum is based on the NFPA standards for Firefighter. BFR requires new firefighters to already hold the CO EMT-B or higher prior to employment. Upon completion of the academy curriculum, the new firefighter begins a two-year training program that continues to evaluate their knowledge, skills, and abilities as a firefighter as well as preparing them to fill acting positions as a driver operator. At the completion of the two-year training program, new firefighters will hold and be expected to maintain their Firefighter II, EMT-B, and Driver Operator Aerial in accordance to state and national performance requirements.

Incumbent personnel are required to, at minimum, maintain certifications in accordance with state and national performance requirements as required by the certifying agency. These performance requirements are completed at the crew level as well as through organized training sessions through the division. Documentation for these performance requirements are entered into Target Solutions and validated by training staff. Status reports can be accessed by the individual, all company officers, battalion chiefs, and the training division staff.

Deficiencies that are recognized related to job performance are be handled through the department's positive discipline guidelines. These guidelines assist supervisors to address the performance issue, encourage personnel to take ownership of the needed change, and create a clear performance improvement plan if necessary.

Appraisal

This process has allowed BFR to maintain and ensure that personnel are trained to minimum standards. There are areas for improvement regarding better outlining of expectations for company officers related to delivery of company-based training (in addition to performance evaluation) and performance improvement.

Plan

BFR will create clear expectations for company officers related to CBT, performance evaluation, and performance improvement. The division intends to complete the training policies and procedures by the end of 2019 and review their effectiveness in 2020. Based on contract negotiations and potential contract discussions, the training division does not anticipate full implementation until 2021.

References

[Positive Discipline Guidelines](#)

[Sample credential summary report \(status report\)](#)

[CDPHE EMT and Paramedic renewal requirements](#)

[National Registry EMT and Paramedic renewal requirements](#)

[CDFPC JPRs for current program participation](#)

[CDFPC Policy and Procedure Manual](#)

[BlueCard Renewal Requirements](#)

8B.2 The agency provides a training schedule that meets the organization's needs.

Description

BFR maintains an annual training plan that provides specific details related to the content identified during planning sessions. A basic version of the annual training plan is published and delivered to personnel during our "What's new" training session that occurs in January. The basic annual training plan is also published on the training division SharePoint site. The scheduled training sessions are added to the department activity calendar in November of the prior year. The annual training plan is specifically constructed to allow for flexibility and change dependent upon emerging department issues and Fire/EMS hot topics. Due to this flexibility, the specific details are provided to personnel on a quarterly basis.

External training opportunities can be found on the DFPC training calendar, FRFC training calendar, Boulder County Firefighters training calendar. Certain training opportunities are sent out throughout the year to all personnel via departmental advisory.

Additional city training opportunities are available through HR's Learning and Organizational Development (L&OD) group. These opportunities are made available through the city's Cornerstone Learning Management System (LMS).

Appraisal

BFR effectively maintains a training schedule that clearly identifies training opportunities and meets the needs of the department. Personnel participation in external and L&OD training opportunities is low.

Plan

BFR will evaluate the gap between information provided and personnel participation in order to increase additional involvement in external and L&OD training opportunities. The division intends to complete this gap analysis by the end of 2019 and will formulate implementing change recommendations in 2020.

References

[2018 Activity Calendar](#)

[2019 Annual Training Plan](#)

[Learning @ Work Courses](#)

CC 8B.3 The agency evaluates individual and crew performance through validated and documented performance-based measurements.

Description

BFR participates in certification programs through the DFPC, CDPHE, and Blue Card. Individuals obtaining certification must pass practical and written examinations based on the criteria of the external certifying body. In all cases, additional continuing education and practical performance evaluations are required throughout the certification period in order to renew the certification. For individuals holding a Blue Card IC certification, a written examination is also required for certification renewal.

Appraisal

BFR effectively utilizes the performance requirements of the external certifying bodies to evaluate the individual task performance of our personnel. However, these performance requirements only evaluate the minimum standard. Additional assessment tools are needed in order to effectively evaluate crew performance.

Plan

BFR will develop outcome measures for service delivery to evaluate the effectiveness of the training being delivered as well as crew performance. During training sessions, BFR will utilize additional objective methods of measuring performance for initial fire suppression and rescue procedures used by fire department personnel engaged in emergency scene operations. The training division will work with the fire data analyst to develop evaluation tools that can be analyzed in relation to incident response data to measure training performance based on service delivery improvement. The division intends to begin gathering baseline data in September of 2019 with the full roll-out beginning in 2020.

References

[CDFPC Policy and Procedure Manual](#)

[CDPHE EMT/EMT-P Renewal Requirements](#)

[BlueCard Renewal Requirements](#)

8B.4 The agency analyzes student evaluations to determine reliability of training conducted.

Description

BFR determines the reliability of training provided to recruit firefighters as well as incumbent personnel. Recruits participating in the FRFC fire academy are given course and instructor evaluations after each training module. The evaluation data is made available to all FRFC training officers on a weekly basis for the purpose of continuous improvement related to instructor development and curriculum modification.

Incumbent personnel are provided course and instructor evaluations throughout the year via SurveyMonkey or as paper copies. In addition, personnel are given the opportunity to complete a training satisfaction survey that evaluates their perception of the training content, quality, and frequency.

Appraisal

BFR has been working towards transitioning to a paperless training division. One area that has been identified as needing improvement was the consistent delivery of course and instructor evaluations. SurveyMonkey is the current platform used. Due to plan changes and workflow gaps within the training division, these evaluations have not been delivered and collected for each training session.

Plan

BFR will evaluate the administrative workflow related to training sessions. Gaps will be identified, and improvements made to guarantee that student evaluations of the instructor and the course are delivered and collected from participants at every training session. The training division intends to identify an effective method of obtaining paperless instructor and course evaluations by the end of 2019.

References

[Training Course Evaluation \(Online Survey\)](#)

[Training Program Survey 2018](#)

8B.5 The agency maintains a training records management system that meets recognized standards.

Description

BFR utilizes Target Solutions as the platform for our training record management system.

Appraisal

Target Solutions meets the needs of BFR for training record management. All credentials are organized with a digital task book format. This format creates a platform that allows for data to be easily retrieved, multiple reports run and automated, as well as creates alerts for pending expirations, overdue assignments, and new assignments. Recently, BFR received an audit from the DFPC related to our training records. The DFPC representatives were impressed with the configuration of our records management system and the ease of use.

Plan

Whereas our current record management system is meeting the needs of BFR and it is used as a model for other departments within the region, BFR will continue to monitor and evaluate the efficiency and effectiveness of the program. As an ongoing project, the training division staff will need evaluate the RMS platform limitations and our changing needs in order to be aware of pending changes and make process improvements in a proactive manner.

References

[Sample Target Solutions Credential Task Book](#)

[Sample Credential Alert Printout](#)

[Certification Expiration Report](#)

[Overdue assignment report](#)

Criterion 8C: Training and Education Resources

Training and education resources, printed and non-printed library materials, media equipment, facilities, and staff are available in sufficient quantity, relevancy, and diversity, and are current.

Summary:

BFR utilizes the BRFTC, located on approximately 10 acres east of the Boulder Reservoir, for much of its training activities. Opened in 2010, under a cooperative agreement between the City and Boulder County, the center is operated today under an intergovernmental agreement between the two.

The main features of the facility consist of a classroom building, a training tower, and a burn building. The main facility holds three classrooms, two conference rooms, offices for the training staff, kitchen facilities, restrooms and locker room facilities, weight training area, and a large apparatus bay that can be used for inside training space or for parking fire trucks inside during inclement weather while crew attend training sessions. The training center can seat 230 people. Each classroom has seating for 100, with both classrooms connected there is seating for 200. Additional seating is available in both conference rooms; the first floor can accommodate 10 seats, and the second-floor conference room can accommodate 20 seats. If needed, the training center could accommodate an additional 250-300 in the apparatus bay. Training support functions like laundry and breathing air refill are also in this building.

The training tower is a five-story building providing numerous props and training opportunities. Ladder training, high-rise operations, rappelling, roof smoke ventilation, and confined space rescue are some of the skills that can be practiced in this building. The burn building is used to simulate fire attack, search and rescue, smoke ventilation, and a variety of other firefighting skills. Clean wooden pallets are burned to create just enough fire and smoke for training.

Other features of the training center include a pump test area for annual pump training, vehicle extrication areas for crews to become proficient in automobile extrication, propane car fire simulator for crews to practice proper vehicle extinguishment techniques, technical rescue training prop for confined space and trench rescue, and large driving area for cone course for apparatus operation.

BFR maintains a training library consisting of printed material as required for specific fire department certifications from IFSTA, NFPA, ICC, and Jones and Bartlett. BFR utilizes the online IFSTA Resource One platform for course curriculum and online study aids. Additionally, online training and education resources are provided to our personnel through Target Solutions (platform and community content), Boulder@Work (cornerstone LMS), and other online video content providers (YouTube and Vimeo).

Performance Indicators:

CC 8C.1 Facilities and apparatus are provided to support the agency's all-hazards training needs. The agency has plans addressing any facilities and apparatus not available internally to complete training activities.

Description

BFR utilizes the BCRFTC, located on approximately 10 acres east of the Boulder Reservoir, for much of its training activities. The facility consists of a classroom building, a training tower, and a burn building. Training support functions like laundry and breathing air refill are also available on site.

The BCRFTC has structures and props that support the all hazards approach to our training. The training tower is a five-story building providing numerous props and training opportunities. Ladder training, high-rise operations, rappelling, roof smoke ventilation, and confined space rescue are some of the skills that can be practiced in this building. The burn building is used to simulate fire attack, search and rescue, smoke ventilation, and a variety of other firefighting skills. Clean wooden pallets are burned to create just enough fire and smoke for training.

Other features of the training center include: computer based command training center, pump test area for annual pump training, vehicle extrication areas for crews to become proficient in automobile extrication, propane car fire simulator for crews to practice proper vehicle extinguishment techniques, exterior live fire burn areas, underground confined space training prop, static trench rescue prop, wildland firefighting chainsaw cut area, forcible entry props and large driving area for cone course for apparatus operation.

Company based training is conducted in the first due area for the company. Additional classroom space is occasionally utilized throughout the city in order to maintain operational staffing in the City.

For training purposes BFR utilizes the apparatus that personnel are assigned to. In certain circumstances, BFR will utilize reserve apparatus for training. BFR does not own heavy equipment needed for moving supplies or training props at the BCRFTC.

Appraisal

The BCRFTC facility meets the needs for minimum standard fire and EMS training. The apparatus currently owned by BFR for use by the training division is not adequate for our training needs. BFR has agency commitments to provide a Type 1 Pumper to the FRFC throughout the fire academy. Currently, BFR sends a reserve apparatus (if available). Sending a reserve apparatus has an operational impact. BFR does not currently own any heavy equipment. This equipment is often used for unloading delivery

trucks at the BCRFTC, moving supplies and props, placing training materials on higher levels of the burn building and training tower, moving vehicles for auto extrication, and creating additional training scenarios for technical rescue and hazardous materials response. Currently, BFR either rents this equipment or if available collaborates with other City departments with completing these tasks.

Plan

BFR will evaluate the current usage of heavy equipment and evaluate the need to purchase and maintain this equipment. BFR will evaluate the feasibility of providing a Type 1 pumper and evaluate the need to provide and maintain this equipment permanently to the training division. The training division intends to complete this usage analysis by the end of 2019. In doing so, the training division anticipates making program budget recommendations in 2020. These budget recommendations would not be considered until 2021 budget planning.

References

[Training Center Grounds Layout](#)

CC 8C.2 The agency has instructional personnel with teaching qualifications and expertise to meet its needs.

Description

The BFR Training Division provides the oversight to curriculum and class content development. BFR staffs the Training division with a Training Division Chief, Training Captain, Safety and Health Captain, and Administrative Specialist. The Training Chief, Training Captains are required to obtain CDFPC Fire Instructor I and encouraged to obtain Fire Instructor II for Captains and Fire Instructor III for the Training Chief. CDFPC Fire Instructor certifications require the certification holder to instruct 12 hours per year, and complete instructor JPRs over the course of certification. In addition, CDFPC Live Fire 1403 Instructor is required for anyone coordinating live fire trainings at BFR. CDFPC Live Fire 1403 Instructors are required to fill all identified position roles and complete live fire JPRs over the course of certification. All module instructors are selected by the training division based on their subject matter expertise. Module instructors are encouraged to obtain CDFPC Fire Instructor I. Instructors are required to submit lesson plans and resource needs 45 days prior to scheduled trainings. The training division staff will approve, deny, or make recommendations to the proposed training.

Company based training is conducted by crew members or company officers and oversight provided by the company officer.

EMS instructors maintain CDPHE Emergency Medical Services Educator certification and/or hold the medical licensure of Paramedic or higher.

Appraisal

The training division has instructional personnel with teaching qualifications and expertise to meet the needs of the agency. All instructor credentials are tracked in Target Solutions. Instructor contact hours and JPRs are also tracked through Target Solutions and applied towards certification renewal. BFR has not been able to provide enough opportunity to current fire instructors and company officers to obtain CDFPC Fire Instructor I.

Plan

BFR has developed the course curriculum and received approval from CDFPC for in-house delivery. BFR will provide additional opportunities for this course to current instructors and company officers. The training division intends provide these class opportunities as part of our 2019 training plan.

References

[Instructor Credential List](#)

[BFR Lesson plan template](#)

[Fire Instructor 1 – BFR Outline](#)

8C.3 Instructional materials are current, support the training program, and are easily accessible.

Description

BFR maintains a training library consisting of printed material as required for specific fire department certifications from IFSTA, NFPA, ICC, and Jones and Bartlett. These materials are updated based on the CDFPC updating or realigning written materials to certification.

Printed material is available for check-out at the BCRFTC. Additionally, printed material required for promotional testing and JPR completion is available at each station. Station library material is verified based on promotional testing timelines. All stations are provided DVD players and Internet access for the purpose of Company Based Training.

BFR utilizes the online IFSTA Resource One platform for course curriculum and online study aids. Additionally, online training and education resources are provided to our personnel through Target Solutions (platform and community content), Boulder@Work (cornerstone LMS), and other online video content providers (YouTube and Vimeo).

Appraisal

Training materials are kept current, are easily accessible, and support the training program. Target Solutions and Cornerstone provide up to date and easily accessible online instructional material. Additionally, BFR utilizes IFSTA ResourceOne and TargetSolutions Community for instructor resources. Based on current CBA Appendix language, At least one copy of each book listed in the promotional reading materials shall be placed in each station and Headquarters. The intent of this was to provide immediately available instructional materials at the station; to be used at the station. Every other year (due to promotional testing) an inventory was taken at the stations to assure that instructional resources were available. During each inventory, items were found missing and needed to be replaced. This loss averages \$600-800 per year. BFR has replaced written materials in the stations more often than required by CDFPC updates. Replacing this material due to loss is an unnecessary expense for BFR.

Plan

BFR will collaborate with the Boulder Public Library to find solutions to our current system. Some solutions may be a central location for BFR instructional materials and facilitation of the check-out and check-in process. The training division intends to complete this process by the end of 2019. Depending on solution costs, implementation may take place in 2020.

References

[Library Inventory](#)

8C.4 The agency has a process for purchasing, developing, or modifying existing curriculum to meet its needs.

Description

BFR develops, modifies, and purchases curriculum based upon the certification requirements of the CDFPC. The purchasing of curriculum follows the City of Boulder purchasing guidelines.

Appraisal

The City purchasing process has worked well. Utilizing the certification criteria developed by CDFPC in alignment with NFPA as the basis of curriculum development meets the needs of BFR.

Plan

BFR will continue to follow the City of Boulder purchasing guidelines related to purchasing of new or updated curriculum.

References

[COB Purchasing guidelines](#)

8C.5 Equipment utilized for training are properly maintained in accordance with the agency's operational procedures. The agency makes training equipment readily accessible to instructional personnel.

Description

Apparatus, SCBA's, breathing air compressor, ladders, saws, ropes, computers, radios, and other tools and equipment utilized by the training division are maintained in accordance with BFR policies, and manufacturer recommendations. Maintenance is coordinated by the program manager for the specific equipment. Equipment is readily available and accessible to instructional personnel.

Appraisal

BFR maintains all training equipment in accordance with policies and manufacturer recommendations. There is not a centralized inventory tracking system for program managers to record maintenance records or inventory locations.

Plan

During 2019, the training division will BFR will begin the process of a full equipment inventory. Once the inventory is complete, equipment will be entered into an inventory tracking system. By having all equipment listed, training division staff will have immediate information regarding upcoming preventative maintenance. The City of Boulder recently completed a technology assessment. Based on the report findings, determinations will be made on the specific inventory management platform. Recommendations are anticipated to take place during the 2020 budget year.

References

[Equipment maintenance policies](#)

8C.6 The agency maintains a current inventory of all training equipment and resources.

Description

Program managers for specific equipment maintain inventory records. Additionally, equipment that is covered under equipment replacement funding will be tracked through FAM. Some of the items inventoried are apparatus, SCBA's, breathing air compressor, ladders, saws, computers, and radios. Station printed materials are inventoried in accordance with promotional exam timelines. Printed study resources may be checked out by personnel. Printed material at the BCRFTC is not inventoried regularly.

Appraisal

BFR does not adequately track training equipment and resources. An adequate tracking system may decrease spending on training equipment and printed training materials. BFR recently participated in a technology needs assessment.

Plan

The City of Boulder recently completed a technology assessment. Based on the report findings, determinations will be made on the specific inventory management platform. Recommendations are anticipated to take place during the 2020 budget year.

References

[Technology Report: Section Inventory Needs](#)

8C.7 A selection process is in place for training and educational resource materials.

Description

The selection process for training and educational resource materials is part of our training and certification program process. As needed, resource materials are identified. Additional steps are taken to determine the process needed to procure the resources.

Appraisal

The current process allows for selecting training and educational resources that meet the specific needs of our training (as determined by our instructor cadre) and certification programs. As certifying agencies update or modify their resource lists, BFR updates our resource materials inventory. Annually, BFR conducts a planning session for the following year. Instructors contribute ideas and plans for training courses. Specific needs are identified, and resources obtained prior to the scheduled classes. The current process operates in alignment with city purchasing guidelines.

Plan

The Training Division will also closely monitor changes from certifying agencies regarding recertification requirements and develop programs to meet those changes. Training division staff will need to remain active and connected to the CDFPC, CDPHE, BlueCard and National Registry in order to be aware of pending changes and make resource material improvements in a proactive manner.

References

[City purchasing guidelines](#)

[CDFPC Resource Information](#)

[Instructor Credential List](#)

[BFR Lesson plan template](#)

CC 8C.8 Training materials are evaluated at least annually, to reflect current practices and meet the needs of the agency.

Description

BFR evaluates training needs and creates the annual training plan. Based on the needs of the annual training plan, training materials are evaluated. Annually, BFR conducts a planning session for the following year. Instructors contribute ideas and plans for training courses. Specific material needs are identified, and materials obtained prior to the scheduled classes. Additionally, BFR evaluates phase training, and acting task books at the end of each phase work session or task book completion. Input is gathered from personnel that have recently completed the phase work or task book and content is updated based on participant recommendations. Promotional exam study materials are evaluated based upon promotional timelines. Changes to promotional exam content is limited due to Appendix language found in the Collective Bargaining Agreement with IAFF Local 900.

Appraisal

Training materials are evaluated on a regular basis. Occasionally, BFR needs to make modifications to training materials mid-year based on policy changes or emerging fire service trends. Promotional exam material is limited based on Appendix language. These limitations create difficulty for BFR to test promotional candidates based on fire service best practice.

Plan

BFR will implement a more formal process for evaluating training materials. BFR will work to modify the Appendix of the CBA to provide greater flexibility to evaluate promotional candidates based on fire service best practice. The training division intends to complete the training policies and procedures by the end of 2019. In doing so, our anticipated review of the policies and procedures will be during 2020. Based on contract negotiations and potential contract discussions, the training division does not anticipate full implementation until 2021.

References

[Instructor Credential List](#)

[BFR Lesson plan template](#)

[Appendix – Local 900 / Boulder Fire-Rescue Collective Bargaining Agreement](#)

Category IX: Essential Resources

Essential resources are defined as those mandatory services or systems required for the agency's operational programs to function. They should be given the same value of importance as a primary program. Appropriate adjustments may be necessary in the self-analysis to adapt the typical components listed below to the local situation. For example, when reviewing a water supply system, the evaluation may not be limited to conventional resources such as water lines and hydrants, but may include alternative resources, such as tankers (tenders), ponds, streams, lakes, cisterns, etc.

Criterion 9A: Water Supply

The water supply resources are reliable and capable of distributing adequate volumes of water and pressures to all areas of agency responsibility. All areas meet fire flow requirements in accordance with applicable fire flow criteria.

Summary:

Boulder's water supply system includes many storage, conveyance, hydroelectric and treatment facilities. The city owns approximately 7,200 acre-feet of reservoir storage space in the North Boulder Creek watershed, owns 11,700 acre-feet of storage in Barker Reservoir on Middle Boulder Creek, and has up to 8,500 acre-feet of storage space in Boulder Reservoir.

Boulder's two water treatment facilities are the Betasso Water Treatment Facility (WTF), with approximately 45 million gallons per day (MGD) of treatment capacity and the Boulder Reservoir WTF at about 16 MGD.

The city has over 400 miles of distribution piping divided into three zones that cover the city. The distribution system includes facilities for controlling pressure within the system, the ability to pump water from one zone to another zone, storing water to provide reserves for peak demand and emergency situations.

Performance Indicators:

CC 9A.1 The agency establishes minimum fire flow requirements for new development in accordance with nationally and internationally recognized standards. This information should be included in the fire risk evaluation and pre-fire planning process.

Description

The need for adequate fire-flow for new developments within the City of Boulder is established during the development site review and the technical document review process. Minimum fire-flows and the minimum number of hydrants are determined by the International Fire Code (IFC) Appendix B and C as well as the City of Boulder's Design and Construction Standard.

Boulder Fire-Rescue (BFR) requires that every new water-based fire system have a current flow test associated with the design of the system. The flow test is conducted following *NFPA 291, Recommended Practice for Fire Flow Testing and Marking of Hydrants*. The test must all be within one calendar year of the system design per *NFPA 13, Standard for the Installation of Sprinkler Systems*. Flow tests must show that there is an adequate water supply for the fire system with a 10% reduction during the flow test. The 10% reduction is a regulation that the State of Colorado requires under the Fire Suppression Program, 8 CCR 1507-11, Section 6.2.6.2 that BFR has chosen to use as a best practice. All flow tests are performed by the fire system contactor with the assistance of the Public Works Department.

Appraisal

The City of Boulder's municipal water supply is stable and reliable related to flow and pressure. The Public Works Department maintains the water system including maintenance of fire hydrants. The process to determine fire-flows, as well as conducting flow tests for new systems, has proven to be adequate in determining an effective water supply for fire protection.

Plan

BFR will continue to require a flow test for new fire protection systems and evaluate fire-flow requirements for new developments.

References

NFPA 291 Recommended Practice for Fire Flow Testing and Marking of Hydrants (dept account)

NFPA 13, Standard for the Installation of Sprinkler Systems: 2016 edition, Section 23.2.1.1 (dept account)

2012 International Fire Code: Chapter 5, Appendix B and C (on site)

City of Boulder's Design and Construction Standard – Ordinance No. 7088: Section 5.10

CC 9A.2 An adequate and reliable water supply is available for firefighting purposes for identified risks. The identified water supply sources are sufficient in volume and pressure, based on nationally and internationally recognized standards, to control and extinguish fires.

Description

The City of Boulder's water system is divided into three zones within the city with 400 miles of piping.

The City of Boulder's minimum for treated water storage across all the tanks, clearwells and pressure zones is 18 million gallons in winter and 22 million gallons in summer. However, the average storage is generally higher since tanks fluctuate from their minimums to a maximum system storage capacity of about 24 million gallons in winter and 35 million gallons in summer. Tanks are fluctuated to maintain water quality.

This adequate and reliable water supply is available for firefighting purposes for identified risks through the approximately 4,800 hydrants on the system.

Appraisal

The City of Boulder has developed and maintained a reliable water system. All three zones are tied together, and water can be pumped from one zone to another if needed. The mains within each zone are looped which provides for reliable flows and pressure.

Out of the 4800 hydrants on the system, the largest percentage will exceed a flow of 4000 gpm at 20 psi. Approximately 1% of the hydrants have a flow of less than 1500 gpm at 20 psi.

Plan

BFR will continue to work with Public Works to maintain a reliable and adequate water supply for fire suppression needs.

References

[Portable water system contour map of available fire flows](#)

[Treated Water Master Plan Update – October 2011: page 5-23](#)

9A.3 The agency maintains regular contact with the managers of public and private water systems to stay informed about available water supplies.

Description

BFR and Public Works' Water Utilities Department stay in close contact regarding the water system's functional status as well as hydrant maintenance. Water Utilities performs all maintenance on the system including annual flushes of fire hydrants and conducting flow tests at least every 5 years. Any impairment of the system is sent via e-mail to all concern parties, including BFR, with information concerning the impairment and expected downtime of the water main. A second e-mail is sent once the system has been restored to operational condition.

Appraisal

The e-mail concerning the status of the system has proven to be effective and sufficient in communicating information concerning system impairments.

Plan

Continue to maintain an excellent relationship with Public Works and continue to stay in contact with the Utilities Department concerning the inspections, testing and maintenance of the water system.

References

[E-mail example of impairment notification](#)

9A.4 The agency maintains copies of current water supply sources and hydrant maps for its service area.

Description

The City of Boulder's utility system is electronically mapped. Detailed information on hydrants, water valves, and main sizes are available through the city's geographical information system (GIS). The mobile data computer (MDC) within each fire apparatus contains a map layer with locations of every hydrant. Hydrants are located based on GIS coordinates. New water mains and hydrants are mapped as they are added. Station maps also contain hydrant locations.

Appraisal

Electronic mapping of the hydrants with the location available on the engine MDC has worked well for responding emergency personnel. Additional information available electronically has also worked well for Community Risk Reduction in the evaluation of the water supplies when needed for engineering purposes.

Plan

BFR will continue to work with the GIS department to maintain current maps that include hydrants locations for the MDCs. Paper or hard copies are no longer maintained except for the large station wall maps.

References

[Screenshot of of Utilities – Water layer](#)

[Boulder Water Map](#)

9A.5 Hydrant adequacy and placement reflect the locality's known hazards and the agency's needs for dealing with those hazards. Hydrant placement is based on nationally and internationally recognized standards.

Description

The City of Boulder currently supports and maintains approximately 4800 hydrants. Spacing and placement of the fire hydrants are based on nationally recognized fire codes, however, the City of Boulder's Design and Construction Standard, Chapter 5 Section 5.10, ultimately regulates the hydrants' placement as it slightly exceeds most of the minimum requirements in published fire codes. Spacing of hydrants in single-family residential areas cannot exceed 500 feet between hydrants and no more than 350 feet in all other areas. Furthermore, hydrants are required to be placed at the entrance or intersection for each street, with a hydrant placed on each side of a divided roadway. This will often have hydrants spaced much closer than the maximum spacing distance allowed. The positioning of hydrants are adjusted based on specific fire-flow required for the structure, apparatus access and the presence of automatic fire sprinklers and standpipes.

Appraisal

The location and placement of hydrants based on the city's Design and Construction Standard have been successful in meeting the BFR operational firefighting needs.

Plan

Continue to enforce the Design and Construction Standard for hydrant placement and location. CRR will also continue to maintain open communications with the operations division and implement any feedback for water and hydrant needs.

References

City of Boulder's Design and Construction Standard – Ordinance No. 7088: Section 5.10

9A.6 Fire hydrants are located so that each is visible and accessible at all times.

Description

Hydrants are required to be installed in accordance with the City of Boulder’s Design and Construction Standard (DCS). Requirements in the DCS states that each hydrant must be installed in the public rights-of-way or easements. The hydrant must be aligned with the property line if installed mid-blocked. Hydrants cannot be more than five feet behind a curb, outside any fenced area and have a ten-foot radius of clearance to adjacent obstacles such as fences, walls, shrubs, and trees. The lowest outlet is at least 18” above final grade and no more than 30” above final grade. All hydrants have their barrels painted “hydrant green” and the caps are “hydrant white”. Color coding of hydrants as recommended in *NFPA 291, Recommended Practice for Fire Flow Testing and Marking of Hydrants* has not been implemented because 99% of all hydrants within the City of Boulder meet the classification of Class AA and, therefore, would all have the same color code marking. The City of Boulder utilizes and prefers green and white for visibility and maintenance.

Appraisal

The Public Works’ Water Utilities Division maintains the hydrants in the city. They perform annual flushes, verify drainage and apply a fresh coat of paint to the hydrants in need. They also repair any broken or leaking hydrants, usually within 4 hours of notice. The City has a small number of two-barrel hydrants left within the city system. The two-barrel hydrants are replaced when they need any maintenance (other than annual inspection, testing, and maintenance) or parts replaced.

Plan

BFR will continue to work in cooperation with utilities ensuring location and maintenance of fire hydrants.

References

City of Boulder’s Design and Construction Standard – Ordinance No. 7088: Section 5.10

NFPA 291, Recommended Practice for Fire Flow Testing and Marking of Hydrants (dept account)

9A.7 Public fire hydrants are inspected, tested, and maintained in accordance with nationally and internationally recognized standards. The agency's fire protection related processes are evaluated, at least annually, to ensure adequate and readily available public or private water.

Description

The City of Boulder has approximately 4,800 fire hydrants that require periodic inspection, testing, and maintenance (ITM). Fire hydrant ITM is performed to verify proper operation and to ensure the reliability of the fixed water supply system. The ITM on all fire hydrants is conducted by the city's Public Works' Utility Maintenance Division. Maintenance records are maintained by Utility Maintenance and can be provided upon request. Procedures for fire hydrant testing and maintenance follow the requirements within *NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Suppression Systems*, Chapter 7.

Fire-flow tests that record static and residual pressure, as well as the flow from the respective fire hydrants, are conducted periodically to test the integrity of the fixed water distribution system and evaluate that volume and pressures are adequate. Flow tests are also conducted by fire system contractors to determine the water supply for new system designs.

Appraisal

The fire inspection, testing, and maintenance program provided by Utility Maintenance has proven to be adequate in maintaining a reliable water supply for the City of Boulder. Documentation can be provided upon request to verify test frequency and to demonstrate that ITM activities are meeting the needs of the City of Boulder.

Plan

The City of Boulder will continue to rely upon the inspection, testing and maintenance policies and procedures of the Utility Maintenance division to ensure reliability and integrity of the fixed water distribution systems. Evaluation of maintenance activities will occur regularly by reviewing the fire hydrant testing records provided by the Utility Maintenance division and through fire-flow testing conducted for fire suppression systems.

References

[Copy of an ITM maintenance record](#)

NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Suppression Systems, Chapter 7. (dept account)

9A.8 The agency identifies and plans for alternate sources of water supply for those areas without hydrants, where hydrant flows are insufficient, or in the event of a major disruption in public water supply capabilities.

Description

The City of Boulder is a municipal city with a managed public waterworks system. Within the city limits, there are very few, if any, locations that do not have a fire hydrant within the allowable distances per the city's adopted fire code as well as the City of Boulder's Design and Construction Standard. There are county pockets within the city limits where hydrants may be spaced at a greater distance than our adopted fire code allows. However, even in these areas, there are no hydrants spaced that exceed the length of hose carried on our apparatus.

There is a small area of land that is technically in the City of Boulder city limits that are known as the "flagpole" that does not contain any hydrants. The flagpole is undeveloped land owned by the City of Boulder Open-Space Department that does not contain any structures or approved fire access roads. This land will not be developed as it is dedicated as "open-space." If that were to change and any of the lands was developed, the city's water system, including fire hydrants will be extended into that area.

The City of Boulder's water delivery system consist of a minimum treated water storage across all the tanks, clearwells and pressure zones is 18 million gallons in winter or 22 million gallons in summer. Average storage is generally higher since tanks are fluctuated from their minimum to maximum system storage capacity of about 24 million gallons in winter to 35 million gallons in summer in order to maintain water quality.

The City of Boulder water system is divided into three zones in which water can be moved from one zone to another zone as needed. For example, Betasso Water Treatment Plant can move up to 40 MGD into Zone 3. The hydroelectric/PRV stations at Maxwell & Kohler and the PRV Station at 101 Pearl combined can move in excess of 40 MGD into Zone 2. The three 8" PRV's at the Irises and Cherryvale combined can move more than 12 MGD into Zone 1. Likewise, Boulder Reservoir Water Treatment Plant can put up to 20 MGD into Zone 1 using up to six pumps. The seven 2.4 MGD pumps at the Irises and Cherryvale pump stations can put up to 16.8 MGD into Zone 2. The hydroelectric stations at Maxwell and Kohler can put up to 4.7 MGD into Zone 3 when operated in pump mode.

The demand for the water system consists of Zone 1 constitutes 20%, Zone 2 is 60%, and Zone 3 is 20%.

Appraisal

The City of Boulder's water supply is very reliable with redundancies built in to ensure water delivery. The networked water system provides water in all the developed areas of the city in addition to serving as a reliable water source for fixed fire suppression systems.

If needed BFR can request water trucks (tankers/tenders) to be brought in from the Boulder Valley Fire Consortium (BVFC) to supply water in an emergency if the city suffered a catastrophic failure.

Plan

No changes are necessary to ensure adequate water supply for fire suppression purposes. BFR's Community Risk Reduction Division will continue to review and require fire hydrants for all new and existing development areas. City of Boulder's Public Works Department will continue to maintain and upgrade the water system as needed. BFR will continue to be a member of BVFC in order to have access to an alternate source of water if needed.

References

[Treated Water Master Plan Update – October 2011](#)

[Water Pressure Zones Map](#)

9A.9 The agency has operational procedures in place outlining the available water supply.

Description

Boulder Fire-Rescue requires all firefighters to be certified through the State of Colorado, Division of Fire Prevention (CDFP) and Control as Fire Fighter II (FF-II). This requires every member that performs firefighting duties to obtain this certificate by passing specific job performance requirements (JPRs) as outlined by CDFP. Firefighters must be Fire Fighter I (FF-I) certified before obtaining their FF-II. The JPR for FF-I demonstrates that the firefighter can “Connect a fire department pumper to a water supply as a member of a team, given supply or intake hose, hose tools, and a fire hydrant or static water source, so that connections are tight and water flow is unobstructed.”

Appraisal

The availability of fire hydrants within the City of Boulder has eliminated the need for extensive procedures addressing alternative water source utilization. Other than the requirement that newly hired firefighters must meet the state’s requirement for FF-I, Boulder Fire-Rescue does not have any written policies or procedures outlining water supply.

Plan

Boulder Fire-Rescue will write a policy to address this procedural deficiency.

References

[Colorado Division of Fire Prevention and Control, Fire Fighter I JPR \(FFI-3N\)](#)

Criterion 9B: Communication Systems

The public and the agency have an adequate, effective, and efficient emergency communications system. The system is reliable and able to meet the demands of major operations, including command and control within fire/rescue services during emergency operations, and meets the needs of other public safety agencies having the need for distribution of information.

Summary:

The Boulder Police and Fire Communications Center (BPFC) houses the 911 Department which currently has VHF radio and communications systems, paired with an extensive training program, that ensures the integrity of fire and emergency medical services delivered to the citizens of Boulder, Colorado.

The 911 Department serves as the Public Safety Answering Point (PSAP) within the city limits of Boulder, Colorado. The BPFC answers all its own non-emergency and emergency 911 calls for police, fire, and medical. The department's response is enhanced by the current computer-aided dispatch software which was replaced in 2012. The current CAD system allows closest unit dispatching which assists with recommending the appropriate and closest apparatus to the incident. Auto-aid response areas and spawning calls to adjacent jurisdictions allow for quicker dispatch response times.

In addition, Boulder Fire-Rescue has cellular phones that are distributed to Command Staff personnel to augment communications. The 911 Department issues critical incident notifications for structure fires, injuries to personnel, and other incidents as requested by the Incident Commander. Additionally, the 911 Center utilizes a reverse 911 technology to notify the public of any high-risk events, such as HAZMAT related calls.

Performance Indicators:

CC 9B.1 A system is in place to ensure communications with portable, mobile, and fixed communications systems in the field. When an area is identified as not being capable of adequate emergency scene communications, such as inside buildings or below grade level, an operational plan is written.

Description

BPFC has a voice and data radio network that is licensed and in compliance with all FCC Rules and Regulations. The VHF radio system is monitored by the radio system project manager as well as several radio technicians. BPFC currently has multiple radio tower sites with voice and data repeater capability as well as transmitters and repeats placed throughout the city limits.

In the event of a center evacuation, partnerships exist with the other PSAPs located within the Boulder County jurisdiction. BPFC shares the same CAD system, radio frequencies, phone systems, as well as other critical infrastructure as these agencies. Personnel can be moved, and the systems switched over to the county PSAP to continue operations.

Furthermore, emergency scene communications occurring inside buildings or below-grade locations are equipped with bi-directional amplifiers (BDA) to help improve communications in most areas. Radios are also set-up to have the two operational channels utilize a mix of duplex and simplex channels. This configuration allows the Battalion Chief to hear the firefighters inside the building as well as communicate with dispatch.

Appraisal

Overall, the communications system in place is adequate, however, there is a lack of coverage with the BFD Operations channel.

Currently, simplex and duplex channel have been combined as a workaround for the first responders. Using the simplex channel, Fire OPS, the field units can communicate with each other within buildings and structures. Combining the duplex repeated channel, Fire 2, to the simplex channel allows for the Battalion Chief to hear their crews inside the building yet be allowed to communicate outside the structure directly with Communications. The City is currently overhauling the radio system and infrastructure to fix this issue and to enhance our communication network with new infrastructure, and equipment to bring us up to 2019 radio technology.

Communications has procured a 700 MHz radio system and have begun implementing the system. It will be a digital four-tower simulcast redundant system which will provide better coverage for the city and include new infrastructure including portal and mobile dual-band radios. The radio system will allow for more talk groups and increased capability of the radio system for the dispatchers and the field units. More talk groups will allow for additional channels for tactical operation communications. Other capabilities include but not limited to, being able to remote program, over the air programming, being allowed to shut off individual radios if issues occur that impeded radio communications, noise reduction, increased signal strength, and elimination of multiple units.

Plan

BPFC has procured the funding for a new 700 MHz radio system along with new portal and mobile radios. BPFC has also hired a radio system project manager along with several radio technicians to ensure proper installation and increased oversight of the radio system once it is online. BPFC anticipates the new radio system to be online and fully operational by October 2019.

References

[BPFC Standard Operating Procedures](#)

Radio inventory (on-site)

9B.2 The emergency communications system is capable of receiving automatic and/or manual early warning and other emergency reporting signals.

Description

BPFC can receive automatic and manual early warning signals. Private alarm companies monitor automatic fire alarms for residential and commercial buildings and report them to 911 on a non-emergency telephone line.

BPFC receives early warning signals from the National Weather Service. The center is equipped with several large monitors displaying weather, rain gauges, stream gauges, and video feeds from throughout the city and foothills providing automatic and immediate warning signs of inclement weather. BPFC has weather sirens throughout the city, and they can be activated by BPFC or Boulder County Communications Center to serve as a back-up warning system for severe weather or floods. The fire dispatch console is equipped with a weather siren activation monitor which enables the dispatcher to manually activate the sirens for any severe weather-related reason.

Appraisal

The system of monitoring alarms and weather conditions in addition to receiving emergency reporting signals is a comprehensive method of responding to alarms received annually from residences and businesses.

Plan

Continue with the BPFC current method of operation, utilizing the 911 operators to monitor incoming alarms.

References

[Weather Siren Information](#)

[BPFC Standard Operating Procedures, Administrative Section, 9122 Severe Weather](#)

9B.3 The agency's communications center(s) is/are adequately equipped and designed, (e.g., security, telephones, radios, equipment status, alarm devices, computers, address files, dispatching circuits, playback devices, recording systems, printers, consoles, desks, chairs, lighting, and map displays).

Description

BPFC is equipped with all the necessary equipment to maintain effective service delivery. This includes immediate playback, recording devices, telephones and computer-aided dispatch systems. There are nine dispatch consoles in the 911 Center with one position dedicated for Fire Dispatch. Each console is equipped with radios, phones, CAD, mapping, texting capability, internet access, printing capability, lighting, fans and heating.

In 2012 the CAD system was upgraded to a Tritech system which has allowed the 911 Communications Center to improve its level of service. We were able to implement closest unit dispatching allowing us to send the appropriate unit(s) to the incident. The new CAD system brought a lot of enhanced features such as over due timing indicators, better MDC software and GPS tracking capabilities, a web based software application for management and supervision to view CAD remotely, and better and more specific configuration tools utilizing more dialed down response recommendations and levels allowing us to be even further specific on the amount and type of apparatus necessary to respond to the incident. In 2014, the 911 Center became one of the first in the state of Colorado to accept text calls directly through the phone system. The 911 Center phone system (Intrado Viper) was updated in 2016.

Adjacent to the BPFC, is a Department Operation Center (DOC) equipped with monitors, white boards, large screen projector, phones, Apple TVs, two additional CAD consoles, a conference phone, portable Motorola Radio MC7100 laptops and a large conference table. This room can be used for training, meetings, and for small to large scale events while coordinating with communications.

Appraisal

BPFC is equipped and designed to meet the resource demands of the City of Boulder. There is ample equipment for the personnel on duty with some room for expansion. We have ten 911 lines available to answer in the BPFC. We normally have between 3 and 6 dispatchers on duty at any time with a total of 9 available consoles to allow for extra coverage if needed during an event. We have additional mobile radio consoles if it becomes necessary to set up a dispatcher remotely.

In comparison to the other two large PSAPs in Boulder County, Longmont Communications and Boulder County Communications, BPFC is an alignment with staffing, consoles, and equipment.

Plan

Continue with BPFC's current method of operation. The manager and supervisors will be responsible for attending conferences and training to keep abreast of new strategies and developing technologies that may be implemented for the further development of BPFC.

References

[Communications Center Layout](#)

9B.4 The uninterrupted electrical power supply for the primary communications equipment in the communications center is reliable and has automatic backup capability.

Description

BPFC has an alternate source of electrical power that is sufficient to ensure continued operation of emergency communication equipment in the event of the failure of the primary power source. A diesel-powered back-up generator is in an enclosed area outside the 911 Communications building. A documented inspection and test of the alternate power source is completed at least monthly, and at other times in conformance with the manufacturer's recommendations. A private contractor is responsible for the overall preventive maintenance of the unit. The UPS batteries were all replaced in 2018.

Appraisal

The uninterrupted electrical power supply (UPS) for the 911 Communications Center is coming into its end of life and has failed several times over the past few years. BPFC is working with the city's IT department and private contractors to evaluate our current system based on the needs of the center to ultimately reconfigure or replace our current UPS system to ensure the center and other technical infrastructure at the communications building are protected.

Plan

BPFC will continue working with the city's IT department and private contractors to determine next steps to ensure our center and other technical infrastructure at the communications building is protected. The BPFC anticipates having the UPS replaced in Q1 2020.

References

[Draft RFP for UPS](#)

9B.5 Adequate numbers of fire or emergency dispatchers, supervisors, and management personnel are on duty to handle the anticipated call volume.

Description

The Director of Police Communications manages the dispatch center. There are four operations supervisors who provide extra coverage, allow for breaks, and cover holes in the schedule. All dispatchers are trained in all disciplines of the job; Fire, Law, Data, and phones.

At all times, three to five Emergency Communication Officers are on duty. This includes a dedicated dispatcher assigned to the Fire Department console. BPFC has 25 authorized positions and uses part-time certified communication officers to assist during peak hours.

During peak hours, the BPFC staffs four positions; Law, Fire, Data, and call taking. BPFC's total allocation of 25 FTEs and 4 Supervisors falls within the NENA and APCO standards for appropriate staffing levels. During these high call volume events (thunderstorms, winter weather, floods, wildfires, etc.) a command staff representative from BFR (usually the Deputy Chief of Operations) will respond to the 911 Center to assist dispatchers with assigning units, prioritizing calls, and reducing alarm assignments.

Appraisal

Based on the population of the City of Boulder, and the APCO and NENA standards for staffing allocation of roughly 5.2 FTEs per staffed positions, the BPFC has an adequate number of dispatchers on duty to handle the anticipated call volume and current radio traffic and frequencies monitored.

Plan

Working with BFR, once the new 700 MHz radio system is operational, an assessment will be necessary to determine if current staffing is adequate to handle the increase radio capability that is necessary for the fire department to operate effectively and safely using the main fire frequency as well as additional tactical frequencies.

References

[Police Communications Manager Job Description](#)

[Phone Ring to Pick-up: Jan – May 2019](#)

9B.6 A maintenance program is in place with regularly scheduled system tests.

Description

BPFC has a maintenance contract with Motorola to perform scheduled preventive maintenance scheduled on mobile and portable radios and mobile data computers. In addition, there is an annual maintenance agreement to cover any problems with software operating systems. The radio system is monitored and supported by a radio system project manager and several radio technicians. The BPFC console and all equipment, including servers, computers, hard drives, monitors, phones, etc., are professionally cleaned once a year to maximize the effectiveness of the equipment.

Most of the Communicate systems are owned and funded by the authority board, Boulder Regional Telephone Authority (BRETSA). BRETSA maintains all contracts and service agreements with each of our vendors to support multiple systems; CAD, radios, digital loggers, phones, networks, and other systems. BRETSA reimburse funds to the City of Boulder for our CAD and dispatch system administrator. This position oversees, troubleshoots, and helps support all of the communication systems. BRETSA also funds a support services vendor to facilitate and oversee all of our technology and equipment solutions. When issues arise, with assistance from a support service vendor and operations support staff will work with the manufactures to identify and correct the issue within the service level agreement. If necessary, BPFC also has a best of breed model which has a pool of vendors already certified and approved to assist when necessary to fix the issue.

Appraisal

The services that Motorola provides have been adequate for conducting preventative maintenance for the current radio system and to ensure continued operation of the equipment.

Plan

The radio system project manager and BPFC manager will annually evaluate the maintenance program for effectiveness as radios and other supporting equipment.

References

[Motorola Contract](#)

[BRETSA \(on-site\)](#)

9B.7 The agency has established time-based performance objectives for alarm handling. These objectives are formally communicated to communications center managers through direct report, contracts, service level agreements, memorandums of agreement, etc.

Description

BPFC has a policy in place to answer all incoming calls within two rings. Two rings fall within the acceptable NENA standard of 90% of 911 calls to be answered within 10 seconds. BPFC has an established a benchmark for call processing of 90 seconds for emergent incidents, as documented in the Boulder Valley Fire Consortium Standard of Cover.

BPFC can monitor call answer times using reports generated from the Viper Phone system and call processing times from CAD for all 911 calls that come into the center. Call times in the system include time of pick up, phone call to queue, queue to dispatch, dispatch to enroute, and enroute to the first arrival.

Appraisal

Continuous improvement in this area has been identified as needed to improve the current process for call taking and response times to ensure all parties understand the meaning and importance behind the numbers. Having better ways to collect the data has been identified as a need to assist dispatchers and first responders to lower their response times and increase their performance over time.

Plan

Continue with the BPFC current method of operation, while at the same time keeping abreast of new strategies and technologies. Continue to search for 3rd party solutions or utilize internal resources to better report effectiveness of communication system. BPFC will work with Boulder Fire-Rescue to initiate a Service Level Agreement, and will work to establish benchmarks for acuity.

References

[Call Taking Policy](#)

[BPFC SOP 9116: Incident Management](#)

9B.8 Communications training programs for emergency dispatchers and emergency response personnel ensure adequate, timely, and reliable agency emergency response.

Description

BPFC has an extensive training program, which includes multiple training modules. All new hires go through an extensive two-week classroom style training academy which includes tests, protocols, call taking, CAD, geography, and roleplay. Upon successful completion of the academy, the new hire begins console training which includes extensive daily monitoring and on-the-job coaching by a communications trainer for approximately nine to twelve months. BPFC has two training coordinators who facilitate the department's training programs.

Results of the training program have been compared to other centers such as UCPD, Longmont, Boulder county, and many other front range PSAPS that are similar. Employees must meet and maintain agency standards. Progressive steps of training and discipline are followed when issues are identified.

Appraisal

The training program for the BPFC is adequate in cultivating highly trained dispatchers who ensure that all emergency responses are dispatched efficiently. Success rates for new hires have increased since the new training program was implemented.

Plan

Continue with the current multi-phase training programs; conduct periodic evaluations; and make improvements as needed. New employees will be evaluated by the department's Training Coordinator as outlined above. The Quality Assurance Supervisor will evaluate existing employees through an ongoing QA process. Recommendations, including progressive steps of training and discipline, are made when issues are identified.

References

[Training Handbook](#)

9B.9 The interoperability of the communications system is evaluated and documented. The agency has processes in place to provide for interoperability with other public safety agencies in the field including: portable, mobile, and fixed communications systems, tools, and equipment.

Description

Utilizing the VHF systems, BPFC provides various methods for public safety entities to respond to events and maintain interoperability. Console patches from the radio system within the 911 Center can patch several public safety units onto one channel to allow for information sharing. The console patches cover both agencies within the county and surrounding jurisdictions. In addition to console patching, most of the adjacent agencies have shared radio frequencies. However, improvement is needed in the current radio system for complete interoperability; thus, BPFC is moving to a 700 MHz digital simulcast system in 2019.

Appraisal

Improvement is needed in the current radio system for complete interoperability.

Plan

BPFC has procured the funding for a new 700 MHz radio system along with new portal and mobile radios. BPFC has also hired a radio system project manager along with several radio technicians to ensure proper installation and oversight of the radio system once it is online in Q1 2020

References

Interoperability Documentation (on-site)

Radio System Test (on-site)

CC 9B.10 A formal and documented appraisal is conducted, at least annually, to determine the effectiveness of the emergency communications system and its impact of meeting the agency's goals and objectives.

Description

BPFC maintains several measures to ensure operational efficiency and that the department's goals and objectives are achieved. Monthly quality assurance checks are conducted on each employee regarding handling radio traffic, dispatching calls, answering and processing incoming emergency and non-emergency calls. Complaints are handled immediately through research and an investigation. Follow-up is provided to the complainant when appropriate and issues are addressed in a timely manner with the employee. Each employee undergoes an annual performance appraisal which includes goal-setting discussions, and midyear reviews aid in coaching employees and reinforcing the incorporation of agency goals.

Appraisal

More detailed and customized reports are needed. Quality assurance checks and phone statistic reports have helped to determine effectiveness in connection with the agency's goals and objectives. However, due to staffing and call load, sometimes it has been difficult for supervisors to provide ample and timely quality assurance checks and feedback. Staffing the center, staffing the radio, answering the incoming 911s and call load often takes priority.

Plan

Continue to look at other ways to improve reporting to better analyze the performance and quality of the service being provided by the BPFC staff. Investigate and research dashboards and other reporting tools that will have a visual representation to various aspects of the dispatch center such as call answering times, call duration times, process times, and dispatch times.

References

[Quality assurance check example](#)

9B.11 The dispatch process utilizes a formal and recognized Emergency Medical Dispatch (EMD) system that allows for pre-arrival instructions and adequate triaging of medical calls for service.

Description

BPFC processes each call received for medical assistance utilizing the internationally recognized Emergency Medical Dispatch (EMD) system designed by Priority Dispatch Consultants. The system contains information gathering and pre-arrival instruction scripts specific to various medical emergencies including cardiac arrest (CPR), AED support, childbirth, choking (Heimlich) instructions.

All operators are trained and certified in an initial 24-hour certification class instructed by instructors certified through the International Academies of Emergency Dispatch (IAED). Operators are required to obtain and maintain certification in CPR through the American Heart Association. All operators meet or exceed the minimum standards established by the certifying agency and are required to recertify every two years. Each certified operator is required to complete twenty-four hours of Continuing Dispatch Education (CDE) per certification period and to complete a recertification examination successfully. This process ensures that Emergency Medical Dispatchers (EMDs) maintain a minimum level of competency through online experience and CDE. The recertification requirements also help assure EMDs stay current with changes and improvements to standards of practice.

Only certified EMDs are permitted to receive and process incoming medical calls for assistance. This requirement ensures quick and equal access in times of emergency and minimizes delays in processing. Ongoing education of all EMDs is achieved through continuous quality improvement focusing on individual performance feedback, in-service shift training, and formal classroom instruction.

Meetings are held on a quarterly basis and involve members of AMR(American Medical Response, the medical transport company in the city), BFR management, BPFC management, and the medical director to facilitate open communication and partnership between all involved agencies. to facilitate open communication and partnership between all involved agencies. to facilitate open communication and partnership between all involved agencies.

Targeted case reviews are completed in high risk, low-frequency areas of protocol. These special targeted reviews allow for a higher degree of confidence regarding compliance in these high impact cases.

Appraisal

The EMD process works well, as evident by performance that has been measured at the individual and agency levels to ensure compliance with established policies and standards. In addition, QA case reviews have ensured a high degree of confidence in the system.

Plan

BPFC plans to continue current practices and performance analysis while increasing involvement of the medical director to assist in evaluating and modifying response assignments as needed. The center will continue to keep up with current versions of EMD and ProQA.

References

[Call Review Example Monthly compliance report](#)

Calendar – Meeting Schedule next one is scheduled for July 17th, 2019.

[Benchmark City Survey 2018](#)

9B.12 The agency has a system in place for the recall of off-duty personnel for incidents of significance.

Description

BPFC has a minimum staffing level requirement that must always be met in order to deliver uninterrupted and high-quality service to the citizens and the Public Safety Officers. Unforeseen circumstances of large emergencies, disasters, or medical pandemic could potentially overwhelm our routine emergency operations. The options for providing increased staffing will fall into one or more of the following categories: 1. On duty supervisors respond to the floor and begin answering phone calls or taking a necessary channel, 2. Using the notification system, BPFC can send out a page to off duty supervisors and dispatchers to respond into the center to cover shortages or needed for increased staffing 3. Using the notification system, BPFC can send out a page to the on-call supervisor to have them respond into assist with the incident or situation., 4. BPFC can also reach out to neighboring PSAPs (University of Colorado, Boulder County, and Longmont) to assist with call handling, taking a channel, or supplying additional personnel to respond to the center.

Appraisal

The present system has been found to be effective at notifying off duty personnel to help with staffing shortages, large scale events, or other situations needing increased staffing.

Plan

Continue with the BPFC's current method of operation. The BPFC Manager will stay abreast of new strategies and technologies that could benefit the department. When possible, the division will send staff to conferences such as APCO of Colorado, National APCO, NENA, and the Navigator conference held by IEAD.

References

[Policies related to recalling personnel send via email via protocols](#)

Criterion 9C: Administrative Support Services and Office Systems

Administrative support services and general office systems are in place with adequate staff to efficiently and effectively conduct and manage the agency's administrative functions, such as organizational planning and assessment, resource coordination, data analysis/research, records keeping, reporting, business communications, public interaction, and purchasing.

Summary:

Boulder Fire-Rescue administration and support services are commensurate with the size, function, complexity, and mission of the department. The department employs three full-time administrative professionals that provide a range of clerical and administrative support to the department. These positions are specifically assigned to administration, community risk reduction, and training division. The BFR Information Technology (IT) Analyst is responsible for the upkeep of the fire department records management system, fire department specific IT training, specifying and managing all software systems, software application maintenance, and hardware and software technical support. Printers, copy machines, and other large office equipment are maintained by the IT department. These devices are adequate and commensurate with the function of each location

In addition, the department receives administrative support from internal service departments such as human resources, the city clerk, and the city attorney's office. Office equipment and supplies are available to conduct its day to day operations.

Each physical location is supplied with computers, furniture and supplies.

Performance Indicators:

CC 9C.1 The administrative support services are appropriate for the agency's size, function, complexity, and mission, and are adequately staffed and managed.

Description

Boulder Fire-Rescue is allocated authorized positions for administrative support functions that is commensurate with the size, function, complexity, and mission of the department. The department employs three full-time administrative professionals that provide a range of clerical and administrative support to the department. These positions are specifically assigned to administration, community risk reduction, and training division. In addition, the department receives administrative support from internal service departments such as human resources, the city clerk, and the city attorney's office.

Appraisal

The department has been going through significant change over the last five years in terms of expanding the scope of its services and responding to community expectations. This is particularly true in human resources where staffing challenges have caused a delay in hiring processes. This has caused an increase in the demand for administrative support in the department. While the department can maintain the workload at this time, there has been an increased need for prioritization.

Plan

The department will continue to monitor the workload of its administrative staff, in particular as it relates to critical functions such as finance, code compliance, and training. This will be accomplished as part of quarterly program meetings to monitor and determine the administrative support needs of these critical support functions.

References

[BFR Organizational Chart](#)

9C.2 Sufficient general office equipment, supplies, and resources are in place to support agency needs.

Description

The department has adequate office equipment and supplies to conduct its day to day operations. Each physical location is supplied with adequate computers, furniture and supplies. The IT department in the city provides support for general IT services, while an internal IT position supports department specific software. Printers, copy machines, and other large office equipment are maintained by the IT department. These devices are adequate and commensurate with the function of each location.

Appraisal

The department has recently experienced budget cuts which have reduced the administrative supplies furnished to the department significantly. This has been identified as an item that must be addressed in future budget considerations. While the department is able to maintain support service levels at this time, over the coming years, this shortfall will need to be addressed by reallocating funding from other operational priorities or requesting additional funds.

Plan

The department plans to submit budget requests that demonstrate this shortfall in the annual budget process to request additional funding. In addition, the department will continue to closely monitor office supply levels as well as evaluating processes to reduce cost.

References

[BFR 2019 Approved Budget](#)

Office Supply Ordering Invoices (on-site)

9C.3 Technological resources (e.g., telecommunications equipment, computer systems, general business software) and the information management system are appropriate to support the agency's need. Access is available to technical support personnel with expertise in the systems deployed by the agency. Documentation and analysis of data (e.g., formative, process, impact, and outcome measurement) are accessible to the agency.

Description

The BFR IT team is a single individual responsible for the majority of support and service to 124 personnel, dozens of distinct applications, hundreds of hardware devices, and to keep an Emergency 24/7 services organization up and running with little to no redundancy. The BFR Information Technology (IT) Analyst under the Division of Support Services is responsible for the coordination of departmental technology including software, hardware, telecommunications, and technology infrastructure projects, implementing and maintaining BFR software systems, maintaining hardware and associated inventories, and coordinating department telecommunications systems. Responsible for providing technical support for critical department information systems, including records management, staffing, and administrative systems and provides technical support for data analysis efforts within the department including database management. The IT Analyst also coordinates information systems related efforts with associated public safety agencies in the community and acts as the primary liaison between the Fire & Rescue Department and the city's IT Department and resources.

Fire stations have network and internet services that are connected to the city's network via 1GB/s fiber lines. There is a minimum of two shared laptops at each station for line personnel to utilize. Stations are equipped with Westnet INC's First-In station alerting system which includes ramp-up lighting, programmable amplified speakers, endpoints that display call data and mapping, turn out timers, and dorm remotes.

Front line and reserve emergency vehicles are equipped with an iPhone running Fire/Rescue specific mobile applications, an iPad for PrePlan Inspections and an LTE connected Panasonic CF-31 mobile data terminal (MDT). MDT's connect to the county-owned CAD system via a NetMotion VPN connection. CAD data is accessed through TriTech Inform Mobile. Closest vehicle dispatching is achieved through AVL data. The newest two vehicles are equipped with CradlePoint routers for mobile internet access.

A consultant was hired to review all aspects of the department's technology requirements in 2018, and they proposed the following four recommendations: 1) add more IT personnel resources; 2) replace the existing RMS; 3) optimize existing applications and implement a new logistics application; 4) implement IT infrastructure improvements.

Appraisal

BFR has an extensive and diverse array of software and hardware that supports the personnel and processes for all areas. BFR is at risk with only one employee supporting its' mission-critical applications. The department is understaffed for supporting existing business applications, one to two additional employees are necessary to comply with the consultant's recommendations. The department's current software and hardware is functional, and the department is operational, but technology can be improved upon.

Plan

The department has begun the RFP process for a new RMS, started the optimization of the scheduling and staffing software, started a project to address automating data imports and exports, started the process to purchase a new inspection software platform and is in contract negotiations with a new maintenance provider for the station alerting system to optimize that system.

BFR is close to completion of a masterplan for the department which includes a technology section addressing the department's technology goals over the next few years these include requesting two additional full-time personnel over the next three years.

References

[Technology Consultants' Final Report](#)

9C.4 Public reception and public information (i.e. public information officer) components support the customer service needs of the agency.

Description

The fire department shares a public information officer with the police department. The fire department accounts for 30% of the PIO's workload.

Appraisal

Sharing a public information officer (PIO) with another agency has not been ideal. Not only has the PIO's time been limited, but the police department disseminates information in a different manner than the fire department. The department has not been consistent with proactive approaches to interact with the community. The department has not had a separate social media presence apart from the city's. Outreach has been limited to press releases (after a big event).

Plan

BFR has added a PIO position to the 2019 master plan update.

References

[2019 Master Plan Goals](#)

CC 9C.5 Organizational documents, forms, standard operating procedures or general guidelines, and manuals are reviewed at least every three years and updated as needed for all agency programs.

Description

Organizational documents, forms, standard operating procedures or general guidelines, and manuals are located on the department's Intranet and SharePoint site.

Policies are updated annually by the policy advisory group. The policy advisory group provides revision, edits, and updates of procedures to department leadership so they can provide a current written set of policies that encourage consistent and safe decision making. The policy advisory group is charged with ensuring that all general orders issued in a calendar year are properly incorporated into the department's policy manual and any outdated references are updated. It is not the group's responsibility to create new policy. The policy advisory group meets at least once starting in January each calendar year to compile the annual revision manual for administrative staff.

Appraisal

The process works well, as it is a direct collaboration between management and labor. While the process of issuing General Orders in between review cycles is a transparent and verifiable means of keeping policies updated, this process also creates the need to review policy changes twice due to their incorporation into the review process. However, the policy advisory group does not always consider the impact of the general order on other policies that may be affected.

Plan

Use the policy advisory group to review all policies for consistency beginning Q2 2020. When a general order gets created, the policy advisory group will identify any impacts on all other policies.

References

[Series 100G Policy Advisory Group](#)

9C.6 Administrative support staff members have adequate training and education in order to perform their roles and responsibilities.

Description

Each position in the administrative support function has minimum training and education requirements that are reflected in the job description. Throughout the year the department makes opportunities available to those members to update their knowledge through offerings by the City, the Department, conferences, or classes.

Appraisal

The administrative training budget was significantly reduced during the 2019 budget process. This change impacted the department's ability to offer continuing education to administrative staff.

Plan

In Q2 2019 the department submitted a budget request to restore the administrative training budget for 2020.

References

[BFR 2019 Approved Budget](#)

EBT Budget Request

9C.7 Public records are maintained, available, and disposed of in accordance with local, state/provincial, and federal legal mandates. Record retention and destruction are documented in accordance with an adopted procedure.

Description

The City of Boulder makes public records available for public inspection at reasonable times in accordance with the provisions of the Colorado Open Records Act, as reflected in § 24-72-201, C.R.S., et seq. ("the Act").

The department is governed by city guidelines for records retention, which are derived from the State of Colorado records retention manual.

Appraisal

The Department has not done a full review of records that have been retained to ensure that they match the guidelines set forth by the State. A review should be done to ensure documents are disposed of when appropriate.

Plan

In cooperation with central records, the support services division will conduct a review of document retention by 2021.

References

[City of Boulder Access to Public Records Policy](#)

[State of Colorado Records Retention Manual](#)

Category X: External Systems Relationships

An agency's external relationships are defined as those relationships which serve to integrate the performance of one system with another. The increased use of multi-unit systems and the increase of interagency agreements between various types of government entities necessitates regular attention to these relationships and the agreements between autonomous operating units. Agreements must be legally adopted, current, monitored, and updated within the accrediting period. Programs which rely on support from external system relationships to meet agency expectations must be referenced in the agreement.

Criterion 10A: External Agency Relationships

The agency's operations and planning efforts include relationships with external agencies and operational systems that affect or may influence its mission, operations, and/or cost effectiveness.

Summary:

Boulder County contains 22 recognized fire departments that cooperatively serve the residents living within the geopolitical boundaries they protect. The Boulder Fire-Rescue Department is located centrally within the county and has relationships with these departments and the various entities that provide support to these operations. Some of these include the Boulder County Sheriff's Office, the Boulder Emergency Squad, and the Boulder County Office of Emergency Management.

Boulder Fire Rescue actively includes these entities, such as county and regional associations and planning groups, in its strategic planning efforts and similar opportunities. In addition, the department ensures that the legal foundations on which these relationships are built fully support the operations of the department.

Performance Indicators:

CC 10A.1 The agency develops and maintains outside relationships that support its mission, operations, and/or cost effectiveness.

Description

Boulder Fire-Rescue (BFR) actively participates in several associations and relationships with outside entities that support its mission. These include the Boulder County Fire Chief's Association, the Boulder Valley Fire Consortium, the Denver Metro Chief's as well as the Front Range Fire Consortium. In addition, these relationships, where applicable, are supported by mutual and automatic aid agreements that legally outline specific roles and/or obligations to ensure equity among response partners.

Appraisal

The relationships listed above have been effective in ensuring that the BFR can meet its objectives. For example, when the department's safety officer is not available for a call, a county battalion chief is automatically dispatched to fulfill that role for an incident. In addition, the department has been training recruits through the Front Range Fire Consortium's academy since 1998 with excellent results in terms of a new hire's preparation and ability to function on the job.

Plan

BFR plans to continue its participation in these entities and will actively pursue new relationships where beneficial to the organization. In addition, the agency will continue to pursue closest unit dispatch of resources in the eastern part of the county through the Boulder Valley Fire Consortium's operations chief group.

References

FRFC Charter

BVFC Meeting Minutes

10A.2 The agency's strategic plan identifies relationships with external agencies/systems and their anticipated impact or benefit to the agency's mission, operations, or cost effectiveness.

Description

BFR's master plan is currently undergoing an update that is anticipated to be completed at the end of 2019. This update includes specific targets for interagency cooperation to include closest unit dispatching with Boulder Valley departments as well as specific updates to these agreements to ensure currency and relevance.

Appraisal

While cooperative agreements have existed, they have not been specifically identified in the master plan until the current update. This has sometimes resulted in agreements not reflecting current operational needs.

Plan

BFR will ensure that external agreements are specifically identified in the 2019 update of the master plan to ensure the benefit of the agency's mission is clearly identified.

References

2019 BFR Master Plan – Draft

10A.3 The agency researches, analyzes, and gives consideration to all types of functional relationships that may aid in the achievement of its goals and objectives.

Description

BFR has been establishing its ability to analyze the effectiveness of its functional relationships. One example is the agency's process to ensure that call processing times meet best practice standards and community expectations. In addition, the agency is exploring the effectiveness of its closest unit dispatching practices with county agencies to ensure that all response partners can meet their mutual and automatic aid obligations.

Appraisal

The department has found it challenging to thoroughly analyze its relationship with the city and county communication centers as the CAD data is restricted due to security concerns and the fact that segregated data sets exist between the various communications centers in the county. This has made it difficult to assess the effectiveness of dispatch practices and to ensure the service provided is serving the department well.

Plan

BFR will continue to develop its ability to analyze the effectiveness of its external relationships. One aspect of this is the department's development of dashboarding technology that can show the quality of the data it has access to. In addition, relationships will continue to be fostered to support these practices and to fully expand the department's ability to measure the effectiveness of these relationships.

References

BVFC Ops Minutes from SOC Discussions

10A.4 A conflict resolution process exists between all external organizations with whom the agency has a defined relationship.

Description

BFR lacks conflict resolution language in most of its existing automatic and mutual aid agreements. However, the agency has good relationships with most of the external entities it works with on a regular basis. Currently, BFR has initiated the process to establish an aid agreement with the primary paid departments in the county as these agencies interact with BFR more frequently. Relationships are fostered through regular meetings of the county agencies as well as regional cooperator meetings. The relationship between the department and the Boulder Regional Emergency Telephone Authority (BRETSA) could improve procedures to identify avenues for better cooperation.

Appraisal

The need for conflict resolution procedures has clearly been identified in all agreements. The relationship with BRETSA is a specific example of the need for better conflict resolution procedures as the department lacks access to information needed to support its data-based initiatives.

Plan

The Boulder Fire-Rescue Department will work with outside entities and the city attorney's office to establish conflict resolution procedures in its principal aid agreements before the end of 2021.

References

BFR Mutual and Automatic Aid Template

Criterion 10B: External Agency Agreements

The agency maintains current agreements with those external agencies which support the identified programs. All external agency agreements required to be maintained in support of any program must be current, reviewed, and/or updated within the accreditation period and adopted by the appropriate governing bodies. All agreements should support the agency's effort to take advantage of any operational and cost-effective benefits. Data reports, at least annually, should reflect the impact of each agreement on the agency.

Summary:

BFR maintains several agreements in support of its operational programs. An example of this is the Boulder Valley Hazardous Materials Authority agreement that ensures effective response to these incidents. The department has recently implemented better recordkeeping and maintenance processes to ensure that all agreements are kept up to date and are current. Due to separate CAD systems, it has been challenging to coordinate automatic aid responses and to perform analysis on response data. Boulder Valley agencies are currently working collaboratively to overcome these challenges through the development of a Boulder Valley Standards of Cover document.

Performance Indicators:

CC 10B.1 External agency agreements are reviewed on an annual basis and revised as necessary to meet objectives.

Description

BFR is involved in several external agency agreements to support the operations of the department. Historically, these agreements have been enacted on an as needed basis and were generic in nature. The growth in the Boulder Valley has increased the need for agreements that support the ability of partner agencies to meet the more diverse risks faced by the community. An example of this is the Hazardous Materials Authority agreement that ensures technician level responses can be provided in a cost-effective manner.

Appraisal

While specialty responses have been codified through comprehensive agreements, the rapid growth of the communities around Boulder has posed challenges for partner agencies to respond with agreements that are reflective of some of the current operational needs. In addition, the CAD systems used by the city and the county aren't able to support automatic aid as effectively as needed.

Plan

BFR is actively participating in finalizing the Boulder Valley Standards of Cover document that will result in closest unit dispatching and county-wide application of an effective response force for various risks. BFR will complete updating its external agreements to reflect this effort by the end of 2019.

References

Statewide Mutual Aid Agreement
Boulder County Hazardous Materials Authority Agreement
Wildfire Mutual Aid Agreement between BCSO and BFR
Boulder Valley Standards of Cover Document
BFR Mutual and Automatic Aid Template

10B.2 The agency has a process by which their agreements are managed, reviewed, and revised.

Description

In 2019, BFR completed cataloguing its current and historical agreements and digitizing them in an electronic master file. This allows for quicker access, secures the document through back-up, and allows for more efficient review and revision of documents. The department has managed these agreements by responding to changes in response needs and improvement of regional partnerships. The system has traditionally been done on an as needed basis.

Appraisal

The city's central records archive hasn't been updated since the above-mentioned process. There is a need to ensure that agreements that are missing from the archive to be updated with BFR's master file contents. The previous process was not systematic and relied on environmental changes to trigger updates and review.

Plan

The department will review and, if necessary, revise its external agency agreements on an annual basis in the first quarter of each year. This process will be documented in the department's master file. In addition, BFR will work with central records to ensure that applicable agreements are located in both repositories for back-up purposes.

References

Screenshot of Master File

Agreement Inventory Log