



“People first, Safety always, Excellence in all we do!”

# 2020

# BOULDER FIRE-RESCUE

## MASTER PLAN



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- City of Boulder City Manager's Office
- City of Boulder Communications Department
- City of Boulder Finance and Budget Department
- City of Boulder Police Department
- American Medical Response
- City of Boulder Planning Department

## A LETTER FROM THE CHIEF



We are pleased to share with our community and interested stakeholders the Boulder Fire-Rescue (BFR) Department master plan update for 2020-2030. We believe this update captures the essence of what the department should strive for in the next 5-10 years and our vision of “people first, safety always, excellence in all we do” captures well our plan to proactively protect the community we serve and take care of those taking care of the community.

The four key strategy priorities highlighted in his document are intended to focus our efforts on improving community resilience, ensuring quick emergency response, providing for infrastructure updates and finally, on implementing strategies for workforce development. Specific goals are provided for each focus area and consistent with city policy on setting funding priorities, options are listed for the fiscally constrained, action-oriented, and vision environments. The main thrust of this master plan update is an attempt to couch goals in terms of outcomes rather than simply in activities performed.

It will quickly become obvious to any read of this master plan update, however, that some significant headwinds challenge us in the years to come. The issue statements attempt to highlight those challenges and illuminate the consequences for ignoring those issues. The department’s strategic goals are designed to address those issues and mitigate their impacts on the department and the community.

One major issue, for instance, involves the department’s infrastructure. Many stations are aging and in dire need of updating and/or improvement. Most, in fact, were constructed at a time when the department primarily responded only to structure fires with a predominately male workforce. And while wildfire may have been a concern, it was not the highest priority; neither was emergency medical response.

Since the 1970s and 1980s, however, the department’s workforce and service profile have evolved to provide prevention and response services to all types of hazards. The realities of global warming have increased the community’s vulnerability to wildfire disaster and an aging, yet independent community are likely to place an increasing demand on 911 services. We believe the ability to prevent or quickly respond to these concerns is paramount for the department’s professionals and fire stations capable of supporting this diverse team of professionals are critical to this service delivery.

I am thankful for the hard work that went into preparing this plan and the input that many of our stakeholders provided during its development. I believe the document you are reading now adequately captures that feedback and the department’s plan to provide the best prevention and emergency services possible for the Boulder community.

As the fire chief, it is my hope that the plan not only lays out a solid direction for the department’s future, but that it generates the type of community dialog that all plans of this nature are designed to encourage. It is also my hope that not only are the proposed outcomes achieved, but that we can do so as expediently and efficiently as reasonably possible. I remain confident in the abilities of our department professionals to achieve these goals and I know their collective dedication to the Boulder community will ensure no less than a 100 percent effort to do so.

- Michael Calderazzo, Fire Chief

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# EXECUTIVE SUMMARY

The 2020 Boulder Fire-rescue Master Plan Update represents Boulder Fire-Rescue's (BFR) 10-year service commitment to the residents and visitors of the city of Boulder. This document represents approximately 2 years of work by many city employees both inside and outside the fire department. This master plan project included the development of a community risk assessment, involvement of multiple avenues of community and internal stakeholder engagement, as well as a thorough consideration of the city's strategic priorities under the Boulder Valley Comprehensive Plan (BVCP) and its Sustainability and Resilience Framework.

The department updated its mission statement for this plan as follows: "We exist to protect lives and property from harm through effective risk reduction, emergency response, and recovery assistance" Likewise, the vision statement for the department has been revised to "people first, safety always, excellence in all we do!"

During the community engagement process, it became apparent to the planning team that stakeholders' concerns around structure fire, wildfire response, and emergency medical service (EMS) were paramount among the department's many programs. Wildfire and EMS were also prominent risk factors identified in the community risk.

Based on the community and internal stakeholder feedback as well as the department's own community risk assessment, the department crafted four complex issue statements facing the community during the life of this master plan. Those statements include concerns around the impacts of climate and demographic changes, data and documentation challenges, workforce training and safety demands, and increasing service demand expectations on 911 responders in general.

The 2020 Master Plan focuses on four key areas for strategic focus going forward designed to address the identified issues. Those areas and associated goals are listed below, and achievement targets are predicated on the levels of funding approved. The long-standing city practice of splitting operational activities in pursuit of those goals into three funding options (fiscally-constrained, action-oriented, and visionary) is provided in the body of the plan; this allows for flexibility in both policy and in implementation depending on city priorities and available funding during the term of the master plan.

## 1 Expedient All-Hazard Response and Emergency Medical Services

**COMMITMENT:** Residents and visitors of Boulder will receive better and faster all-hazards response including emergency medical care and advanced life support, as evidenced by the following goals:

- 1.1)** By 2022, BFR will reduce response times of the first-arriving Advanced Life Support (ALS) provider from 10 minutes 46 seconds to 8 minutes at the 90th percentile.
- 1.2)** By 2022, BFR will reduce first-arriving total response time from 9 minutes 3 seconds to 8 minutes 6 seconds at the 90th percentile for:
- Moderate and high-risk emergency medical incidents (e.g. – multiple patients, CPR, stroke)
  - Technical rescue incidents (e.g. – trench collapse, vehicle extrication, confined space)
  - Moderate and high-risk structure fires (e.g. – single family house fires, high-rise fires)
  - Wildland fires
- 1.3)** By 2025, BFR will divert 20 percent of non-emergency 911 calls to alternative response methods.
- 1.4)** By 2022, BFR will identify and pursue opportunities with regional partners (i.e., neighboring fire/rescue agencies) for mutual and/or shared response models.

## 2 Improving Community Preparation and Response to Hazards and Disasters

**COMMITMENT:** Residents and visitors of Boulder will be able to live, work, and play in a prepared and resilient community as evidenced by the following goals:

- 2.1)** By 2021, BFR will create a public information program, including an expanded social media presence that provides in-depth public safety information dissemination on a daily, weekly, and monthly basis.
- 2.2)** By 2021, BFR will deliver risk programs in line with its community risk assessment/standards of cover (CRA/SOC) recommendations regarding population profile and urbanization.
- 2.3)** By 2023, 60 percent of homes in the wildland urban interface will have received a personalized wildfire assessment.
- 2.4)** By 2025, BFR will reduce low-acuity (less severe) emergency medical service (EMS) incidents from 30 percent to 20 percent of all 911 calls for fire department EMS response.



Gregory Canyon Fire



BFR and AMR responders

### 3 Infrastructure Improvements Necessary to meet Current Standards and Service Expectations

**COMMITMENT:** City of Boulder residents will receive effective and accessible services from a fire-rescue department equipped with up-to-date facilities, equipment, and technology as evidenced by the following:

- 3.1)** By 2030, 35 percent of BFR stations will incorporate community space and appropriate facilities for the delivery of emergency services.
- 3.2)** By 2030, 35 percent of the department's stations will be ADA-compliant and achieve a net-zero energy profile.
- 3.3)** By 2022, BFR's fleet will meet all performance directives regarding downtime, most notably evidenced by front line engine availability at 95 percent of the time.
- 3.4)** By 2022, BFR will bring the department's technology up to industry standards and establish a review and assessment program to maintain functionality.
- 3.5)** By 2025, the fire training center will have been expanded and renovated to include, dorms, additional classroom space, and storage space to ensure continued availability of training resources for BFR personnel.
- 3.6)** By 2022, 99 percent of capital safety equipment will pass standard annual safety inspections.
- 3.7)** By 2022, 75 percent of capital emergency response equipment will be replaced prior to its prescribed life cycle.

### 4 Workforce-Related Goals to Ensure a Healthy and Competent Staff for Responding to the Community's Needs

**COMMITMENT:** People who live, work, and recreate in Boulder will receive excellent customer service and compassionate and competent care from a motivated, healthy, highly skilled and diverse fire-rescue department as evidenced by:

- 4.1)** By 2026, 90 percent of all patients will report customer service and quality of care as "good" or better on a department-administered patient care survey.
- 4.2)** By 2026, 90 percent of patient contacts shall transpire without an adverse event (as identified through quality assurance/quality improvement review).
- 4.4)** By 2022, 80 percent of firefighting personnel will meet National Fire Protection Association standards for their rank on an average annual rolling basis (measured quarterly).
- 4.5)** By 2026, 75 percent of firefighting personnel will hold two or more technical certifications for their assigned position and 25 percent of officers will have obtained professional credentialing.
- 4.6)** By 2022, 60 percent of employees will participate in at least one continuing education session per year.
- 4.7)** By 2023, 15 percent or less of annual sick leave usage will be attributed to long-term injury.
- 4.8)** By 2030, 25 percent of the firefighting workforce will be comprised of female firefighters.

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# INTRODUCTION

## WHAT IS THE BOULDER FIRE-RESCUE (BFR) MASTER PLAN?

The BFR Master Plan is the department's 10-year plan to support public safety services and initiatives for the incorporated and unincorporated areas of the City of Boulder. It is intended to address the objectives set forth in the community's Boulder Valley Comprehensive Plan (BVCP) and considers the expectations and desires of the community for emergency and risk reduction services. The plan builds on the department's existing strengths, sets forth achievable goals based on funding priorities under the Sustainability and Resilience Framework, and sets forth programmatic measures to gauge incremental progress.

The department's first master plan was developed in 1996 and was most recently updated in 2012 to incorporate the city's sustainability framework goals and build upon the achievements of the previous plan. Industry and community trends in the last 23 years included consideration for an aging population, rising demand for emergency medical services (EMS), increasing risk for wildfire, and an increasingly urban built-up environment. As noted in the most recent update, these trends continue for 2020 and beyond.

## HOW DOES THE BFR MASTER PLAN FIT INTO CITY-WIDE PLANNING EFFORTS?

City-wide planning efforts are built around the tenets and projections of the BVCP. Department master plans are coordinated across the organization through a Master Planning Coordination Committee that helps to ensure priorities and objectives are consistent with other master plans and the BVCP. Master plans are then submitted to the city's planning board for further review and amendment and finally to city council for acceptance.

The BFR Master Plan also provides the critical input needed to round out the city's overall Capital Improvement Program (CIP), which identifies and helps prioritize what city facility and structural needs should be addressed in the short- and long-term. This includes any needs for fire stations and/or ancillary support facilities. The plan also provides a structure for prioritizing services levels based on funding availability. Annual department budget requests are intended to conform to the master plan's prioritization categories and to address incremental progress toward long-term goals. Priorities in any given year are subject to the city-wide Community Sustainability and Resilience Framework strategies and City Council workplan goals.

## THE 2020 MASTER PLAN DEVELOPMENT PROCESS

The 2019-2020 master plan update began in 2017 with the development of a community risk assessment and standard of cover (CRA/SOC). The CRA/SOC helped the department define and clarify the community's most acute risks, assess its current level of performance, and identify gaps in service coverage for the department to address. Additionally, the department used the master plan update process as an opportunity to utilize the city's new Community Engagement Framework to help refine community expectations around public safety services.

The plan's development process was divided into 6 phases culminating in a review of the project for future improvement:

<b>PHASE 1</b>	<b>Analysis</b>
	<ol style="list-style-type: none"> <li>1. Development of the community risk assessment and standards of cover document, which will provide the fundamental inputs (i.e., risk identification, gap analyses, response baseline and benchmark validation) needed to incorporate public participation and prioritization</li> <li>2. Development of the project charter and approval by the city manager</li> <li>3. Development of draft EMS business plan</li> <li>4. Craft public engagement plan</li> </ol>
<b>PHASE 2</b>	<b>(Engagement Steps 1-5) - Options and Engagement</b>
	<ol style="list-style-type: none"> <li>1. Determine internal/external stakeholders for participation</li> <li>2. Conduct internal and external focus group and engagement sessions</li> <li>3. Identify options</li> </ol>
<b>PHASE 3</b>	<b>(Engagement Step 6) - Refinement and Recommendations</b>
	<ol style="list-style-type: none"> <li>1. Conduct internal strategic planning session with key participants</li> <li>2. Draft recommendations</li> </ol>
<b>PHASE 4</b>	<b>(Engagement Step 7) - Draft Plan</b>
	<ol style="list-style-type: none"> <li>1. Engage public stakeholders with recommendations</li> <li>2. Finalize working draft and recommendations</li> </ol>
<b>PHASE 5</b>	<b>(Engagement Step 8) - Plan Adoption</b>
	<ol style="list-style-type: none"> <li>1. Present draft to Master Planning Coordination Committee and revise as appropriate</li> <li>2. Present draft to Planning Board and revise as appropriate</li> <li>3. Present draft to City Council for acceptance</li> </ol>
<b>PHASE 6</b>	<b>(Engagement Step 9) - Reflect and Evaluate</b>
	<ol style="list-style-type: none"> <li>1. Convene planning team for project evaluation</li> </ol>

## MAJOR ACCOMPLISHMENTS SINCE 2012

Since 2012, the department has been able to achieve many master plan goals and has laid the groundwork for a further evaluation of program services and needs. Achievements for the department and the city include:

- Publication of a station needs assessment for fire station 3 that also helped illuminate the needs for all BFR facilities;
- Adoption of the wildland-urban interface code to focus on vegetation mitigation and fire-resistive construction practices;
- Completed construction of the new wildland cache and response facility next to the Boulder Regional Fire Training Center;
- Initiated a comprehensive wildland-urban interface residential assessment program for the community;
- Completed a light rescue vehicle pilot program with recommendations for future deployment consideration;
- Improved EMS delivery by adding intravenous and advanced airway skill certifications to the basic suite of firefighter skills; additionally, the cardio-pulmonary resuscitation (CPR) “pit crew” concept has been implemented to improve cardiac care outcomes in the field;
- Added a hazardous materials inspector to the community risk reduction division to address that critical area of community risk;
- Completed the CRA/SOC to identify risks, tailor emergency response, and conduct a review of mutual- and auto-aid agreements with regional response partners;
- Implemented a new station alerting system to improve turnout and response times;
- Began roll-out of a new radio communication system to address critical firefighter safety issues during incidents;
- Shifted to a program-based budgeting and performance review system to better track and share community-focused outcome-based performance measures;
- Stood up a regional hazardous materials (hazmat) authority to leverage regional response resources and improve hazmat response within the city;
- Added a full-time year-round cadre of six wildland firefighting professionals for response to wildland fires threatening the city;
- Oversaw the complete transition away from wood roofs city-wide in 2014;
- Implemented priority-based dispatching to reduce the number of responding vehicles and assign just the required number of response units for the types of 911 calls reported;
- Improved wildfire risk reduction outreach through neighborhoods and community groups;
- Established a citizen’s academy to share critical safety skills to volunteers and share information on department operations.



Citizens Academy

### Priorities that remain from the 2012 update

- A long-term solution for fire materials, equipment and reserve vehicle storage
- An update to the department’s environmental sustainability plan
- A formal recruitment process and/or policy to improve the department’s workforce diversity

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## PART 1

# BOULDER FIRE-RESCUE & THE COMMUNITY

## OVERVIEW OF THE DEPARTMENT

BFR serves the 25 square miles of incorporated Boulder and the 75 square miles of unincorporated open space surrounding the city with an all-hazards response and prevention team of professionals. For a detailed depiction of the department's deployment objectives and community risk reduction efforts, please see the department's CRA/SOC document.

The department is ultimately managed by the city's Chief Executive Officer, the City Manager, who by city charter, is the Chief Public Safety Official for the City of Boulder. The management of the department is delegated to the Fire Chief, who manages two functional divisions – emergency operations and support services. One division is intended primarily to serve the external customer and the other, to serve the internal customer. Each division is managed by a Deputy Chief, who reports directly to the Fire Chief and functions as the Fire Chief in his/her absence.

Divisions are further divided into programs responsible for the various functional operations of the department. Each program is a self-contained business unit with an assigned manager, a budget and associated performance measures. The department's annual budget process begins with a consideration for the needs of each program relative to their master plan goals and a performance appraisal by the respective manager.

The operations division includes the wildland team and all emergency response personnel for 7 stations and 3 shifts of 25 firefighters. Firefighters on each shift work a 48-hour-on/96-hour-off schedule to reduce commuting miles driven each month. Each station is managed by a station captain, who is responsible for the station budget and for coordinating all station-related activities and needs with city services and the administrative battalion chief.

The support services division manages the community risk reduction team as well as other support services such as budget and finance and administrative support. The community risk reduction team is led by the Chief Fire Marshal, who is responsible for life safety education objectives as well as enforcement of the fire code. Additionally, all fire investigations are conducted by the Chief Fire Marshal's staff of inspectors.

*Pride · Integrity*



*Professionalism*

## MISSION AND VISION

The mission statement of an organization is intended to describe, in succinct terms, the purpose for the organization's existence. It articulates the principal reason for the organization's presence within the community. Where the mission statement describes why the organization exists, the vision statement provides targets of excellence that the organization will strive for and helps to establish a foundation for achieving their goals and objectives.

Boulder Fire-Rescue, through a consensus process, **developed the mission and vision statements below.**

*“We exist to protect lives and property from harm through effective risk reduction, emergency response, and recovery assistance.”*

**- Boulder Fire-Rescue Mission Statement**

*“People first, safety always, excellence in all we do!”*

**- Boulder Fire-Rescue Vision Statement**



**PART 2****COMMUNITY RISK & NEEDS**

The Fire Department bases its response and mitigation efforts on the risks identified in the community. This master plan update is the first to be influenced by the department's newly developed Community Risk Assessment and Standards of Cover (CRA/SOC). This document objectively examines the risk in the community and develops response and mitigation solutions to limit the impact to the community. The CRA/SOC represents a key planning document that was consulted in the development of this master plan update.

**LOCATION AND DEMOGRAPHICS**

The City of Boulder's unique location and demographics influence the risk faced by the community. Boulder Fire-Rescue is responsible for mitigating and responding to these risks in cases of emergency. As an example, the city's location adjacent to the foothills of the Rocky Mountains presents challenges related to wildland fire that BFR dedicates significant resources to address. This risk extends to 45,000 acres of city owned open space that surrounds the city. This natural barrier around the city represents a vital community resource dedicated to protection of the natural environment and providing for community recreation.

Boulder Creek flows through the community and is fed by the surrounding mountains. The canyons and terrain around the city funnels runoff during the late spring and in severe rain events that can cause flooding and damage homes and infrastructure, as experienced in 2013.

The city is bisected by several major highways and rail lines on which hazardous materials are transported. While the city has enacted legislation to limit this activity on the road network, rail cars regularly transit on the eastern edge of Boulder with a variety of hazardous materials to which the department must be able to provide response solutions in a timely fashion.

The City of Boulder is the 11th most populous municipality in the state of Colorado and is home to the University of Colorado, the National Institute of Standards and Technology (NIST), the National Oceanic and Atmospheric Administration (NOAA), as well as a multitude of other science and technology-based companies. It is also the home training base for hundreds of world-class athletes.

The City of Boulder had an estimated total population of 107,100 according to the 2019 Boulder Community Profile and includes students at the University of Colorado (CU). The student population represents approximately 22% of Boulder's population and has an impact on the type of incidents BFR responds to. As an example, this population influences the high rate of renter-occupied housing, relative to the community as a whole. Therefore, a lot of multi-family dwellings exist in the community that have a higher risk of fire spread and expose more residents to fire risk as based on national and local statistics.

The community is highly educated with 67% of its residents having earned a bachelor's degree or higher and 96% of the population having a high school diploma. This influences the socioeconomic factors that influences the community's relatively low rate of house fires.

## SPECIFIC RISK BY CATEGORY

The primary risk faced by the community are medical emergencies, representing approximately 80% of the requests for service handled by the department. In addition, the department has experienced an increase in low-acuity medical responses and an associated number of responses. This places a significant demand on the response system and creates a challenge for emergency response personnel.

While a large portion of the community is between 18-24 due to the University of Colorado, the number residents over the age of 65 are increasing as well. This population experiences medical emergencies at a high rate as well and response and mitigation solutions to this must be developed to provide high-quality service.

Cardiac arrest is one of the most time-sensitive medical emergencies faced by the department. Research has shown that rapid response, quick defibrillation, and availability of advanced medical care directly influences the survival rates in these cases. The department is currently studying more comprehensive response solutions that leverage the distribution of fire stations and other resources to improve the level of care in these instances



Gregory Canyon Fire

Boulder experiences a relatively low rate of structure fires compared to other communities. This is partially due to the relatively high socioeconomic demographics of the community as well as the application of building and fire codes to limit fire spread. For instance, Boulder was one of the first communities on the Front Range to require fire sprinkler retrofits in the basements of commercial occupancies in the structures located in downtown. In addition, the department initiated a ban on wood shake shingle roofs on residential dwellings in the mid-90's to limit fire spread related to wildland fires and large house fires. Along with regular fire prevention inspections, these measures have reduced the risk to the community related to fires. However, due to the unique community demographics, Boulder has a fairly high rental rate. Large apartments and condominium buildings can experience a relatively high rate of fires compared to single-family dwellings. In addition, a fire in one unit of such a building can quickly impact adjacent units and cause rapid fire spread leading to an increased life risk and fire loss potential.

The most significant fire risk faced by the community are wildland fires, particularly on the western edge of the city. Fire is a natural part of the ecosystem, however, due to the close proximity of the city relative to surrounding vegetation, this risk is elevated. Due to this, the city has implemented a dedicated wildland program, in large part to protect city owned open space and to ensure mitigation and prevention efforts are a priority for the department. The department has initiated numerous initiatives to reduce this risk through fuels management, homeowner education, and pre-planning in the event a fire occurs. In 2017, the Sunshine Canyon fire threatened the western edge of the city and due to some of these efforts and aggressive fire suppression, damage to structures was avoided.



## HAZMAT

Hazardous materials are chemical substances that, if released or misused, can pose a threat to the environment or the health of the population. These chemicals exist in industrial facilities, agriculture, medicine, research, and consumer goods. Hazardous materials come in the form of explosives, flammable and combustible substances, poisons, and radioactive materials. These substances are most often released because of transportation accidents or because of chemical accidents within fixed facilities.

Historically speaking, in the City of Boulder the greatest number of hazardous materials incidents are low risk. These low risk calls include leaking fuels from automobile accidents, minor spills at fixed facility research and manufacturing laboratories, fuel spills on construction sites, cut natural gas lines from excavations and carbon monoxide calls in residential buildings and single-family residences. They also involve small quantities of chemicals normally used in the home. These incidents are typically resolved by the initial engine or ladder company.

The largest risk of a moderate or high risk hazardous materials incident in the City of Boulder and Boulder County lies with transportation. Rail incidents, although rare, pose the greatest risk due to the sheer volume of product involved. An incident involving a rail car or multiple cars could pose a serious threat to life and environment in the city and rural areas alike. A release could impact drinking water supplies and cause an economic impact on businesses and agriculture in the affected area.

Roadway incidents are more common than rail incidents. These incidents are the second area of concern because of the high frequency of occurrence. Although the quantities are less than in a rail incident, the vehicles carrying these products have greater access to a larger portion of the city and county. Roadway transportation also involves more product handling than rail as the rail cars move through the city and county they load and unload less frequently and in fewer, designated locations. Roadway vehicles load and unload on a very frequent basis all over the city and county, from gas stations to chemical facilities to hospitals and manufacturing locations. The routes taken are broader. Even with the hazardous cargo (HC) route running along the east side of the city, these transport vehicles may be on any street at any time if the originating location or destination lies away from the HC route.

## TECHNICAL RESCUE

Technical rescue incidents include water rescue (both surface and sub-surface), high angle rescue, collapse rescue, trench rescue, vehicle/machinery rescue, and confined space rescue. These incidents typically involve utilizing personnel with specialized skills and equipment to rescue persons who are unable to self-rescue from entrapment in a variety of conditions and environments. More common events are an elevator and low angle rescue, as compared to swift water.

Boulder Reservoir is a 700-acre recreation and water storage facility. Public use of the reservoir increases the potential for water rescue incidents. With freezing conditions in the winter, the water freezes and thaws throughout the winter, creating an unstable ice structure. Moving water is also a concern for BFR, with Boulder Creek traversing the city. Although water incidents are a risk, the frequency of these events is minimal. There are an average of 5 incidents per year.

The western part of the city includes mountainous terrain, combined with an active community of hikers, biker and rock climbers. Due to these circumstances, there is a high potential for high angle rescue incidents handled by Rocky Mountain Rescue (RMR).

According to the [National Safety Council \(NSC\) Injury Facts](#), motor vehicle collisions are the second leading cause of unintentional death. Impaired driving, distracted driving, speeding, and inexperience can cause a life to be cut short. In Boulder, approximately 6% of all incidents are motor vehicle related.



Firefighters performing technical ice rescue training

## CRITICAL ISSUES

Before crafting strategic goals, every planning team must assess the challenges that lay ahead in the community's and consequently, the department's future. This assessment was conducted with the department's senior planning team in September 2019 and the result of that planning session led to the crafting of four major issue statements. Those issue statements are loosely categorized around community risk, data and records management, the workforce, and resource needs. Issue statements, as adapted with permission from the Managing for Results© process are designed to describe the anticipated organizational challenge and then indicate clearly the consequences for not addressing the challenge. The issue statement most importantly describes the trend and the consequence for not addressing that trend from the customer's point of view. It should be the customer's (or community's) expectation that the department address the issues in a strategic way and within the department's capabilities and resources.



2013 Flood Damage

### Community Risk

Increasing community risk due to the impacts of climate and demographic changes coupled with density increases in population and the built-up environment, if not addressed, will result in:

- an uninformed and endangered population during emergencies or disasters;
- increased response times for, or elimination of, services;
- reduced community resiliency;
- extended recovery times from emergencies and disasters;
- degradation of the local environment; and
- potential for tax increases or the imposition of fees to meet budgetary demands.

### Data and Records

The continuing trend of incomplete documentation, siloed and/or restricted data along with inadequate records management and support, if not addressed, will result in:

- inaccurate department records;
- an increased exposure to litigation risks;
- a loss of community trust in public safety;
- an inability to prioritize funding/resources;
- failure to identify needs necessary to serve the community;
- missing records unavailable for community access; and
- a community unaware of the range and levels of service the department provides and consequently unable to make use of those services.

## Workforce

The increase in complexity of public safety service delivery, coupled with a continuing lack of focus on succession planning, work force development and employee well-being, compounded by the impacts of an aging workforce if not addressed, will result in:

- decreased quality of service to residents;
- increased employee recruitment and retention costs;
- increased workforce casualty rates resulting in a higher cost of service delivery;
- decreased institutional knowledge impacting service delivery for residents; and
- a workforce less likely to be reflective of the community's core values.

## Public Safety Resource Needs

The community's increasing expectations for public safety programs and the associated static or declining resource investments, if not addressed, will result in:

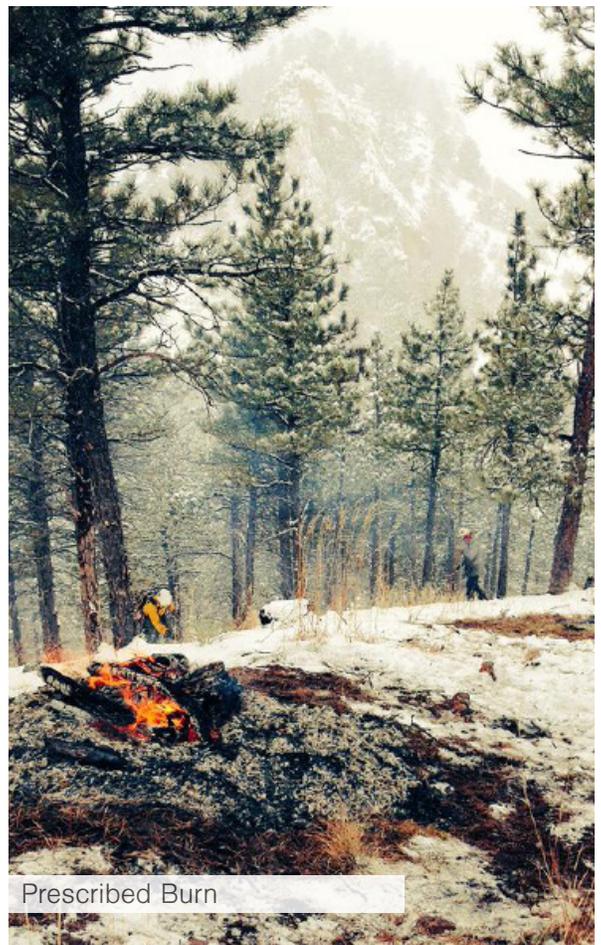
- poor patient outcomes;
- greater risk of property damage and loss due to fire;
- higher community risk to various hazards;
- a reduced ability to pilot innovative solutions to address community risks;
- reduced workforce safety, satisfaction and well-being; and
- resources and equipment inadequate to support department services.



Fire Station 5



Fire Station 2



Prescribed Burn

## PART 3

# AREAS OF FOCUS, STRATEGIES & INVESTMENTS

The programs and services that Boulder Fire-Rescue (BFR) intends to focus on over the term of this Master Plan were influenced by the Community Risk Assessment and Standard of Cover (CRA/SOC) in combination with external feedback from community members and internal feedback from BFR staff and city staff.

To achieve impactful service-level improvements, Boulder Fire-Rescue carefully considered how the department uses its current resources and how it would incorporate additional investments in the department in the most cost-effective way. This Master Plan has four Areas of Focus with corresponding commitments that the department is making to the community through the acceptance of this plan. Each Area of Focus extends across BFR's operations in ways that engage the department's entire workforce and operating and capital resources and gives the department the operational leverage to achieve its goals and strategic objectives at the levels desired by City Council and the community.

## FOUR AREAS OF FOCUS

- 1 All Hazard Response & Medical Emergency Service
- 2 Prepared and Resilient Community
- 3 Facilities, Equipment and Technology
- 4 Workforce Development

### 1. ALL-HAZARD RESPONSE AND EMERGENCY MEDICAL SERVICES

**COMMITMENT:** Residents and visitors of Boulder will receive better and faster all-hazards response including emergency medical care and advanced life support.

Boulder Fire-Rescue's fundamental priority is to provide rapid response to emergencies that affect the safety and well-being of residents and visitors within the City of Boulder. Ensuring a rapid response requires that the department be staffed, trained and equipped to respond to the variety of emergencies that occur in the community. This means that BFR employs an "all-hazards" response model in which its units are capable of arriving quickly to the scene with cross-trained and equipped personnel who can address any type of incident whether it be a structure fire, emergency medical incident, wildland fire, swift water rescue, high-angle rescue, hazardous materials spill, etc. To meet the stated commitment above, Boulder Fire-Rescue recommends making strategic investments in operations to address gaps and enhance service relative to Boulder's risk profile and community expectations.



BFR and AMR performing training exercise



BFR receiving training exercise

### 1.1 Improve Cardiac Outcomes

Cardiac incidents are one of the medical emergencies in which timely and proper response is crucial to improving survivability. Every minute that passes without treatment during a cardiac arrest reduces the chances of survivability by 7-10%. This Master Plan recommends a two-pronged approach to improving cardiac outcomes in Boulder, as measured by full recoveries with no neural deficits. First, BFR seeks to restructure a portion of its Public Education program to include a dedicated focus on cardiac health, CPR training within the community, and use of publicly available Automatic External Defibrillators (AEDs). These efforts will enable the community to be trained and equipped to deal with cardiac events when and where they happen even before emergency personnel can arrive. Second, this Master Plan recommends adding paramedics and advanced life support (ALS) capabilities to its responding units. Advanced life support includes such things as cardiac monitors, and other advanced paramedicine techniques that can only be delivered by paramedics. This can be achieved either by staffing each engine with a firefighter paramedic and/or by bringing in-house the ambulance response and transport that is currently provided by a third-party ambulance company. Today, BFR firefighters are trained and equipped to only provide basic life support when arriving on scene. If BFR staffed paramedics on its engines or housed ambulances or other light response vehicles at its stations, BFR would be able to respond to medical emergencies with advanced life support in up to 25% less time vs. the current contracted model.

### 1.2 Reduce Advanced Life Support Arrival Times

As mentioned earlier, Boulder Fire-Rescue currently outsources its advanced life support (ALS) response to a third-party provider, American Medical Response (AMR). AMR staffs its ambulances with both Emergency Medical Technicians (EMTs) who can provide basic-life support as well as paramedics who provide advanced life support. Medical calls in Boulder typically get a response from both BFR's firefighters who are BLS trained and AMR's EMTs and Paramedics who have ALS capabilities. Similar to the cardiac outcomes focus area, BFR is recommending in this Master Plan that the department shift to having firefighter-paramedics on every fire engine or on light response vehicles, potentially in combination with taking over the ambulance response and transport responsibilities. Shifting the system in this way will allow BFR to reduce response times as well as take over full quality control of patient outcomes from initial response all the way through medical discharge from the hospital.

### 1.3 Reduce All-Hazard Arrival Times

The types of emergency calls that Boulder Fire-Rescue responds to can be varied. One specific investment that this Master Plan recommends involves equipping individual firefighters with wildland firefighting gear rather than relying on the caches that reside on each engine - sometimes this gear is ill-fitting and otherwise inoperable. This minor enhancement to safety gear and equipment will allow for quicker effective responses to wildfire which would increase the likelihood of containment to one acre or less which is the optimal threshold to prevent fire spread. Given Boulder's heightened wildfire risk, this small investment would yield large dividends.

BFR also recommends in this Master Plan that the department make a dedicated effort to assess and restructure its relationships with neighboring jurisdictions via mutual aid and other formal collaborating agreements. Better collaboration with neighboring agencies will benefit Boulder residents by allowing for seamless closest unit dispatching and a more effective regional wildfire response model.

### 1.4 Reduce Non-Emergency Calls

The integrity of Boulder's response system is dependent upon managing the availability of its units for emergencies. Like many fire-rescue organizations, Boulder suffers from a preponderance of calls that are not emergencies. In fact, nearly 50% of BFR's calls for service are non-emergency in nature. Continuing to marshal full responses to these calls unnecessarily commits resources when they are not needed. This makes these units unavailable to respond to real emergencies within their districts and forces other stations and units located farther away to cover the call. This increases overall response times and puts undue workload on personnel. This Master Plan seeks to remedy this operational challenge by focusing on improving call processing within the city Dispatch Center so that non-emergencies can be determined at the time of the call and handled differently. This Master Plan also recommends the establishment of a low-acuity response team that can respond to medical calls that don't require full emergent responses. This team would also work proactively with frequent callers to deal with chronic medical issues and keep the patient from having to calling 911 in the first place.



Prescribed Burn

## 2. PREPARED AND RESILIENT COMMUNITY

**COMMITMENT:** Residents and visitors of Boulder will be able to live, work, and play in a prepared and resilient community.

A major part of Boulder Fire-Rescue's responsibility is to use its expertise in emergency response to connect with and educate Boulder's population on how to prevent, respond to, and mitigate the impacts of emergencies. To do this, BFR provides Boulder residents with the tools to achieve natural resiliency within the community outside of what is provided via emergency response. These tools can include such things as cardiac health education, CPR training, smoke detector installation, home wildfire assessments, flood awareness, car seat installations, etc. BFR has identified in this Master Plan needed operational changes and enhancements that would improve BFR's ability to communicate with the community.

### 2.1 Public Outreach and Programming

Boulder's changing demographics in combination with the city's risk profile will drive the approach that the department must take in engaging with the community to educate and prepare the residents of Boulder. This Master Plan recommends directed investment into hiring additional public engagement personnel as well as providing for programming specifically directed at aging populations and non-english speaking communities. Some of this outreach will take the form of direct contact with the public through things like community group trainings or personalized home wildfire assessments and some will require additional investment in the department's indirect outreach methods including revamping the department's social media presence.



Citizens Academy



Crestview Elementary Students

### 2.2 Preventative Approaches to Low-Acuity Medical Calls

As was mentioned earlier, Boulder Fire-Rescue recommends taking actions that divert non-emergency calls out of the 911 system. This Master Plan recommends two approaches to accomplish this. First, as previously described, this Master Plan recommends adding a low acuity medical team to the department whose primary responsibility will be to respond to non-emergent medical incidents and proactively identify and help treat residents with chronic health issues. The second approach, again as was previously mentioned, would involve a shift to staffing the department with fire-fighter paramedics on every unit who could complement the low acuity medical team's mission by establishing meaningful relationships with frequent 911 callers in their district and proactively coordinating with these residents to get the medical services they need in advance of calls for emergency assistance.

## 3. FACILITIES, EQUIPMENT AND TECHNOLOGY

**COMMITMENT:** City of Boulder residents will receive effective and accessible services from a fire-rescue department that is equipped with up-to-date facilities, equipment, and technology.

### 3.1 Facility Improvements

A major aspect of Boulder Fire-Rescue's recommendations in this Master Plan involve significant capital investment. The average age of BFR's fire stations is 41 years and all but 1 of the 8 stations are not ADA compliant, nor do they offer community space. To remedy this, BFR recommends that, at a minimum, the city move forward with completing the new Fire Station 3. BFR also recommends that the city relocate and replace Fire Station 2 and Fire Station 4 along with constructing a storage facility for reserve engines and equipment. Replacing these stations and adding storage space will allow BFR to better accommodate Boulder's diverse community on-site and allow BFR to purchase and store the appropriately sized and equipped fire engines and fleet vehicles needed to respond to the types of emergencies typical to the differing districts in Boulder.

### 3.2 Fleet Management

Boulder Fire-Rescue is committed to supporting the city's stated goal of 80% citywide greenhouse gas emissions reduction by 2030 while also economically and safely maintaining its fleet of response vehicles. To do so, BFR is recommending through this Master Plan that the department initiate renewed engagement with the city's Public Work – Fleet Services department with insistence on working together to drive data gathering and analysis to economize the maintenance, repair, and replacement of its fleet. This work is a pre-requisite to working toward meaningful GHG emissions reductions and engine downtime minimization. This Master Plan also recommends increased funding for maintenance and replacement of emergency response vehicles to combat the effects of inflation and position the department to be able to invest in fuel-efficient and more dependable fleet vehicles.

### 3.3 Technology

The fire service is a data driven industry now more than ever. It is crucial that Boulder Fire-Rescue maintains the technological systems that underpin its timely and effective emergency response. It is also important that BFR take a proactive approach to continually assessing its technological state to ensure that the department keep its systems up to date. This Master Plan comes on the heels of major investment and replacement of most of the department's technical systems. This was a much needed reset of BFR's state of technology. This Master Plan wants to capitalize on this momentum and recommends additional investments in departmental IT personnel who manage and upgrade the systems as necessary to avoid falling behind as was most recently the case.

### 3.4 Emergency Response and Safety Equipment

Ensuring that responding personnel have effective and safe equipment is of paramount importance to Boulder Fire-Rescue. Through this Master Plan, BFR recommends that equipment maintenance and replacement funding be increased over time to account for inflationary pressures. Funding is currently adequate, but is expected to become insufficient in the coming years as inflation reduces buying power. Accounting for this inflation will make certain that the department's response and safety equipment is replaced according to industry-standard schedules which reduces the incidence of equipment malfunction in the field.

## 4. WORKFORCE DEVELOPMENT

**COMMITMENT:** People who live, work, and recreate in Boulder will receive excellent customer service and compassionate and competent care from a motivated, healthy, highly skilled, and diverse fire-rescue department.

### 4.1 Customer Satisfaction and Patient Contact

Boulder Fire-Rescue is committed to delivering its emergency medical responses in the most compassionate and competent way. Regardless of whether BFR takes ownership of its paramedic corps or continues to outsource paramedicine to a third-party ambulance provider, BFR recommends in this Master Plan that the department implement customer/patient satisfaction surveying programs along with medical care quality control protocols. Taking these actions will create a feedback loop that will allow the department to inform how emergency medical operations should be managed to ensure that patients and families are satisfied with the quality of care. It is only through continual assessment and taking full-ownership of the patient care process that BFR will be able to drive consistent and repeatable positive patient care outcomes.

### 4.2 Training, Certification and Continuing Education

The capabilities of Boulder Fire-Rescue are only as good as the quality of its personnel. This means that BFR's emergency response personnel and administrative staff need to be as highly trained and competent as possible. BFR intends to improve its training protocols over the term of this Master Plan by increasing firefighter training opportunities, content and methods such that 80% of the active firefighting workforce meets the rigorous training standards of the National Fire Protection Agency and 75% of the firefighting workforce maintain at least two technical certifications for their positions (these certifications expand the technical expertise of firefighters to be able to handle calls of specific natures and complexity). BFR also intends over this Master Plan to place an emphasis on employee development by providing the means by which its officer corps can receive proper credentialing and its administrative staff are guaranteed and encouraged to participate in continuing education on an annual basis.

### 4.3 Diversity

Boulder Fire-Rescue is committed to building and maintaining a diverse workforce that is representative of the community's diversity. The fire service generally suffers from a lack of gender diversity and Boulder Fire-Rescue is no exception. BFR recommends as part of this Master Plan that the department redesign its recruiting program to target non-traditional candidates, especially female applicants. This will require intentional effort to widen its target applicant pool both regionally and nationally.

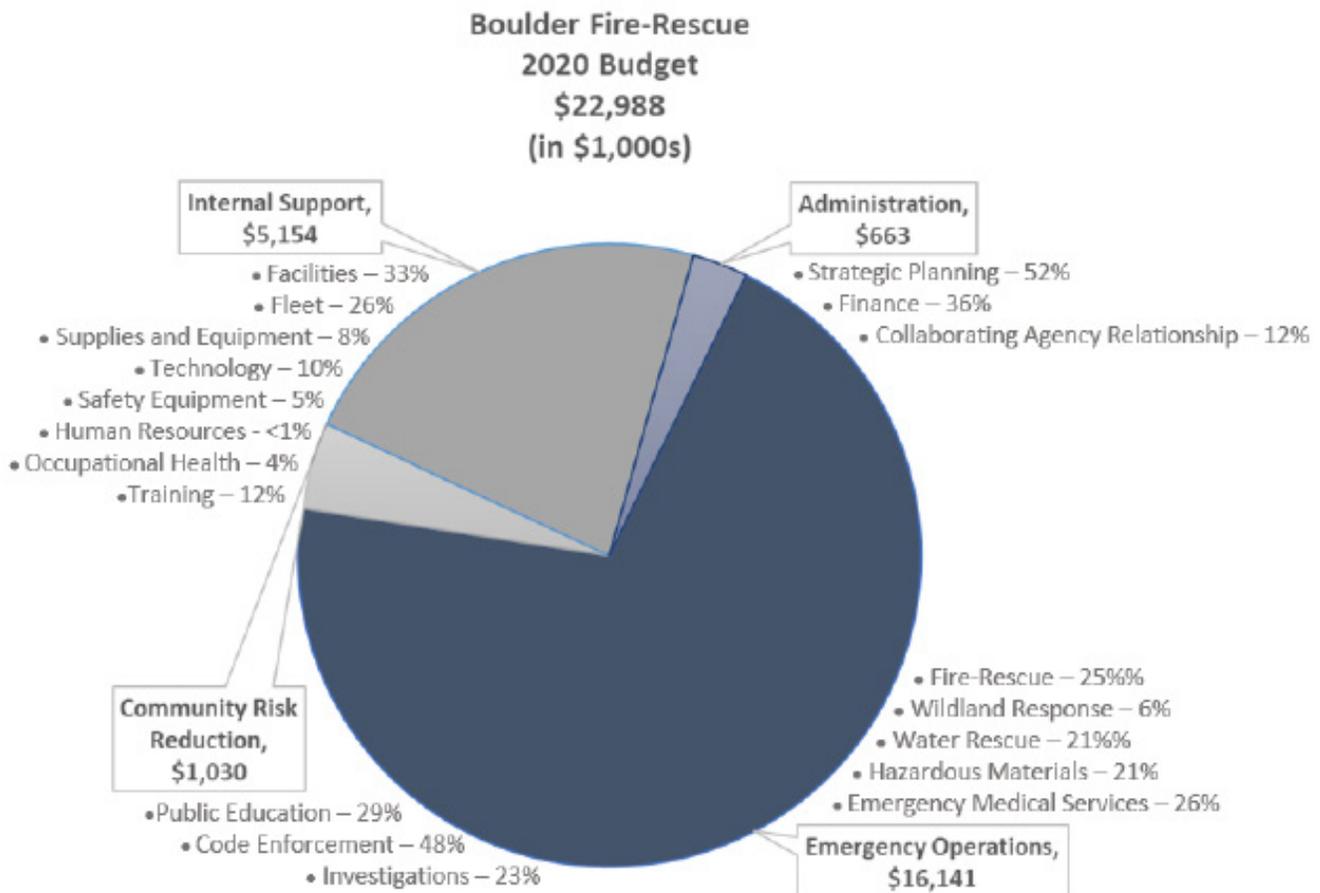


## INVESTING IN BOULDER FIRE-RESCUE

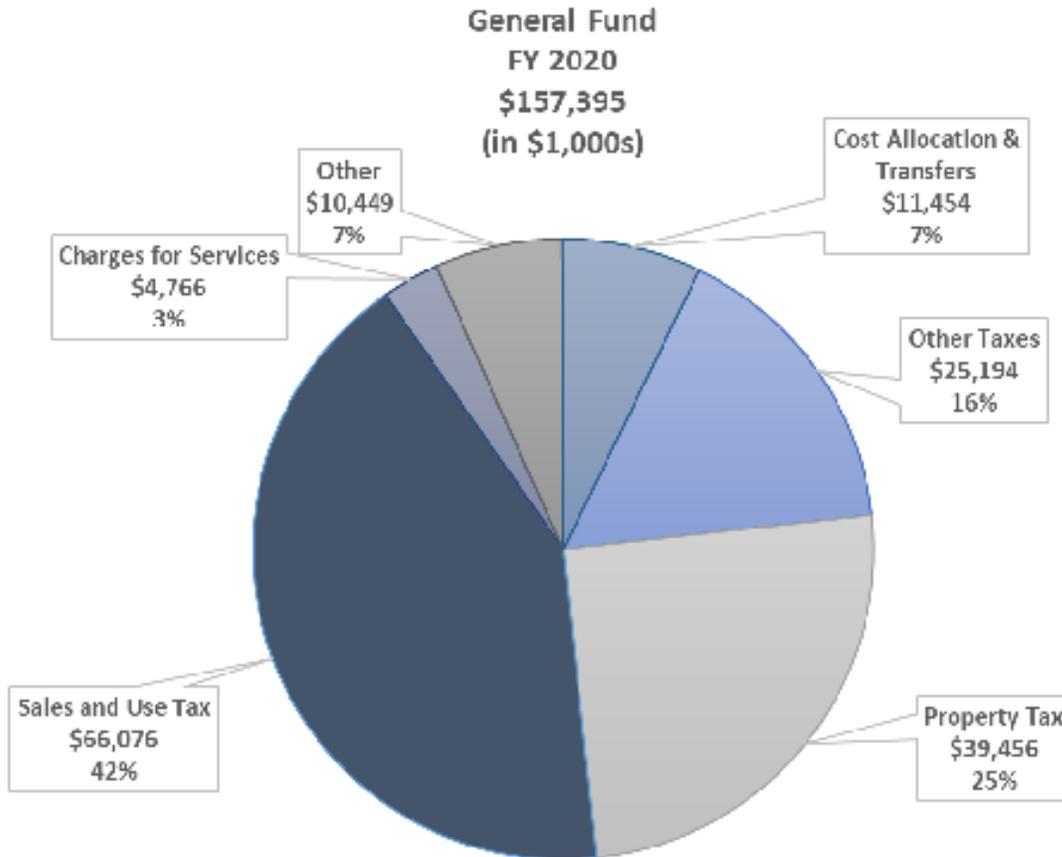
### Boulder Fire-Rescue Base 2020 Budget

This Master Plan recommends varying levels of investment that BFR would need added to its budget to achieve stated goals and objectives. To understand these proposed investments, it is first important to understand the budget needed to maintain service levels. As of 2020, BFR had a total base budget of \$22,988,881. Ninety-four percent of the BFR's 2020 budget funds the department's operating expenses and 6% funds capital investments. The 6% capital portion is funded out of the extension of a temporary dedicated sales tax called the "Community, Culture, and Safety Tax". This tax extension began in 2017 and is set to expire in 2021 and the accumulated proceeds will fund the construction of Fire Station 3 in 2020-2023. Outside of this temporary tax, Boulder Fire-Rescue has no other major sources of dedicated capital replacement funding.

The remaining \$21.6 million in BFR's 2020 budget funds department operations including personnel expenses that pay for the department's 124 full-time equivalent employees (FTE) and non-personnel expenses such as equipment, fleet, utilities, technology, etc. From a budgetary perspective, the department divides itself into four primary divisions and nineteen operational programs as depicted in the pie chart below:



Nearly all of BFR's budget is funded by the General Fund. And the General Fund is predominantly (67%) funded through collection of Sales and Use Tax and Property Tax revenues. This means that, by extension, BFR is mostly funded through a combination of sales and use tax and property tax revenues. Any additional investment made into BFR's operations would likely need to be sourced either through reallocation within the General Fund or additional sales and use tax and/or property tax levies. The exact breakdown of the 2020 General Fund revenues are provided in the following chart.



The only other source of funding for BFR outside of the City's General Fund are Impact Fees that are credited to BFR in the city's Capital Development Fund. These fees are assessed on residential and commercial development within the city and are exclusively designed to pay for the expansion of BFR's capital footprint to meet the increased demand in calls for service in-line with community growth. BFR has typically received between \$75,000-\$300,000 in Impact Fees annually over the last 10 years with a 2019 balance of nearly \$1.4 million. This entire balance has been programmed to help fund the construction of the relocated Fire Station 3. Therefore, Impact Fees will not factor into the funding of this Master Plan.

## PART 4

# FUNDING SCENARIOS

As described earlier, Boulder Fire-Rescue has identified four Areas of Focus that it intends to pursue as it implements its Master Plan. Each of these Areas of Focus can be broken down into 23 Strategic Objectives that will be pursued at differing levels based upon the amount of additional investment appropriated by the City Council through the annual budget process. The level of funding will affect whether BFR can achieve the strategic objectives either in whole or in part or over shorter periods of time or longer periods of time. The levels of funding fall in the three categories:

## THREE FUNDING SCENARIOS

### 1 Fiscally Constrained

### 2 Action

### 3 Vision

#### Fiscally Constrained

This funding level reflects what is needed to maintain the status quo over the short term. Little to no additional financial investment is made into the department's operations aside from modest isolated increases totaling less than \$200,000 as well as natural annual budget increases due to inflation. This level does include the capital investment required to complete the construction of the relocated Fire Station 3, but no other capital investment.

#### Action

This funding level adds approximately \$9.39 million in cumulative funding over the first five-years of the plan. This funding level includes the lion's share of capital investment including the replacement of Fire 2 and 4 as well as the construction of a storage facility. This funding level also includes the deployment of firefighter paramedics on each engine and the purchase of capital equipment necessary to support ALS first response and a low acuity medical response team. This funding level assumes that capital facility acquisition is debt-financed so debt servicing is included.

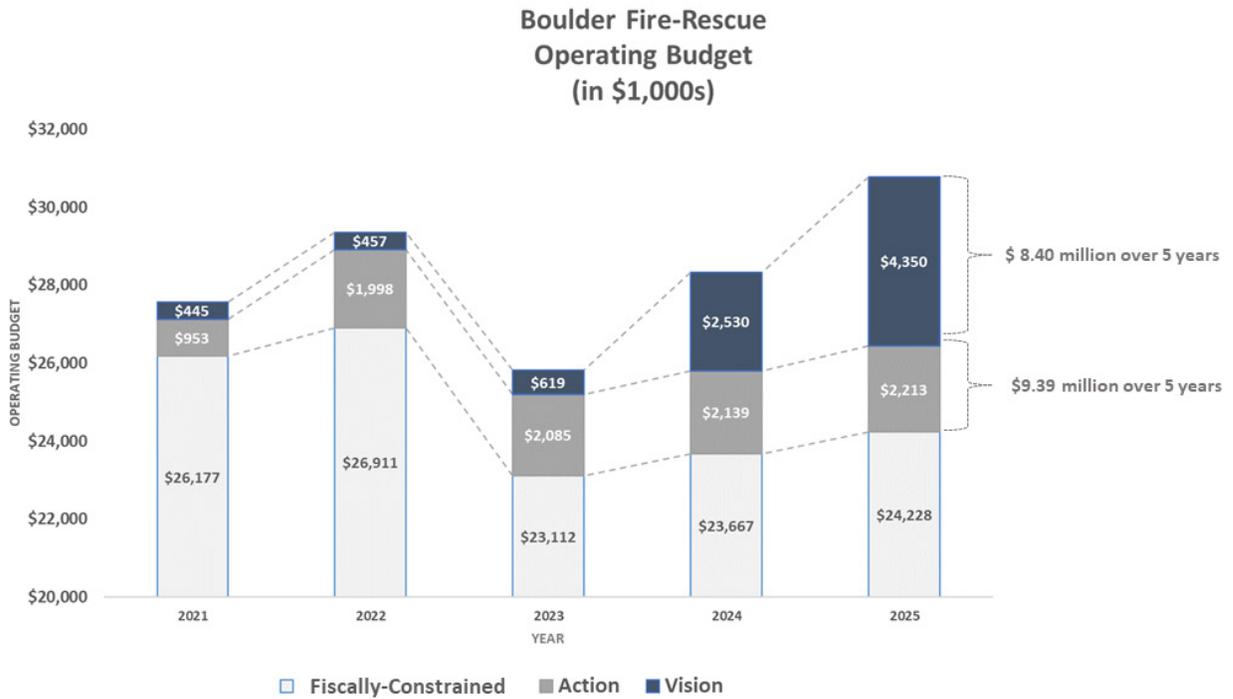
#### Vision

This level of funding adds \$8.4 million in cumulative 5-year funding on top of the Action plan. This level of funding supports the full deployment of fire-based ALS including ambulance transport.

Funding Levels Operating Costs			
Funding Level	Average Annual Cost	Total 5-Year Cost	Description
Fiscally-Constrained	\$24.82 million	\$124.10 million	Fiscally-Constrained reflects additional funding of <\$200,000 per year on top of natural inflation increases
Additional Costs			
Action	\$1.88 million	\$9.39 million	The Action represents a 7.6% average annual increase over Fiscally-Constrained
Vision <sup>1</sup>	\$3.56 million	\$17.79 million	The Vision represent a 14.3% average annual increase over Fiscally-Constrained

<sup>1</sup> Vision is cumulative of Action as well.

On an annual basis the amount of additional operating dollars needed to fund the department at the Action or Vision level start modestly in years 2021 and 2023 and begin to ramp up in years 2023-2025 as depicted below. The bulk of the investment is recommended to occur in the first five years of the Plan.



This Master Plan also recommends a significant investment in the department’s capital infrastructure, especially as it relates to fire station replacement. Replacing fire stations is an important need because nearly all of BFR’s fire stations are undersized and outdated. This Master Plan seeks to remedy this while also strategically coinciding with possible deployment of fire-based ALS including ambulance transport. This plan assumes that any significant capital facility investments would be debt-financed and while the operating scenarios presented above capture the annual debt service payments, the true amount of capital investment proposed over time is much larger. Even at the fiscally constrained level, BFR recommends investing \$8.48 million at a minimum to finish construction of Fire Station 3. To achieve the Action level strategic objectives, BFR recommends an additional capital investment of \$59.61 million. Finally, the Vision level would require an additional \$1.90 million, all totaling \$70 million.

Funding Levels Capital Investment		
Funding Levels	Total 5-Year Investment <sup>1</sup>	Description
Fiscally Constrained	\$8.48 million	•Completes construction of Fire Station 3
Action	\$59.61 million	Fiscally Constrained plus... •Relocation and construction of new Fire Station 2 •Relocation and Construction of new Fire Station 4 •Construction of Storage Facility •Purchase of 3 Light Response Vehicles for ALS and Low-Acuity Medical Response
Vision	\$1.90 million	Fiscally Constrained and Action plus...

<sup>1</sup> Reflects pay-go (cash) amounts as well as 5% annual inflation assumption for capital investment



Fire Station 3

BFR can achieve the full range of strategic objectives if funded at the Vision level. However, there are significant financial implications that investing in the department at either the Action or Vision level entails. Outside of reallocation within the General Fund, the funding for this Master Plan would likely have to be sourced from additional sales and use taxes and/or property taxes. When put in the context of the taxpayer, each recommended funding level has differing impacts.

Funding Levels Impact on Boulder Taxpayer					
Tax Category	Current Rate	Additional Rate Needed			Notes
		Fiscally- Constrained	Action	Vision	
Sales and Use Tax <sup>1</sup>	3.71%	negligible	0.087%	0.134%	Action = 2.3% increase; Vision = 3.6% increase
Property Tax <sup>2</sup>	11.981 mills	negligible	.749 mills	1.147 mills	
Annual Impact on Residential Property Owner			\$53.56	\$81.99	Assumes \$1 million property valuation
Annual Impact on Commercial Property Owner			\$217.22	\$332.53	Assumes \$1 million property valuation

<sup>1</sup> 3.71% is the City's portion of the Sales Tax in Boulder. The total rate is 8.845%

<sup>2</sup> Represents the City of Boulder portion of property tax only. Average total property tax rate in the City of Boulder is approx. 84 mills.

In the absence of full funding, there are tradeoffs and performance sacrifices that must be considered when comparing the recommended investment levels. The tables on the following four pages describes the specific actions that would need to be taken to achieve the strategic objectives in each of the Four Areas of Focus at each investment level. Included in these tables are the cost of each element of the plan as well as the overlap among plan elements and the tradeoffs. Finally, the proposed timing of the recommendations within this Master Plan is presented in a 10-year workplan with the bulk of the recommended investment (by funding level) occurring between 2021 and 2025.



BFR outside the Boulderado

# ALL-HAZARD RESPONSE AND EMERGENCY MEDICAL SERVICES



**Commitment No. 1**

Residents and visitors of Boulder will receive better and faster all hazards response including emergency medical care and advanced life support.

Strategic Goal	Strategic Objectives by Funding Level		Annual Incremental Cost / Total Capital Investment	Funding Level Tradeoffs
	Fiscally-Constrained	Action	Vision	
By 2025, BFR will increase the cardiac survival rate to 12%, besting the national average of 8% (as measured by patients being discharged from hospital with no neural deficits).		<ul style="list-style-type: none"> <li>•Add Public Educator dedicated to cardiac health and response programs including community AED and CPR training</li> <li>•Install AEDs in all public areas with maximum 2 min walk radius</li> <li>•Add two Light Response Vehicles staffed by 1 Firefighter and 1 Firefighter-Paramedic; build out support personnel for ALS first response including part-time Medical Director, EMS Operations Chief, EMS Training Coordinator, EMS Safety Captain, Logistics Clerk</li> </ul>	<ul style="list-style-type: none"> <li>•Build on Action plan by adding three more Light Response Vehicles (for a total of five units) staffed by 1 Firefighter and 1 Firefighter-Paramedic</li> <li>•Add Battalion Chief and Adjunct positions - realigns span of operational control to industry standard</li> <li>•Explore civilianizing paramedic corps and billing for transport</li> </ul>	<ul style="list-style-type: none"> <li>•Fiscally Constrained: BFR will rely on community initiatives to drive improvements to initial response (bystander use of AEDs and CPR). BFR will struggle to enhance patient outcomes in the absence of control over the full ALS response and transport components. BFR will likely increase cardiac survival rates, but only by a point or two.</li> <li>•Action: BFR will enhance the first ALS response to cardiac events, albeit with mostly full engine responses. The light response vehicles will respond to a proportion of cardiac calls, mostly in district. Targeting high volume districts will allow BFR to move the needle on cardiac outcomes, but likely not hit the 12% target.</li> </ul>
	\$20,000 / No Capital		\$3,380,000 / \$1,400,000	
By 2022, BFR will reduce response time of the first arriving Advanced Life Support provider from 10:46 to 8:00 (25%)		<ul style="list-style-type: none"> <li>•Transform 32 line firefighter positions to firefighter-paramedics over 4 years</li> <li>•Collaborate with Transportation and Police Dept. on "Move to the Right" and "Distracted Driver" campaign</li> </ul>	<ul style="list-style-type: none"> <li>•Add dedicated fire dispatch team to Dispatch Center within Police Dept.</li> </ul>	<ul style="list-style-type: none"> <li>•Fiscally Constrained: BFR will be able to directly affect its own turnout times (using in-house paramedics), but will still have to rely on indirect influence with PD's Dispatch Center. If they are slow to adopt revised fire-specific call processing methods then ALS response time improvements will be delayed.</li> <li>•Action: Again, without direct control over Dispatch's personnel and call processing protocols, any immediate and meaningful improvement may be out of reach.</li> </ul>
		<ul style="list-style-type: none"> <li>•Complete service level agreement with Dispatch Center within the Police Dept.</li> <li>•Develop and adopt turnout time review process improvement program</li> </ul>	\$1,405,000 / \$1,090,000	\$715,000 / No Capital
By 2022, BFR will reduce first arriving total response time from 9:03 to 8:06 (10%) for: •Moderate and High-Risk Emergency Medical Incidents •Technical Rescues (Swiftwater, high-angle, confined space, motor vehicle, trench) •Moderate and High-Risk Structure Fires •Wildland Fires		<ul style="list-style-type: none"> <li>•Develop and implement deployment optimization plan for unit posting throughout the city</li> <li>•Implement Brycer Fire System Inspection Compliance Engine to expand citywide commercial fire suppression system effectiveness</li> </ul>	<ul style="list-style-type: none"> <li>•Add dedicated fire dispatch team (see above)</li> <li>•Add three Wildland Fire Specialists to achieve 24/7 response coverage</li> <li>•Explore implementation of Automatic Vehicle Locator system</li> </ul>	<ul style="list-style-type: none"> <li>•Fiscally Constrained: BFR will only be able to indirectly influence Dispatch Center call processing protocols to decrease processing times. Effective response to wildfires may be slowed by arriving personnel lacking PPE to start firefighting activities. Additionally, a lack of 24/7 coverage from Wildland Division personnel will slow the arrival of subject matter and tactical experts.</li> <li>•Action: Lack of 24/7 coverage from Wildland Division will slow effective response and lack of automatic vehicle locator technology prevents BFR from using industry best practice engine staging and deployment strategies slowing total response.</li> </ul>
		<ul style="list-style-type: none"> <li>•Outfit all firefighters with individual wildland fire personal protective equipment</li> <li>•Conduct deployment plan for posting</li> </ul>	\$185,000 / No Capital	\$455,000 / No Capital
By 2025, BFR will divert 20% of non-emergency 911 calls to alternative response methods.		<ul style="list-style-type: none"> <li>•Develop mobile application for field use that serves to provide service referrals for frequent 911 users.</li> <li>•Launch small-scale Low Acuity Response team including paramedic and mental health/social worker</li> </ul>	<ul style="list-style-type: none"> <li>•Build on small-scale low acuity response team to launch full Community Paramedicine program</li> </ul>	<ul style="list-style-type: none"> <li>•Fiscally Constrained: BFR will lack the resources to divert any meaningful percentage of non-emergency 911 calls which will continue to stress the system.</li> <li>•Action: With a small scale low acuity response team, BFR will be able to address and divert some of the non-emergency calls that burden the system, but will likely not be able to divert a full 20%.</li> </ul>
			\$195,000 / \$50,000	\$905,000 / \$275,000
By 2022, BFR will identify and pursue opportunities with regional partners (i.e. neighboring fire agencies) for mutual and/or shared response models		<ul style="list-style-type: none"> <li>•Review, update and expand all auto-aid and closest unit dispatch agreements with neighboring jurisdictions</li> <li>•Complete regional wildfire response model analysis</li> <li>•Shift Boulder Rural Fire Dept. to city dispatch from county dispatch</li> </ul>	<ul style="list-style-type: none"> <li>•Coordinate with Boulder Rural Fire Dept. to swap the Gunbarrel and western Boulder coverage districts; reallocate Station 6 resources to higher call volume locations in central Boulder. Will generate savings to offset cost of 5 engine ALS rollout referenced above.</li> </ul>	<ul style="list-style-type: none"> <li>•Fiscally Constrained: BFR will avail the city of all response efficiencies using mutual aid partners, but will still operate Station 6 that unnecessarily deploys resources in an inefficient and expensive manner.</li> </ul>
				-\$2,200,000 / No Capital

# PREPARED AND RESILIENT COMMUNITY



**Commitment No. 2**

Residents and visitors of Boulder will be able to live, work, and play in a prepared and resilient community.

Strategic Goal	Strategic Objectives by Funding Level			Annual Incremental Cost / Total Capital Investment	Funding Level Tradeoffs
	Fiscally-Constrained	Action	Vision		
By 2021, BFR will create a public information program, including an expanded social media presence, that provides in-depth public safety information dissemination on daily, weekly and monthly basis	<ul style="list-style-type: none"> <li>Conduct study on penetration of emergency messaging application</li> </ul>	<ul style="list-style-type: none"> <li>Add fire-dedicated Public Information Officer</li> <li>Initiate language and cultural services contract for translation services</li> <li>Incorporate language skills pay differential in CBA</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate citywide 311 rollout</li> </ul>		Fiscally Constrained: BFR will lack any dedicated public information personnel or program and continue to fail to provide quality up-to-date public safety information to Boulder residents and visitors. Action: BFR's public-facing capabilities will be greatly enhanced with a dedicated PIO and associated programming. A lack of a citywide 311 system will not prevent BFR from achieving a modern public information presence; rather a 311 system would be an enhancement by providing a one-stop shop for information.
By 2021, BFR will deliver risk programs in-line with CRA/SOC recommendations regarding population profile and urbanization.	<ul style="list-style-type: none"> <li>Restructure inspection program to balance commercial and multi-family occupancies</li> <li>Reallocate one Public Educator to expand smoke/CO detector installation program</li> </ul>	<ul style="list-style-type: none"> <li>Add certified civilian inspector to expand fire inspection program</li> </ul>			Fiscally Constrained: BFR will continue to rely on current inspection personnel (3 FTE) and engine companies to conduct inspections. These staffing limitations result in tradeoffs on which occupancies get inspected.
By 2023, 60% of homes in the Wildland Urban Interface will have received a personalized wildfire assessment.	<ul style="list-style-type: none"> <li>Develop Wildland Resource Referral Guide for wildfire property mitigation program</li> <li>Conduct 1,200 wildland fire curbside assessments in wildland urban interface</li> </ul>	<ul style="list-style-type: none"> <li>Add Wildland Fire Outreach Coordinator to manage enhanced home inspection program</li> </ul>			Fiscally Constrained: Without a dedicated Wildland Fire Outreach coordinator, BFR will likely not be able to deliver personalized home wildfire assessments to 60% of homes in WUI, but most likely 25-40% at best.
By 2025, BFR will reduce low-acuity emergency medical service incidents from 30% to 20% of all calls.	<ul style="list-style-type: none"> <li>Conduct analysis on implementation of Patient Refusal Fees</li> </ul>	<ul style="list-style-type: none"> <li>Develop mobile application for field use that serves to provide service referrals for frequent 911 users (same as strategy in Commitment No. 1)</li> <li>Launch small-scale Low Acuity Response team including paramedic and mental health/social worker (same as strategy in Commitment No. 1)</li> </ul>	<ul style="list-style-type: none"> <li>Launch full Community Paramedicine program which enhances Low Acuity Response team with the addition of a physician's assistant (same as strategy in Commitment No. 1)</li> </ul>		Fiscally Constrained: BFR will take a punitive approach to reducing the low-acuity calls that burden the system, rather than a collaborative, community building approach. Action: Bolstering internal practices around offering referral information and a small scale low acuity team will allow BFR to reduce low acuity calls to 25-27% by 2025 vs. the full 30% that a community paramedicine program could achieve.

# FACILITIES, EQUIPMENT AND TECHNOLOGY



## Commitment No. 3

City of Boulder residents will receive effective and accessible services from a fire-rescue department equipped with up-to-date facilities, equipment, and technology.

Strategic Goal	Strategic Objectives by Funding Level			Annual Incremental Cost / Total Capital Investment	Funding Level Tradeoffs
	Fiscally-Constrained	Action	Vision		
By 2030, 35% of BFR stations will incorporate community space and appropriate facilities for delivery of emergency services	•Complete construction of relocated Fire Station 3				•Fiscally Constrained: Only constructing one new fire station will allow BFR to offer community space and effective response design at 12.5% of its stations, not 35%. •Action: BFR will not be able to exceed its 35% goal without constructing an additional station (No. 5).
	<b>No Operating / \$8,500,000</b>	•Relocate and construct Fire Station 2 •Relocate and construct Fire Station 4 •Construct storage facility for equipment and reserve apparatus	•Relocate and construct Fire Station 5		
By 2030, 35% of the department's stations will be ADA compliant and achieve a net-zero energy profile.	• Complete construction of relocated Fire Station 3 •Complete service level agreement with Public Works - Facilities and Asset Management that includes performance metrics and data sharing				•Fiscally Constrained: BFR will only be able to address ADA compliance and energy efficiency by replacing stations. In the absence of new construction BFR will likely hit 12.5% rather than 35%. •BFR will not be able to exceed its 35% goal without constructing an additional station (No. 5)
		<b>\$4,450,000 / \$58,200,000</b>	<b>\$5,500,000 / \$37,000,000</b>		
By 2022, BFR's Fleet will meet all performance directives regarding downtime, most notably evidenced by front line engine availability 95% of the time.	•Complete service level agreement with Public Works - Fleet that includes performance metrics and data sharing	•Increase fleet O&M funding to prevent deferred maintenance backlog and fleet downtime			•Fiscally Constrained: Without additional fleet O&M funding, inflation will deteriorate BFR's ability to maintain its vehicles within budget which will eventually lead to maintenance and downtime issues.
		<b>\$50,000 / No Capital</b>			
By 2022, BFR will bring the department's technology up to industry standards and establish a review and assessment program to maintain functionality.	•Implement 8 of 9 technology needs assessment recommendations including full suite system replacements (software and hardware) •Develop and implement departmental technology training program	•Hire additional Fire IT Analyst •Launch annual systems review program	•Hire additional Data Analyst		•Fiscally Constrained: BFR will restore its technical systems to modern standards, but may be delayed in keeping the systems current given a lack of additional dedicated personnel.
	<b>\$130,000 / No Capital</b>	<b>\$135,000 / No Capital</b>	<b>\$105,000 / No Capital</b>		
By 2025, the Fire Training Center will have been expanded and/or renovated to include dorms, additional classroom space, and storage space to ensure continued availability of training resources for BFR personnel.	•Draft and adopt FTC Facility Plan in conjunction with FTC Board of Directors		•Scope expansion that includes lodging for 25 first responders for use when FTC is utilized as a disaster staging area •Accomplish phase II of FTC development plan that includes the addition of a modular driving simulator •Accomplish phase III of FTC development that includes additional storage, administration, and classroom space		•Fiscally Constrained: BFR will negotiate a new agreement to ensure that the existing facilities at FTC are maintained, but eventually demand will outpace the facility's ability to handle it.
			<b>\$1,255,000 / \$8,000,000</b>		
By 2022, 99% of capital safety equipment will pass standard annual safety inspections.	•Maintain funding to replace personal protective equipment including SCBA's and Bunker Gear	•Increase Equipment Replacement Fund annual funding to absorb inflationary pressures and maintain equipment service life standards	•Add quartermaster position to assist in management of equipment maintenance and replacement program •Install Medical Equipment Inventory System		•Fiscally Constrained: BFR will be able to maintain adequate replacement cycles for the medium term, but inflationary pressures will impact the ability to replace equipment when necessary in the long-term. •Action: BFR will benefit from increased funding to maintain current equipment stocks. However, BFR will struggle to manage the additional equipment needs that in-house ALS will create.
By 2022, 75% of capital emergency response equipment will be replaced prior to its prescribed life cycle	•Maintain Equipment Replacement Fund annual funding to replace emergency response equipment when prescribed				•Fiscally Constrained: Same as above •Action: Same as above
		<b>\$150,000 / No Capital</b>	<b>\$235,000 / No Capital</b>		



# WORKFORCE DEVELOPMENT

## Commitment No. 4

People who live, work, and recreate in Boulder will receive excellent customer service and compassionate and competent care from a motivated, healthy, highly skilled and diverse fire-rescue department.

Strategic Goal	Strategic Objectives by Funding Level		Annual Incremental Cost / Total Capital Investment	Funding Level Tradeoffs
	Fiscally-Constrained	Action	Vision	
By 2026, 90% of all patients will report customer service and quality of care as "good" or better	<ul style="list-style-type: none"> <li>Incorporate patient care survey in American Medical Response contract</li> <li>Establish emergency medical quality assurance/quality improvement (QA/QI) program</li> </ul>	<ul style="list-style-type: none"> <li>Develop and launch patient care survey using combination of departmental and third-party resources</li> </ul>		<ul style="list-style-type: none"> <li>Fiscally Constrained: Delegating the responsibility of the patient satisfaction data gathering to the third-party EMS provide could present a conflict of interest, but its preferable to no action. The establishment of QA/QI protocols will proactively set BFR up to exert some control over customer/patient experiences and outcomes.</li> </ul>
By 2026, 90% of patient contacts shall transpire without an adverse event				
By 2022, 80% of firefighting personnel will meet NFPA standards for their rank on an average annual rolling basis measured quarterly		<ul style="list-style-type: none"> <li>Expand firefighter training curriculum with emphasis on remote training at stations and outside/offsite training opportunities</li> </ul>		<ul style="list-style-type: none"> <li>Fiscally Constrained: Without additional investment in curriculum and training delivery methods, BFR will continue to have unmet training needs which affects on-the-job performance.</li> </ul>
By 2026, 75% of firefighting personnel will hold two or more technical certifications for their assigned position and 25% of officers will have obtained proper credentialing				<ul style="list-style-type: none"> <li>Fiscally Constrained: Same as above</li> </ul>
By 2022, 60% of employees will participate in at least one continuing education session per year				<ul style="list-style-type: none"> <li>Fiscally Constrained: Same as above</li> </ul>
By 2023, 15% or less of annual sick leave usage will be attributed to long-term injury	<ul style="list-style-type: none"> <li>Explore sick leave use mitigation strategies during contract negotiations with IAFF Local 900</li> </ul>			<ul style="list-style-type: none"> <li>Fiscally Constrained: Failing to pro-actively address extraordinary sick-leave usage with union input (both operationally and fiscally) will lead to continued overtime which is detrimental organizationally and financially.</li> </ul>
By 2030, 25% of the firefighting workforce will be comprised of female firefighters.	<ul style="list-style-type: none"> <li>Re-design departmental policies to encourage diversity and inclusion.</li> <li>Pursue regional and national recruiting events and opportunities that target non-traditional applicants</li> </ul>			



# 10-YEAR WORK PLAN INCREMENTAL COST

Boulder Fire-Rescue Master Plan 10-Year Workplan Incremental Cost													
Strategy	Level of Investment	Expense Type	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Implement Fire System Inspection Compliance Engine	Fiscally Constrained	Operating	\$0										
Assess Nuisance Alarm Fees Structure	Fiscally Constrained	Operating	\$0										
Develop Wildland Resource Referral Guide	Fiscally Constrained	Operating	\$0										
Reallocate Public Educators for focus on at-risk populations and cardiac programs	Fiscally Constrained	Operating	\$0										
Conduct Emergency Messaging App penetration analysis	Fiscally Constrained	Operating	\$0										
Restructure inspection program to balance commercial with multi-family inspections	Fiscally Constrained	Operating	\$0										
Work with IAFF Local 900 to incentivize car seat tech certification in new hires	Fiscally Constrained	Operating	\$0										
Complete Service Level Agreement with FAM including performance metrics and data sharing/analytics	Fiscally Constrained	Operating	\$0										
Complete Service Level Agreement with Fleet including performance metrics and data sharing/analytics	Fiscally Constrained	Operating	\$0										
Maintain funding to replace personal protective equipment (PPE) including SCBAs and Bunker Gear	Fiscally Constrained	Operating	\$0										
Maintain funding to maintain and replace safety equipment	Fiscally Constrained	Operating	\$0										
Complete Service Level Agreement with Dispatch	Fiscally Constrained	Operating	\$0										
Develop and adopt turnout time review process	Fiscally Constrained	Operating	\$0										
Complete regional wildfire response model analysis	Fiscally Constrained	Operating	\$0										
Develop departmental technology systems training program	Fiscally Constrained	Operating	\$10,000										
Implement 8 of 9 ERP System Recommendations	Fiscally Constrained	Operating	\$120,000										
Hire additional Fire IT Analyst (9th ERP Recommendation)	Action	Operating		\$120,000									
Convert Medical Director to part-time employee	Action	Operating		\$135,000									
Analyze implementation of Patient Refusal Fees	Fiscally Constrained	Operating	\$0										
Implement Resource Referral Guide with complimentary training department-wide	Fiscally Constrained	Operating	\$35,000										
Reallocate one Public Educator to expand smoke/CO detector installation program	Fiscally Constrained	Operating	\$0										
Incorporate patient care survey into AMR contract	Fiscally Constrained	Operating	\$0										
Establish EMS Quality Assurance/Quality Improvement program	Fiscally Constrained	Operating	\$0										
Launch Pulse Point Collector Application and verify AED locations	Fiscally Constrained	Operating	\$10,000										
Reallocate 1.0 FTE Public Educator to Cardiac/AED/CPR Program	Fiscally Constrained	Operating	\$0										
Conduct deployment optimization plan for posting	Action	Operating	\$95,000										
Add Fire dedicated Public Information Officer	Action	Operating	\$135,000										
Add Public Educator dedicated to Cardiac/AED/CPR Program	Action	Operating	\$110,000										
Launch/manage cardiac health and first response campaign	Action	Operating	\$10,000										
Implement AED installs in public areas within 2 min walk	Action	Operating	\$20,000										
Increase Fleet O&M funding to prevent deferred maintenance	Action	Operating	\$50,000										
Increase PPE and safety equipment funding to combat inflation and prevent higher failure rate	Action	Operating	\$150,000										
Outfit all line personnel with individual wildland fire PPE	Action	Operating	\$90,000										
Add 3.0 FTE Wildland Fire Specialists for 24/7 coverage	Vision	Operating	\$305,000										
Launch small scale Low-Acuity Response Team - Vehicle and NPE	Action	Capital			\$50,000								
Launch small scale Low-Acuity Response Team - Personnel	Action	Operating			\$115,000								
Add Wildland Fire Outreach Coordinator to bolster home inspection program	Action	Operating			\$105,000								
Add Certified civilian inspector to perform all inspections	Action	Operating			\$105,000								
Add EMS Operations Chief Vehicle and Equipment Acquisition	Action	Capital			\$50,000								
Add EMS Training Coordinator Vehicle and Equipment O&M and R&R	Action	Operating			\$10,000								
Add EMS Safety Captain Vehicle and Equipment Acquisition	Action	Capital			\$50,000								
Add EMS Training Coordinator Vehicle and Equipment Acquisition	Action	Capital			\$50,000								
Add EMS Operations Chief	Action	Operating			\$175,000								
Add EMS Training Coordinator	Action	Operating			\$145,000								
Add EMS Safety Captain	Action	Operating			\$145,000								
Develop and launch internal and external community resource referral application	Action	Operating			\$10,000								
Launch small scale Low-Acuity Response Team - Vehicle and NPE O&M and R&R	Action	Operating			\$10,000								
Initiate language and cultural services contract for translation services	Action	Operating			\$10,000								
Implement language skills pay differential	Action	Operating			\$20,000								
Collaborate with Transportation and PD to launch "Distraction Driver" campaign	Action	Operating			\$20,000								
Add EMS Operations Chief Vehicle and Equipment O&M and R&R	Action	Operating			\$10,000								
Add EMS Safety Captain Vehicle and Equipment O&M and R&R	Action	Operating			\$10,000								
Transform 32 line positions to firefighter paramedics - train 4 annually for 4 years (training costs)	Action	Operating			\$150,000								
Transform 32 line positions to firefighter paramedics - train 4 annually for 4 years (pay differential)	Action	Operating			\$45,000								
Transform 32 line positions to firefighter paramedics - laterally hire 4 annually for 4 years	Action	Operating			\$45,000								
Implement enhanced training protocols to ensure 90% of office professional development is achieved	Action	Operating			\$25,000								
Launch small scale Low-Acuity Response Team - Personnel	Action	Operating			\$115,000								
Scope construction of lodging for 25 public safety responders at Fire Training Center	Vision	Capital			\$25,000								
Collaborate with Transportation and PD to launch "Move to the Right" Campaign	Action	Operating			\$20,000								
Complete construction of Fire Station 3	Fiscally Constrained	Capital					\$4,250,000						
Mandate UL Compliance	Fiscally Constrained	Operating			\$0								
Complete/update all applicable auto aid agreements	Fiscally Constrained	Operating			\$0								
Shift Boulder Rural from county dispatch to city dispatch	Fiscally Constrained	Operating			\$0								
Conduct annual technical systems reviews	Action	Operating			\$10,000								
Launch Community Paramedicine Program - Personnel	Vision	Operating			\$175,000								
Hire quartermaster position	Vision	Operating			\$85,000								
Hire additional Data Analyst	Vision	Operating			\$105,000								
Launch Community Paramedicine Program - Vehicle, Equipment Acquisition	Vision	Capital			\$275,000								
Add 2 Light Response Vehicles - Vehicles and Equipment Acquisition	Action	Capital			\$940,000								
Conduct 1,200 Wildland curbside assessments in WUI	Fiscally Constrained	Operating			\$0								
Draft and adopt Fire Training Center (FTC) Facility Plan in conjunction with FTC Board	Fiscally Constrained	Operating			\$0								
Add Logistics Supply Clerk (in addition to Quartermaster FTE in Facilities and Fleet)	Action	Operating			\$80,000								
Conduct internally developed patient surveys	Action	Operating			\$25,000								
Add 2 Light Response Vehicles - Vehicles and Equipment O&M/R&R	Action	Operating			\$130,000								
Add Battalion Chief Adjunct (x 4 shifts)	Vision	Operating			\$720,000								
Add Battalion Chief (x 3 shifts)	Vision	Operating			\$650,000								
Add Battalion Chief Vehicle and Equipment	Vision	Capital			\$85,000								
Launch Community Paramedicine Program - Vehicle, Eq., NPE, O&M and R&R	Vision	Operating			\$15,000								
Accomplish phase II of FTC development to include driving simulator	Vision	Capital			\$350,000								
Relocate and construct a new Station 2	Action	Capital					\$1,900,000						
Construct storage facility	Action	Capital					\$350,000						
Add 3 Light Response Vehicles - Vehicles and Equipment Acquisition	Vision	Capital					\$1,400,000						
Launch Pulse Point Responder Application	Fiscally Constrained	Operating			\$10,000								
Add 2 Light Response Vehicles - Personnel - 6.0 FTE FF/Paramedic (pay differential)	Action	Operating			\$145,000								
Add 9 firefighter-paramedics	Vision	Operating			\$1,575,000								
Install Medical Equipment Inventory System	Vision	Operating			\$125,000								
Add 3 Light Response Vehicles - Vehicles and Equipment O&M/R&R	Vision	Operating			\$195,000								
Civilianize Paramedic Corps	Vision	Operating			-\$605,000								
Add Battalion Chief Vehicle and Equipment O&M and R&R	Vision	Operating			\$30,000								
Relocate and construct new Station 4	Action	Capital					\$2,200,000						
Strategically re-deploy call volume with Boulder Rural Fire Dept.	Vision	Operating								-\$2,200,000			
Add dedicated fire dispatch team to city dispatch center	Vision	Operating								\$715,000			
ALS Transport Revenue Offset	Vision	Operating								-\$1,900,000			
Subsidy elimination with in-house ambulance transport	Vision	Operating								-\$795,000			
Accomplish phase III of FTC development to include additional storage, office and classroom space	Vision	Capital								\$880,000			
Relocate and construct a new Station 5	Vision	Capital											\$5,500,000
Implement Automatic Vehicle Locator System	Vision	Operating											\$150,000
Evaluate 311 rollout	Vision	Operating											\$175,000

➡ = Ongoing Expense

Ⓢ = One-Time Expense

Annual Operating Cost \$130,000 \$1,395,000 \$2,445,000 \$2,495,000 \$4,665,000 \$6,565,000

Operational Timeline Before Start of Next Master Plan Update

## FISCALLY CONSTRAINED

Boulder Fire-Rescue Master Plan Fiscally Constrained - Incremental Annual Cost				
Strategy	Operating or Capital	Ongoing/One-Time	Avg. Annual Incremental Cost	Total Capital Investment
Implement Fire System Inspection Compliance Engine	Operating	Ongoing	n/a	
Assess Nuisance Alarm Fees Structure	Operating	Ongoing	n/a	
Reallocate Public Educators for focus on at-risk populations and cardiac programs	Operating	Ongoing	n/a	
Restructure inspection program to balance commercial with multi-family inspections	Operating	Ongoing	n/a	
Work with IAFF Local 900 to incentivize car seat tech certification in new hires	Operating	Ongoing	n/a	
Complete Service Level Agreement with FAM including performance metrics and data sharing/analytics	Operating	Ongoing	n/a	
Complete Service Level Agreement with Fleet including performance metrics and data sharing/analytics	Operating	Ongoing	n/a	
Maintain funding to replace personal protective equipment (PPE) including SCBAs and Bunker Gear	Operating	Ongoing	n/a	
Maintain funding to maintain and replace safety equipment	Operating	Ongoing	n/a	
Develop departmental technology systems training program	Operating	Ongoing	\$10,000	
Implement Resource Referral Guide with complimentary training department-wide	Operating	Ongoing	\$35,000	
Reallocate one Public Educator to expand smoke/CO detector installation program	Operating	Ongoing	n/a	
Incorporate patient care survey into AMR contract	Operating	Ongoing	n/a	
Establish EMS Quality Assurance/Quality Improvement program	Operating	Ongoing	n/a	
Launch Pulse Point Collector Application and verify AED locations	Operating	Ongoing	\$10,000	
Reallocate 1.0 FTE Public Educator to Cardiac/AED/CPR Program	Operating	Ongoing	n/a	
Complete/update all applicable auto aid agreements	Operating	Ongoing	n/a	
Shift Boulder Rural from county dispatch to city dispatch	Operating	Ongoing	n/a	
Conduct 1,200 Wildland curbside assessments in WUI	Operating	Ongoing	n/a	
Launch Pulse Point Responder Application	Operating	Ongoing	\$10,000	
Develop Wildland Resource Referral Guide	Operating	One-Time	n/a	
Conduct Emergency Messaging App penetration analysis	Operating	One-Time	n/a	
Complete Service Level Agreement with Dispatch	Operating	One-Time	n/a	
Develop and adopt turnout time review process	Operating	One-Time	n/a	
Complete regional wildfire response model analysis	Operating	One-Time	n/a	
Implement 8 of 9 ERP System Recommendations	Operating	Ongoing	\$120,000	
Analyze implementation of Patient Refusal Fees	Operating	One-Time	n/a	
Conduct deployment optimization plan for posting	Operating	One-Time	n/a	
Mandate UL Compliance	Operating	One-Time	n/a	
Draft and adopt Fire Training Center (FTC) Facility Plan in conjunction with FTC Board	Operating	One-Time	n/a	
Complete construction of Fire Station 3	Capital	One-Time	\$4,250,000	\$8,500,000

## ACTION

Boulder Fire-Rescue Master Plan Action - Incremental Annual Cost				
Strategy	Operating or Capital	Ongoing/One-Time	Avg. Annual Incremental Cost	Total Capital Investment
Hire additional Fire IT Analyst (9th ERP Recommendation)	Operating	Ongoing	\$120,000	
Convert Medical Director to part-time employee	Operating	Ongoing	\$135,000	
Add Fire dedicated Public Information Officer	Operating	Ongoing	\$135,000	
Add Public Educator dedicated to Cardiac/AED/CPR Program	Operating	Ongoing	\$110,000	
Launch/manage cardiac health and first response campaign	Operating	Ongoing	\$10,000	
Increase Fleet O&M funding to prevent deferred maintenance	Operating	Ongoing	\$50,000	
Increase PPE and safety equipment funding to combat inflation and prevent higher failure rate	Operating	Ongoing	\$150,000	
Add Wildland Fire Outreach Coordinator to bolster home inspection program	Operating	Ongoing	\$105,000	
Add Certified civilian inspector to perform all inspections	Operating	Ongoing	\$105,000	
Add EMS Training Coordinator Vehicle and Equipment O&M and R&R	Operating	Ongoing	\$10,000	
Add EMS Operations Chief	Operating	Ongoing	\$175,000	
Add EMS Training Coordinator	Operating	Ongoing	\$145,000	
Add EMS Safety Captain	Operating	Ongoing	\$145,000	
Launch small scale Low-Acuity Response Team - Vehicle and NPE O&M and R&R	Operating	Ongoing	\$10,000	
Initiate language and cultural services contract for translation services	Operating	Ongoing	\$10,000	
Implement language skills pay differential	Operating	Ongoing	\$20,000	
Add EMS Operations Chief Vehicle and Equipment O&M and R&R	Operating	Ongoing	\$10,000	
Add EMS Safety Captain Vehicle and Equipment O&M and R&R	Operating	Ongoing	\$10,000	
Transform 32 line positions to firefighter paramedics - train 4 annually for 4 years (pay differential)	Operating	Ongoing	\$45,000	
Transform 32 line positions to firefighter paramedics - laterally hire 4 annually for 4 years	Operating	Ongoing	\$45,000	
Implement enhanced training protocols to ensure 90% of office professional development is achieved	Operating	Ongoing	\$25,000	
Launch small scale Low-Acuity Response Team - Personnel	Operating	Ongoing	\$115,000	
Conduct annual technical systems reviews	Operating	Ongoing	\$10,000	
Add Logistics Supply Clerk (in addition to Quartermaster FTE in Facilities and Fleet)	Operating	Ongoing	\$80,000	
Conduct internally developed patient surveys	Operating	Ongoing	\$25,000	
Add 2 Light Response Vehicles - Vehicles and Equipment O&M/R&R	Operating	Ongoing	\$130,000	
Add 2 Light Response Vehicles - Personnel - 6.0 FTE FF/Paramedic (pay differential)	Operating	Ongoing	\$145,000	
Conduct deployment optimization plan for posting	Operating	One-Time	\$95,000	
Implement AED installs in public areas within 2 min walk	Operating	One-Time	\$20,000	
Outfit all line personnel with individual wildland fire PPE	Operating	One-Time	\$90,000	
Develop and launch internal and external community resource referral application	Operating	One-Time	\$10,000	
Collaborate with Transportation and PD to launch "Distracted Driver" campaign	Operating	One-Time	\$20,000	
Transform 32 line positions to firefighter paramedics - train 4 annually for 4 years (training costs)	Operating	One-Time	\$150,000	
Collaborate with Transportation and PD to launch "Move to the Right" Campaign	Operating	One-Time	\$20,000	
Launch small scale Low-Acuity Response Team - Vehicle and NPE	Capital	One-Time	\$50,000	
Add EMS Operations Chief Vehicle and Equipment Acquisition	Capital	One-Time	\$50,000	
Add EMS Safety Captain Vehicle and Equipment Acquisition	Capital	One-Time	\$50,000	
Add EMS Training Coordinator Vehicle and Equipment Acquisition	Capital	One-Time	\$50,000	
Add 2 Light Response Vehicles - Vehicles and Equipment Acquisition	Capital	One-Time	n/a	\$940,000
Relocate and construct a new Station 2 <sup>1</sup>	Capital	Ongoing	\$1,900,000	\$26,000,000
Construct storage facility <sup>1</sup>	Capital	Ongoing	\$350,000	\$4,700,000
Relocate and construct a new Station 4 <sup>1</sup>	Capital	Ongoing	\$2,200,000	\$27,500,000

<sup>1</sup> Avg. Annual Incremental Cost represents debt service payments

## VISION

 <b>Boulder Fire-Rescue Master Plan</b> <b>Vision - Incremental Annual Cost</b> 				
Strategy	Operating or Capital	Ongoing/One-Time	Avg. Annual Incremental Cost	Total Capital Investment
Add 3.0 FTE Wildand Fire Specialists for 24/7 coverage	Operating	Ongoing	\$305,000	
Launch Community Paramedicine Program - Personnel	Operating	Ongoing	\$175,000	
Hire quartermaster position	Operating	Ongoing	\$85,000	
Hire additional Data Analyst	Operating	Ongoing	\$105,000	
Add Battalion Chief Adjunct (x 4 shifts)	Operating	Ongoing	\$720,000	
Add Battalion Chief (x 3 shifts)	Operating	Ongoing	\$650,000	
Launch Community Paramedicine Program - Vehicle, Eq., NPE, O&M and R&R	Operating	Ongoing	\$15,000	
Add 9 firefighter-paramedics	Operating	Ongoing	\$1,575,000	
Install Medical Equipment Inventory System	Operating	Ongoing	\$125,000	
Add 3 Light Response Vehicles - Vehicles and Equipment O&M/R&R	Operating	Ongoing	\$195,000	
Civilianize Paramedic Corps	Operating	Ongoing	-\$605,000	
Add Battalion Chief Vehicle and Equipment O&M and R&R	Operating	Ongoing	\$30,000	
Strategically re-deploy call volume with Boulder Rural Fire Dept. <sup>1</sup>	Operating	Ongoing	-\$2,200,000	
Add dedicated fire dispatch team to city dispatch center <sup>1</sup>	Operating	Ongoing	\$715,000	
ALS Transport Revenue Offset	Operating	Ongoing	-\$1,900,000	
Subsidy elimination with in-house ambulance transport	Operating	Ongoing	-\$795,000	
Evaluate 311 rollout <sup>1</sup>	Operating	One-Time	\$175,000	
Scope construction of lodging for 25 public safety responders at Fire Training Center <sup>1</sup>	Capital	One-Time	\$25,000	
Launch Community Paramedicine Program - Vehicle, Equipment Acquisition	Capital	One-Time	\$275,000	
Add Battalion Chief Vehicle and Equipment	Capital	One-Time	\$85,000	
Accomplish phase II of FTC development to include driving simulator <sup>1,2</sup>	Capital	Ongoing	\$350,000	\$2,500,000
Add 3 Light Response Vehicles - Vehicles and Equipment Acquisition	Capital	One-Time	n/a	\$1,400,000
Accomplish phase III of FTC development to include additional storage, office and classroom space <sup>1,2</sup>	Capital	Ongoing	\$880,000	\$5,500,000
Relocate and construct a new Station 5 <sup>1</sup>	Capital	Ongoing	\$5,500,000	\$37,000,000
Implement Automatic Vehicle Locator System <sup>1</sup>	Capital	One-Time	\$150,000	

<sup>1</sup> Not included in 5-year financial analysis.

<sup>2</sup> Avg. Annual Incremental Cost represents debt service payments

## PART 5

# PERFORMANCE MEASUREMENT & IMPLEMENTATION

Since 2018, Boulder Fire-Rescue has transformed the manner in which it measures performance and ties that performance to its budget. 19 programs exist in the budgeting structure of the department that are grouped into 5 major divisions. These are represented in the table below.

Office of the Chief	Personnel	Non-Personnel
Strategic Planning	\$332	\$16
Administration	\$217	\$21
Collaborating Agency Relationships	-	\$77
<b>Total</b>	<b>\$549</b>	<b>\$114</b>

Internal Support	Personnel	Non-Personnel
Facilities (Stations)*	\$83	\$1,564
Fleet (Vehicles)	\$83	\$1,313
Supplies & Equipment	\$83	\$355
Technology	\$152	\$368
Safety Equipment	\$104	\$145
Human Resources	\$25	\$0
Occupational Health	\$104	\$35
Training	\$433	\$230
<b>Total</b>	<b>\$1,056</b>	<b>\$3,900</b>

Community Risk Reduction	Personnel	Non-Personnel
Code Enforcement	\$416	\$10
Investigations	\$157	\$14
Public Education	\$250	\$49
<b>Total</b>	<b>\$823</b>	<b>\$73</b>

Emergency Operations	Personnel	Non-Personnel
Water Rescue	\$3,347	\$65
Wildland Response	\$1,022	\$119
Fire Rescue	\$4,273	-
Emergency Medical Service	\$3,348	\$887
Hazmat	\$3,347	\$166
<b>Total</b>	<b>\$18,337</b>	<b>\$1,237</b>

Total Budget	Personnel	Non-Personnel
	\$17,765	\$5,224
	\$22,989	

\*Includes \$1.35 million in CCS Capital Funding



Firefighter rescue

These measures are tied to the budget directly by identifying the resources provided to each program area and identifying the connection to outputs and outcomes, or the impact, that each program area is expected to produce through the lens of the key goals identified in this master plan update.

Each program area is required to provide a quarterly program appraisal that is reviewed by the executive staff of Boulder Fire-Rescue. Therefore, the master plan is a living document that is designed to drive departmental performance and ensure that the goals and objectives outlined in this document are met.

A key initiative that is currently ongoing is the review and update of department wide databases to provide more accurate and comprehensive data to be used in the performance measurement process.

## IMPLEMENTATION

With the acceptance of the master plan, the department will at a minimum commit to the objectives that maintain current service levels. Moreover, the department will pursue opportunities for enhancing services as funding and innovation allow from year-to-year. Grant opportunities at the state and federal level will be pursued more fervently and with a regional focus in mind and with collaboration from fellow county response agencies.

Where feasible, the department will look to improve services in ways that do not incur additional cost such as implementing the pit crew concept, which is designed to improve cardiac survival rates in the community. This involved additional training, policy changes and minor outlays in terms of equipment. Similar opportunities will be pursued in collaboration with the employee union.

Nevertheless, with regard to long-term implementation of this plan, clear direction will be needed for the provision of advanced life support (ALS). It is presently outsourced and subsidized to a third-party provider, which also functions as the city's primary patient transport agency. Response times for ALS are a key feature of the third-party contract and presently sit at 9 minutes. As pointed out in this document, however, ALS can be implemented in various ways with varying levels of associated costs depending on overall city priorities and objectives. Lower response times will incur additional cost to the city regardless of whether the service is provided by the department or by proxy through a third party.

If ALS and patient transport are directed to be "in-housed" then the department will pursue yearly goals, objectives and funding that gradually insert more firefighter/paramedics and light response vehicles that incrementally improve ALS response times. If a more subdued version of ALS is pursued that simply incorporates more ALS units in the BFR system, then the department will follow the action plan for implementation.

Regardless of the level of ALS implementation sought by the city going forward, it is the department's intent to aggressively pursue those goals and service levels that need little additional funding or personnel. In these cases, internal priorities will be shifted away from less productive programs in favor of those with demonstrable community outcomes. Budget requests will continue to adhere to the city's prescribed annual process and priorities and the department will continue to work to address its long-term capital funding needs, which include a number of station re-builds or re-locations.



Crestview Elementary Students

## **APPENDICES**

[Appendix A: Feasibility Study](#)

[Appendix B: Sustainability and Resiliency Plan](#)

[Appendix C: Station Needs Assessment \(2015\)](#)

[Appendix D: Technology Needs Assessment \(2019\)](#)

[Appendix E: Community Engagement Results and Focus Areas \(coming soon\)](#)

[Appendix F: Financial Feasibility Analysis \(2019\)](#)

[Appendix G: Center for Public Safety Excellence Peer Team Report \(coming soon\)](#)

[Appendix H: Community Risk Assessment / Standard of Cover](#)