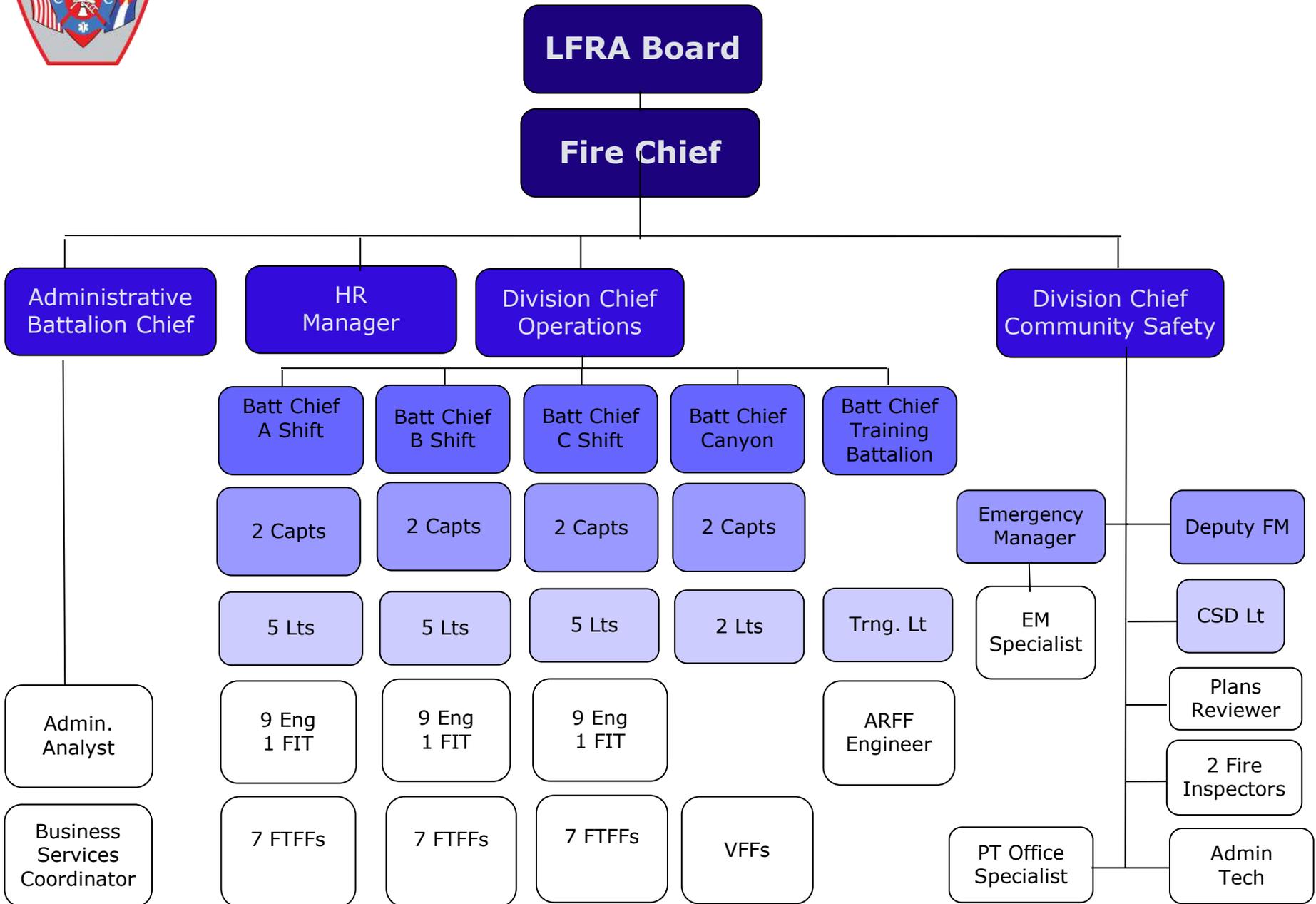




LOVELAND FIRE RESCUE AUTHORITY ORGANIZATION CHART

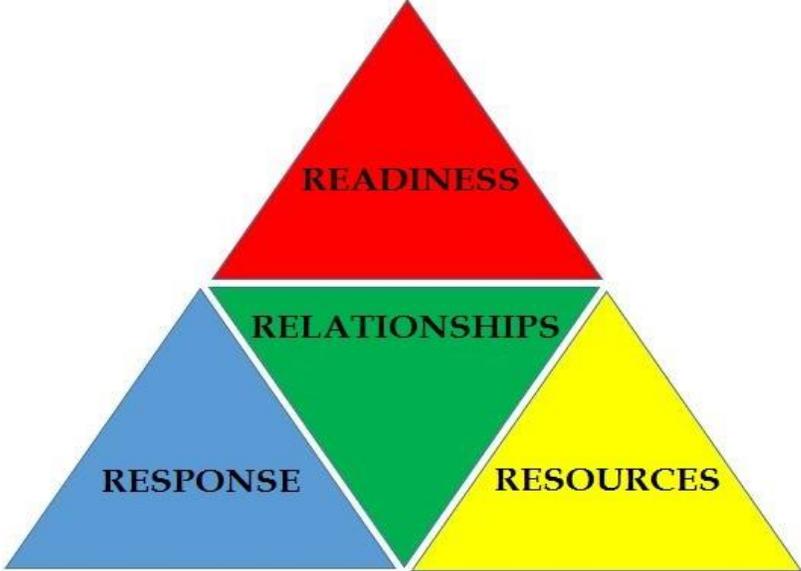




	Ward								Cerovski		A Wright	
Program Matrix		Training Battalion	Shift Leadership			Support Company Training, Special Operations Training Scheduling & Task Skills Manuals – Station 6 Captains			Engine Company Training, Wildland Training Scheduling & Pre-Planning – Station 2 Captains			
Strategic	Health & Safety	ARFF	Quartermaster & SCBA	EMS	Special Operations	Apparatus	Tactical Fire	Wildland	Warehouse	Communications	Information Technology	Recruiting
	Ward	Starck	Klaas	T Smith	Davis	D Schuetz	Hessler	Goodale	Clark	Lyons	Carmosino	A Wright
Tactical	Pollema Willard Engelhardt	Stuart Waldorf	Williams Bukowski	Vrem	Friedrichsen Hintzman Adent	Stolz	DeDecker	Bartlett		Willson	Van Heel	Andersen
Tactical / Task	Correa Heasty	Gonzales	Foncannon Nakata Hill Schiffelbein Valerio Burke	Wining Popp C Smith	O'Farrell Tanner Fischer	Bell Probst Summer Varner	Klinger	Sanfilippo Curtis	Sandoli Schroeder Hernandez Sanchez	Twogood Houlihan	Wynkoop Baukol	Kolb
Task	Baker Vinzant		Guard	Steinbach Cain Crane	Marker	Brown Hidy C Wright	Duran	Heckman Leighton	Clymer Zweigle Chesher	Knickelbein	Chapin	Laughlin Stephenson Gillen
Canyon Battalion Contact		McGrath	Svoboda	White	Neal	Brady		Weber		Powers		Matas T Schuetz



LOVELAND FIRE RESCUE AUTHORITY 2018 STRATEGIC PLAN



***PROUDLY SERVING THE CITY OF LOVELAND, CO
AND
THE LOVELAND RURAL FIRE PROTECTION DISTRICT***

***Taking Our Organization From Good to
Great and Building It to Last With
Enduring Greatness***

Loveland Fire Rescue Authority



Fire Protection/ Emergency Services

Strategic Plan

2018 Edition

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I. EXECUTIVE SUMMARY

If a community desires to provide a fire-safe environment for its citizens and visitors, the fire protection and emergency service needs must be identified, planned for, and properly addressed in the most cost effective manner. In 2012, the City of Loveland and the Loveland Rural Fire Protection District formed a true partnership with the creation of the Loveland Fire Rescue Authority (LFRA). Both agencies (City and Rural) have recognized the importance of planning for the future around a shared vision that provides the best protection for the community. LFRA has developed the 2018 Strategic Plan to provide the department a roadmap for the future. The strategic plan for LFRA will be based on a nine-year timeframe: 2018-2026. Annual evaluations and progress reports will be completed and reported to the various governing bodies to ensure the stated goals and objectives within this plan are being met.

It is anticipated that the 2018 Strategic Plan will:

- Provide an accurate description of the Loveland area's past, present, and future fire protection and emergency services situations
- Provide an accurate description of the current fire protection and emergency services systems, their capabilities, and their limitations
- Establish an agreed upon model of operation that can address the future fire and rescue needs of the Loveland community
- Establish a set of goals and objectives that will determine the desired performance levels (often referred to as service levels) and establish service level indicators that provide a standardized way of measuring the effectiveness of the fire protection and emergency services system of the future
- Establish a plan for the initiatives that will help prevent harm from emergencies or limit potential destruction
- Provide a safe, proactive, and cost effective fire protection and emergency services system strategy for the years outlined within this strategic plan and beyond

The *2018 LFRA Strategic Plan* will be a dynamic document that will continue to evolve, adapting to the changes that unfold over the next eight to ten years. Periodic evaluations and progress reports to the Fire Authority Board of Directors will be an essential part of this planning process. Updates and progress reports will also be included in an annual report made by the fire chief and the organization to communicate to the Fire Authority Board members and the public the progress made on the stated organizational goals and objectives contained within this plan.

The recommendations in this plan include two segments: (1) strategic plan priorities for LFRA and (2) other organizational needs. The plan's strategic priorities are reflected in a document that outlines the most important initiatives for capital expansion and larger operation and maintenance initiatives. This document is known as the "*Essential Services Expansion Plan*" (ESEP). The ESEP is organized into three phases of implementation and two categories defining levels of priority for implementation: high priority and intermediate priority. The "other organizational needs" category focuses on future priorities and can be found in Section X Recommendations/Implementation. The ESEP offers a minimum staffing of each fire company with three firefighters and utilizes a model of staffing of full-time paid firefighters in Urban Response Area stations and volunteer firefighters in the Big Thompson Canyon stations. The ESEP is expressed on the following page with implementation phases in years, costs, and the source of funding for each initiative.

Essential Services Expansion Plan-
Plan on a Page

PHASE 1: 2018 – 2020 (High Priority)	YEAR	COST	SOURCE
Station 7 Construction & Apparatus	2018	4,649,914	LFRA Financing
Replace Fire Engine E-3/ #0156	2020	598,005	LFRA Fleet Replace Fund
Training Center- Burn Building	2020	2,641,228	City TABOR/Fire Capital Exp. Fees
Total Capital \$ Increase Phase 1		\$7,889,147	
Inspector for Community Safety Division (CSD)	2018	74,500	City/Rural Annual Contributions
Station 7 (staffing, facilities, and vehicle maintenance and annual replacement savings)	2019	1,418,520	City/Rural Annual Contributions
Total Operational \$ for Phase 1		\$1,493,020	
PHASE 2: 2021 – 2023 (High Priority)	YEAR	COST	SOURCE
Station 10 Design	2021	409,236	LFRA Financing
Replace Fire Engine E-7/#0109	2021	599,881	LFRA Fleet Replace Fund
Station 10 Construction & Apparatus	2022	4,895,830	LFRA Financing
Replace Fire Engine E-2/#0110	2023	603,567	LFRA Fleet Replace Fund
Replace Rescue 6/#0352	2023	723,071	LFRA Fleet Replace Fund
Total Capital \$ Increase Phase 2		\$7,231,585	
Add 3 FF positions for Heavy Rescue 2	2021	230,000	City/Rural Annual Contribution
Station 10 (staffing, facilities, and vehicle maintenance and annual replacement savings)	2023	1,398,725	City/Rural Annual Contributions
Total Operational \$ for Phase 2		\$1,628,725	
PHASE 3: 2024-2026 (Intermediate Priority)	YEAR	COST	SOURCE
Remodel/Expand Station 5	2024	2,935,688	City Funding
Replace Ladder 6/#0202	2024	1,406,282	LFRA Fleet Replace Fund
Add Quick Response Vehicle (QRV) Company	2025	381,598	LFRA Fleet Fund
Replace/Expand Station 3	2025	5,468,492	City Funding
Replace Fire Engine 5/#0111	2025	736,854	LFRA Fleet Replace Fund
Total Capital \$ Increase Phase 3		\$10,928,914	
Add 3 Shift Battalion Positions (East Battalion)	2024	518,400	City/Rural Annual Contributions
QRV Company Staffing	2025	828,423	City/Rural Annual Contributions
Total Operational \$ for Phase 3		\$1,346,823	

II. INTRODUCTION

BACKGROUND/ HISTORY

History of the Loveland Fire Rescue Authority (LFRA)

The development of the fire authority for Loveland Fire Rescue (LFR) involved two organizations: the City of Loveland and Loveland Rural Fire Protection District. Historically, for more than 50 years, the City of Loveland had a contractual agreement to provide fire and emergency services to the Loveland Rural Fire Protection District. As time went on and both areas grew in population and in their demands for more services, a better governance model was needed. A discovery process was initiated to evaluate and find that model.

The discovery effort spanned nearly two and one half years (2009-2011) and involved three committees. The first committee set out to evaluate several different governance models, identifying which one would be the best for LFR. The conclusion of this group's research suggested that the fire authority would be the best model considering all of the characteristics and particulars involved within the organization. The second committee took the work of the first committee and focused on the viability of a fire authority for LFR. They determined that a fire authority would be feasible for LFR, but significant organizational improvements would have to be made in staffing, deployment, and planning for the fire authority concept to become successful. This group's efforts included an analysis of the community and fire-rescue needs and the gaps that existed for those services. The third committee, made up of policy and decision makers from both the City Council and the Rural District Board of Directors, set to work on identifying how a fire authority would work for LFR. The result of their work was the formation of an Intergovernmental Agreement (IGA) that would be the guiding document forming the fire authority; it would also help create the true partnership needed between the City and the Rural District. The IGA was reviewed and approved by both governing bodies for the creation of Loveland Fire Rescue Authority (LFRA). It (the IGA) established the legal parameters for how LFRA would be operated and managed, the powers of the authority, its officers, and funding mechanisms. With the establishment of the fire authority, a true partnership exists between the City and the Rural District. The fire authority has established and cultivated this partnership into what has now become a strong, effective organization that looks out for the best interest of the citizens of the entire Loveland community - city and rural residents alike.

At the time of this writing (2017), LFRA has operated as an effective, quality fire authority for more than five years. The majority of the planning assumptions in the 2012 Strategic Plan have been validated as correct, most of the expansion plans have also been accomplished, and the organization has grown in size and in its ability to provide excellent citizen services to both the City and the Rural District. Since 2014, LFRA has also focused its attention on the maturation process for the fire authority. Transitioning employees, equipment, and select real property to the fire authority was a lengthy legal process, but was accomplished within the expected timelines.

MOVING TO A NEW ERA AND A NEW STRATEGIC PLAN

The next steps for LFRA include the construct of a new strategic plan for the years 2018-2026. Adhering to the new plan will help the organization meet its expected goals as a world class organization and will carry the vision forward of going from *good to great and building it to last with enduring greatness*. In the 2012 LFRA Strategic Plan, the "Model One Basic Services

Expansion Plan” was added. “Model One” outlined the major expansion initiatives on one page. It made the plan easy to understand for lay people and yet provided the necessary details for planning purposes for elected officials and other leaders. This creation, by Director Renee Wheeler, gave the Fire Authority and the readers of the plan the ability to see the plan’s essential action items, the years these action items would occur, the costs of the action items, and the varying priority levels all on one page. This “plan on a page” concept has turned out to be one of the most useful, effective, and impressive aspects of the *2012 LFRA Strategic Plan*.

The *2018 LFRA Strategic Plan* will also include a new, improved version of the plan-on-a-page concept called the *Essential Services Expansion Plan (ESEP)*. The ESEP will capture the same type of descriptive dimensions of “Model One” but with the next generation of initiatives and expansion action items added in. It will be updated to include three phases and extend from the years 2018-2026. The major highlights for expansion in the ESEP include:

- Addition of Fire Station 7 - West in the rural district
- Enhancements to the Training Center - New Burn Building
- Addition of Fire Station 10 - East in Centerra area
- Hiring of firefighters - Staffing Fire Station 7 and Fire Station 10
- Adding a second battalion with three new shift Battalion Chiefs
- Remodel/Expansion of Fire Station 5
- Replacement/Expansion of Fire Station 3
- Procurement of fire apparatus within the vehicle replacement schedule
- Addition of Quick Response Vehicles (QRVs)

Other strategic expansion items are included in “Section X- Recommendations/Implementation” under the headings of “*Other Organizational Needs.*” The strategic plan priorities and the other organization needs make up the entirety of the expansion items for the Fire Authority. Funding the expansion is part of the planning/achieving effort that will go into this strategic plan.

FINANCIAL PLANNING FOR LFRA

Most strategic plans have identified funding streams or sources that ensure the targeted expansion is supported. However, in 2012, when LFRA was in the incipient phase of its development, certain financial ambiguities and uncertainties were unavoidable. With the establishment of the Fire Authority, the City and the Rural District had expanded financial commitments for ensuring that the organization would be able to increase its services at the appropriate level to ensure a quality response to the Loveland community. The Rural District Board evaluated its financial responsibility and sought a mill levy increase in property taxes to meet its financial obligations for expansion; this effort was successful in late 2012. The City has also identified expansion of the fire department as a high priority and increased its financial commitment to help meet the needs of the growing community. Funding mechanisms were developed and put in place to meet the majority of the goals and objectives set forth in the 2012 Plan. The next steps for expansion for LFRA, as outlined in this strategic plan, will be necessary to keep pace with the growth of the Loveland community. These expansion initiatives will enable LFRA to continue to provide the highest quality emergency services possible for its citizens. Much like in the 2012 plan, funding streams for some of the capital and operational expansion needs for the 2018 plan will need to be identified. Adequate funding must be procured for these expansion initiatives in order for LFRA to accomplish the goals and objectives set forth in the *2018 LFRA Strategic Plan*.

THE NEED FOR FIRE PROTECTION AND EMERGENCY SERVICES PLANNING

The primary purpose of local government is to provide protection, public safety, and support through infrastructure and response for its citizens. Public fire protection and emergency services, as a function of local government, have the responsibility of saving lives and property from natural or human-caused situations and preventing harm through planning and pre-incident mitigation. Local governments, through the fire protection and emergency services delivery systems, must also ensure that those persons who own or operate businesses or manage property do so without endangering those who use their services or are affected by their operation.

Any fire protection and emergency services system should reflect the needs and desires of the community and be managed and operated within an affordable and efficient financial system. It has always been important for local governments to operate in a manner of good stewardship of the public funds. Local fire protection and emergency service operations should support the overall goals and objectives of the community in the most cost-effective manner. In the western part of the United States, the term "community" has been defined in a broader manner than simply meaning the defining lines of a city or borough. Often, community is more reflective of an area or region that may encompass a city and its surrounding district. Local governments and fire protection and emergency services delivery systems are challenged to be more effective and efficient in how they operate, while at the same time providing a high level of service. Agencies must look beyond the simplicity of single jurisdictional boundaries and adjust operations to have more of a community approach. Such is the case with the creation of fire districts and fire authorities. These governance models are built around concepts that encourage greater efficiency, effectiveness, and cost-savings through support and collaboration.

Historically, in both the emergency and non-emergency setting, the fire service has waited for a problem to develop and then reacted or responded to it. This operational method of being reactive rather than proactive has contributed to an unbalanced and oftentimes ineffective and inefficient service delivery model. The lack of adequate planning has also contributed to many fire service organizations being unprepared to protect their citizens sufficiently and unable to provide for appropriate levels of community safety from the hazards of fire and natural or human caused destruction.

If a community desires to provide a fire-safe environment for its citizens and visitors, the fire protection and emergency service needs must be identified, planned for, and properly addressed in the most cost effective manner. By acting in partnership with the creation of the Loveland Fire Rescue Authority, the City of Loveland and the Loveland Rural Fire Protection District have recognized these needs and the importance of planning for the future around a shared vision that provides the best protection for the community in the most cost-effective manner possible. Strategies that include solid planning assumptions, the development of community goals and objectives, and recommendations for implementation have been formulated within this strategic plan for the future of the Loveland community.

LFRA is now in its second iteration of an active and integral strategic planning process for organizational improvement. The results and success of the 2012 Strategic Plan have been remarkable, providing a working document that has contributed to the organization's move from "good to great." The planning process has proven itself for LFRA and has now become embedded within the organization's overall strategy for building LFRA to last with "enduring greatness."

ANTICIPATED BENEFITS

It is anticipated that this strategic plan for the Loveland Community will:

- Provide an accurate description of the Loveland area's past, present, and future fire protection and emergency services situation
- Provide an accurate description of the current fire protection and emergency services system, its capabilities, and its limitations
- Establish a set of goals and objectives that will determine the desired performance levels (often referred to as service levels) and provide a standardized way of measuring the effectiveness of the fire protection and emergency services system of the future
- Establish an agreed upon model of operation that can address the future needs for fire and rescue operations
- Establish a plan for initiatives that will help prevent harm from emergencies or limit potential destruction
- Provide a fire protection and emergency services system whereby:
 - Deaths, injuries, and loss will be minimized
 - The funding for fire protection and emergency services is more properly distributed between City and Rural District citizens
 - Planning for and alleviating emergencies takes place before they occur, whereby firefighters are fully prepared and trained to respond to and mitigate emergencies
 - Cost effectiveness and efficiency for the citizens is of paramount importance, and good stewardship of public funds is a strong organizational value
- Provide clear recommendations for future expansion and growth
- Provide additional documentation for comparison and analysis of comparable organizations to LFRA in emergency services
- Provide data and information to enhance firefighter safety and survival and improve the safety and survival of the citizens within the community
- Utilize updated information from the department's accreditation process to ensure the most accurate data and statistics are a part of the planning assumptions

ACCURACY OF DATA

Every attempt has been made in this strategic plan to provide the most accurate data and information possible. The data used as a basis for many of the planning assumptions (and stated goals and objectives) were derived from extensive studies of various local risk potential and local fire and rescue history. Comparison data was gleaned from other like departments in northern Colorado and southern Wyoming. Most of the data used from comparison departments was gleaned from those with like population and demographic models, similar services provided, and similar regional logistics. No attempt was made to be specifically selective or to "cherry pick" certain departments in order to make a stronger case for Loveland Fire Rescue Authority. Other data models, when used, were selected from the consortium of Colorado departments within the framework of the cohort group from the International City/County Managers Association (ICMA). Finally, any other data used within this plan, other than what has been specified, will be clearly cited for their use within the plan. The data that is listed in this plan can and does provide a good and reliable picture for fire service benchmarks and comparison data. However, it should not be viewed as all-inclusive or as absolute but should be considered as the best data and information that are available at the time.

PLANNING PROCESS OVERVIEW

The strategic planning project for Loveland Fire Rescue Authority has been conducted utilizing eight basic steps (Fig. 2-1). The first step was to confirm the need for strategic planning within the organization. The second step evaluated the current fire protection and emergency services systems both; the prevention and pre-emergency systems and the emergency response systems. The third step evaluated the community and its threat from both natural and human-caused calamity, in effect conducting a community risk analysis. This included the area known as the wildland urban interface. The fourth step involved the evaluation of the current fire-rescue and emergency services and capabilities, and the identification of gaps in service as compared to the overall community risk levels (*see Section VIII for more information on community risk assessment*). Step five created concise and accurate planning assumptions to meet service level needs of the community. Step six involved the creation of specific, measurable, and actionable goals and objectives for the plan. Step seven developed a comprehensive set of recommendations for the strategic plan to ensure that the most efficient and cost effective methods were targeted for improvements to the fire protection and community fire related emergency services. Finally, step eight established an ongoing evaluation process for the strategic plan, comparing and testing planning assumptions to forecasted needs and actions.

Eight Steps for Strategic Planning

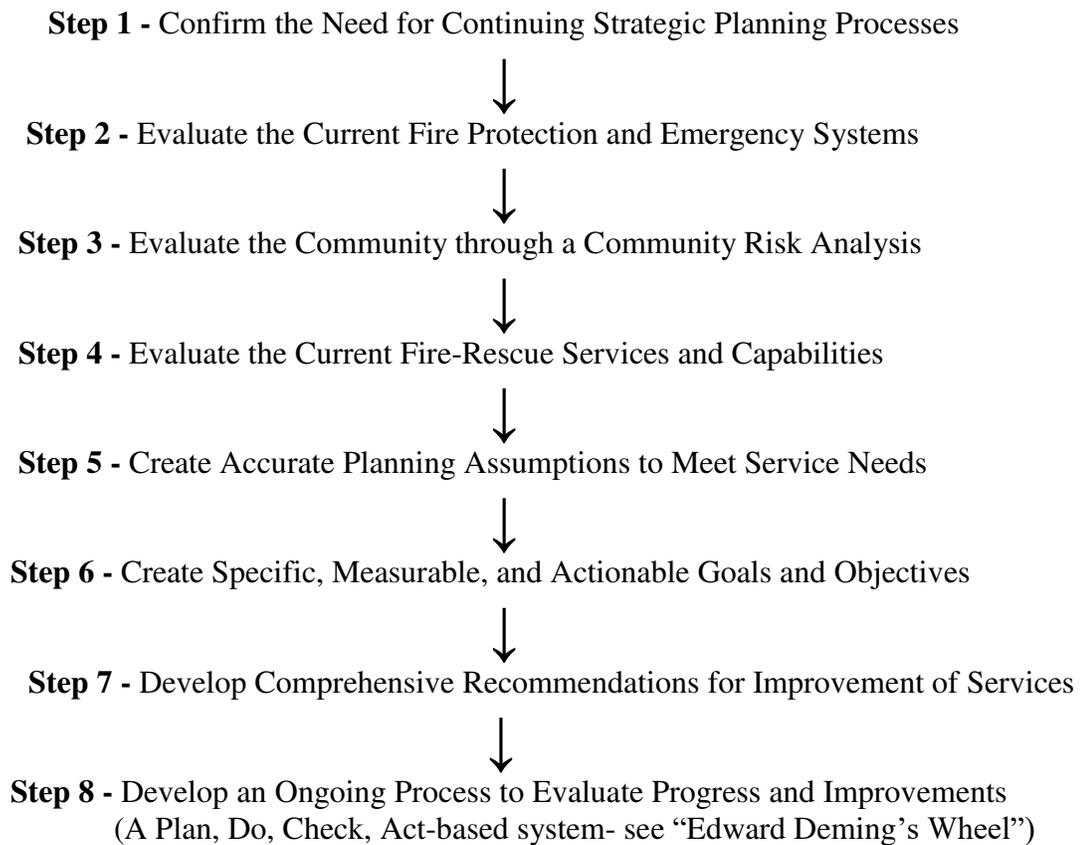


Figure 2-1. *Steps for Strategic Planning*

PLANNING LEADERSHIP TEAM ORGANIZATIONAL STRUCTURE

The planning process/document creation has been completed by five groups/individuals (Fig. 2-2).

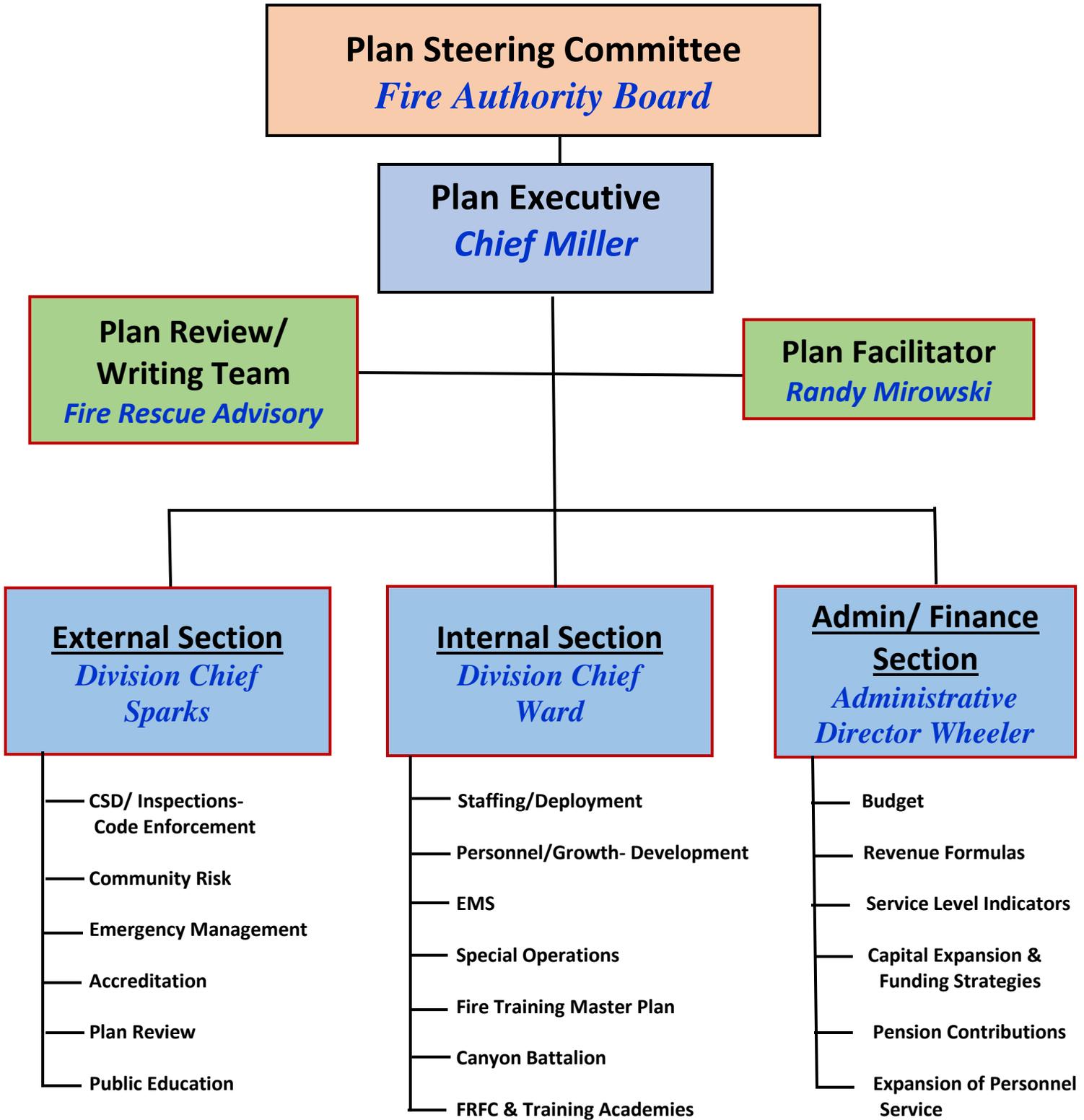


Figure 2-2 Team Organizational Structure

DEFINITION OF POSITION AND TEAM MEMBERS

STEERING COMMITTEE

Decides the scope, overall priorities, and general course direction for the strategic plan.

PLAN EXECUTIVE

Provides overall leadership for the construct of the strategic plan, directing and managing the creation of the plan by working closely with the Steering Committee, the Leadership Team, and Plan Facilitator.

PLAN REVIEW/WRITING TEAM

Functions as the team to write and review sections of the strategic plan, editing the document for clarity and understandability at the citizen level.

PLAN FACILITATOR

Works closely with the overall Leadership Team and Review/Writing Team to ensure the document is written in a manner to accurately and effectively capture the details for the creation of the strategic plan.

SECTION CHIEFS/DIRECTORS

Provides overall expertise and insight to specific areas within the strategic plan, and manages teams or individuals that write and edit basic drafts for specific sections or areas of the plan.

FIRE AUTHORITY BOARD OF DIRECTORS/Steering Committee

- Jeff Swanty..... Board Chairman/Rural Board member
- Cecil Gutierrez..... Board Vice-Chair/Mayor City of Loveland
- John Fogle..... Board member/City Council member
- Dave Legits..... Board member/Rural Board member
- Steve Adams..... Board member/City Manager of Loveland

PLAN REVIEW WRITING TEAM /Fire Rescue Advisory Commission (FRAC)

- Jon Smela Team member/FRAC chair
- Janet Bailey Team member/past FRAC chair
- Elton Bingham Team member
- Shane Castro Team member
- Paul Pfeiffer Team member
- Leo Wotan Team member
- Andy Anderson Team member/Rural Board member rep.
- Bonnie Wright Team member/administrative technician

STRATEGIC PLANNING LEADERS/DIRECTORS

- Mark Miller..... Fire Chief
- Ned Sparks Division Chief
- Greg Ward Division Chief
- Renee Wheeler Administrative Director
- Michael Cerovski Battalion Chief
- Rick Davis Battalion Chief
- Tim Smith Battalion Chief
- Jason Starck Battalion Chief
- Shawn Neal Battalion Chief (Canyon)
- Randy Leshner EMS Chief, Thompson Valley
- Randy Mirowski Strategic Plan Facilitator

The Plan Review Writing Team was made up of members from the City's Fire Rescue Advisory Commission (FRAC), a Rural District Board member, and a representative from the Loveland City Council. This group functioned as the plan's final review group. They emphasized the reviewing and evaluating of each initiative and action point and ensured that the document was written in “plain speech” and easily understandable at the citizen level. The review and writing group met at least monthly and kept the process moving forward and in the correct direction to meet the targeted timelines. The Fire Authority Board also contributed to the planning process by acting as the steering committee, providing overall direction, setting goals, and approving the objectives set for the strategic planning process. The Fire Chief worked directly for the Authority Board and provided direction to the Review and Writing Team and the Plan Facilitator. The Chief ensured that the Board’s directions and goals were carried out and included within the plan. The Plan Facilitator functioned as the liaison from the Authority Board to the other team members and commission members to ensure consistency of mission and completion of planning processes.

The Strategic Planning Commission leaders and directors provided expertise and input within their specific areas, but also offered counsel and leadership into virtually every aspect of the planning process. Other officers and firefighters contributed to the construct of the plan in a variety of ways, from offering their expertise and experience, to assisting chief officers and directors with developing specific areas within the plan. As with any endeavor of this magnitude, it takes the entire organization to play a role in the planning and construction of a manuscript that functions as a guiding document for future expansion and operations.

ACCURACY OF STRATEGIC PLANNING

Strategic planning is certainly not an exact science. Forecasting events that will take place five to ten years out is an imprecise process. However, with the proper assessment processes in place, and a reliance on solid metrics and past performance data, this inexact science can become much more empirical and accurate. The methodologies used within this plan represent proven models and, in many cases, best practices and sound industry standards. The success and accuracy of the *2012 LFRA Strategic Plan* allows the planning and leadership team to be very optimistic about the viability and level of accuracy expected for the *2018 LFRA Strategic Plan*. Nevertheless, LFRA leadership should build in an annual review process where information is compared to, and tested against, the planning assumptions and forecasting that is represented within this plan.

ORGANIZATION OF THE STRATEGIC PLAN DOCUMENT

The *2018 LFRA Strategic Plan* is organized into 10 sections with an Appendix:

SECTION I: Executive Summary - A brief overview of the entire document with a focus on history, process, and the *Essential Services Expansion Plan (ESEP)*.

SECTION II: Introduction - Establishes the case for strategic planning and anticipated benefits; addresses the data portion, its accuracy, and the overall scope of the strategic plan.

SECTION III: Loveland Fire Rescue and the Fire Authority - Basic Planning Assumptions Includes a brief overview of the organization, funding, and future revenue allocations of the Fire Authority along with the mission, vision, values, and basic planning assumptions.

SECTION IV: The Fire Protection and Emergency Services Situation - Covers the basic demographics of the response area including population, projected growth, vulnerability, forecasting, and current emergency services. Includes a comparison to other regional departments.

SECTION V: Staffing and Deployment - Highlights the basic staffing and deployment needs for LFRA and the rationale for such staffing levels, and gives an overview of the future staffing models and their impact on operations and financial planning.

SECTION VI: Essential Services Expansion Plan (ESEP) - Includes the history of expansion planning and the new *Essential Services Expansion Plan*. This plan includes areas such as current and future staffing needs, large capital purchase and replacement, and facilities remodel and expansion. There is a three-phased process for implementation, timelines and likely costs.

SECTION VII: Specialized Areas - This section highlights future needs and the specific services provided within the specialized areas including Wildland, Specialized Operations Team, Training, TACFIRE, and Emergency Medical Services (EMS).

SECTION VIII: Community Safety Division, Emergency Management and Accreditation - In the *2018 LFRA Strategic Plan*, the Community Safety Division (CSD) will have its own section. The needed expansion of the responsibilities of this division over the last five years has resulted in significant community impact within the planning and building environment, within inspection services and code enforcement, in emergency management and disaster planning, and in public education and department accreditation. These areas are explained in this section.

SECTION IX: Fire Protection and Emergency Services - Goals, Strategies, and Performance Measurements This section creates and establishes the organizational goals and objectives and identifies the service level indicators that will be used to track and measure organizational performance during the operational period of the *2018 LFRA Strategic Plan*.

SECTION X: Recommendations/Implementation - Recommendations and timelines are listed in this final section.

APPENDIX: Contains associated documents that are linked to the plan, including:

- **Glossary of Terms**
- **Planning Assumptions**
- **LFRA Intergovernmental Agreement (4th Amendment)**

COMPENDIUM: A separate, summary document of the business modules/sections of this plan.

SCOPE OF THE STRATEGIC PLAN

The intent of the *2018 LFRA Strategic Plan* is primarily to provide guidance in formulating major policy decisions and setting overall direction for the fire authority. The overall scope of this plan has been to focus on the needed changes for Loveland Fire Rescue Authority, both strategically and operationally; and in the areas of capital expansion and ongoing expenses for operation and maintenance (O&M). A significant emphasis within the document is how these changes and improvements impact:

- Taxpayers in the region
- Performance of the fire protection and emergency services systems
- New and existing development
- Safety of the public and emergency services personnel
- Future expansion and needs for staffing and services

Items such as equipment specifications, operating procedures, and resource management have, for the most part, been purposely omitted from this plan. These relate more to operational or task levels and can be best addressed in other documents and procedures within the organization.

Another area that has been purposely omitted from this plan is a detailed analysis for a funding mechanism to achieve the specific initiatives of the expansion that is listed in the *Essential Services Expansion Plan*. For the purpose of this strategic plan, it is acknowledged that in order for the needed improvements in equipment, facilities, staffing, and services to occur, both the City of Loveland and the Loveland Rural Fire Protection District will need to increase their contributions to the Fire Authority.

It is extremely important to emphasize that the *2018 LFRA Strategic Plan* is dynamic and may need to be adjusted over time. The most significant aspect of this plan is that it establishes a framework for formulating and addressing changes and improvements in the fire protection and emergency services situation in the future. Periodic reviews and updates will be necessary to keep up with the changing environment and the economic profile of the community. Review of this strategic plan will be done once a year within the organization's annual report. However, it is expected that in a general manner, more frequent reviews will occur for monthly reports and updates for the organization as part of a "Plan, Do, Check, Act" process.

One final point about strategic planning is included in this section relating to the "Scope." It should be understood that strategic planning, by its nature, is not always precise. During the years of 2018-2026, there may be other organizational initiatives that develop that are not identified within this strategic plan. However, every effort has been made to evaluate, forecast, and plan for the future strategic needs of LFRA and include them in this document.

III. LOVELAND FIRE RESCUE & THE FIRE AUTHORITY- BASIC PLANNING ASSUMPTIONS

ORGANIZATIONAL BRIEF

Loveland Fire Rescue Authority (LFRA) is a consolidated fire protection and emergency service agency specializing in fire and rescue-related services. LFRA serves the City of Loveland (City) and the Loveland Rural Fire Protection District (Rural District) covering approximately 190 square miles of area. The organization's 85 full-time uniformed members, its six civilian support staff members, and approximately 20 firefighter volunteers provide the workforce for the agency. LFRA operates a total of eight fire stations. Five stations are staffed 24 hours, seven days per week; two volunteer stations are located in the Big Thompson Canyon. One station at the Northern Colorado Regional Airport is staffed on an as-needed basis for aircraft flight stand-by services. One full-time paid LFRA engineer manages fire and emergency operations at the airport station. Within the Rural District are portions of the communities of Johnstown (I-25 & Hwy 34), Drake, Masonville, Storm Mountain, and the Pinewood Reservoir area. In 2017, nearly 100,000 people live within the area served by LFRA.

LFRA was formed in January of 2012 with the consolidation of the City of Loveland Fire Department (Loveland Fire and Rescue) and the Loveland Rural Fire Protection District. The City and Rural District adopted an intergovernmental agreement (IGA) contract establishing the Fire Authority. The IGA is the basis of LFRA's existence and outlines the governance, management, funding formulas, and operation of the Fire Authority. A five-person board of directors, appointed by the City Council and Rural District Board, governs LFRA. The board includes two City Council members, two Rural Board members, and the City Manager of Loveland. The Fire Chief is an LFRA employee and serves the Fire Authority Board, works as part of the City's Management Team, and acts as a fire chief/liaison to the Rural District Board. All firefighters and civilians that work for LFRA are Authority employees. LFRA is organized into three divisions and five battalions. The three divisions include Operations, Community Safety, and Administrative Services. There are three shift battalions, a training battalion, and the Big Thompson Canyon battalion.

FUNDING FOR THE FIRE AUTHORITY

LFRA is funded by the City of Loveland and the Loveland Rural Fire Protection District through a combination of property taxes in the rural district plus property and sales taxes in the city via the general fund. LFRA also generates revenue from building impact fees within the district, from fire prevention-related permits, and from reimbursements for fire-rescue services for wildland and specialized deployments. For 2017 LFRA had a base budget of approximately 13.9 million dollars; additional LFRA-generated revenue totaled nearly \$300,000. Combined, the total budget for LFRA for 2017 was approximately \$14.2 million dollars. Capital expenditures vary from year to year depending on equipment purchases and facility construction or improvement. Funds are received from the City's capital replacement fund, capital expansion fees (CEFs) or impact fees, and capital dollars from the Rural District. Starting in 2017, the Fire Authority's funding for apparatus is financed through annual contributions from the City and Rural District at an 82% (City) and 18% (Rural District) ratio. Section VI contains the expanded financial plan and various Capital and O&M models for the Fire Authority for the *2018 LFRA Strategic Plan*.



LOVELAND FIRE RESCUE AUTHORITY ORGANIZATION CHART

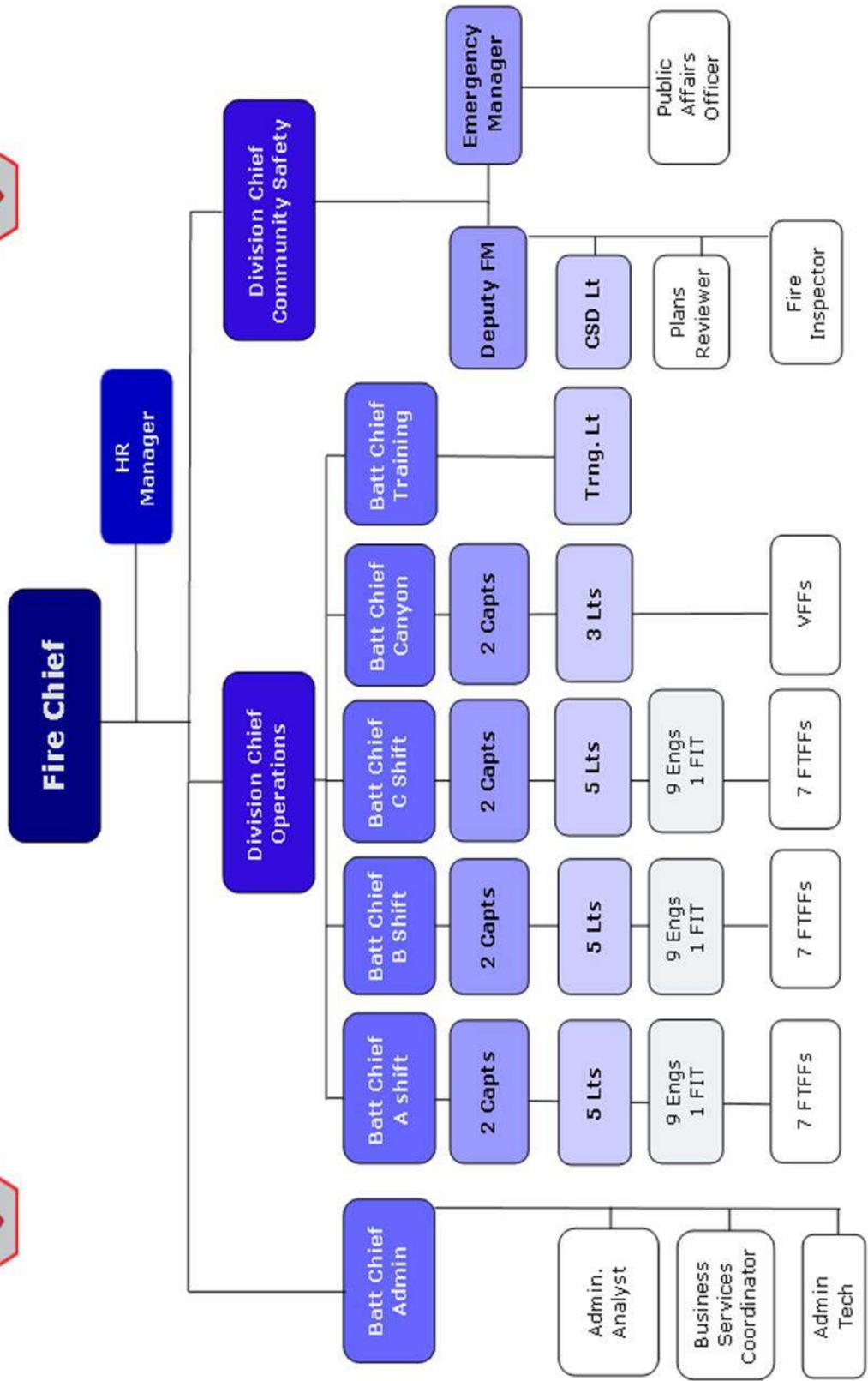


Figure 3-2 LFRA Organizational Chart

FUNDING AND THE REVENUE ALLOCATION FORMULA

The Fire Authority uses a Revenue Allocation Formula (RAF) for determining the contribution ratio for both the City of Loveland and the Loveland Rural Fire Protection District. The IGA for the Fire Authority breaks out the ratio as follows:

* City of Loveland contribution	82%
* Loveland Rural District contribution	<u>18%</u>
Total contribution for full cost budgeting	100%

The RAF is based primarily on call load, or more specifically, the percentage of calls that firefighters respond to in the City and Rural District. These percentages are not intended to be exact, but rather a target representing the call volume and workload over a longer period of time. Trending to achieve these percentages for the RAF spanned more than 20 years from 1990 - 2010. In 2016 the authority began to look at other dimensions, including assessed property valuation and actual time spent on calls in the City and Rural District. For the 2018 LFRA Strategic Plan the RAF will remain at the original 82% -18% ratio. However, these percentages, and the entire RAF, should be reviewed periodically for accuracy and equality for both the City and Rural District.

VISION, MISSION, AND VALUES STATEMENTS

Loveland Fire Rescue Authority is committed to providing the highest quality services for the citizens that are served by the department. The Vision, Mission, and Values are expressed as:

- **Vision** - *"To go from Good to Great and Build the Organization to Last With Enduring Greatness."*
- **Mission** - *"Through commitment, compassion, and courage, the mission of the Loveland Fire & Rescue Authority is to protect life and property."*
- **Values** - *Commitment, Compassion, and Courage*

The Mission for LFRA is specifically carried out through "The Four Rs": Response, Readiness, Resources, and Relationships. These four areas are the centerpieces of the organization's efforts to carry out the mission. The Four Rs (in essence) express "what" LFRA is doing and focusing on to accomplish the mission in the most consistent and effective manner possible.

The three values listed in the mission statement, Commitment, Compassion, and Courage, express "how" LFRA carries out its mission. These three values are the hallmark and heritage of the American fire service. LFRA has adopted these timeless values as a benchmark for measuring the department's members and the services that are provided to ensure that the desired quality is continually and consistently being provided. The vision for the organization also embraces the concept of continuous improvement with each and every member doing all that he or she can do to help ensure that LFRA stays on a pathway of enduring greatness. LFRA is committed to delivering the best possible citizen service to the community with promptness and professionalism. The vision includes continually seeking ways to enhance citizen services and citizen and firefighter safety and survival within the framework of the organization's service delivery model. One of the Authority's most desired outcomes is to be recognized by the community of Loveland and those in the fire service community as a model of excellence in providing fire protection and emergency services in the most cost-effective manner.

BASIC PLANNING ASSUMPTIONS

The Basic Planning Assumptions for LFRA are broken out into two distinct areas: **Stage One** and **Stage Two**. Stage One covers eight basic assumptions that serve as the foundation of this plan for the years 2018-2026. The planning assumptions listed in Stage One have identified goals and objectives and cost estimates for many of the areas of expansion or improvement. Stage Two is based on long-term expectations of what may occur beyond 2026. It is more general and contains no set goals, objectives, or costs, but reflects initiatives that are likely to be needed. The Basic Planning Assumptions are the forecasting tools for staffing and large capital expenses.

Planning Assumptions for Loveland Fire Rescue Authority for Stage One and Stage Two *Stage One assumptions are more specific and listed for years 2018-2026*

Stage One Planning Assumptions

1. **Service Levels Provided** - The Fire Authority expects to maintain or improve current City and Rural District response service levels and those projected for future expansion.
2. **Population Expansion** - Projections for expansion will assume a continuing growth of 2% to 2.5% per year from 2018-2026. This would calculate into a population of approximately 122,000 in 2026 for the Fire Authority service area or response area.
3. **Station/Fire Company Expansion** - Projections for replacement or addition of new fire stations and staffing would include:
 - *Adding 2 fully staffed fire stations - 18 new positions to staff these new stations*
 - *Adding 3 full-time positions for coverage or shift fill-in*
 - *Adding 3 full-time positions for Heavy Rescue 2*
 - *Adding 3 full-time positions for the addition of three new shift battalion chiefs*
 - *Adding 2 Quick Response Vehicles (first QRV will be placed in area of need)*
4. **Workforce Staffing Methods** - Projections for Stage One include the use of both full-time paid and volunteer firefighters. Stations within the Urban Response Areas (URA) would be staffed with full-time paid firefighters and with minimum staffing at three firefighters per company. Volunteer firefighters will staff Big Thompson Canyon stations.
5. **Airport Expansion** - Northern Colorado Regional Airport is expected to expand its services in the near future. The number of larger passenger flights will likely increase in the next two-three years. More personnel and other firefighting resources will be needed if this expansion occurs. One QRV may be utilized to address the initial expansion of services.
6. **Additional Non-Uniformed FTEs** - Projections for workforce expansion in this area should include an IT specialist, an additional administrative assistant, and additional part time inspectors and plan reviewers in the Community Safety Division.
7. **Completion of the Accreditation Process** - The Fire Authority expects to become a fully accredited agency through the Commission on Fire Accreditation International (CFAI) and will have in place plans for ongoing re-accreditation after the initial certification.
8. **Selection of the Essential Services Expansion Plan (ESEP)** - The Essential Services Expansion Plan is to be the strategy of choice for the 2018 LFRA Strategic Plan.

Stage Two Planning Assumptions

Stage Two (2027-2035) will include planning expectations without identified funding streams. These planning assumptions are expected to be very general and based on a historical and projected forecast of what the department's needs will be during this timeframe.

1. **Organizational Planning Goals/Expectations** - Projections for this next phase (2027-2035) include **consideration** for:
 - Expansion of the training center and completion of its master plan
 - Relocation of Fire Station 1 and/or LFRA's Headquarters and Administration and the Community Safety Division
 - Full staffing of the airport station (Station 4) for area coverage, and the addressing of more expanded airport operations and/or expansion in the commercial business park or commercial area around the airport. This will be reviewed on an "as needed basis" within the City of Loveland and the Rural District's planning process, and periodically with the Airport Director and the City Manager to ensure proper service level needs are maintained
 - Addition of one fire station to the south/southeast corridor, projected for the area of South Boise and Highway 402, depending on growth and service level needs
 - Expansion of an additional truck/heavy rescue company
 - Expansion for a paid staff position for Big Thompson Canyon station (40-hour training and response position)
 - Expansion of resources for the wildland urban interface area, including prevention, mitigation, and enforcement functions
 - Expansion of the staff within the training division
 - Increase of minimum staffing from three firefighters per company to four firefighters for specific companies (ex. truck, heavy rescue, and some specific engine companies)
 - Evaluation of the fire authority for LFRA as the best governance model and to evaluate future growth opportunities and expansion possibilities for the area/district
2. **Workforce Staffing Analysis** - Projections in Stage Two should include a comprehensive analysis of the three-person staffing system for each fire company. The authority should conduct this analysis utilizing the latest available research and data to best meet the community's fire/rescue needs. This analysis would include:
 - Workforce staffing model for both 3-person and 4-person engine companies
 - Use of the Quick Response Vehicle as part of the overall workforce-staffing model
 - Review of 24-hour shift staffing models including the traditional models (Berkley System currently in use at LFRA), the 48-96 system (currently in use in other regional departments), and other shift staffing models
 - A workforce staffing and needs analysis of the Big Thompson Canyon area
 - Impacts of staffing and workload within the criteria established for the Authority's accreditation
 - Any other workload/staffing issues and impacts

IV. THE FIRE AND EMERGENCY SERVICES SITUATION

THE PLANNING AREA PROFILE

The City of Loveland and the Loveland Rural Fire Protection District area are located 50 miles directly north of Denver, Colorado, along the eastern foothills of the Rocky Mountains and the Arapaho and Roosevelt National Forest. The planning area includes the City of Loveland, Big Thompson Canyon, Masonville, Pinewood Reservoir, Drake, and a portion of the City of Johnstown at I-25 and Highway (Hwy) 34.

The planning area encompasses 190 square miles. Within this area, land uses vary from high-rise hotels and apartment buildings to agriculture and farm acreage. The expected population in year 2017 is expected to climb to approximately 100,000 people, with nearly 76,000 living within the City of Loveland and approximately 24,000 living in the Rural Fire Protection District (see page 28 for more specific population numbers). The population in the planning area is expected to grow to approximately 122,000 by the year 2026. The additional people are expected to live mostly in higher densities and work in a variety of new businesses and high tech companies with an emphasis on clean and new or alternative energy sources. This expected growth could be dramatically influenced with the addition and expansion of new industries within the response area of LFRA. This strategic plan's focus is on predictable business expansion and residential growth, not for high impact and growth ventures within industry or other large manufacturing business.

Loveland Fire Rescue Authority (LFRA) provides fire protection to a total area of 190 square miles; Thompson Valley EMS responds to an even larger area beyond the scope of LFRA's responsibility. This strategic plan will take into account the entire urban and rural area in its scope. However, a more specific focus is placed on the Urban Response Area (URA) which covers roughly 100 square miles. The wildland urban interface area (WUI) is addressed as a separate theater for operations; information about this can be found in Section VII, Specialized Areas. The topography of the WUI planning area is predominantly low, rolling hills, directly adjacent to the eastern range of the Rocky Mountains at an average elevation of over 5000 feet above sea level. There are also steep mountainous areas within the wildland urban interface zone that have elevations well over 7000 feet above sea level. The Big Thompson River runs diagonally from the west through the planning region. The planning area also contains numerous streams, lakes, and ponds.

The Loveland area enjoys a moderate climate with an annual average of more than 300 days of sunshine. The relatively low humidity tends to make winters feel warmer and summers cooler than might be experienced in the Midwestern part of the country. The average high and low temperatures range from 86 degrees F in July to a low average of 14 degrees F in January. The area receives approximately 13.9 inches of annual precipitation. While the area typically receives moderate amounts of snowfall, snow can and often does become extreme, particularly in the months of March and April.

Housing within the planning area ranges from high-density apartments to widely separated farm and ranch acreages. Housing surveys conducted by the City of Loveland *Annual Data and Assumptions Report-2016* revealed approximately 32,000 units within the City in 2017.

The Loveland community is rapidly becoming a major retail and financial center serving northern Colorado. Retail centers such as Centerra, other regional and neighborhood shopping

malls, and the downtown centers make up the majority of the shopping in the planning region. Other areas of commerce include the growing Crossroads Boulevard Center, which includes The Ranch (Larimer County Fairgrounds) and the Embassy Suites and other retail and hotel complexes. At the time of this writing (2017), there is speculation about the sizeable development of *The Brands* project in this same area. The 25-34 area (Johnstown) is also a rapidly expanding commercial area in the rural fire protection district. The technology projects housed within the site of the old Agilent/HP site (RMCIT) are expected to become important future employers in the region. Agriculture also plays a significant role in the local economy and commerce in the planning area, although with the closure of the Great Western Sugar factory, there is no longer a major agricultural product processing facility within the planning area.

Within the planning area is an interstate highway to the east (I-25), a major state highway running north and south through the middle of the fire-rescue response boundaries (Hwy 287), and a U.S. highway running east and west (Hwy 34). Major railroad lines used for freight transport run through the City and Rural District. In the northeast portion of the planning region resides the Northern Colorado Regional Airport. This air transportation center will be home to several airlines offering direct passenger flights to many cities in the west and southwestern part of the country. The industrial and commercial park adjacent to the airport continues to show growth and could be a major economic factor in the planning area's population growth and development.

URBAN AND RURAL RESPONSE AREA

LFRA provides fire protection and rescue and emergency medical services for basic life support to a large area encompassing both urban and rural environments. In this strategic plan, reference will often be made to the Urban Response Area (URA) and Rural Response Area (RRA). This two-fold viewpoint (urban and rural) is consistent with the perspectives utilized by the U.S. Census Bureau and other accrediting agencies. Data for response and other measurables are calculated in both the urban and rural areas with different planning assumptions and expectations. The URA makes up over 100 square miles of LFRA's response area and is the area where the vast majority of the population lives. Even though LFRA strives to maintain as much uniformity as possible in its service delivery, it does recognize that these two areas (urban and rural) are distinctly different environments. It is unrealistic for citizens living in the more remote areas of the rural district to receive the same level of service, relative to response times and deployment metrics, as those living in the City of Loveland. There are differences in fire risk, resident expectations, and environments where fire-rescue personnel are expected to operate; the single most important factor creating this difference is the distance from the nearest fire station. Along with this premise, the expected drive times between URA and RRA are significantly different. While LFRA makes every effort to have similar staffing levels and equipment responses to calls in the URA and the RRA, the drive time factor creates the largest difference in the overall response, service delivery, and often in the outcome of the emergency call. With these two distinctly different environments, it is difficult, by comparison, to have effective performance measurements that can be applied homogeneously. For this reason, LFRA has chosen to target differing metrics and response/drive times for the URA and for the emergency calls in the RRA (see page 26).

In general, the Urban Response Area is defined as the City of Loveland and the adjacent surrounding urban areas of the Loveland Rural Fire Protection District. The more specific

definition of this area includes the area bordered on the north by County Road 30, to the east by County Road 3 (intersecting with Hwy 402 then to County Road 11), to the south by 42nd Street, and to the west by County Road 29. This entire area is known as the Urban Response Area or URA. It encompasses approximately 100 square miles of LFRA's 190 square miles of response area, or approximately 53% of the physical area. This area is also very similar to what Larimer County has identified as its Growth Management Area (GMA) that is essentially based on an ability to provide urban level services to these areas.

The rural area for LFRA features a substantial amount of mountainous areas that have, in the past, been considered as "remote" or "wilderness" areas. These areas are sparsely populated and particularly difficult to access in a reasonable amount of time for emergency services. Consequently, for some of these areas, response times for fire apparatus expands to 20-30 minutes or more for the first arriving tactical unit. Fortunately, the call loads in these areas are also very low. For these reasons, LFRA has chosen to include these remote and wilderness areas into the data tracked and time measurements for the RRA. Again, this is consistent with data used for the census and for LFRA's accrediting agency.

TIME MEASUREMENTS IN THE URA AND RRA

LFRA has established separate goals and benchmarks for response in the URA and in the RRA. These are primarily defined by their location and drive times from the nearest fire station. They are based on a premise, in general, that meets the intent of national fire service response standards (found in NFPA 1710) that suggest the sooner the arrival of fire-rescue resources, the better the chance for saving lives and property. The premise is built; and applied nationally by many fire departments, around a five-minute drive time, as part of the total response time collective for an emergency incident. LFRA has established the following response/time criteria for the URA and the RRA. The criteria have a variable of 90% of the time to match what is prescribed in other national standards for emergency response (example NFPA 1710).

Urban Response Area (URA)

Area established by: Five minute drive time from the nearest full-time paid fire station.

Response goal: Arrive at emergencies within 6 min 30 sec after being dispatched 90% of the time.

Rural Response Area (RRA)

Area established by: Outer edge/boundary of URA and the remaining area of fire district.

Response goal: Arrive at emergencies within 16 min 30 sec after being dispatched 90% of the time.

More detailed information on the response-time criteria can be found on page 36 (Section V-Staffing and Deployment). LFRA will utilize the information and data gathered for emergency response into these two areas for comparison to our set response criteria and our actual performance. At the present time (2017), LFRA cannot meet these standards for the URA and RRA. However, once Fire Station 7 and Fire Station 10 are built and operational, calculations suggest that these standards can and will be met. A map of these boundaries and the defined URA and RRA are listed in Figure 4-1.

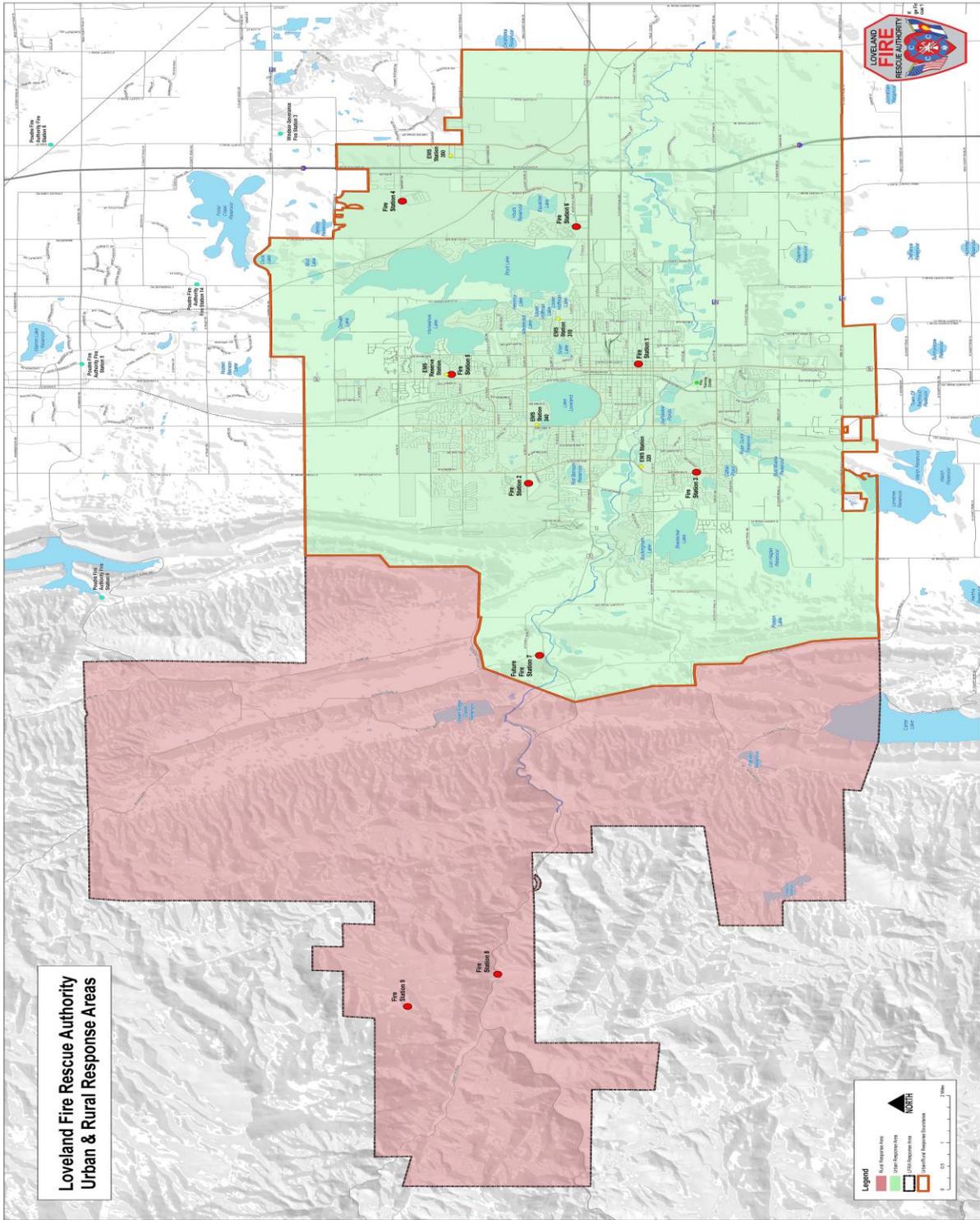


Figure 4-1 Urban & Rural Response Area

VULNERABILITY ASSESSMENT

Loveland Fire Rescue Authority's response district is situated along the eastern edge of the Rocky Mountains. The area's most prominent geological features are the Rocky Mountain Range to the west and numerous fresh water lakes, ponds, rivers, and waterways throughout the district. The elevation in the city is 4982 feet above sea level, but in other areas to the west the elevation can be over 7000 feet. There are more than 704 curb miles of streets in the City of Loveland alone and an undetermined number of county roads and unimproved travel ways within the Rural Fire Protection District. The transportation infrastructure consists of one major interstate highway (I-25), which has a north-south perspective, and one U.S. highway (Hwy 34), which has an east-west perspective. These two highways, along with Highway 287, handle the bulk of traffic in the area. Connections to two other major interstate highways are less than 60 miles in either a north or south direction. The area also has a major railway corridor, used primarily for freight transportation, and a general aviation airport, shared with the City of Fort Collins, that provides both private and commercial air services. Burlington Northern Santa Fe (BNSF), Great Western, and the Union Pacific railroads use the referenced rail system.

Most of Colorado's population, industrial and commercial development, and the seat of state government are located along the Colorado Front Range. Tourism, one of the most vibrant industries in the state, accounts for a large portion of out-of-state visitors using the Front Range areas as part of their visitation and vacation destinations. Given the high population concentration, major industrial activities, and history of disaster events, the Front Range represents the area of greatest vulnerability for repeated occurrences of civilian death and injuries and disastrous events. The combination of high hazard areas and large numbers of out-of-state visitors who are unfamiliar with local conditions and emergency response capabilities represents a unique emergency planning and response challenge to both state and local governments and responders.

Larimer County and the entire Loveland area have experienced many natural and man-made emergency incidents and disasters; the area continues to be vulnerable to floods, wildfires, hazardous materials incidents, and other weather-related incidents including tornadoes and wind-driven events. In 2013 Loveland and the entire northern Colorado area experienced a devastating flood. As a result many changes were made in both the City's mitigation plan and that of Larimer County. The City of Loveland's Office of Emergency Management has been the driving force behind the creation of specific, Loveland-area hazard identification and risk management (see Section VIII: Community Safety Division). Information on floods and other hazards at the county level is available in the *Larimer County 2016 Hazard Mitigation Plan Risk Assessment*.

Visit: <https://larimercompplan.com/maplibrary/larimer-county-2016-hazard-mitigation-plan-risk-assessment> for more information. Another specific analysis for LFRA's area hazards and vulnerability was conducted in the years 2014-2016; these efforts were all a part of the accreditation process and application for Loveland Fire Rescue Authority with the Commission on Fire Accreditation International (CFAI). One document/report with several critical areas was produced as part of the evaluation process: *Community Risk Assessment: Standards of Cover*. This report serves as an integrated risk management plan combining the community risk analysis component and written procedures for fixed resources and response to hazards and emergencies (see Section VIII Community Safety Division for more information on this topic). The next portion of this document evaluates the expected population growth and the current emergency services situation.

POPULATION AND URBAN GROWTH

Of all of the future events that may affect local fire protection and emergency medical and rescue services, the aspects of rapid or unanticipated growth may be the most significant. Fire service agencies must utilize population growth assessments to enable them to forecast and maintain the proper number of firefighters and fire stations to provide an appropriate level of service for the community.

In 2016, the population in the City of Loveland was estimated at 74,427, and the population in the Loveland Rural Fire Protection District was estimated at 22,950 for a total population estimate in the entire planning area of 97,377. Between the years 2018 and 2026, LFRA is planning for a growth rate of approximately 2.5% per year for the City and approximately 2% per year for the Rural District. During the subsequent years of 2027-2035, the total growth rate in the City and Rural District is expected to be between 1.7%-2.2%. These numbers were gleaned from the City of Loveland's *Annual Data and Assumptions Report (2016)* and Larimer County's own website. A projected population in the planning area of approximately 122,275 should be expected in the year 2026 (see Figure 4-2 for an estimate of year-by-year expansion).

YEAR	ESTIMATED POPULATION
2016	97,377
2017	99,021
2018	101,365
2019	103,767
2020	106,319
2021	108,933
2022	111,613
2023	114,359
2024	117,174
2025	119,697
2026	122,275

Figure 4-2. *Population Estimates*

It should be noted that these planning assumptions for population growth are based on normal expansion and could be significantly impacted with large commercial or high-tech facilities coming into the area. At the time of this writing, the expansion of the 25-34 (Johnstown) area is underway with large commercial retail facilities under construction. It is expected that urban growth in new areas will continue to develop along the lines of employment and retail centers.

Another important but unclear factor, is the effect of the Loveland downtown expansion and development effort. It is unclear (at the time of this writing) how this growth will change population expectations and the subsequent impact or demand for emergency services.

LFRA has utilized a more conservative approach in forecasting the increases in population for the planning region. A 2% to 2.5% growth factor for years 2018-2026 was used (as opposed to a 3% to 4% increase that is being used by some demographers). An important use of these population estimates is in the planning for the appropriate number of firefighters an organization should have. It is within these planning assumptions for population growth that important decisions are made related to emergency response and needed staffing levels.

Historically, it has been difficult to precisely determine the number of firefighters needed within a given city or district; much of this depends on services provided. LFRA is considered a “full-service” provider for fire related services; this would include structural firefighting and emergency medical services at the basic life support level. Beyond these “norms,” the organization also provides various technical specialized rescue services; wildland urban interface firefighting operations; a hazardous materials response team; large animal rescue operations; assistance to the Loveland Police Department’s SWAT (TACFIRE), and it operates a full-service training center. In addition, the Community Safety Division offers a complete array of services including fire prevention activities, public education, plan review, code enforcement, and investigation services. LFRA provides more services than most of the seven comparison fire departments in the northern Colorado region (see page 34).

One common planning dimension used to correctly predict the number of needed personnel identifies the number of firefighters per 1000 population in a given city or district. The National Fire Protection Association (NFPA), in its assessments of workforce-staffing analyses, uses this dimension. LFRA uses the dimension of firefighters per 1000 population in conjunction with several other dimensions to gain a more complete picture of its workforce-staffing model and its ability to provide a high quality level of emergency services to the community. The ability to accurately predict the population growth over a period of time within a given response area can have a direct impact on accurate predictions for needed resources, staffing, and equipment. For strategic planning, the calculations for population growth are integral and essential for LFRA to be able to plan for and keep pace with growth, as well as to maintain the desired level of emergency services. Thus, for planning purposes, the most important aspect in using population estimates is their accuracy. In order to ensure accuracy, these estimates must be reviewed and adjusted periodically, particularly when staffing issues are affected.

Other dimensions besides population growth and the number of firefighters per 1000 population are needed for a complete picture of the organization’s capabilities and needs. Another important analysis dimension is found in LFRA’s staffing and deployment model.

NOTE: Other population projections *may* be used in the future to amend the population forecasts listed in this section. The City of Loveland currently has updated projections available for planning purposes. Evaluations are underway for the use of these new projections.

CURRENT EMERGENCY SERVICES SITUATION-RESPONSE/ STAFFING

The Fire Suppression Division (Operations) represents the largest division within the Fire Authority and is directly responsible for handling emergency situations and calls for citizen service. This division responds to fire and rescue calls, emergency medical calls, specialized rescue calls, wildland fires, haz-mat calls, and a myriad of other service requests. The staffing model is predominantly one using fully paid firefighters; however, emergency calls outside the Urban Response Area will also be augmented by volunteer firefighters. The deployment model utilized by LFRA is what is considered a more traditional model utilizing engine companies and truck or support companies to mitigate emergencies at the strategic, tactical, and task level. Staffing and deployment models are built around the structure fire model with the goal of meeting the intent of minimum staffing standards as outlined by the National Fire Protection Association (NFPA).

SINGLE ENGINE RESPONSE - (one engine company with three firefighters)

- Emergency medical calls (only life-threatening calls: Charlie, Delta, Echo)
- Rubbish fires
- Grass fires
- Automobile fires
- Any other minor outdoor fire
- Citizen assist

STRUCTURE FIRES - (multiple engine companies and truck/support companies)

- First Alarm Assignment:

- 2 engine companies (closest)	6 personnel
- 1 truck company	3 personnel
- 1 heavy rescue/squad company	3 personnel
- 1 on-deck engine/emergency reserve company	3 personnel
- 1 battalion chief (Command)	1 personnel
<hr/>	
Total Resources Needed	16 personnel
- Second Alarm Assignment

- 2 additional engine companies	6 personnel
- Shift and staff recall	
- Notification for mutual aid coverage	

Based on the above staffing/deployment model, LFRA can be expected to extinguish a fire in a building or a fire-separated area of up to an average of 5000 square feet with a first alarm assignment. A second alarm assignment could then be expected to extinguish a fire in a building or fire-separated area up to 10,000 square feet. These estimates assume an average fire flow produced by the attacking engine companies, adequate truck or support functions being performed, and a building where the fire has not progressed to the flashover level and has at or below 50% involvement with fire. Other variables could impact these estimates, but for planning purposes these predictions have proven reliable in other fire departments and fire agencies. In all of these models, interior firefighting operations are pre-supposed as the tactical norm (*for more detailed information, see Section V-Staffing and Deployment*).

EMERGENCY SERVICES SITUATION - FACILITIES/ STATIONS AND APPARATUS

Loveland Fire Rescue Authority currently operates five stations staffed by paid personnel in the Urban Response Area (URA) and two auxiliary stations located outside the Rural Response Area (RRA) staffed by volunteers. The volunteer stations are located in the Big Thompson Canyon (BTC) and Storm Mountain areas. In addition, the department operates a fire station at the Northern Colorado Regional Airport on an as-needed basis. LFRA also operates a full-service training center. Seven of these stations/areas are in excellent or good condition, while two, Fire Station 3 and Fire Station 5, have been deemed to be “undesirable” or “undersized.” Most of the issues revolve around age and size limitations; Fire Station 3 is nearly 40 years old (at the time of this writing) and is nearing the end of its life cycle. Cost estimates for remodeling have been done for each of these two stations and are included in the *Essential Services Expansion Plan*. Fire Station 3 and Fire Station 5 were constructed at a time when Loveland was a combination fire department and normally was two paid firefighter/engineers on duty at a time (smaller stations needed then).

<u>FACILITY</u>	<u>ADDRESS</u>	<u>CONDITION</u>	<u>DIVISION</u>
Station 1	410 East 5 th Street	Good	Operations/Fire/EMS Community Safety
Station 2	3070 West 29 th St.	Excellent	Operations/Fire/EMS
Station 3	900 South Wilson Ave.	Undesirable	Operations/Fire/EMS
Station 4	4900 Earhart Road	Good	Operations/Fire/EMS Airport Operations
Station 5	251 Knobcone Drive	Undersized	Operations/Fire/EMS
Station 6	4325 McWhinney Blvd	Excellent	Operations/Fire/EMS
Station 7	2629 North County Road 27	New in 2019	Operations/Fire/EMS
Station 8	1461 Big Thompson Road (BTC)	Good	Operations/Fire/EMS
Station 9	100 Palisade Mountain Dr. (BTC)	Good	Operations/Fire/EMS
Training Center	100 Fire Engine Red A	Good	Training Division

Figure 4-3. *Facilities/ Condition*

Within these fire stations and facilities, the Fire Authority has a current inventory of eight Type-1 fire engines: five front-line, two reserve engines, one training engine/reserve engine; two aerial ladder trucks: one tower, one straight ladder; two heavy rescue squads: one front-line, one special call; three Type 3 engines (wildland); one Haz-Mat/Special Operations Squad; and approximately a dozen other support vehicles. The Big Thompson Canyon stations also have a Type 1 engine and various wildland firefighting (Type 3) and support apparatus.

By evaluating the area profile, the vulnerability of the area, population growth, staffing and deployment capabilities of the firefighters, and the facilities and apparatus, a good composite of LFRA’s capabilities can be gleaned. Using these and other critical dimensions can give a more complete assessment of how LFRA compares to other like fire departments in the region.

COMPARISON ANALYSIS FOR LFRA AND OTHER REGIONAL DEPARTMENTS

The appraisal data used within the next comparison chart was reviewed and evaluated from six other similarly sized departments within the region (Front Range/ Northern Colorado). Five of these departments are in northern Colorado and one is in southern Wyoming. All of these comparison departments have similar emergency response profiles with reasonably common citizen demographics. All of these departments are members and partners of the Front Range Fire Consortium (FRFC). Three of these are city fire departments with no rural area responsibilities, one is a city fire department that contracts for fire protection services with a rural area on one side of their boundary line, one is a fire protection district, and two are fire authorities (this group includes LFRA). By comparison, the agency most like LFRA, by area profile, governance model, operational profile, and services provided, is Poudre Fire Authority, Fort Collins (PFA).

The list of comparison departments includes Boulder Fire Department, Cheyenne Fire Department, Greeley Fire Department, Longmont Fire Department, Loveland Fire Rescue Authority, Mountainview Fire Protection District, and Poudre Fire Authority (Fort Collins). Critical comparison dimensions in this part of the report include:

- Operating budget
- Number of uniformed personnel
- Population served
- Costs per capita for services
- Size of area in square miles
- Number of fire stations
- Number of firefighters per 1000 population

Research completed by the Fire Authority Review Committee in 2010-2011 (see *2012 LFRA Strategic Plan*) clearly showed that Loveland Fire and Rescue was underfunded and understaffed by nearly 30% in many critical service level dimensions when matched to its comparison departments in the region (i.e., staffing levels, operating budget, costs per capita, and number of firefighters per 1000 population). Yet, the department had nearly the same numbers for population served and a much larger area of coverage than the averages of the comparison departments. These factors had a direct and negative impact on both citizen and firefighter safety and survival. The impacts made from the *2012 LFRA Strategic Plan* and the Model One Expansion Plan have had very positive effects on these comparison numbers and the organization's deficiencies. Today (2017), LFRA's numbers are still behind the regional comparison departments; however, those deficits have been reduced considerably (see Figure 4.4 *Fire Department Statistical Comparison Data*).

The *2018 LFRA Strategic Plan* outlines the needed expansion in areas of new fire stations, staffing levels, and deployment. As these strategic initiatives are accomplished, LFRA's ability to keep pace with community growth will continue. The comparison dimensions and numbers listed in Figure 4.4 for LFRA will also improve, resulting in enhanced citizen services and greater firefighter and citizen safety and survival.

**Fire Department Statistical Data Comparison
Front Range Fire Departments/Organizations**

City or Department	2016 Budget	Number of Uniformed Personnel	Population Served	Cost Per Capita	Size of Area by Square Miles	Number of Fully Staffed Fire Stations	Number of Firefighters per 1000 Population
Loveland Fire Rescue Authority	\$13,458,493	85	99,021	\$129.60	190	5	0.85
Boulder	\$18,628,624	106	108,090	\$175.80	25.8	8	0.98
Cheyenne	\$10,177,213	91	64,019	\$148.95	27.2	5	1.42
Greeley	\$16,033,517	102	104,000	\$121.31	64	6	0.98
Longmont	\$11,597,799	84	92,858	\$123.46	21.8	6	0.90
Mountain View	\$13,105,885	73	50,000	\$262.12	164	8	1.46
Poudre Fire Authority	\$32,595,946	185	192,405	\$136.61	235	11	0.96
Mean/Average	\$16,513,925	103.7	102,043	\$156.84	103.9	7	1.07
Weighted Average	\$14,564,954	93.6	93,598	\$142.88	94.2	6	1.05

Present Comparisons 2016

	Operating Budget	# of Uniform Personnel	Population Served	Cost Per Capita	Size of Area	# of Fire Stations	# of FFs per 1000 pop.
Average of Other Departments	\$16,513,925	103.7	102,043	\$156.84	104 Sq. Miles	7	1.07
LFRA	\$13,458,493	85	99,021	\$129.60	190	5	0.85
Difference % + or -	(-18.5%)	(-18%)	(-5%)	(-17%)	Nearly 2 times size	(-17%)	(-21%)

Figure 4-4. *Fire Department Statistical Comparison Data*
Source: *LFRA 2016 Annual Report*

V. STAFFING AND DEPLOYMENT

A critical component in carrying out the objectives of the *Essential Services Expansion Plan* (ESEP) will be an appropriate and effective plan for staffing and deployment of personnel and resources. This section of the strategic plan focuses on staffing levels and a deployment model to meet those objectives. From a historical perspective, Loveland Fire Department/Loveland Fire Rescue Authority (LFRA) has utilized a variety of staffing and deployment models. The organization has had an atypical history when compared to other regional departments, relying solely on volunteers up until the 1920s when the first paid engineer was hired. In the modern era, Loveland expanded into a concept known as a “paid-combination” fire department with the volunteer officers carrying much of the responsibility for leading and managing the organization. In 1991, the first paid fire chief was hired. The department moved slowly, but steadily, toward a staffing and deployment model more like a full-paid department, with a continuance of the volunteer program until 2012. For several years LFRA utilized a three-tiered workforce staffing model that relied on full-time paid staff, part-time paid staff, and reserve firefighters. This model lasted until 2015. Today, LFRA is a full-paid fire department that relies on trained/certified volunteer firefighters for emergency calls in the Big Thompson Canyon area (see Section VII page 78).

The concentration of this section is on staffing levels, deployment, and the connection to the Operations Division (staffing for engine and truck companies). However, other areas within LFRA, such as the Community Safety Division, Administration, and Training will also be considered as part of the overall staffing model and are mentioned within this section and others.

BASIC STAFFING AND DEPLOYMENT PLANS NATIONALLY AND REGIONALLY

Established within the framework of the *Essential Services Expansion Plan* is the directive for a three-person, minimum staffing level design for each fire company. This staffing model is the most common and has become the *accepted* standard for minimum staffing levels for most fire departments in the Northern Colorado region. Although this model does not meet, specifically, the exact criteria for deployment as set forth in National Fire Protection Association standards (NFPA 1710 *Standard for the Organization and Deployment of Fire Suppression Operations...*) this arrangement certainly can meet the *intent* of the standard. Few regional fire departments in northern Colorado currently are staffed using a minimum four-person model. However, most are finding ways to phase in plans to meet the intent of the current NFPA 1710 standard.

EMPIRICAL CRITERIA FOR LFRA’S STAFFING AND DEPLOYMENT PLAN

Historically, the staffing and deployment model in use by LFRA has proven to be well-designed and effective in saving lives and property and for firefighter safety and survival. These two significant goals (saving lives and property) are the major parts of LFRA’s overall mission. The mission is dependent on adequate staffing levels and firefighting capabilities. In determining the firefighting capabilities of LFRA, three sets of criteria have been used.

The first criterion used was to determine the current tactical abilities of LFRA firefighting forces. This includes water application and other necessary firefighting functions such as forcible entry, search and rescue, ventilation, laddering, salvage and overhaul (typically these are referred to as “truck” or “support” functions), and adequate fireground command and control/Incident Command (see Figure 5-1).

The second criterion used was to determine how much water it takes to control and extinguish a fire in a given-sized building or fire-separated area. Many formulas have been devised to accurately predict needed fire flow (a.k.a. water flow). The formula that LFRA believes best represents the actual situation encountered in structural firefighting is documented by the National Fire Academy. It is referred to as the *NFA Fire Flow Formula*. This formula has been derived from field-testing and from the experiences of many different firefighters:

$$\text{Needed fire flow (GPM)} = \frac{(\text{Length X Width})}{3} \times \% \text{ of involvement}$$

Using this formula for a 5000 square foot structure would derive a needed fire flow of approximately 400 gallons per minute (GPM) in a structure with 25% involvement. It would take 14-16 firefighters to attack and support a firefighting operation delivering this level of flow (see Figure 5-1).

The third criterion considered was the emphasis on firefighter and citizen “survival” during firefighting operations. Beyond the expected duties of water application and truck or support functions, consideration must also be given to firefighter and citizen survival and safety. “On-Deck” or emergency reserve crews are all a part of Fed-OSHA Laws and/or NFPA Standards addressing firefighter survival and safety. The criteria expressed in *NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations...* stipulates a minimum response of 14-16 personnel for a 1st alarm structure fire. LFRA agrees with these personnel minimums and has integrated them into the performance measurements for initial fire attack operations.

LFRA has also set goals within the strategic planning process to meet the intent of the fire emergency response criteria within the Urban Response Area (URA) and the Rural Response Area (RRA). The *Five Minute Response Model* that is applied to the URA is based on the intent of NFPA 1710. The model for LFRA sets the following goals for emergency response (structure fires and life threatening medical or rescues) for the first incoming LFRA tactical units:

- Arrive at emergencies in the designated URA within 6 min. 30 sec. after being dispatched 90% of the time (90 seconds for turnout time and 5 minutes for drive time).
- Arrive at emergencies in the designated RRA within 16 min. 30 sec. after being dispatched 90% of the time (90 seconds for turnout time and 15 minutes for drive time).
- For structure fires, the balance of the response will arrive in the URA 10 minutes after being dispatched, and in the RRA 20 minutes after being dispatched 90% of the time

All full-time paid firefighting companies are to be staffed (minimally) with three firefighting personnel. With these staffing criteria, and the expansion outlined in Section VI of this document, LFRA *will* be able to meet the expectations of these emergency response standards.

One final benchmark for minimum staffing relates to a factor mentioned in Section IV (page 33); *firefighters per 1000 population*. This common dimension is used by NFPA in their assessments for minimum staffing and workload evaluations. It is difficult to calculate the correct or needed number of firefighters based only on a national standard or assessment. Significant variables exist related to the area of the country assessed and the size of the urban area being evaluated. However, LFRA compares itself primarily with other area departments of like size and profiles. In this comparison, the dimension of firefighters per 1000 population has validity. LFRA has targeted .9 firefighters per 1000 population as a goal for the *2018 LFRA Strategic Plan*. This is below average for comparison departments, but an improvement over the current situation.

SPECIFICS FOR LFRA'S STAFFING AND DEPLOYMENT PLAN

LFRA conducted field testing of its own and corroborated other studies that suggested the minimum number of firefighters needed to effectively engage in offensive, interior firefighting operations was 16 firefighters (this design model is nearly identical to the findings that were set forth and published in the standard for NFPA 1710). The specifics of the design model for LFRA's deployment are listed below (these coincide with resources LFRA sends on a 1st Alarm Assignment - see Glossary in Appendix):

- Incident commander (battalion chief/IC) 1
- 1st arriving engine/fire attack crew 3
- 2nd arriving engine/water supply, 2nd attack line 3
- 3rd arriving engine/"on-deck", emergency rescue 3
- 1st arriving truck crew/support and flow path 3
- 2nd arriving truck crew/search and inside support 3

<p><i>Total Staff Needed=</i></p> <p>16</p>
--

Figure 5-1 below illustrates the deployment assignments for each fire company or team.



Figure 5-1. *Deployment Design Model*

The design model for deployment that is depicted above is appropriate for minimum staffing levels for what would be considered a standard fire attack on an average-sized residential or small commercial structure. Large residential or large commercial buildings would normally require more staffing, resources, and more fire companies. Other factors such as access problems, delayed notification or response, exceptionally high winds, lack of adequate water supplies, etc. would also require additional staffing and resources to address these challenges. Other resource needs that are not addressed within this model are the support personnel including EMS paramedics, law enforcement, utility personnel, fire investigators, and citizen advocates. This basic modeling design is appropriate for planning assumptions for minimum staffing and deployment options for fire departments; LFRA has adopted this staffing and deployment model as part of the targeted outcomes for the application of the ESEP with the intent of meeting the organizational benchmarks and service level indicators listed in Section IX of this strategic plan.

TECHNOLOGY AND IMPACTS ON LFRA STAFFING AND DEPLOYMENT PLAN

In the last ten years there has been a significant amount of research and scientific discovery related to fire behavior and its relationship to conventional strategic and tactical fire scene operations. Issues concerning initial fire attack, smoke and flow path for the dangerous products of combustion, and flashover have all contributed to a “rethinking” of how most fire departments operate on the fireground. New firefighting techniques and the use of new firefighting tools such as the “fog nail” nozzles have been in operation in the European theater for several years. Some of the more progressive U.S. fire departments are starting to operate with these new tools and tactical operations as part of their arsenal for initial fire attack. LFRA is a leader in this effort and has incorporated many of these new tools, equipment, and strategies in the operational procedures. However, these new technological and scientific advances are not intended to impact staffing on a numerical basis; in other words, the intent is not to reduce staffing through technology. Rather, the intent is to provide firefighters with a more effective and safer way to operate on the fireground. The new tactical operations are also not a panacea for every fireground situation. Rather, the new technologies and associated tactics should be viewed as simply another “tool in the toolbox.” Conventional, interior firefighting operations have been proven to work effectively in many fireground situations. Thus staffing levels and deployment practices remain based on the earlier model discussed in this section. Future scientific research and field experiments may change the nature of how fires are fought in America. However, for the foreseeable future, the basic standard deployment model and staffing utilized by LFRA remains the most appropriate model for the targeted service levels for the Loveland community. LFRA will continue to monitor the research and scientific testing for these new tactical operations and make the appropriate changes and adjustments into field operations.

LFRA’s leadership is evaluating one other significant fire service staffing and deployment change: the use of Quick Response Vehicles (QRVs). Several departments across the country and a few in northern Colorado are utilizing the QRV concept. The QRV is a smaller fire response vehicle that can be equipped to handle most single engine response calls, medical emergencies, small grass and trash fires, and other service related calls. The intent is to reduce the number of calls that a full-sized fire vehicle responds to and ensure those engines, trucks and squads are available for a structure fire or more complex rescue call. The need for these smaller response vehicles has been driven, in part, because of the extensive call loads many fire companies are responding to. Most are medical emergencies and other service calls.

At the time of this writing, LFRA leadership has done research on the potential uses and feasibility of these QRVs for LFRA's system. QRVs are being incorporated into the *2018 LFRA Strategic Plan* on a provisional basis to possibly address the following:

- Workload and increased flights at the Northern Colorado Regional Airport.
- Workloads for fire investigations and code enforcement within the CSD.
- Burgeoning call loads within the areas of LFRA's busiest fire companies.
- Applications of new technologies and firefighting tactics (ex. fog nail nozzles).

The first QRV is targeted for deployment in Phase Three of the *2018 LFRA Strategic Plan*.

OTHER STAFFING NEEDS AND CONCERNS

There are other staffing positions within LFRA that should be mentioned in this section of the plan. Positions within the Community Safety Division, Administration, and the Training Battalion are all critical to the mission of the organization, and they are included as part of the expansion in the *2018 LFRA Strategic Plan*. The appropriate number of personnel in each of these divisions or areas will be a matter of ongoing analysis. Most are addressed, considering both needs and growth, in the *Essential Services Expansion Plan*; the full expansion for staffing can be found in Section X Recommendations/Implementation. As in other areas within this plan, the forecasted need and numbers associated with staffing are based on normal, planned expansion or growth. Increases in population or expansion of businesses or industrial complexes within the Fire Authority's area that are beyond these norms may overtax the system, and in the future more resources and personnel could be required.

FUTURE WORKFORCE STAFFING ANALYSIS

In Stage Two (2027-2035) of this document, a comprehensive "workforce-staffing analysis" is called for. A number of critical areas are mentioned as part of this analysis including:

- The 24-hour shift staffing model and comparisons for the best, most effective model
- The need for expansion from a 3-person minimum staffing model to a 4-person model
- The use of QRVs and how effective they are in the LFRA system
- Workforce-staffing needs in the Big Thompson Canyon area

These and other areas should be evaluated as needed. The listed timeframes within Stage Two are intended to be guidelines only. Other organizational needs may dictate that some of these issues be elevated to a higher priority and an earlier timeline. Of the entire workforce staffing issues addressed in this section, the 24-hour shift model may be the most pressing to evaluate. LFRA currently uses a "Berkeley System" of the 24-hour work cycle. Many fire departments in Colorado and the western part of the country have opted to change to a 48-96 work cycle (forty-eight hours on duty and ninety-six hours off). Any proposed changes to the current shift work schedule should be accompanied by comprehensive research before changes are implemented.

AUTOMATIC AID AND MUTUAL AID

Nearly all fire departments depend on automatic aid and mutual aid responses to enhance their own staffing and deployment levels; LFRA is no exception. Automatic aid is emergency assistance dispatched automatically by contractual agreement between two communities or fire districts; mutual aid is an agreement to lend assistance on emergencies upon an agency's request.

LFRA has legal, contractual agreements with all of the surrounding fire agencies for auto and mutual aid. These agreements are very important to LFRA's overall emergency response plan for staffing and deployment. In some cases, the first arriving engine to a response in LFRA's area may be from a different fire department; LFRA has these same situations in reverse.

The key to building strong auto and mutual aid agreements is in relationships and training. LFRA is strongly committed to our regional and area partners for automatic and mutual aid. These agreements enhance LFRA's emergency response system and provide resiliency and depth for the protection of our citizens in the event of multiple structure fires or heavy rescue calls within the response area. It also provides for a safeguard for staff recalls of off-duty personnel to return to the workforce for staffing for multiple alarm emergencies, or for emergency calls that require more than the available on-duty resources.

LFRA monitors and tracks the total number and hours worked during mutual aid and automatic aid calls, both for the aid requested by LFRA to other agencies and the number of times and hours served for other agencies needing LFRA's assistance. This data is compiled and included in the LFRA Annual Report. LFRA will need automatic aid and mutual aid as part of the organization's staffing and deployment model for the entirety of the years covered by this strategic plan. Ongoing monitoring by LFRA's leadership and plans for maintaining and improving the auto aid and mutual aid response should be an ongoing priority for LFRA.

PLANNING ASSUMPTIONS

Staffing and Deployment Planning Assumption 1 - LFRA fire companies (engine, truck, and squad companies) will be staffed at three personnel minimum with a target for deployment for structure fires at 16 firefighting personnel, meeting the intent of NFPA 1710.

Staffing and Deployment Planning Assumption 2 - The full-time paid staffing model will be utilized for fire stations in the Urban Response Area. The volunteer firefighter model for staffing and deployment will be used for LFRA stations in the Big Thompson Canyon.

Staffing and Deployment Planning Assumption 3 - The use of technology and other scientific discoveries for fire suppression will continue to be evaluated by LFRA leadership and personnel. Changes to operational procedures and overall tactical operations will be examined and incorporated into LFRA's procedures where appropriate.

Staffing and Deployment Planning Assumption 4 - Alternate staffing and deployment methods, such as the use of QRVs, will be a part of LFRA's future operational practices.

Staffing and Deployment Planning Assumption 5 - Periodic, ongoing evaluations for the efficiency and effectiveness of the LFRA staffing model are needed. In addition, there is a need for a future, more comprehensive, workforce-staffing analysis to determine the best and most effective future staffing model for LFRA.

Staffing and Deployment Planning Assumption 6 - All future staffing levels within every division of LFRA are based on normal forecasted expansion of population and businesses or industrial complexes within the Fire Authority's response area.

Staffing and Deployment Planning Assumption 7 - Automatic aid (auto-aid) and mutual aid will continue to be a vital part of LFRA's initial emergency response planning and long-term solutions for additional staffing for the emergency scene. Training with and building and keeping strong relationships with surrounding and regional fire departments will be a priority.

VI. ESSENTIAL SERVICES EXPANSION PLAN (ESEP)

Loveland Fire Rescue Authority (LFRA) is committed to excellence in both financial planning and management. The results of the *2012 LFRA Strategic Plan* and the subsequent LFRA Annual Reports have provided evidence of this commitment to excellence and a long-term strategy of sound financial stewardship and financial reporting. A significant document or “tool” from the 2012 Plan was the inclusion of the “Model One Basic Services Expansion Plan.” This tool provided LFRA and its leadership with a document that clearly explained the plan for expansion, provided a prioritization schedule, included phases and a time schedule for the expansion initiatives, and provided cost estimates for these initiatives. In the 2018 plan, this new tool is called the “Essential Services Expansion Plan” (ESEP).

The ESEP is similar to Model One, yet there are differences. The new ESEP version will:

- Include the years 2018-2026
- Have three phases, all having three years per phase
- Include new large capital initiatives as well as operation and maintenance costs
- Include large capital replacement and remodel/expansion initiatives
- Include staffing increases to meet the overall minimum staffing goals
- Identify a funding source for nearly all of the initiatives listed in the plan

It is expected that the ESEP will be utilized and frequently reviewed (similar to Model One) and will assist LFRA’s leadership and elected officials in the improvement and expansion strategy for the *2018 LFRA Strategic Plan*. The ESEP will be used as both a planning tool and a benchmark for how the organization is progressing and meeting its stated financial goals and expansion plans. The ESEP contains several important large capital and operational expansion initiatives that will follow a phased-in strategy.

PHASES FOR THE ESSENTIAL SERVICES EXPANSION PLAN (2018-2026)

The ESEP consists of three phases. The first two phases (both “High Priority”) include two major construction projects (two new fire stations), significant hiring initiatives (for both stations and other), a major upgrade to the training center, and the replacement of several key pieces of fire apparatus. The third phase is mostly dedicated to the expansion of two existing fire stations and replacement of two pieces of fire apparatus. The charts on the following pages express the details and logistics for this expansion. Some of the *new* major capital and O&M items are:

PHASE ONE (2018-2020)

- Building and staffing Fire Station 7
- Build Training Center Burn Building

PHASE TWO (2021-2023)

- Building and staffing Fire Station 10
- Add 3 firefighter positions for Heavy Rescue 2

PHASE THREE (2024-2026)

- Remodel/Expand Fire Station 5
- Replace/Expand Fire Station 3
- Add 3 shift Battalion Chief positions for East Battalion and Add a QRV (6 positions)

MODELS AND CHARTS FOR THE ESEP (2018-2026)

The remaining pages in this section provide individual details for the ESEP, including staffing and costs for implementation, large capital options for station construction, primary fire apparatus purchase, and replacement and fire station remodel/or expansion.

These models and charts are included to summarize as much as possible the large capital purchasing plans and the operation and maintenance plans expressed within the ESEP. It should be noted that while the ESEP makes up the majority (or the core) of the essential expansion plans for LFRA within the *2018 LFRA Strategic Plan*, other needs and plans for expansion do exist. The complete listing and explanations are recorded in “Section X Recommendations/Implementation.” The headings/areas for these expansion needs/initiatives are:

 **High Priority** - Elements in Phase 1 or Phase 2 of the plan (2018-2023) that relate to the addition of needed personnel or high priority capital items.

 **Intermediate Priority** - Elements in Phase 3 of the plan (2024-2026) that relate to the addition of needed personnel or intermediate priority capital items.

Future Priority/ Needs - These are additional capital and personnel priorities that have no timeline set, other than being addressed or met within 2018-2026, the years of the *2018 LFRA Strategic Plan*.

In many of the models and charts that are included in this section, the high and intermediate “priority scale” utilized will be color coded for clarity.

Once again, the models or charts in this section are provided for an easier illustration or graphic of the overall expansion initiatives within the ESEP. Many of the areas are listed separately within these models for clarity and simplicity. The following specific models or charts for the ESEP are included in the subsequent pages of this section:

- Essential Services Expansion Plan - major items in one chart, costs per phase totaled
- Abbreviated Phased-In Plan - major capital and O&M items
- The Strategic Plan by Phases - major capital and O&M with phases, years, and costs
- ESEP Major Staffing and Timelines - listing for major hiring initiatives/timelines
- Apparatus/Large Capital Replacement - detailed listing of large capital/apparatus purchases and the timelines associated with them
- Fire Station Construction/Station Remodels/Expansion for ESEP - details for large capital projects for new station construction and remodeling/expansion of existing LFRA stations

Essential Services Expansion Plan-
Plan on a Page

PHASE 1: 2018 – 2020 (High Priority)	YEAR	COST	SOURCE
Station 7 Construction & Apparatus	2018	4,649,914	LFRA Financing
Replace Fire Engine E-3/ #0156	2020	598,005	LFRA Fleet Replace Fund
Training Center- Burn Building	2020	2,641,228	City TABOR/Fire Capital Exp. Fees
Total Capital \$ Increase Phase 1		\$7,889,147	
Inspector for Community Safety Division (CSD)	2018	74,500	City/Rural Annual Contributions
Station 7 (staffing, facilities, and vehicle maintenance and annual replacement savings)	2019	1,418,520	City/Rural Annual Contributions
Total Operational \$ for Phase 1		\$1,493,020	
PHASE 2: 2021 – 2023 (High Priority)	YEAR	COST	SOURCE
Station 10 Design	2021	409,236	LFRA Financing
Replace Fire Engine E-7/#0109	2021	599,881	LFRA Fleet Replace Fund
Station 10 Construction & Apparatus	2022	4,895,830	LFRA Financing
Replace Fire Engine E-2/#0110	2023	603,567	LFRA Fleet Replace Fund
Replace Rescue 6/#0352	2023	723,071	LFRA Fleet Replace Fund
Total Capital \$ Increase Phase 2		\$7,231,585	
Add 3 FF positions for Heavy Rescue 2	2021	230,000	City/Rural Annual Contribution
Station 10 (staffing, facilities, and vehicle maintenance and annual replacement savings)	2023	1,398,725	City/Rural Annual Contributions
Total Operational \$ for Phase 2		\$1,628,725	
PHASE 3: 2024-2026 (Intermediate Priority)	YEAR	COST	SOURCE
Remodel/Expand Station 5	2024	2,935,688	City Funding
Replace Ladder 6/#0202	2024	1,406,282	LFRA Fleet Replace Fund
Add Quick Response Vehicle (QRV) Company	2025	381,598	LFRA Fleet Fund
Replace/Expand Station 3	2025	5,468,492	City Funding
Replace Fire Engine 5/#0111	2025	736,854	LFRA Fleet Replace Fund
Total Capital \$ Increase Phase 3		\$10,928,914	(add QRV Capital)
Add 3 Shift Battalion Positions (East Battalion)	2024	518,400	City/Rural Annual Contributions
QRV Company Staffing	2025	828,423	City/Rural Annual Contributions
Total Operational \$ for Phase 3		\$1,346,823	

Abbreviated Phased-In Plan

Major Capital and O&M

PHASE	TIME	CONSTRUCTION	HIRING FOCUS	APPARATUS
One	2018-2020	<ul style="list-style-type: none"> - Build New Station 7 - Upgrade Training Center (New Burn Building) 	<ul style="list-style-type: none"> - Staffing for Station 7 	<ul style="list-style-type: none"> - Apparatus for Station 7 (Type 1 & Type 3 Eng.) - Replace Engine: (E-3- #0156)
Two	2021-2023	<ul style="list-style-type: none"> - Build New Station 10 	<ul style="list-style-type: none"> - Staffing for Station 10 - Three positions (F/F) For Heavy Rescue 2 	<ul style="list-style-type: none"> - Replace Two Engines: (E-7- #0109) (E-2- #0110) - Replace Rescue 6 (R-6- #0352)
Three	2024-2026	<ul style="list-style-type: none"> - Remodel/Expand Station 5 - Replace/Expand Station 3 	<ul style="list-style-type: none"> - Three BC positions for East Battalion - Staffing for QRV Company 	<ul style="list-style-type: none"> - Replace Engine: E-5 (E-5- #0111) - Replace Ladder 6 (L-6- #0202)

2018 Strategic Plan Expansion: Phased-In Large Capital/O&M 2018-2026		
<u>Phase 1: 2018-2020</u>		
• <u>2018</u>	<i>Build New Station 7</i>	\$4,649,914
• <u>2019</u>	<i>Staffing for Station 7</i>	\$1,418,520
• <u>2020</u>	<i>Replace Engine Reserve (E-3- #0156)</i>	\$ 598,005
• <u>2020</u>	<i>Upgrade Training Center: New Burn Building</i>	\$2,641,228
<u>Phase 2: 2021-2023</u>		
• <u>2021</u>	<i>Design Station 10 and Land Purchase</i>	\$ 409,236
	<i>Add 3 FF positions for Rescue 2</i>	230,000
	<i>Replace Engine Reserve (E-7- #0109)</i>	\$ 599,881
• <u>2022</u>	<i>Build Station 10</i>	\$4,895,830
• <u>2023</u>	<i>Staffing for Station 10</i>	\$1,398,725
	<i>Replace Engine Reserve (E-2- #0110)</i>	\$ 603,567
	<i>Replace Rescue 6- #0352</i>	\$ 723,071
<u>Phase 3: 2024-2026</u>		
• <u>2024</u>	<i>Remodel/Expand Station 5</i>	\$2,935,688
	<i>Add 3 Shift BC Positions (East Bat.)</i>	518,400
	<i>Replace Ladder 6- #0202</i>	\$1,406,282
• <u>2025</u>	<i>Add-in QRV Company & Vehicle</i>	\$1,210,021
	<i>Replace/Expand Station 3</i>	\$5,468,492
	<i>Replace Engine Reserve (E-5- #0111)</i>	\$ 736,854

ESEP MAJOR STAFFING ADDITIONS AND TIMELINES

The ESEP confirms the use of the full-time paid staffing model for fire stations located within the Urban Response Area (URA). Volunteer firefighters staff stations in the Big Thompson Canyon area. The total build out of this plan would result in achieving the goal of having .9 firefighters per 1000 population for full-time, paid, uniformed staff for LFRA.

ADDITIONS TO BUILD THE PLAN:	PRIORITY	YEAR
* Add 12 full-time uniformed positions for new Station 7/Engine 7: Includes 3 lieutenants, 3 engineers, and 3 firefighter positions to meet minimum staffing; also includes 3 coverage positions (“rovers”) to address shift-wide coverage needs for vacations, sick leave, injury leave etc.	High Priority	2019
* Add 3 full-time firefighter positions for Heavy Rescue 2 (brings staffing for Heavy Rescue 2 to three personnel, full-time)	High Priority	2021
* Add 9 full-time uniformed positions for new Station 10/Engine 10: Includes 3 lieutenants, 3 engineers and 3 firefighter positions to meet minimum staffing	High Priority	2023
* Add 3 full-time uniformed positions for new East Battalion: Includes 3 battalion chief positions for shift leadership and management (one battalion chief for each of the three shifts)	Intermediate Priority	2024
* Add 6 full-time uniformed positions for the establishment of the new Quick Response Vehicle (QRV): Includes 3 lieutenants and 3 firefighter positions	Intermediate Priority	2025

ESEP NEW APPARATUS/LARGE CAPITAL REPLACEMENT

■ **Front-Line Apparatus Purchase/ Replacement Schedule - Status of Fleet**

Vehicle Name	Primary Vehicle	Vehicle Number	Year of Vehicle	Goes to Reserve @ 12*	Remove/Retire (5**)
E-1	SVI/Spartan	#0112	2010	2022	2027
E-2	Crimson/Spartan	#0110	2005	2017	2023
Rescue 2	SVI/Spartan Gladiator	#0850	2013	2023	2033
E-3	SVI/Spartan	#0300	2016	2028	2033
E-5	Pierce Quantum	#0111	2008	2020	2026
E-6	SVI/Spartan	#0313	2012	2024	2029
Tower 6	Pierce Aerial Tower	#0700	2014	2024	2034
Rescue 6	SVI/Spartan	#0352	2003	_____	2023
E-8	Crimson/International	#0160	2009	2027	2034
Front-Line Reserve Apparatus					
Reserve	Smeal/Spartan	#0156	2003	2015	2020
Reserve	SVI/Spartan Gladiator	#0109	2004	2016	2021
Ladder 6	Smeal/HME 1871	#0202	2001	_____	2024

■ **Replacement Plan and Costs for New Primary Apparatus 2018-2026**

1.	2020	Reserve	#0156	Smeal/Spartan	\$ 598,005
2.	2021	Reserve	#0109	SVI/Spartan Gladiator	\$ 599,881
	2023	Engine 2	#0110	Crimson/Spartan	\$ 603,567
3.	2026	Engine 5	#0111	Pierce Quantum	\$ 736,854

4.	2023	Rescue 6	#0352	SVI/Spartan	\$ 723,071
5.	2024	Ladder 6	#0202	Smeal/HME 1871	\$1,406,282

TOTAL COSTS – FRONT-LINE APPARATUS REPLACEMENT **\$4,666,857**

*12 = Target for years of front-line primary service before going into reserve status **5 = Anticipated years of service as a reserve before replacement

ESEP FIRE STATION CONSTRUCTION/ REMODEL STATIONS

New Construction

The following are cost estimates for building two new fire stations associated with the growth planned for LFRA and the *Essential Services Expansion Plan*.

CONSTRUCTION OF NEW FIRE STATION 7 - 2018

• Design	\$ 347,950
• Construction	\$3,191,550
• Equipment	\$1,090,000
• Arts (1% added construction costs)	\$ 20,414

TOTAL CAPITAL COSTS for FIRE STATION 7 **\$4,649,914**

CONSTRUCTION OF NEW FIRE STATION 10 - 2022

• Design	\$ 409,236
• Construction	\$3,816,710
• Equipment	\$1,079,120
• Arts (1% added construction costs)	\$ -----

TOTAL CAPITAL COSTS for FIRE STATION 10 **\$5,305,066**

Remodel/Expansion Construction

The following are cost estimates for the remodeling and expansion of two existing fire stations associated with the growth planned for LFRA and the *Essential Services Expansion Plan*.

REMODEL/EXPANSION OF FIRE STATION 5 - 2024

- Includes: Design, Construction, Arts

TOTAL CAPITAL COSTS for FIRE STATION 5 **\$2,935,688**

REPLACE/EXPANSION OF FIRE STATION 3 - 2025

- Includes: Design, Construction, Arts

TOTAL CAPITAL COSTS for FIRE STATION 3 **\$5,468,492**

VII. SPECIALIZED AREAS

The scope of fire/rescue emergency services has expanded greatly over the last three decades. Firefighters today are expected to provide expanded and enhanced services in capacities that include emergency medical response, wildland firefighting, and specialized rescue functions. Section VII covers several important specialized functions that have now become integral to the fire department's daily operations and long-term strategy and planning for a fire and rescue-safe community. It also addresses the dimension of human resources and many other supplementary functions that are necessary to carry out the mission of Loveland Fire Rescue Authority (LFRA). One segment included in this section is titled "Other Important Areas" it addresses several support functions that are essential to LFRA's overall fire-rescue mission. The order in which these seven specialized services are addressed is not intended to imply any qualitative rating or level of importance. All of these specialized and miscellaneous services are important and necessary to the overall mission of LFRA.

This section focuses on the following areas of operations that relate directly to fire protection and emergency services:

- Emergency Medical Services/TVEMS
- Wildland Urban Interface Operations
- Specialized Operations Team (SOT)
- Training
- Safety/Survival
- Human Resources and Support
- Other Important Areas

For each specialty area or function, this seventh section will identify what it is, explain how it operates or is integrated into the department's mission, provide some insight into future needs or concerns, and present some planning assumptions.

EMERGENCY MEDICAL SERVICES – LFRA AND TVEMS

The Emergency Medical Services (EMS) delivery model is typically represented by two different levels of service: Basic Life Support (BLS) and Advanced Life Support (ALS). BLS focuses mostly on delivering the primary services of airway, breathing, and circulation to support life. ALS focuses on the more complex, advanced life support services that include more definitive airway management and intubation and the administration of life-saving intravenous drugs for pre-hospital care and treatment. Transportation of patients is most often the responsibility of the ALS provider. Two other integral components to a successful EMS system include dispatching for EMS and public medical awareness and training. The emergency medical system in the Loveland Fire Rescue Authority response area is very much like the typical model listed above. The uniqueness of the Loveland model has much to do with Thompson Valley EMS (TVEMS) operating as a special district. This governance model allows TVEMS to prioritize patient care and customer service and to leverage their assets to have the appropriate amount of resources (ambulances and staffing) available to serve the citizens and their needs. Of course, both agencies, TVEMS and LFRA, are distinctive because of the people that work there and who are dedicated to providing quality pre-hospital care and excellent customer service.

EMS and LFRA

LFRA supports the EMS model by providing basic life support services and working collaboratively with the paramedics and medical technicians of TVEMS during on scene assessment, treatment, and when needed during transportation to a local hospital or health care facility. LFRA's personnel are trained to the level of Emergency Medical Technicians (EMTs) and in the use of Automatic External Defibrillators (AEDs). The current number of EMS-related calls for LFRA is at 50% of the entire call load (in 2016 that was nearly 8,000 emergency calls). LFRA normally responds only to EMS calls for life-threatening emergencies, or in field-related terminology, to Charlie, Delta, and Echo medicals. Occasionally, LFRA will respond to non-life-threatening calls such as an unknown coded "Bravo" or when TVEMS responders feel the need for a fire response.

LFRA firefighters are required to hold the EMT-Basic certification issued by the Colorado Department of Public Health and Environment (CDPHE); LFRA is a recognized continuing education training provider for CDPHE. Certified LFRA EMS trainers provide ongoing training in EMS for required continuing education. Joint or combined EMS training is often provided in collaboration with TVEMS instructors to ensure that all phases of the local EMS model are working in concert with each other, and everyone is training to the same protocols.

LFRA strategically envisions remaining a BLS provider in the future and providing a support mechanism for the ALS and transport services being offered through TVEMS. The current operational model and business philosophy of TVEMS and its leadership is conducive to providing a quality, high level of citizen service for EMS. Periodic performance reviews of the service levels should occur and be a part of this strategic planning process. Regular, ongoing meetings with TVEMS executive staff and mid-level supervisors should also be conducted to ensure that both agencies continue to operate with a high level of performance and within the parameters of their individual portion of the shared EMS service level mission.

EMS and Thompson Valley Emergency Medical Services

Formed in 1983, the Thompson Valley Ambulance Service became Thompson Valley Emergency Medical Services (TVEMS) in 1998 under a new Health Services District agreement. Today TVEMS responds to nearly 10,000 calls per year with its fleet of 10 ambulances, 5 stations, and 55 employees. TVEMS incorporates the most advanced treatment protocols with the latest technology, modern ambulances, computer aided dispatching, medical pre-arrival instructions, and GPS mapping to provide quality services to its citizens and clients. TVEMS provides advanced life support and ambulance transport services to the 450 square miles of the Thompson Valley Health Services District. This includes the cities of Loveland and Berthoud and the Loveland Rural Fire Protection District; with portions of Johnstown and Windsor-Severance Fire Protection District also included in the service area where a population of over 100,000 is served.

The mission of TVEMS is to "promote and facilitate the responsible provision of medical services within the Thompson Valley Health Services District." The organization's Vision Statement states, "The vision of Thompson Valley EMS is to provide humane, quality care to the citizens of the Thompson Valley Health Services District. We will commit ourselves to make each patient feel, no matter the intensity of the event, they are worth our time, education, and compassion. This commitment to treat our community members with dignity and respect will extend to our co-workers. Our compassion to help each other within the organization is a direct reflection of how well we will care for those we are called to in their time of need.

We will strive to always be on the leading edge of medicine and education while working to contain costs and maintain continuity within Thompson Valley EMS.”

Successfully managing and operating an emergency medical system with two different agencies requires cooperation and collaboration in field operations; it also requires a compatible organizational and business philosophy. The model used by LFRA and TVEMS meets and exceeds these necessary essentials. The focus of both organizations is on providing the highest quality patient care and citizen service possible with an emphasis on collaboration in planning, training, and overall field operations.

Emergency Medical Dispatching (EMD)

The Loveland Emergency Communications Center (LECC) is the Public Safety Answering Point (PSAP) for 9-1-1, covering over 260 square miles of southern Larimer County. LECC communications specialists answer both emergency and non-emergency calls. The Center is dispatching for Loveland Police Department, Loveland Fire Rescue Authority (including Loveland Rural Fire Protection District and Big Thompson Canyon Fire), Thompson Valley EMS, and the Berthoud Fire Protection District.

In 2007, the Loveland Emergency Communications Center became one of 82 dispatch centers in the world to become accredited in Emergency Medical Dispatching (EMD). LECC has been evaluated and re-accredited multiple times since the initial accreditation process in 2007, including during the recent reaccreditation in 2016. Communications specialists use specialized medical software to triage patients over the phone and send the appropriate medical personnel. An average of 110 calls are listened to and evaluated each month to ensure that our EMDs maintain high standards.

EMD consists of three parts. The first involves triaging the incoming request for medical service to determine the level of response such as no response, non-emergency transport, or emergency transport. This feature depends heavily on the area's emergency medical facilities and the availability of alternate, non-emergency transport methods and treatment facilities. Many jurisdictions do not utilize EMD, but it is an important and proven component in reducing abuse or overcrowding of the local emergency medical system, reducing incidents (which helps conserve available resources for the fire department, ambulance provider, emergency rooms, etc.), and helping to reduce accidents.

The second part of EMD consists of providing pre-arrival instructions to the callers, so they can immediately help the victim. The level of telephone assistance can vary from simple advice (call your doctor) to complete instructions for CPR. This is the most visible component of EMD, and for victims, perhaps the most valuable feature: saving lives. Pre-arrival instructions are most commonly provided on computer screens, arranged so the dispatcher can question the caller and based on the answers, quickly go to the screen that contains the correct advice or instructions.

The third and most critical feature of EMD is quality assurance. Each EMD program must originate with the complete involvement and cooperation of local emergency medical officials. Each aspect of the selected EMD protocol must be reviewed, revised as needed, and approved by the local or regional EMS agency. This ensures that the information and procedures being given by the dispatchers are correct and appropriate for local conditions. In addition, there must be an on-going review of the use of the EMD protocols by the dispatchers to ensure they're following them correctly and that the protocols are having a positive impact on the victims. This review

could involve the random selection of several incidents each month for providing analysis, grading, providing feedback to the dispatcher, and revising the protocols if necessary.

The EMD component of the EMS system operated by LECC is an integral part of the overall quality, citizen service model for pre-hospital care offered in the LFRA and TVEMS districts. This third component of the system ensures a proper response from the emergency pre-hospital care providers and begins the assessment, triage, and treatment phase of the EMS with citizen assistance. The fourth component of the system is public medical awareness and training.

Public Medical Awareness and Training

The general public's knowledge of the symptoms of serious illness and of the proper method to access the EMS system has been shown in community studies to have a positive effect on the overall survival rate of patients in medical emergencies. Citizens trained in CPR are another important factor in patient survival. Approximately 95% of sudden cardiac arrest victims die before reaching a hospital facility (American Heart Association-“CPR Facts and Statistics”). However, statistical data has suggested that if more citizens knew CPR, more lives could be saved. According to the American Heart Association, immediate CPR can double or even triple a cardiac arrest victim's chance of survival.

Quality EMS education is the first step to improving the standard of care. TVEMS offers a wide range of courses, both certification and refresher courses, for pre-hospital emergency health care providers (EMT-basic through paramedic), firefighters, law enforcement personnel, health care providers, and the general public. Citizen training in CPR is an important component of the programs offered by TVEMS; the continuance of this training will positively impact the region's standard of care.

Enhancing the public's knowledge about the proper way to access the EMS system is important to pre-hospital emergency care. A well-informed public can assist the emergency dispatch center in striving to initiate proper and timely notification of medical emergencies.

Loveland - A Heart Safe Community

The McKee Medical Center Foundation has partnered with McKee Medical Center, the Cardiovascular Institute of North Colorado, Thompson Valley EMS, the Loveland Police Department, Loveland Fire Rescue Authority, Thompson R2-J School District, and Loveland Emergency Communications Center to become a designated “Heart Safe Community.” The “Heart Safe Community” designation, sponsored by the American Heart Association, is a communitywide effort to educate citizens on the dangers of sudden cardiac arrest (SCA). Identifying symptoms, learning how to administer cardiopulmonary resuscitation (CPR), and using automated external defibrillators (AEDs) are major components of the “Heart Safe City” designation. The Banner Health website has more information on this community initiative at: <https://www.bannerhealth.com/ways-to-give/foundations/mckee/funds/heart-safe>

Currently, Loveland is the only city within Colorado to extend the instruction of CPR as part of the Thompson School District's curriculum for sophomores; this is mandatory training for all tenth graders in the school district. This important training is another indication of the commitment of these aforementioned partners to making and keeping Loveland a Heart Safe Community for all its citizens.

Response Times and EMS

Response time performance has been used as an indicator of ambulance service quality for many years. Historically, the standards were applied to all calls regardless of clinical urgency. However, the rationale for using response time as a performance standard is based on researched evidence in the relationship between time and patient outcome for very specific clinical conditions: predominately out-of-hospital cardiac arrest. Many of these research studies were conducted before the advent of the BLS use of AEDs, when defibrillation was an ALS procedure. National standards have also impacted the thinking of time and patient outcome.

Contemporary studies in the U.S. found overall, rapid response in terms of an eight-minute target for ALS makes no discernible difference to survival of patients in cardiac arrest. Nevertheless, there are presumed benefits for the survival of many out-of-hospital cardiac arrest patients. Reducing levels of anxiety, pain, and distress in patients and family members is another benefit of rapid response. Thus for a given level of resources and specific call types, response times should be minimized.

LFRA has adopted the intent of the National Fire Protection Association's (NFPA) directives for EMS response as a target for performance measurements. The goal is to have a BLS unit (engine or other tactical unit) arrive within 6 minutes and 30 seconds after being dispatched 90% of the time within the Urban Response Area (see Section V- Staffing and Deployment for more information). LFRA applies these response targets for life-threatening emergency medical calls (Charlie, Delta, Echo medicals).

TVEMS also uses response time targets and dispatch call prioritization according to the urgency and seriousness of the patient's condition. The assumption is that a faster response to life-threatening emergencies could lead to an increase in the number of lives saved. Armed with accurate information, "prioritized" response times have gained acceptance within the local jurisdiction and are defined as follows (ALS unit arrival criteria):

- Category 1 - Life-threatening emergencies of which 90% should be responded to within 9 minutes
- Category 2 - Serious conditions, which should be responded to within 15 minutes
- Category 3 - An unspecified but appropriate response for calls with no immediate clinical need.

From the LFRA perspective, any life-threatening emergency (Charlie, Delta, or Echo medical call) is essentially handled as a "Category 1" with the abovementioned response criteria in place. The targeted performance standards of the EMS system within the LFRA response district for life-threatening medical emergencies state that a BLS unit will arrive within 6 minutes and 30 seconds from the time of dispatch, and an ALS unit will arrive within 9 minutes from the time of dispatch 90% of the time within the Urban Response Area (See Section IV for a definition of the URA). These performance targets should be monitored and measured annually for comparisons as to the outcomes for service delivery within the noted response areas. Long-range plans (such as those listed in the Essential Services Expansion Plan) are designed to address current areas of deficiencies where these standards are not being met. Four other factors in the total response time continuum (sometimes referred to as overall response time) need to be considered to understand emergency response times:

- Dispatch/process time
- Turnout time
- Travel time
- Total response time

In Figure 7-1 all four of these dimensions are defined with both the current NFPA standard listed along with LFRA's targeted standard for each dimension.

TIME INTERVAL	LFRA STANDARD	NFPA STANDARD
<p>Dispatch/Process Time</p> <p>Extends from when the emergency operator picks up the phone and receives information from the caller, to the time when the emergency call is “toned out” to emergency response units (Fire/EMS)</p>	75 Seconds	75 Seconds
<p>Turnout Time</p> <p>Starts at the time the emergency is “toned out” to the time when the first responding unit is “Enroute,” which is recorded via a radio broadcast or from the unit itself</p>	90 Seconds	80 Seconds
<p>Travel Time</p> <p>Starts at the time of the “Enroute” prompt by the first-to-arrive unit and ends when that unit is “On Scene” at the emergency</p>	5 Minutes	4 Minutes
<p>Total Response Time</p> <p>Total of the above times from phone call to “On Scene” of the first Fire/EMS unit</p>	6:30/7:45	6:35

Figure 7-1 *Emergency Response Data/Times*

Relationships - LFRA and TVEMS and the IGA for EMS

LFRA and TVEMS share in the commitment to strong working relationships between firefighters, paramedics, and EMTs. This commitment has resulted in one of the strongest and best pre-hospital emergency care systems in the region. All teams work together, train together, and plan for the future together. The focal point is always what is best for the citizen. Each organization, and its personnel, share this core value and place a high priority on our relationship. A legal agreement that spells out a variety of operational practices is also in place for both organizations.

LFRA and TVEMS entered into an intergovernmental agreement (IGA) on December 31, 2012, outlining the various responsibilities and commitments that each agency has in providing emergency medical services to the citizens of the Loveland community. It provides details for:

- Level of services provided
- Staffing levels
- Targeted response times
- Other operational practices.

In addition, the agreement sets forth provisions for joint strategic planning between each agency and lists financial obligations. The agreement is periodically reviewed and updated as needed and reviewed with the creation of new or restructured strategic plans for each agency.

Technology and the Future for EMS

Many new technological breakthroughs are likely to develop within the timeframe of the 2018 LFRA Strategic Plan. Initiatives and improvements in early notification and service capacity will likely have an impact and improve response times and citizen services for EMS. An example of this is “Next Gen 911,” which is a system comprised of Emergency Services IP networks, IP-based Software Services and Applications, Databases, and Data Management processes that are interconnected to Public Safety Answering Point premise equipment. The system provides location-based routing to the appropriate emergency entity. Both agencies will need to keep aware of the changes, carefully measure the pros and cons for them, and initiate change when it makes sense and improves the overall EMS services for the citizens.

Planning Assumptions for the EMS System

Certain planning assumptions are included in this strategic plan; those for the EMS system within LFRA’s response district are listed below. The recommendations that emerge from this section of the plan plus the following planning assumptions can be found in “Section X – Recommendations/Implementation.”

EMS Planning Assumption 1 - The current model for the EMS system within the LFRA district, which includes BLS services and support functions provided by LFRA and ALS services and transport provided by TVEMS, provides high quality levels of citizen service and a high level of EMS patient care.

EMS Planning Assumption 2 - The response model that is currently in place, with the noted targets for performance of a BLS unit on scene within 6 minutes and 30 seconds from the time of dispatch and an ALS transport unit on the scene within 9 minutes 90% of the time within the Urban Response Area, is appropriate as a target for performance goals.

EMS Planning Assumption 3 - Relevant performance measurements need to be monitored, measured, and reviewed at least annually for adherence to specific standards of performance.

EMS Planning Assumption 4 - A continuing collaborative process between LFRA and TVEMS for strategic and operational planning is necessary for high quality EMS in the LFRA district.

EMS Planning Assumption 5 - A commitment for continuous improvement in the EMS system within the LFRA district will include Basic Life Support Services, Advanced Life Support Services, Emergency Medical Dispatching, and Public Medical Awareness and Training including activation of the EMS system and citizen CPR training.

EMS Planning Assumption 6 - Steps will be taken by LFRA and TVEMS to continue the designation of Loveland as a “Heart Safe Community” for the immediate future.

EMS Planning Assumption 7 - Solid working relationships between LFRA and TVEMS should remain a very high priority for both agencies. Technological advances will occur in the future and will likely have a positive effect on EMS services. Plans for adoption of technology should be evaluated carefully and made when they make sense and improve EMS services.

WILDLAND URBAN INTERFACE OPERATIONS

Wildland fires are those that involve natural vegetation, sometimes covering large areas and threatening dwellings, agricultural facilities, livestock, and even humans. The wildland urban interface problem has grown in recent decades as more of the population migrated away from cities or urban areas to rural or wildland settings. A large portion of LFRA's response district incorporates areas that are comprised of grass, brush, and timber. As a consequence of growth and development, people have moved further into the areas that are known as the wildland urban interface (WUI). Although the Larimer County Fire Plan identifies the WUI as being west of Range 69 (or west of County Road 23 for LFRA), it is important to understand that WUI locations can also be found within and just outside the city limits of Loveland.

Defining the WUI and the Problem

The National Fire Protection Association (NFPA) defines the "wildland/urban interface" as an area where improved property and wildland fuels meet with no clearly defined boundary. The WUI has been defined as the areas where wildland vegetation meets urban developments, or where forest fuels meet urban fuels, such as houses (Dr. William E. Schlosser). For LFRA, specifically, the primary focus of the WUI is in the foothills, generally west of County Road 23 and the hilly areas of Pinewood Reservoir, Bobcat Ridge, and along Reservoir Road. Much of this is in the Big Thompson Canyon's area of initial response. The area includes steep slopes, high concentrations of brush, and areas of relatively dense forest. In the last fifteen years, this segment of the fire district has had at least four very serious fires; three escalated in size and magnitude to involve both state and federal resources for management and operations. In recent years, building permits in this WUI zone have stabilized, but a sizeable portion of the residents in the Loveland Rural Fire Protection District live in the WUI area. It is likely that as the economy stays strong, the WUI area will see additional population growth and more structures built. Thus the WUI problem for LFRA is not likely to decline during the years of this plan.

Several important factors impact urban interface wildland fire risk, with the most significant factor involving humans. The greater the number of people, residences, and other buildings in the WUI zone, the greater the potential for fires to occur, resulting in larger property loss. Building construction and site features such as combustible roofing, siding, large eaves, long narrow driveways, and trees and vegetation close to the structures have all contributed to structure loss and increased fire spread. Buildings with combustible roofing materials are particularly prone to loss and may contribute to fire spread in higher density developments. The lack of adequate water, narrow and steep roads, long dead end roads, and longer distances from fire stations and firefighting resources all hamper firefighting efforts in this theater. Weather conditions, especially high winds and low humidity that are common to northern Colorado, greatly exacerbate the fire and life safety problem in this high-risk zone.

Addressing the Problem in the WUI

LFRA's first incident priority is the protection of life (Life Safety) followed by the preservation of property; these are the same in the urban structural theater. LFRA's primary strategy is a rapid attack on the fire when it is still small enough to contain. In cases where fires grow too quickly to control with initial attack resources or to escape initial firefighting efforts, the priority shifts to evacuation and protection of significant structures or resources. Large wildland fires of this magnitude are infrequent; however, LFRA has experienced several since 2000, the year of the

Bobcat Gulch Fire, which burned over 10,000 acres west of Loveland. In the subsequent years, wildland fires in the region have involved tens of thousands of acres, hundreds of homes, and millions of dollars in property loss or containment costs. The Reservoir Road Fire, which occurred in September of 2010, destroyed two homes, several other buildings, and more than 750 acres, with costs totaling over two million dollars for firefighting efforts. Fort Collins, Boulder, and Colorado Springs have experienced even more devastating fires in the WUI zone in the last several years.

Currently, few effective planning and regulatory tools are available to guide development in wildland areas with the goal of reducing fire risk in the long term. While new public streets and private roads serving multiple homes must meet current development standards, existing roads and many private driveways are severely deficient. Water supplies are almost completely unavailable or inadequate in many areas. Finally, no legal mandates are in place to control combustible fuel loads around and between structures. Although there are guidelines and recommendations for home and property owners to reduce the wildland fire risk, experiences in other jurisdictions have shown that many residents are reluctant to take precautionary measures or comply with the recommendations associated with the *Red Zone* program currently in use by LFRA. Red Zone is an incident mapping and field survey software program designed specifically for wildland fire use. The problems in the WUI zone are difficult and will require a multi-tiered action plan to reduce risk and ultimately save property and lives.

Some positive initiatives and developments have improved operations within the WUI area. The State of Colorado has purchased multi-mission aircraft that utilize high altitude thermal imaging technology for early detection of wildland fires. Also, more single engine air tankers (SEAT) are available for deployment in various parts of the state. LFRA has also adopted the Five Point Approach model, which has had some success and impact in fire prevention and mitigation. However, too many homeowners in the WUI are still not participating in any form of fire prevention and mitigation measures. Other changes will be needed to effectively deal with a growing fire problem in the WUI.

The LFRA Model: Five Point Approach

In order to adequately address the threat of wildfires in the rural areas and the wildland urban interface, LFRA utilizes a five-point approach focusing on community risk reduction: education, engineering, enforcement, economic incentives, and emergency response. Community risk reduction and mitigation are typically accomplished through the use of these five points:

1. Education: As the wildfire threat continues to grow, so does the need to educate the public about the dangers associated with this type of fire and about the measures they can take to reduce the potential impact to their property. In order to realize this goal, it is recommended that a multi-faceted approach be taken by using the Internet, social media, printed material, and community meetings. Cost estimates for this effort are unknown at the time of this writing and no funding stream has been identified. It should be noted that education programs are only as effective as the level of interest on the part of the homeowner/citizen. As stated above, it is difficult to get residents in the WUI area to believe the wildfire problem is significant enough to warrant action on their part. This is a hugely limiting factor for the education point.
2. Engineering: This point will be realized through two primary methods: fuel mitigation near and around structures and through the use of planned "prescribed fire" burns on

public lands. The fuel mitigation will be carried out by property owners but may be assisted through available state grants. Generally these types of grants require a 50/50 match with the requesting agency. Fuel mitigation may also be addressed through cooperative agreements with Larimer County and the State of Colorado. Cost estimates for this effort are unknown at the time of this writing and no funding stream has been identified. In regards to prescribed fire, this is a proven method to reduce the threat of large wildfires on public lands. The City of Loveland owns over 4000 acres of open space, and much of that abuts residential areas. Furthermore, several thousand acres of open space in the LFRA jurisdiction are owned by the federal government, the State of Colorado, Larimer County, and the City of Fort Collins. The very real threat of a wildfire spreading into a residential neighborhood can be greatly reduced through the implementation of a prescribed fire program. This can be conducted in cooperation with the State of Colorado, Larimer County, and The Nature Conservancy. In order to adequately perform a prescribed fire program, it will be necessary to increase the annual overtime budget for the costs of off-duty wildland firefighters. Off-duty firefighters are utilized to maintain shift strength and community service levels for other fire protection needs.

3. Enforcement: Enforcement has two primary components: adoption of effective fire codes and adequate staffing for enforcement duties. This two-pronged approach has been a highly successful strategy in the urban theater of operation, and it can work in the WUI as well. Regional adoption of *International Wildland and Urban Interface Code*TM would be the most effective initiative toward improving conditions in the WUI. If Code adoption were to become a reality, it would be necessary to hire other full time employees (FTEs) that would be dedicated for the purpose of WUI code enforcement and fuel mitigation. The estimated cost for one position is \$100,000 per year at full cost budgeting. Grants for positions of this type could be an initial option, but a long-term funding stream would need to be identified in order to continue the service.

4. Economic Incentive: Although the City of Loveland and the Loveland Rural Fire Protection District are not in a position to provide direct economic incentives to the public, this portion of the plan may be realized in reduced insurance rates and a reduced wildfire threat to property. Other options in the future could include some type of incentive program that could be conjoined with a reduction or elimination in the Capital Expansion Fees, or impact fees, for new developments.

5. Emergency Response: Eventually, the likelihood is that in spite of the best efforts, the previous four methods will have some failure and a wildfire will break out. This will happen through lightning, downed power lines, unattended campfires, intentionally lit fires, etc. When this occurs it will be necessary to respond in a timely and professional manner with an adequate level of resources, staffing, and equipment to successfully mitigate a wildland fire.

The emergency response approach is without a doubt the most costly and the most impactful of all of these five points. It will be necessary to address emergency response primarily through training and apparatus.

Training: Currently all suppression personnel within LFRA are required to maintain the S130/190/L180 Basic Wildland Firefighter certification; these are national, standardized training minimums for firefighters in the WUI. Officers are also required to maintain S215, Structure Protection in the Wildland Urban Interface. Beyond that level, captains and chief officers must have S290, Intermediate Wildland Fire Behavior. In order to ensure that all officers of LFRA have a high level of proficiency it is recommended that every officer and acting officer obtain S290 and the appropriate classes for the engine boss qualification. It is also necessary for captains to obtain qualifications at the strike team/task force leader. Chief Officers need to obtain certifications at the group/division supervisor and Incident Commander for Type 3 level incidents. In order to accomplish this, cost increases for wildland firefighting operations will occur. Cost estimates for this effort are unknown at the time of this writing and no funding stream has been identified.

Apparatus: LFRA currently operates with three brush trucks (Type 6 engines) and the Big Thompson Canyon VFD has two. To adequately meet the operational needs for safe and efficient wildland firefighting, it will be necessary to maintain a strong apparatus replacement program. Many of these wildland firefighting vehicles fall below the minimum costs for the overall LFRA Apparatus Capital Replacement program; alternate funding sources will be necessary.

WUI Operations for LFRA and Other Agencies

The WUI Theater, because of the size and complexity of the area, often requires firefighting resources beyond the local capabilities of the fire department. If the fire goes beyond the control of initial fire attack, LFRA will often request mutual aid fire companies and county fire resources. Occasionally, a fire in the WUI will go beyond this next level causing state and even federal resources to be called in to assist or take over the incident entirely. Both operational and legal agreements are in place to deal with expanding fire-related incidents beyond initial fire attack in the WUI. There is a process for the “delegation of authority” for larger incidents where the responsibility and authority is transferred to another agency (i.e., county, state, or federal supervision). The majority of the fire incidents within the WUI for LFRA are handled with local resources or with the addition of mutual aid resources.

Future Changes in the WUI Theater

As with so many of the issues identified within this strategic plan, predicting the future is an uncertain venture; this is particularly true in the wildland urban interface theater. It is unclear what the population, structures, or building increases will be in the LFRA WUI zone in the identified years of this plan (2018-2026). It is also unclear what additional funding will be available to enhance the capabilities, both operationally and in pre-planning and pre-fire mitigation, for the Fire Authority's district. Another unknown is the amount of support that will continue to be provided by the federal government and state government for local wildland fire operations. Recent events suggest that federal resources and funding are likely to be reduced and that state and local authorities will probably assume more funding responsibilities.

A study published by the National Wildfire Coordinating Group (NWCG) titled *Evolving Incident Management: A Recommendation for the Future* suggests that a shift in responsibility for incident management will likely occur, with the state and local jurisdictions taking on more management responsibility in the form of localized Incident Management Teams. A corresponding outcome of this will also likely be a shift in the responsibility for costs of such

incidents. Clearly, this theater of operation is in a state of flux, and change is to be expected. It will require due diligence on the part of LFRA staff members to anticipate, plan for, and adjust operations as necessary to adapt to future changes. One key area of focus should be on continuing the development of strong relationships with regional departments and forming even stronger operational partnerships for the future.

Some very positive aspects for fire operations in the WUI are anticipated. Technology changes will likely prove to be advantageous to firefighters in the future. The use of drones, high altitude thermal imaging, and enhanced inter-agency communications will provide firefighters more and better resources for early notification and initial fire attack. Regionally, improved working relations with area fire departments and WUI service providers will result in better strategic and tactical operations. The future holds real challenges but also great opportunities that can be capitalized on for improved life safety and property conservation.

Wildland Planning Assumptions

Wildland Planning Assumption 1 - Future trends suggest that the WUI problem is likely to increase from 2018-2026 because of more people and structures within the WUI zone.

Wildland Planning Assumption 2 - The current model of fire protection and mitigation for wildland fire operations will likely not be adequate for the future. More resources and funding will need to be invested to keep up with the anticipated future needs.

Wildland Planning Assumption 3 - Federal and possibly state resources that fund current efforts may be reduced or even eliminated in the future.

Wildland Planning Assumption 4 - Development of even stronger operational partnerships and regional cooperative relationships will be needed to offset the loss of federal and state resources in order to maintain an adequate and reliable emergency response. Local Incident Management Teams (IMTs) should be evaluated and developed for future operations in the region of northern Colorado, including areas within the LFRA response district.

Wildland Planning Assumption 5 - If voluntary programs such as education and engineering in the Five Points approach above are successful, many of the problems listed in this section of the plan could be adequately addressed. Any improvements, trigger points, and tracking of data should be identified and implemented into the long-range future plans.

Wildland Planning Assumption 6 - New programs for community education and involvement in the WUI area will need to be evaluated and pursued in order to make prevention and mitigation programs more effective. LFRA should consider the *Ready, Set, Go Program** for the future.

Wildland Planning Assumption 7 - Enhancement of the resources within Stations 8 and 9 will be a part of the plan for improvement in the WUI for LFRA. The opening of new Fire Station 7 will play an important role in training and coordinating the available WUI resources for LFRA and other regional partners.

** The Ready, Set Go Program, managed by the International Association of Fire Chiefs (IAFC), seeks to develop and improve the dialogue between fire departments and the residents they serve. Launched nationally in March 2011 at the Wildland-Urban Interface Conference (WUI 2011) the program helps fire departments to teach individuals who live in high risk wildfire areas – and the wildland-urban interface – how to best prepare themselves and their properties against fire threats.*

LOVELAND FIRE RESCUE AUTHORITY SPECIAL OPERATIONS

Special Operations for LFRA define a particular service or skill set for emergency response that is different from fire and medical emergency calls. These special operations would include:

- Hazardous materials
- Specialized/technical rescue
- Swift water and open water rescue
- Large animal rescue

It has been a long-standing tradition of the fire service to be ready to respond to virtually any emergency call that is not specific to another department's or division's responsibility - for example, law enforcement. From this commitment to citizen safety and citizen service, the fire service adopted an approach of specializing its training and responses for a wide variety of emergencies. Thus, enhanced citizen service was the impetus for a special operations team.

LFRA's Special Operations Team (SOT) was developed in late 2005 by combining long standing LFRA teams such as the Haz-Mat and dive teams. The concept of SOT is to have one team cross-trained to handle all special rescue and hazardous materials incidents. The team's mission statement is as follows: "The Special Operations Team's goal is to provide coordinated and efficient specialized rescue services and hazardous materials response to the citizens of Loveland and the Loveland Rural Fire Protection District. Also, to maintain a high degree of mobility with the ability to deploy a response element as requested throughout the region."

SOT is divided into three main operational areas: Dive Rescue, Hazardous Materials Response, and Urban Search and Rescue (USAR). Several sub-rescue areas are derived from these overall categories, including swift water and open water rescue, low angle and high angle rescue, trench and confined space rescue, and more. SOT is made up of members from several fire and EMS emergency services agencies including:

- 34 LFRA firefighters
- 10 TVEMS paramedics/EMTs
- 3 Berthoud firefighters
- 3 Windsor-Severance firefighters
- 3 Front Range Fire Rescue Authority firefighters (future)

Typically, skills and certification levels follow a pattern of ascending levels that include three primary levels of training and competency:

- 1) *Awareness Level*. This level represents the minimum capability of organizations that provide response: recognition of dangers, notification, and basic abilities to act in a way to isolate or protect lives.
- 2) *Operations Level*. This level represents the mid-level capability of organizations to respond to incidents and to identify hazards, use equipment, and apply limited techniques specified to support and participate in incidents.
- 3) *Technician Level*. This level represents the high-level capability of organizations to respond to incidents and to identify hazards, use equipment, and apply advanced techniques necessary to coordinate, perform, and supervise more technical incidents.

All SOT personnel are trained to the "operations level" (or higher) in each special operations discipline. Each operational area has several technician-level trained staff.

SOT personnel are assigned to all three shifts, providing an on-duty response to any SOT incident. Off-duty SOT members are paged for response as needed. Fire Station Two houses all of the SOT apparatus and equipment. Daily shift staffing includes a minimal number of SOT personnel on duty each shift.

LFRA SOT has developed professional relationships with several area emergency response agencies, including Colorado Task Force 1, Larimer County Search & Rescue, Northern Colorado Bomb Squad, Larimer County Dive Rescue, Colorado State Patrol Haz-Mat Response, Poudre Fire Authority's Rescue Team and Haz-Mat, Greeley Fire Department's Haz-Mat, and the Longmont Fire Department's Haz-Mat and Technical Rescue Teams.

The number of trained specialized rescuers at a technician or higher level for LFRA in the various SOT disciplines includes the following numbers:

- Collapse rescue 8
- Confined space rescue 7
- Hazardous materials technicians 15
- Large animal rescue 2
- Rope rescue 18
- Swift water 15
- Trench rescue 16
- Dive Rescue (open water) 11

Current and Future SOT Operations

The existing model for specialized operations for SOT is adequate for the current demographics and response demands of the community. Since 2005 LFRA has developed one of the region's most capable and strongest specialized rescue teams. The team has proven its value, capabilities, and proficiency on numerous calls within the LFRA district and region, including the Windsor Tornado in 2008. LFRA's team concept is a unique approach to dealing with specialized operations and has been emulated by other departments and agencies. However, from a strategic perspective, the LFRA SOT has both current and future needs. In addition, there are legitimate concerns about the future availability of federal resources and support for federal rescue teams such as Colorado Task Force 1 which is a deployable Urban Search and Rescue Team (USAR) located on the Front Range in Colorado. Many of these future concerns for a continuance of federal and/or state resources and support are driven by economic variables and are similar to the concerns outlined in the wildland urban interface portion of this plan.

The LFRA Special Operations Team must address both current needs and identified future needs in order to maintain an adequate and reliable response to specialized emergency calls. Some equipment and capital items are needed for the team to operate to the desired level of proficiency, including the purchasing of certain additional rigging and rescue equipment, as well as replacing equipment as it ages or becomes obsolete.

The majority of these are normal budget items that can be planned for and included in future budgets. Others are more strategic and require additional planning and financial considerations beyond the normal team budget. An important part of the future planning is to maintain and/or

increase the number of trained technicians on the team. Some of this specialized training, such as for haz-mat techs, is time intensive and costly and will require additional one-time and on-going funding to achieve these goals.

Heavy Rescue Two and Beyond

One of the more significant operational enhancements outlined within the *2012 LFRA Strategic Plan* was the addition of a northwest heavy rescue squad. With the opening of new Fire Station Two in 2014, Heavy Rescue Two became a reality. This additional company has improved the day-to-day fire-rescue operations, providing additional truck or support services, and it has upgraded specialized operations. Operationally, this addition has augmented shift resources for specialized operations by having a designated unit that will carry the needed tools and equipment for SOT operations. For the *2018 LFRA Strategic Plan*, two areas are identified for action in the SOT area:

- Taking steps for continuous improvement for SOT resources and equipment
- Continually improving personnel training on SOT equipment.

Heavy Rescue Two has been a true success story for LFRA; regular fire-rescue services have been improved by this piece of equipment and the personnel assigned. In addition, the specialized rescue (SOT) services have been boosted. What is needed now is an overall plan to maintain and grow this level of service. Specialized equipment continues to be developed for SOT functions; LFRA will need to develop a cogent funding stream for purchase and replacement of such equipment. Ongoing training of personnel will also be a strategic initiative for the future; funding sources must be identified for this needed training.

One area that has been a challenge for on duty crews is the staffing for Heavy Rescue 2. Currently, Rescue 2 is staffed with a minimum of two personnel (officer and engineer) and the shift Fire Inspection Technician (FIT). Over time, the FITs have gotten busier, and their time has been limited for training and participation at the company level and in their availability for emergency response. Heavy Rescue 2 often responds and arrives on the scene of an emergency as a two-person crew. What is needed is another firefighter on each shift in order to create a true three-person crew for Rescue 2. There may be other ways to implement a three-person crew for this unit, but for now, the work load for the FIT position is extreme. The inspections and fire prevention related work, plus the extra workload for training and emergency calls, is proving too much for the current model of staffing for the FIT to be effective and efficient as a team member.

Regional Specialized Rescue Teams and USAR

One of the needs currently being evaluated for SOT is for a regional specialized rescue team in Northern Colorado. Discussions have already begun about the possibility of working with the state's USAR Team (Colorado Task Force 1) and its regional members from Poudre Fire Authority and Longmont Fire to create such a team. However, operational agreements need to be developed and approved within the region for mutual aid responses, particularly in the area of hazardous materials calls and technical rescue (USAR) type calls. Much of the current regional effort is focused around the departments within the Front Range Fire Consortium (FRFC); however, more work in developing cooperative operational agreements for specialized operations should be done. Several of the FRFC departments, including Longmont and PFA, have team members with the state's USAR team. Expansion of the concept of a regional or local specialized operations team or USAR team that can interface with the current FEMA USAR

team should be evaluated further for operational effectiveness and feasibility. LFRA members serving on Colorado Task Force 1 is another option that may be pursued in the future.

SOT Planning Assumptions

Special Operations Planning Assumption 1 - The current model of operations for SOT works well and is adequate for the current call load and community demand for services in this area.

Special Operations Planning Assumption 2 - Future growth in the community and region surrounding LFRA's response area will likely place much more demand on the services of the department's SOT and render the current model inadequate.

Special Operations Planning Assumption 3 - Additional funding will be needed to account for additional training and equipment for SOT processes. Funding streams within LFRA will need to be identified and obtained in order to maintain an adequate level of SOT services and emergency response capability. Alternate funding streams, including grants, will need to be investigated to address the needs created by growth and expansion.

Specialized Operations Planning Assumption 4 - A regional approach to the problem of enhanced services needed for SOT is perhaps the most viable and best option for maintaining and improving overall specialized operations service levels within the LFRA response area. The idea of developing a regional team for specialized operations should be investigated within the time parameters set forth by this plan. Some progress has been made in this area in the last few years; more needs to be done to formalize agreements and develop even stronger working relationships with other regional agencies.

Specialized Operations Planning Assumptions 5 - The linkage to the state's FEMA USAR Team, Colorado Task Force 1, is a viable option and enhancement to the local and regional team approach for special operations. Work should continue within the timeframe of this plan to develop emergency response agreements (IGAs or MOUs). A more seamless process for request for service, dispatch, response, and deployment should be developed for the local and/or regional specialized operations team with other state and federal agencies.

Specialized Operations Planning Assumption 6 - LFRA membership into the Colorado Task Force 1 Team would benefit LFRA and the Loveland community. Efforts should continue to pursue openings on this team for LFRA personnel.

Specialized Operations Planning Assumption 7 - The staffing levels on Heavy Rescue 2 is an issue that needs to be addressed within the *2018 LFRA Strategic Plan*. The current three-person minimum staffing level includes the FIT position, which renders Heavy Rescue 2 to a two-person company a significant amount of the time until the FIT can arrive on the emergency scene. This is listed as a high priority item for the *2018 LFRA Strategic Plan*.

LOVELAND FIRE RESCUE AUTHORITY AND TRAINING

One of the most important missions of LFRA is the effective training of its personnel to meet the challenges of emergency response, fire protection, and prevention services. The department has had a long history and commitment to training. Back in 1979 the Loveland Fire Department and the volunteer firefighters of that era began to build the department's training facility, located south and east of 1st Street and Railroad Avenue. This facility has now become one of the most versatile, and most often used, training centers in all of northern Colorado. The physical aspects of nearly every fire/rescue-related training function can be carried out at this facility. A major emphasis is placed on the use of props and replication to achieve the highest level of virtual reality training and reality-based training. However, LFRA training and the department's training program are much more than just facilities, buildings, and props; training for LFRA is a core value. Loveland's fire department has long been known for its commitment to training by other fire departments in the region and throughout the state. The minimum hours required for certification and continuing education are met and exceeded by every LFRA fire company and individual firefighter. In addition, the department does more live fire burns and training evolutions than any other department in the region.

In the 2013 flood, the LFRA Training Center was significantly damaged. Classrooms, offices, and several training buildings suffered major damage and were out of service for the better part of one year. In 2014 additional land was purchased, adjacent to the current training property, but out of the restricted flood plain area. This land will function as the future home for several new training buildings and props and will be a long-term training solution for the organization's training needs. To this end, an LFRA Training Center Master Plan is being developed and a new burn building is planned to be built in 2020. This is the first step in the overall Training Master Plan; the burn building is included in the ESEP's first phase.

Today, LFRA continues to be committed to training and is building on the great foundation laid by the department's firefighters from the past. The training division for LFRA is committed to continuous improvement and maintenance of the core values around a strong training program.

The Training Model and Staff

The current training model and staffing supports a managed plan for both centralized (training battalion-sponsored) and decentralized (company-managed) training. The training staff consists of one training battalion chief (BC), one training lieutenant, and one engineer managing training for the airport, three shift training captains on Tower 6, and three shift captains on Engine 2. The training BC and lieutenant are full-time 40-hour positions that are devoted primarily to the LFRA training division. Training functions within the Community Safety Division are carried out within that division or via outside training classes and courses.

Blue Card Hazard Zone Management Training

In 2010, LFRA began a coordinated effort to improve the strategic and tactical decision making abilities of its officers and firefighters; The Blue Card Hazard Zone Management system was the vehicle selected to help facilitate that effort. The Blue Card Incident Command Certification Program has been developed by Alan, John, and Nick Brunacini to first instruct and then certify fire officers who serve in the role of Incident Commander or as a member of an Incident Management Team (IMT). Through the program fire officers become certified to supervise and manage emergency and hazard zone operations for localized incidents categorized by the

National Incident Management System as Type 4 and Type 5 events. These incidents account for more than 99 percent of all fire department response activity. This program teaches officers how to command everyday incidents with mastery, and it effectively trains for competency in dealing with more large scale emergency incidents.

Blue Card is a blended course experience that incorporates 50 hours of online instruction with three days of classroom simulation training. The Blue Card Command Certification Program is a training and certification solution that teaches Incident Commanders and other officers how to standardize local incident operations across their organization. The program uses a combination of online and in-class simulation training which results in an Incident Command solution. LFRA has all of its officers and acting officers certified at the Blue Card level. In addition, LFRA operates a regional Blue Card Training Center that has been integral in helping nearly all of the regional departments get their personnel certified. Blue Card Hazard Zone Management training has been a significant effort in LFRA's training plan and has positively shaped the entire northern Colorado region.

Regional Training Cooperative

The LFRA Training Battalion devotes a portion of its time, by written agreement, to regional training in a mutually cooperative and mutually beneficial manner. This includes recruit academies and other ad-hoc training through the Front Range Fire Consortium (FRFC), in which Loveland has held membership for nearly 15 years. Aims Community College and its Fire Science/Fire Academy programs and other regional departments also have agreements with LFRA for the use of the training center. Over the years, the cooperative nature of these agreements has been significantly advantageous for LFRA. The department receives many tangible and intangible benefits from the cooperative regional relationships and agreements crafted through the training division. This, again, is directly linked to the "Relationship" portion of the LFRA mission. In recent years LFRA has taken on more of a leadership role in northern Colorado's firefighting community; the training efforts have been one of the key reasons why. Relationships forged through training with regional departments have had a real and positive impact on LFRA through the many mutual aid and automatic aid agreements that the department holds and with which it operates. In 2017 the FRFC legally became an *Authority*. The organization now has a cogent business plan and is developing a long-range strategic plan. One outcome of these changes is in the practice of fair financial reimbursement for the use of department resources such as facilities, equipment, and personnel. LFRA will benefit financially in the future with this change in business practices for the FRFC.

The Current and Future Needs for Training

The existing operational training model for LFRA is working with the department's current call load and staffing levels. However, as the department sees increases in call volume and the number of personnel increases in the next eight - ten years, the demands on the training battalion will exceed the division's ability to meet those demands. Regional training responsibilities do add to the workload and demands on a minimally-staffed training battalion. Over the next eight years, the LFRA's training battalion will need additional staffing to include:

- Additional training captain, lieutenant, or officer level assistance
- Training firefighter or engineer
- Training administrative assistant.

In addition to the staffing needs for the future, a careful analysis should also be conducted to determine how training would be managed and carried out in the future. A comprehensive analysis is needed with a resulting plan made up of three areas of responsibility:

- Centralized - what the training battalion's staff will provide
- De-centralized - what the company level training management model will be
- Ad hoc training - what will be offered from outside sources on a one-time or specialized effort.

The outcome of this analysis and planning should result in a multi-year training plan for LFRA that is in alignment with future long-range plans. Another area that needs to be addressed within the department's training needs is in technology. Changes in technology, such as in the area of video-conferencing, could have significant impacts on how classroom training is carried out and the amount of time fire engines and firefighters actually need to be out of their response areas at the training center. The use of technology could positively impact area coverage and response times for fire companies.

One final area that this strategic plan needs to address is the area of additional land acquisition. In 2014 LFRA purchased additional available land for flood protection. A valid reason for purchasing even more land is to enhance the buffer between what LFRA currently owns and property to the north that will likely be for sale in the future. The targeted land is in the current flood plain, so it is unlikely that a commercial business or residential property would be built there, but other concerns about the training center could be raised and possibly compromise the LFRA's ability to be a full-service training center, if that land is purchased by another party.

Training Planning Assumptions

Training Planning Assumption 1 - Based on current firefighter staffing levels and call loads, the current training staffing levels will not be inadequate for the future training needs of LFRA.

Training Planning Assumption 2 - There is a need for an additional full-time 40-hour firefighter within the training division to help with the basic level training work. Other personnel expansion, such as a dedicated administrative position, would also need to be considered within the timeframe of this strategic plan.

Training Planning Assumption 3 - A comprehensive long-term analysis for how the training efforts will be carried out in the future using the centralized, decentralized, and ad hoc training delivery methods should be carried out and included in this as part of this and future strategic plans for LFRA.

Training Planning Assumption 4 - An evaluation of relative training technology needs to be initiated in order to make classroom and other training more efficient and effective and have a positive impact on area coverage and emergency response times.

Training Planning Assumption 5 - Additional land acquisition should be investigated to increase and improve the existing buffer between LFRA's training center and other area properties.

LOVELAND FIRE RESCUE AUTHORITY SAFETY AND SURVIVAL

Both firefighter and citizen safety and survival are primary elements of the department's overall mission. In today's fire service, safety is one of the most focused areas of concern and yet one of the least thought of as part of the strategic planning process. LFRA is committed to a core value of *the enhancement of citizen and firefighter safety and survival*. This area is one of the most important parts of the department's overall commitment to quality and continuous improvement. It is also a strategic consideration because of the importance of making intentional and calculated plans for improvement.

The LFRA Safety Model

Enhancing safety in fire and rescue operations can be a very difficult task. Firefighting and rescue operations by their nature are unsafe and at times unpredictable environments. Nevertheless, the American fire service has learned a great deal since 1985 and the advent of the first National Fire Protection Association (NFPA) standard on firefighting and safety: *NFPA 1500 Standard on Fire Department Occupational Safety and Health Program*. This landmark document set the stage for expectations for all aspects of fire-rescue operations and the needed health programs to ensure firefighter health and safety. LFRA is committed to meeting the intent of NFPA 1500 and improving occupational health and safety for its employees.

The current safety effort and model for the LFRA addresses safety, health, and fitness through attention to the following:

- Firefighter staffing levels on fire companies that meet minimum requirements
- Operating within an approved and standardized command system
- Command level training and certification for all officers and acting officers
- Training in situational awareness and tactical decision making under stress
- Proper firefighting apparatus and equipment that comply with industry standards
- Regular fitness evaluations and screening
- Adequate training programs and certifications for safe tactical and task level operations
- Specific training programs dedicated for firefighter safety and survival
- Staying active with City of Loveland safety and health policies and operational methods
- Following “Best Practices” for reducing firefighter exposure to carcinogens

From a strategic perspective, the challenges for LFRA in this important area are really threefold: first, having a long-term financial strategy and plan that supports current efforts to enhance firefighter safety; second, having a plan in place to stay current on changing safety trends and the various laws or standards that affect operations; and third, having a strong and rational method of evaluation of the department relative to current and future changes. Another added challenge is the overall management and oversight for a department health and safety program.

Community Risk and Safety Models

Risk factors and an overall strategy for community safety are found in other areas of this plan. The Community Safety Division (CSD) operates with the safety of our citizens as a primary function. Safety is built into the planning and building process, as well as fire and safety inspections and code enforcement. The accreditation process has initiated a complete community risk assessment and standards of cover as a means of addressing these risks. See Section VIII

Community Safety Division for more on these areas and the overall action plan for community safety.

Current Safety Needs

The current state of LFRA's safety program would be considered adequate by most standards, yet needs still exist and changes should be made for improvement. Several programs are in place and functioning to ensure that the department continues to make progress towards enhancing citizen and firefighter safety and survival. However, there is a lack of a specific, long-term plan and funding mechanism that deals with supporting the enhancement of safety. This should be a part of this plan and future strategic plans as well. The hiring of the HR Manager, and an administrative chief officer, will have a positive impact on safety and risk management within LFRA; specific policies and procedures will need to be developed as well as mechanisms for evaluating the organization's progress in addressing safety and survival issues.

Future Safety Needs, Concerns, and Evaluation

The area of safety is a continuing and evolving process. History has proven that changes in laws and standards will likely continue and will also have a financial impact on fire departments as they work to meet new laws and standards. These changes can come in the form of changes for apparatus and equipment, which cost more to purchase and have a defined shelf life, or in new regulations that require additional staffing or positions on the fire scene. Most fire departments do not plan for these kinds of changes and are caught behind the proverbial "power curve" when something like the Fed-OSHA "Two-In, Two-Out" regulation (requiring additional firefighters staged on an emergency scene for rescuer safety) is passed. As part of this strategic plan, methods of current and future operations should be evaluated based on safety regulations, and standards and methods should be developed to meet the intent of such changes so they can be incorporated into department operations and budgets. Another noted need is the assignment of direct oversight and management of the department's health and safety program to a chief level officer.

Evaluation

LFRA needs to develop a workable method for department evaluation relative to safety and current standards or regulations. It is not feasible for a department to expect to meet each and every industry standard related to safety (such as every provision stipulated in NFPA 1500). However, it is reasonable to have in place an effective and reliable system of evaluation in order to meet most safety standards and all legal requirements for safe, sane, and predictable operations. Developing short and long-range planning to address the department's areas of deficiency when it comes to safety, and meeting the intent of all safety guidelines and standards, are reasonable expectations. Without an identified and effective planning process, it is doubtful that LFRA will keep pace with the changing standards for safety, and the goal of continuous improvement in this arena will be severely hampered.

Cancer Prevention

According to the results of a study published in the *Journal of Occupational and Environmental Medicine*, firefighters have an increased risk of developing certain types of cancer. Firefighters are exposed to many potentially hazardous substances, including diesel engine exhaust, soot, benzene, chloroform, styrene, and formaldehyde. These substances may be inhaled or absorbed through the skin and have been known or suspected as carcinogens. Four types of cancer were more common among firefighters than among other workers in other fields: firefighters were

twice as likely to develop testicular cancer, roughly 50% more likely to develop multiple myeloma or non-Hodgkin's lymphoma, and 28% more likely to develop prostate cancer. In 2014 a Safety and Health Investment Projects (SHIP) grant project was awarded to the Kent Fire Department (WA) to establish a manual on the "Best Practices" for reducing firefighter risk of exposure to carcinogens. The document published by Kent's SHIP grant project became known as: *Healthy-In, Healthy-Out*. This study and manual is on the forefront of a national movement to educate and reduce firefighters' exposure to carcinogens and reduce the number of firefighters being diagnosed with cancer.

Healthy-In, Healthy-Out sets model guidelines for fire departments to follow that are based around the five functional areas of Incident Command:

- Command - Health and safety infrastructure and policies and procedures
- Finance - Budgetary considerations for equipment, physicals, and wellness programs
- Planning - Developing exposure control plans for apparatus, fire stations, and testing
- Logistics - Maintaining the exposure control plan for cleaning and replacing of gear
- Operations - Emergency scene procedures for use of gear, decontamination, and cleaning.

Healthy-In, Healthy-Out identifies several key areas where firefighters can reduce their exposure to carcinogens in the fire station and on the fireground by taking some simple, initial steps:

- Limiting exposure to diesel smoke
- Proper use of personal protective equipment (PPE) during initial attack through overhaul and gross decontamination
- Wearing SCBA during initial attack through overhaul and gross decontamination
- Using gross decontamination and cleaning of gear immediately after the fire
- Thoroughly washing and cleaning contaminated gear after the fire at the fire station
- Reducing/eliminating exposure of firefighters to contaminated PPE.

LFRA is committed to improving the safety and survival of its firefighters and reducing the exposure to carcinogens by meeting the intent of the *Healthy-In, Healthy-Out* program.

Safety Planning Assumptions

Safety Planning Assumption 1 - LFRA currently has a good safety culture and a commitment to firefighter and citizen safety, including meeting the intent outlined in *Healthy-In, Healthy-Out*.

Safety Planning Assumption 2 - The nature of firefighting and rescue carries with it inherent risks. LFRA will remain committed to meeting the intent of applicable national safety standards and committed to continuous improvement for the safety and survival of citizens and personnel.

Safety Planning Assumption 3 - Staying committed to enhanced firefighter and citizen safety and survival comes with costs. Some of these costs may be unforeseen and fall outside the bounds of normal financial planning and budgeting as part of strategic planning.

Safety Planning Assumption 4 - Management and oversight for LFRA's health and safety program should be enhanced. A chief level officer should be responsible for this assignment.

Safety Planning Assumption 5 - The organization will need additional efforts for cancer awareness education and reduction in firefighter exposure to carcinogens.

Safety Planning Assumption 6 - Safety planning will be a part of this strategic plan and other plans that follow.

HUMAN RESOURCES AND SUPPORT

Loveland Fire Rescue has grown into a large organization, with a paid staff of nearly 100 personnel, including sworn uniformed firefighters and civilian support staff. Extending support for this number of employees is an important and prodigious assignment, well beyond the ability of one department or manager. Under this heading of Human Resources and Support, three specific areas are identified and will be elaborated on within this portion of the strategic plan:

- Human Resource Management
- Peer Fitness Training
- Peer Support

The intent of human resources and support is to address the whole person's needs in the area of organizational support of the mind, will and emotions, and the physical training and support needed. Human Resource Management is the first and perhaps most influential part of this three-tiered approach.

Human Resource Management

Human Resource Management (HRM) is the term used to describe formal systems devised for the management of people within an organization. The responsibilities of a human resource manager fall into three major areas: (1) staffing, (2) employee compensation and benefits, (3) and defining/designing work. Salaries and benefits are anticipated to total \$10.6 million in 2018, or approximately 69% of LFRA's annual budget.

HRM services for LFRA were transitioned as an internal service to LFRA in February 2017 with the hiring of a Human Resources Manager. Previously these service had been performed by the City of Loveland Human Resources (City HR) staff. HRM continues a strong relationship with City HR and provides an annual retainer (2017 = \$10,000) for support and expertise as needed. Now internal to LFRA, HRM seeks to build on the reputation of LFRA as a great employer by transforming the HR system from reactive and transactional to a more clearly connected and supportive system which encourages safe, productive, and positive work practices throughout the employment life cycle.

In order to change to a more consultative role, HRM will first need to stabilize the HR system and create an HR infrastructure that advances its capabilities. This initial focus will include establishing internal efficiencies, reviewing and updating HR-related policies, effectively administering leaves of absence, conducting compensation studies, and creating webpages for employee/family resources. With this basic foundation in place, HRM may expand its consultative/strategic role in the following areas:

- **Compensation** to align staff compensation with relevant markets and promote an understanding of compensation at LFRA
- **Benefits Programs** to align programs to meet the various markets reflecting the workforce at LFRA
- **Employee Relations** to sustain an environment of employee engagement and empowerment where employees can perform their best.
- **HR Compliance & HR Policies** to promote a culture that is compliant with regards to various employment-related laws, policies, and processes.

- **Talent Management & Staff Development** to better manage human capital, LFRA's primary asset.
- **HR Systems & Data** to advance the critical role of technology and systems in various aspects of HR functions.
- **Risk Management** to protect LFRA from liability through loss prevention and claims management.

A crucial consideration is the amount of administrative tasks that accompany HR functions including records retention/scanning, payroll changes, onboarding/exiting employees, job postings, mailings, personnel changes, etc. Whereas these functions are critical to the operations of LFRA, they take a significant amount of resources from the HR Manager's responsibilities of providing strategic and tactical leadership and support to LFRA. It may be possible for these administrative function to be absorbed by current administrative staff; however, as the City of Loveland and LFRA continue to grow, so will HRM's administrative functions as well as the need for more strategic leadership.

Key elements to HRM success are communication, collaboration, and implementation of those areas identified for initial focus. These initial priorities along with the areas requiring a more consultative/strategic role align with LFRA's mission and vision and together will produce a balanced strategy with a long-term focus

Human Performance Labs and Peer Fitness Training

A firefighter's job responsibilities are physically demanding. Getting into firefighting condition (physically) is not easy. However, the Candidate Physical Agility Test (CPAT) has been in place as a standardized way of assuring that firefighter candidates have the physical strength and cardio endurance to be accepted into a fire academy. The fire academy is the place where the basic fitness levels are developed further to a place where the candidate can function in the physically demanding roles of a professional, structural firefighter. Thus, the first two phases of a recruit firefighter's preparation, CPAT and fire academy training, address the physical training needed to ensure that recruit firefighters have the necessary physical skills to do the job. What is more difficult for fire service organizations is to establish a cogent method of ensuring that firefighters maintain adequate fitness levels. Colorado State University's Human Performance Clinical Research Laboratory (HPCRL) and the LFRA Peer Fitness Training model have proven to be effective methods for ensuring high levels of firefighter fitness.

LFRA has been using HPCRL since 2010 with peer fitness trainers in place a few years after that. The net effect of this system is an ongoing, objective, empirical testing system that is standardized nationally, and an effective prescription and support system to maintain and improve firefighter fitness levels throughout their careers.

The HPCRL staff in the Department of Health and Exercise Science at CSU completes firefighter fitness assessment protocol (physical examinations and individual results counseling) for LFRA firefighters. The firefighter physical examinations consist of a blood screening with complete metabolic panel, body composition analysis (skinfold and hydrostatic assessments), functional strength testing, four day nutritional analysis, flexibility, physician supervised graded exercise test, and a pulmonary examination. These tests are conducted by HPCRL staff and graduate and undergraduate student volunteers. All physical examinations are followed by a one on one follow-up with a member of the HPCRL staff, during which individualized **physical test**

data is shared with each individual firefighter with strategies for improving cardiovascular disease risk factors and overall fitness levels.

To help improve the safety, performance, and quality of life of uniformed firefighting personnel, the Peer Fitness Trainer (PFT) certification was developed by the International Association of Firefighters (IAFF) and the International Association of Fire Chiefs (IAFC). The program and the certified fitness trainers are managed and overseen by the American Council on Exercise (ACE). Throughout the United States and Canada, the PFT certification identifies firefighters who have demonstrated the knowledge and skills required to design and implement fitness programs, improve the wellness and fitness of their departments, and assist with the physical training of recruits during challenging entry tests and fire academy training. The role of a peer fitness trainer differs from a personal trainer since fire service personnel have very specific needs and an extreme work environment well beyond what the average exerciser will ever face.

NFPA 1583: *Standard on Health-Related Fitness Programs for Fire Department Members* establishes the minimum requirements for the development, implementation, and management of a health-related fitness program for members of the fire department involved in emergency operations. LFRA is meeting the intent of this standard, but not the letter of the standard. The strategic side of fitness evaluations and ongoing peer fitness review and support is dependent upon the dollars spent to continue such programs at an effective level. Ongoing organizational evaluations must be done to keep up with changing trends in the area of wellness, fitness, and evaluation. Selection of the most effective and cost-efficient way to manage and maintain these programs will also need to be an ongoing process for LFRA. The long term health of the LFRA workforce is an important part of human resource development; ongoing funding will need to be identified to ensure that high quality fitness and wellness programs are in place that meet national standards and testing methods.

Peer Support

LFRA has recognized the importance of emotional health in the fire service and has established systems for employees and their families to utilize while seeking emotional assistance. Employees and family members have the option to use the LFRA's Employee Assistance Program (EAP). LFRA also has established a peer support team that provides a confidential peer-to-peer counseling program. Along with the peer support team, LFRA has a licensed psychologist contracted to provide professional counseling services to all employees and their immediate family members. The peer support team is under the supervision of the licensed psychologist, who provides continuing education to the team on a monthly basis. All records of employees seeking counseling are confidential and maintained by the psychologist.

Because all types of emotional support programs are confidential, it is difficult to document the effectiveness of such programs. The HR Manager for LFRA monitors the EAP, and quarterly reports provide information regarding the number of individual intakes, trauma events/participants, training events/participants, and management consultations. Similarly, the Peer Support program's team psychologist monitors the number of firefighters and family members that utilize the services and reports those numbers monthly to LFRA Administration. Internationally, the fire service has recognized the effects that critical incident stress has on firefighters and their families. Law enforcement recognized this earlier than the fire service and developed the concept of peer support. They found that officers would rather share their feelings with peers (people who understand and have a common background) rather than an unrelated

psychologist who may or may not understand what a law enforcement officer goes through on a day-to-day basis.

For the fire service, and particularly LFRA, the success of peer support programs is twofold and lies with the power of the peer (firefighter) and the bridge to a licensed clinician (psychologist). Training firefighters as peers in critical incident stress and empathetic listening has proven to be an effective way to reach more individuals suffering from stress and connecting them to a dedicated psychologist when necessary. In 2014 LFRA collaborated with Poudre Fire Authority (PFA) in training and developing the first *Fire Peer Support Teams* in northern Colorado. Both PFA and LFRA have worked with surrounding departments in developing and supporting the notion of peer support in the region. Moving forward, LFRA will continue to evaluate the peer support program and make adjustments as necessary for greater success and enhancement to the services provided to personnel.

Human Resources (HR) Planning Assumptions

HR Planning Assumption 1 – The hiring of a new HR Manager will have a positive impact on several areas within the organization. These would include stabilizing the LFRA HR system and creating an effective HR infrastructure.

HR Planning Assumption 2 – HR Management will expand its consultative/strategic role within LFRA in several key areas including Benefits/Compensation, Employee Relations, Policy Compliance, Personnel Development, and Risk Management.

HR Planning Assumption 3 – LFRA HR Management will maintain an effective and collaborative relationship with the City of Loveland Human Resources Department.

HR Planning Assumption 4 – Fitness and wellness evaluations are a high priority impacting firefighter safety and survival. Efforts and programs will be continued and enhanced, meeting the intent of current NFPA fitness standards.

HR Planning Assumption 5 – The LFRA Peer Support program is an important operation for LFRA personnel and will continue to be supported at the current or higher level within the *2018 LFRA Strategic Plan*.

OTHER IMPORTANT AREAS

The last area of this section will address several specialized areas. Some of these areas are not directly connected to LFRA as part of the emergency response, but nevertheless all are vital to accomplishing the organization's mission. These areas include:

- Law Enforcement
- Utilities and Public Works
- Citizen Assistance (post emergency)
- LFRA Museum
- LFRA Administrative Support
- Big Thompson Canyon

Each of these areas will be briefly addressed as to what they actually do with LFRA, how they are integrated into the overall emergency scene management and mitigation, and what future needs or concerns may be forecasted.

Law Enforcement and TACFIRE

LFRA's involvement with law enforcement and specifically Loveland PD (LPD) is one of the most frequently relied on resources in the emergency response spectrum (EMS and paramedics would be the other). Law enforcement personnel are dispatched on the majority of the emergency calls that LFRA responds to. They assist in scene management, traffic safety, and investigation assistance, to name just a few. LFRA and LPD also work together (with TVEMS) in SWAT operations through Tactical Fire (TACFIRE). Specified LFRA personnel are trained and assigned to SWAT/TACFIRE. These personnel train together regularly and respond to law enforcement SWAT-related emergencies together.

TACFIRE of LFRA was formed to assist LPD SWAT with fire service specific tactical and task level services that are needed at these types of emergency calls. TACFIRE members support the LPD SWAT mission with:

- Victim/Officer Rescue
- Fire Suppression
- Forcible Entry
- Ground Ladder Deployment
- High Angle Rope Rescue
- Hazardous Materials Evaluation and Mitigation
- Use of Self-Contained Breathing Apparatus.

The TACFIRE program has been very successful in building strong relationships between LFRA and LPD and is one of the most significant combined tactical operational functions between the two agencies. This is a very unique program that has developed between LFRA and LPD and has been recognized by other fire service agencies as contributory to the exceptional relationships between both agencies. TACFIRE provides value-added emergency services for citizens in the Loveland community and results in a higher level of safety and survival for police officers and firefighters alike. It has been, and is, an excellent program providing needed services between both agencies.

Improvements can be made to TACFIRE and SWAT. During the time of this strategic plan, several areas will be identified for improving and enhancing the program.

As stated, the relationship between LFRA and LPD is unique (and rare) in emergency services. Because of the training and integration into the specialized teams, these two departments work closer together and have more collaboration and cooperation than almost any other fire/police services. This point was identified and commended during the accreditation evaluation in 2017.

One of the biggest areas of need for this specialized area is in the continuity of the relationships between LFRA and LPD staff. While there is a recognized financial commitment associated with training and being a part of TACFIRE, the long-term benefits have proven to be well worth the expense. However, the most important aspect of the future for LFRA and LPD is seeking ways to continue to build the strong relationships the two organizations have fostered. Conducting leadership training together, along with field or hands-on training, should continue as organizational priorities between the two agencies. Regular meetings between the executive levels for chief officers (Fire) and high ranking officers for LPD should happen. This is another, vital area where one of the “Four Rs” (Relationships) has flourished for LFRA and LPD. Intentional efforts should be made to ensure this continues in the future.

Utilities and Public Works

Our public utility providers play an important role in emergency operations. Helping to provide information about water lines (water mains) and assisting on calls where there is a need for the enhancement of the water supply are just two areas where the utility providers are needed. The power utility staff is also frequently needed, usually due to power lines being downed or damaged, or because the power needs to be shut down to a building impacted by fire. These public service workers provide a vital and needed service to firefighters operating on the emergency scene. There is also a needed component of assistance to the utility providers in the planning and built environment. However, this section is focused on emergency response.

The Public Works personnel also assist firefighters with their ability to procure heavy equipment; specialized vehicles; sand and other needed products; and knowledge of the community, waterways and other important local information. The fire department sometimes needs other public service assistance such as from Parks and Rec personnel, but the lion’s share of collaborative and cooperative service tends to be with water, power, and public works.

During the 2013 flood, the need for assistance and expertise from these cooperating agencies was evident. Strong working relationships have been built over the years and should be continued in the years to come. Training together and working together in non-emergency settings can help build and strengthen these vital relationships.

Citizen Assistance

The care and support of our citizens after an emergency is a critical function of LFRA’s personnel. This begins at the initial level of response as our firefighters operate with skill and caring; our incident commanders continue by managing the incident with professionalism. Our support personnel in the Community Safety Division also assist with investigations and help the citizens return their lives and property to normalcy. Likewise, our personnel assist in taking care of the medical needs of citizens that are injured as the result of an incident. In all, our personnel are meeting the needs of our citizens by carrying out the LFRA mission: *Through commitment, compassion and courage, the mission of the Loveland Fire Rescue Authority is to protect life and property.*

From a strategic perspective, citizen assistance (post-emergency) at LFRA is sufficient, but could be greatly improved upon. Other regional departments offer dedicated services to their citizens from specially trained firefighters or volunteers that help and assist citizens in need after an emergency incident. Some departments place this outreach responsibility under groups known as Citizen Assistance Response Teams or CART for short. In some organizations, these assistance teams even have specialized vehicles that respond as “on-call” resources to help the citizens take care of logistical and family care issues and help return their lives to as much normalcy as possible.

LFRA should conduct more research in this area and develop the necessary steps to form the organization’s own version of the CART. Costs will likely be associated with this enhanced service to the citizens. The level of these additional expenses will be dependent upon the type of CART the organization chooses. LFRA does need to enhance citizen services after fires or other significant emergency incidents. This will help its citizens return their lives to normalcy after such incidents.

LFRA Museum

In all successful organizations, remembering, honoring, and learning the lessons of the past play an important role in achieving a higher level of excellence. This philosophy is a part of LFRA’s vision in: “*Going from Good to Great, and Building the Organization to Last with Enduring Greatness.*” In order to honor the traditions and accomplishments of the past, LFRA is working to create a dedicated fire museum.

In 2008, the Loveland Fire Exhibit was conceived with the help of retired members of the Loveland Volunteer Fire Department Inc., members of LFRA, and personnel from the City of Loveland Museum/Gallery. The work was organized and led by retired Fire Chief Jack Sullivan. With the efforts of a core group of retired volunteers, fire department artifacts from as far back as 1883 were discovered, catalogued, and prepared for display once a suitable building or area could be procured. In 2010, the Loveland Fire Exhibit/Museum was provided temporary space in the “sequel” building next to the current Loveland Museum/Gallery. The Loveland Fire Exhibit quickly became one of the best and most complete fire museums in the region. However, the sequel building was scheduled for demolition and the fire museum lost its home in 2014.

Currently, nearly all of the fire artifacts are being stored, once again, waiting for an appropriate building or facility to be constructed or made available for the new Loveland Fire Exhibit/Museum. This strategic plan has identified the establishment of a new fire museum as an additional priority and a strategic initiative for this *2018 LFRA Strategic Plan*.

At the present time, no funding stream or specific plan exists for the creation of a new fire museum. However, opportunities have developed. In 2017, McWhinney Companies offered to donate land for a new fire station and fire museum on the east side of the city in the Centerra area. What is needed is the selection of a new planning team and a plan for fundraising efforts for the new fire museum. This should be part of a collaborative effort with the City of Loveland Museum/Gallery to develop a more comprehensive Fire Exhibit/Museum Master Plan. Retired volunteers and current LFRA firefighters have expressed significant interest in the creation of a new fire museum, but this effort will take a great deal of planning, organizing, and fundraising to come to fruition.

LFRA Administrative Support

As LFRA has grown in both the size of organization and call load, the responsibilities for a variety of job/occupational needs and concerns have also grown. In many fire service agencies, a Support Division or Support Battalion is created to address these needs and concerns. The Support Division/Battalion concept could/would provide the additional services, management, and oversight required to keep the daily operations of LFRA functioning at a high level.

Examples of management and services provided would/could include:

- Budget
- Accreditation/Strategic Planning
- IT/GIS
- Health and safety
- Radios/communication (local/regional)
- EMS
- Facilities
- Modified duty/return to work
- Officer development/leadership
- New construction

Currently, within LFRA these functions are assigned to firefighters or officers within the organization; these assignments are made in addition to the firefighters'/officers' regular duties. Often times these assignments are made without the needed oversight and management by a chief level officer. In some cases these necessary functions or needs are assigned to shift BCs or division chiefs - positions where the workload levels are extremely high. Consequently, many needs or functions are addressed on an "ad-hoc" basis. LFRA has grown to the degree where these needs/functions necessitate the direct oversight and management of a chief level officer.

Within the timeframe of this strategic plan, LFRA will need to address the issue of organizational support with the addition of a battalion or division chief officer. This could be implemented from a permanently assigned position or a rotational position. Restructuring of the current staff and workload assignments will likely be needed as a part of this progression. The LFRA senior staff and LFRA Board will have to work through the needs assessment process and determine the best course of action to address an already existing need that is a growing concern within the organization.

Big Thompson Canyon Battalion

The Big Thompson Canyon Volunteer Department was included as part of the fire authority in 2012. Since the establishment of the Fire Authority, several changes have been made for the Big Thompson Canyon (BTC). The BTC is now one of five battalions for LFRA; the BTC chief is ranked as a Battalion Chief in charge of BTC resources. As stated in the *2012 LFRA Strategic Plan*, the inclusion of the BTC as a part of the authority "will be a work in progress and will require periodic evaluation for organizational success." This notion is supported in the *2018 LFRA Strategic Plan*. Personnel and staffing are a specific area for review and evaluation. Volunteers are the designated workforce for all BTC stations. Within that workforce is a need to maintain a minimum number of trained/certified "structural firefighters" for effectiveness and firefighter safety. LFRA has targeted the minimum number of structurally trained BTC volunteers to be 14, with a minimum of 7 of these trained volunteers living/residing in the BTC area. This initiative and planning assumption will be reviewed periodically to ensure that appropriate service levels are being maintained. LFRA's chief officers will provide needed support to assist the BTC chief and volunteer officers to meet these service levels.

Other Important Areas Planning Assumptions

Other Areas Planning Assumption 1 – The ancillary areas that are identified within this section are important to LFRA and integral, in most areas, to the accomplishment of the organization’s mission.

Other Areas Planning Assumption 2 – It is important for LFRA to maintain strong relationships with local law enforcement; concentrated efforts to improve these relationships, particularly with Loveland PD, will be continued throughout the duration of this *2018 LFRA Strategic Plan*.

Other Areas Planning Assumption 3 – The citizen assistance program is an important initiative for LFRA to prioritize for the future. The organization will enhance its outreach to citizens that have experienced an emergency event.

Other Areas Planning Assumption 4 – LFRA has grown as an organization and with this growth has come a number of additional responsibilities and needs/functions that could best be managed through an administrative division chief or battalion chief position. LFRA will need to evaluate this within the timeframe of the *2018 LFRA Strategic Plan*.

Other Areas Planning Assumption 5 – The Big Thompson Canyon Battalion is an integral part of LFRA’s firefighting resources. In order to maintain effective and safe service levels, a minimum number of trained/certified structural firefighters will be maintained within the BTC’s battalion.

VIII. COMMUNITY SAFETY DIVISION

The Loveland Fire Rescue Authority Community Safety Division (CSD) has responsibilities over Plan Review/Permits, Community Outreach, Public Education/Information, Code Enforcement/Building Inspections, Fire Investigations, Emergency Management, and Fire Service Accreditation. All of these programs work in concert with each other and work in tandem with fire suppression activities within the Operations Division to build, educate, and sustain a safe and vibrant community for the Loveland area.

In many of today's more progressive fire departments, the "Fire Prevention Bureau" concept has been replaced by an improved model: the Community Safety Division. Within this model, a more comprehensive approach to community safety includes new concepts that embrace:

- Community risk assessment
- Community risk reduction
- Integrated community risk management plans

Each of these areas is a part of the ongoing mission of the Community Safety Division, which is to reduce injury and loss through preparedness, education, and enforcement. These three areas are an integral part of the organization's planning efforts to improve community and citizen safety and survival; they are also a part of LFRA's fire accreditation process.

For LFRA, the concept of community risk assessment and reduction covers a wide expanse from the urban area with a vibrant retail and business community, to residential areas from single family homes to large apartment complexes, and to the wildland urban interface area. All can be found within the 190 square miles covered by LFRA. The challenges facing the department to improve community safety and survival will be problematic in the future because of the sheer size of the area and the various theaters of operation within that area. It is also challenging because of the burgeoning population and growth the Loveland community is experiencing now, and will have in the future.

During the City of Loveland's overall effort to reduce budgets and staffing in 2009-2010, the CSD was compelled to reorganize and reduce many of the previously offered community outreach safety and prevention programs. The reductions caused a shift in workload that has manifested in an overload situation for the division as planning and building projects have increased significantly in recent years. The CSD has put an emphasis on reorganizing and improving customer (citizen) services and on working closely with the City of Loveland to improve the planning and permitting process for commercial builders and citizens alike. The division has expanded since the days of the recession, but only to the same staffing level it had prior to 2009. With sizeable increases in building permits and fire protection system permit applications, the demand has outpaced CSD's ability to keep up (see Figure 8-1).

As we fast-forward to 2017, community growth and building permits are at an all-time high (see Figure 8-1). The increase in building permits and plan reviews, and CSD's greater involvement in City of Loveland's planning and building department, has resulted in significant workload increases for the CSD staff in the last few years. Areas such as public outreach and education, inspections and code enforcement, and emergency management have all been impacted negatively by the increase in workload.

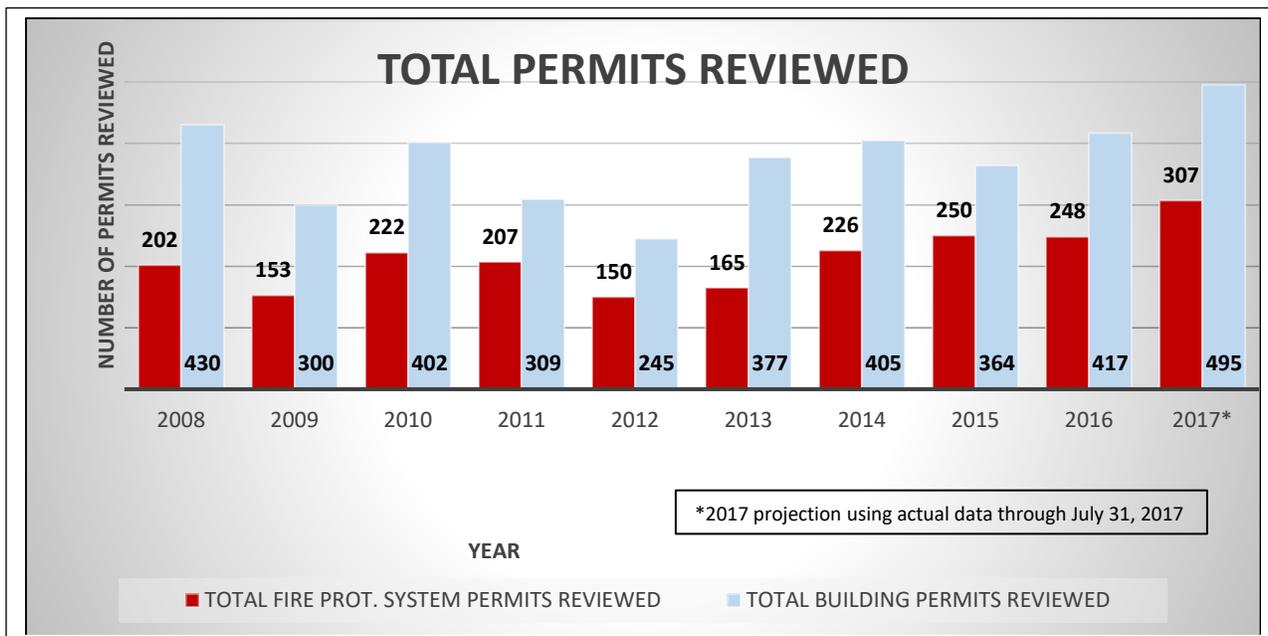


Figure 8-1 *Number of Permits 2009-2016*

In the 2012 *LFRA Strategic Plan*, the CSD was included in the section titled “*Specialized Areas.*” Because of the growing importance of the CSD in the overall integrated risk management plan for LFRA and the increasing responsibilities for public and firefighter safety and survival, a special section is now devoted to CSD. This change will help in the assessment of needs for the future for this division and ensure a greater level of strategic planning.

OVERALL CSD PROGRAMS

This section will highlight each program or area within CSD and explain what that program does and will need in the future in order to continue to provide a high level of community safety and reduce overall community risk. Seven primary programs or service areas encompass the functions within CSD. They include the following:

- Plan review/permits
- Community outreach
- Public education/information
- Code enforcement/building inspections
- Fire investigations
- Emergency management
- Fire service accreditation

Each program listed above exists to positively impact the overall safety and survival for the citizens in the Loveland community. Each program has a varying degree of impact on the CSD staff (and the Operations staff) based on the community and organizational needs. Annually, the division evaluates each of the programs and their effectiveness and measures their outcomes to ensure they continue to be effective and are in alignment with the overall mission of LFRA; the needs for each program are also assessed annually. Each program will be reviewed below, explaining what the program is, how it operates with the CSD, what current needs exist, and what needs are projected for the future. The random order in which these programs or areas are described is not an indicator of importance.

PLAN REVIEWS/PERMITS

Loveland Fire Rescue Authority enforces fire and building codes and national fire protection standards in three governmental jurisdictions: the City of Loveland, City of Johnstown, and unincorporated Larimer County. The CSD collaborates on a daily basis with building owners, developers, and contractors (the “external customers”), as well as plan reviewers and inspectors from these jurisdictions. The CSD staff strives to ensure new development is functional, attractive, cost effective, and above all, safe for citizens, visitors, and emergency personnel.

Providing accurate, consistent, and timely plan reviews and new construction inspections is CSD’s opportunity to “get it right from the beginning” when a building or tenant space initially opens for business. When buildings comply with life safety requirements at the time the structure first opens its doors, they become safer for occupants and firefighters. This compliance sets a positive direction for successive safety assessments by LFRA engine companies and higher-level inspections by the Fire Inspection Technicians (FITs) and other CSD members.

Since the previous strategic plan was implemented, the economic upturn has resulted in a significant increase in commercial and residential development in the LFRA jurisdiction. A full-time plan reviewer position was added in 2013 and a full-time inspector position was added in 2016, not only to keep up with development but also to ensure safer buildings and safer emergency responses for firefighters. In most instances CSD has managed to complete reviews within the specified turnaround times, but not without negative workload and overtime work for staff. CSD anticipates the development workload will continue to increase or remain steady. In addition to the typical tenant finishes in existing buildings, numerous large commercial and residential developments are in the planning stages: The Foundry, The Brands, Brands West, Johnstown Plaza “2534” area, The Lakes at Centerra, Railway Flats (Parcel 504), Citizen Hahn (Parcel 506), 71st Street/County Road 30, and the State Highway 402 area (which corresponds with the widening of Interstate 25 in northern Colorado).

The Loveland downtown area has become a life-safety priority. A majority of the buildings are older – many approaching a century in age – and are not protected by fixed fire-protection systems. In the past three years, the Historic Lincoln Hotel has been retrofitted with automatic sprinklers, and redevelopment projects have seen the installation of fire sprinklers in large structures in Gallery Flats and the Arcadia. Downtown life-safety initiatives will increase in priority as further redevelopment is anticipated to follow The Foundry project.

Staff will work with stakeholders in the building industry and fire departments from multiple agencies to adopt the 2018 I-Codes. Seeing the many significant advantages of residential fire sprinklers, CSD will collaborate with public and private partners to attempt to incentivize the installation of fire sprinklers in all new single-family homes. While such installation has been required in the International Residential Code (IRC) since 2009, most communities, including Loveland, have amended it out of the IRC. (Sprinklers have been allowed as an alternative to emergency vehicle access and firefighting water supply since the 1970s.)

For many years the organization has collected and continues to collect data related to emergency response, inspections, plan reviews, investigations, public education, and emergency management. These data are used to assess compliance with the current strategic plan and to create the next strategic plan, using numbers to set program goals, staffing, and budgeting for the future.

While the organization maintains statistics for community safety and risk reduction programs, it could use the monthly and annual statistics on a more frequent basis in order to set goals and strategies related to emergency response, loss benchmarks, inspections, and plan reviews.

CSD personnel will continue development of a new program to track NFPA 25 inspections (Inspection, Testing and Maintenance of water-based fire protection systems) and will expand construction development information on the LFRA website. The ability to track fire protection system inspections in existing buildings will ensure owners are meeting national standards for life safety inspections for existing buildings with water based fixed fire protection systems.

LFRA maintains close partnerships with the multiple water districts as a result of regular interaction through planned quarterly meetings and the development review process. LFRA will continue to strengthen these relationships to meet anticipated construction development and population growth in the next 10-20 years.

The current CSD staff is having difficulty keeping pace with the growth that is occurring within the Loveland community. It is likely that additional plan reviewers and field inspectors will be needed as the number of businesses and commercial developments escalate. The Loveland area's population is currently growing at a rate of approximately 2-2.5% per year; many forecasters are predicting a continuance of this growth rate into the next decade. CSD will be challenged to keep pace with this level of growth with the current staffing levels.

Another concern for the future is workspace in the Development Center at 410 East 5th Street. Currently, the Development Center is nearly at full capacity for workspace. The area at the Center on the second floor, occupied by CSD and fire administration, may be the only viable space for future expansion for the City Planning and Building Departments. In the future the CSD and perhaps all of fire administration may need to find new facilities and workspaces. Fire Station One is also located in this building; Station One is likely to remain in its current location because of its strategic location to the downtown area and the costs for relocating. However, future long-term planning should include contingency strategies for office expansion and relocation of the fire administrative offices and CSD if the Planning and Building Departments expand.

COMMUNITY OUTREACH

Community outreach programs have historically been a part of the fire service, with fire prevention bureaus usually delivering these programs. Most, if not all, fire related, community outreach programs have a direct impact on disadvantaged community members that do not have the resources or the knowledge to recognize their vulnerability, or those that may not be able to help themselves. Three distinct community outreach programs have been focal points for the CSD within the Loveland community:

- Youth fire setters
- Child car seat installation
- Smoke/carbon monoxide detector giveaway.

Youth Fire Setter Program

Youth fire setting has been identified as one of the fastest growing fire threats in the United States. Annual statistics show that fires set by children kill more than 80 people, injure nearly 1000, and destroy nearly \$250 million dollars in property each year. Nearly half of the victims in these fires are the children themselves. Understanding what circumstances lead children to start fires and following a few basic fire safety practices can reduce the chances of children starting destructive fires. Curiosity about fire is part of a child's growth process, especially between the ages of two and nine. The majority of fires set by young children are set out of curiosity or experimentation. The CSD offers education, training, and counseling as part of the youth fire setters program. These services are offered to the individual youth fire setter and sometimes to the entire family when appropriate. The CSD has members specially trained in this discipline and has access to other outside sources for cases needing a greater depth of counseling or more professional services or assistance.

Child Car Seat Installation

The child car seat installation program has been a part of LFRA for many years. The CSD has been the division directly responsible for managing the program and utilizing personnel to assist families in the community to ensure that children are protected by properly installed car seats. According to the National Highway Traffic Safety Administration (NHTSA), three out of four car seats are improperly installed. LFRA has trained car seat technicians who are available to the community to properly install car seats at no charge. Although it is difficult to track data (locally) for car seat installation and the numbers of infants and children saved from injury, it is presumed that this program is making a difference in community safety. National data and information supports this premise, and based on the number of requests for services, there seems to be a demonstrated need. Historically, LFRA, under the supervision of the CSD, is installing on average over 150 car seats annually, mostly for parents of infants and young children who did not feel able to do this for themselves. Car seat installation is one of the outreach programs that will likely change in the future because of technology.

Car seats have become easier to use and install (2017 article by AAA). However, it is also reported that three out of four car seats are still improperly installed. This data would suggest that the current model of finding “trained professionals” to install car seats may not be the best method. After more than 20 years of firefighters assisting citizens with installations, the number of improperly installed seats has remained about the same; changes in the program and how it is operated are needed.

There are now numerous on-line videos and help for parents to “walk them through” proper car seat installation. HelpLightning, a mobile application (phone app) that offers a virtual interactive presence permitting both verbal and interactive (telestration) visual communication, and the manufacturer's user manual, are available for consumers to assist them with installing their car seats. These efforts should change the unacceptable level of car seats being installed improperly. The technology side of this issue will likely play a significant role in simplifying the installation process and provide more help to ensure proper installation by parents. Another associated factor suggesting change is the generation that is most in need of car seats for their children are also the most technology savvy generation to date. Most of these younger parents have no issues with downloading an “app” for their phone or device to be able to learn how to properly install the car seat.

The car seat installation program will probably change in the future. CSD will likely still have a role in this program for years to come. However, the CSD staff will need to monitor changes and trends and react with assistance, support, or guidance as needed.

Smoke/Carbon Monoxide Detector Giveaway

For more than four decades, research has proven that smoke detectors and carbon monoxide detectors save lives. The American fire service and Loveland's CSD offer free smoke detectors and carbon monoxide detectors to citizens who can't afford them or who request them. Smoke detectors have been around since the 1970s. Many studies have shown that working smoke detectors can reduce the chances of citizens dying in a house fire by 50%! They literally save lives every year. These devices are easy to install and take almost no maintenance except to change out their batteries twice a year. They are a proven commodity to assist in saving lives and property through early detection.

Carbon monoxide detectors, on the other hand, have only been around since 1993, and like smoke detectors, can be lifesavers. These detectors protect from carbon monoxide (CO), a poisonous gas that's also colorless, odorless, and deadly. This poisonous gas is produced by the incomplete burning of fuels like coal, wood, charcoal, oil, kerosene, propane, and natural gas. Like smoke detectors, CO detectors require very little maintenance to keep them operational.

One of CSD's primary goals is to ensure that every home in our community has working smoke detectors. LFRA offers smoke detectors, carbon monoxide detectors, and battery replacement for detectors at no cost to community members that cannot purchase these items on their own. LFRA crews will respond to provide and/or install smoke or CO detectors or assist with dead battery replacement. Donations are used to supplement and support this community outreach program for LFRA.

The smoke detector and carbon monoxide detector program has been very successful over the past years and is functioning well today. The program will need to be monitored for financial viability and effectiveness for on-duty crews responding to calls for assistance and the community education portion of the program. More use of technology and social media may be an answer for future sustainability of this program.

PUBLIC EDUCATION/INFORMATION

For over 100 years, the fire service has educated the public on fire safety and informed them of pertinent information related to community emergencies or calamities. In the Loveland community, that responsibility belongs primarily to the CSD. These two areas are primarily divided into Public Education and Public Information.

Public Education

Various community safety programs fall under the umbrella of "public education." One of the most successful educational programs ever implemented in the fire service is delivering the fire safety message to the students at the elementary school level. Statistically these individuals are identified in the high-risk category for potential injuries, but also the most impressionable age group to understand the risk of fires and other related safety concerns. LFRA has developed a robust public education program that not only targets fire related educational messages, but also includes an emergency preparedness element that provides a more in-depth understanding of manmade or natural emergencies that could impact the citizens in our community. The Public

Education program works in unison with several other allied organizations to maintain a collaborative and cooperative approach in the education of our community members.

Other areas of outreach within the public education field will evolve for the Loveland community in the coming years. The community will likely need more, or different, programs that are adaptive to the community demographics and changes brought about by a growing, diverse population. One of those areas will likely concern the ever-growing challenges for apartment-safe living. Loveland has experienced a tremendous growth in the number of apartment complexes within the community and a sizeable growth in the number of people living in these apartments. Most of these newer occupancies are 3-4 stories, some with garden levels, and nearly all are made from Type V or combustible wood-frame construction. Both national and regional trends show an abnormally high number of fires and civilian injuries and deaths occurring in these types of occupancies. A cogent public education effort within LFRA through the CSD for these types of occupancies will be needed to reduce the numbers of fires and civilian injuries occurring in apartment complexes.

Public Information

Keeping the public informed from a life safety or an educational perspective is a challenging role that has been assigned to the CSD. This role has been made ever more difficult in a high-technology world.

With the advent of social media, texting, tweeting and cameras on every cell phone, along with the ability to shoot, store, and transmit videos of the latest breaking news, the expectation from the public is to deliver information as rapidly as it becomes available. This has had a dramatic effect on LFRA's ability to report accurate information in a timely and effective manner. Many times unconfirmed information is being distributed to the media or to other related media outlets. Consequently, false information is being shared, which then leads to additional time spent to correct or dispel inaccurate information. This can be increasingly challenging when property or lives have been lost. The Public Information Officer is a critical position that can be extremely beneficial for distributing educational information to the community. Other benefits include: maintaining updated website information, recruiting volunteers, and addressing current concerns such as burn restrictions, home safety tips, etc. The CSD will need to maintain vigilance in this area of public information and make a concerted effort to stay current on the rapidly changing world of social media.

One area that may need to be monitored and pursued even further is the use of social media for education. Social media has proven to be very effective in public information dissemination and will likely be equally as effective as a public education tool. LFRA will need to investigate what other successful agencies are doing in this area and adopt effective and practical ideas for the Loveland community.

The organizational needs for the areas of public safety education and public information are apparent now. LFRA is utilizing several sources for education and information. While this is currently working, much more can be done to improve. CSD should look at and flesh out the needs and available funding for a public education and information specialist. Other fire service agencies in the area have opted for this model and have seen success in their efforts. What may work best for the CSD (and LFRA) is a civilian specialist position for both public safety information and education.

CODE ENFORCEMENT/BUILDING INSPECTIONS

The inspection program and the code enforcement process are important parts of the department's mission of ensuring a fire-safe community. The Code Enforcement/Inspection program consists of three primary areas:

- Fire company business safety visits and surveys
- Fire inspectors business inspections
- Specific fire safety complaints or code violation follow-up.

Fire companies within LFRA conduct periodic business safety visits; the majority of these businesses are small retail stores and smaller commercial outlets. The purpose of this program is to have firefighters assist business owners/occupants to ensure that their businesses are following fire safe practices and help eliminate or reduce anything that could cause a fire in the business. These visits are intended to build relationships or community partnerships and to help ensure the business does not go out of business because of an accidental fire. On-duty fire companies, with the support of the CSD staff, manage and operate this program with shift resources.

CSD staff regularly conducts business fire inspections on occupancies that typically are more complex in size or nature and require specialized code enforcement skills. These visits are compliance-based inspections rather than the simpler safety visit conducted by the fire companies. These inspections are typically done with CSD inspectors or a shift Fire Inspection Technician (FIT).

Specific safety complaints or code violations are assigned to Fire Inspection Technicians or specific CSD fire inspectors. These complaints or requests can come from the public, other city employees, or from fire companies that are on a business safety visit. The integration of these three processes makes up the majority of the code enforcement duties within CSD.

Approximately 20% of all fires occur in commercial or business occupancies. These are by far the most expensive fires on a per capita basis. Historical records suggest the majority of businesses that have a serious fire never reopen after that fire, often creating serious economic consequences to communities and families. Thus, a more proactive approach in inspections and code enforcement is warranted. LFRA has chosen to focus mainly on inspection/enforcement programs with an emphasis on community fire safety education and collaborative partnerships to address the fire and life safety issues. Studies have shown that operating with a customer service approach, at the fire company level, rather than a regulatory enforcement approach results in improved fire safety in business and commercial occupancies and better overall relationships between the business owner and fire officials.

The code enforcement and building inspection program is currently operating well and effectively within LFRA. As the Loveland community expands, it may take more resources to continue these programs at the same level. The CSD will need to monitor the effectiveness and sustainability of these vital programs over the next several years.

FIRE INVESTIGATIONS

The CSD has the overall responsibility for fire investigations and capturing the findings within various reports. Fire investigations are conducted on a hierarchy of scale. Many smaller and simpler fires can be investigated by a company officer on an engine or truck company. A more complex scene may need the assistance and expertise of the shift FIT. The next level of the scale

may require a CSD fire inspector or investigator. More times than not on larger, more complex fires, there will be a lead investigator and a team working together. On even more complex fires or emergency scenes where a crime is suspected, law enforcement or members from other state or federal agencies may be involved.

CSD currently needs more training for its investigators and needs more FIT level investigators to assist the overall CSD team. Another long-term need for CSD is to be a part of a regional team of fire investigators that assist each other on larger, more complex investigations, allowing calls for assistance to be made within the framework of automatic aid or mutual aid agreements. While these types of fires do not occur often, when they do, the workload and commitment of personnel can be draining on the division. A regional investigation team could help with the workload created by larger, more complex fires and their investigation.

EMERGENCY MANAGEMENT

In 2005, Emergency Management in Loveland was officially established as a full-time program with dedicated staff; the staff was made up of one or two fire department officers, essentially on loan to the City of Loveland. This program had formerly operated as an independent division within the fire department, but became an active part of the CSD in 2010 during the fire prevention reorganization. This relationship makes a great deal of sense in the perspective of achieving overall community safety and preparedness because Fire Prevention and Emergency Management had the same mission: *reduce injury and loss through safety and preparedness*. The Emergency Management program was developed after numerous large-scale incidents and emergencies impacted the Loveland community. Many lessons were learned over the years that shaped the program into what it is today. In addition, these same community-wide emergencies helped to develop functional, operational relationships with other surrounding cities and counties.

The Emergency Management Program serves the City of Loveland, its community members, and the businesses within the LFRA response district. The current program was developed by employing the lessons learned from disaster events as well as embracing theory developed from research in anthropology, geomorphology, and climatology. The program's priorities and ideology model the findings from these areas of research.

The program is obligated by laws, mandates, and local ordinances, which define the responsibilities for interagency coordination, cooperation, and planning. Stakeholders such as the school district and hospitals and with non-governmental organizations are involved before, during, and after an emergency or disaster. The program staff have a variety of responsibilities and tasks that include the development of preparedness and emergency plans, public outreach, facilitation of an Emergency Operations Center, the delivery of training and the conducting of exercises, and the on-going resolution of related issues and projects.

The program uses an all-hazards approach for all phases of emergency management planning (preparedness, response, recovery, and mitigation) to meet the expanding needs of the community. The program must identify potential threats, hazards, and vulnerabilities that challenge the community and the city. Limited resources and planning efforts focus on addressing the identified local risks and vulnerabilities to the specific hazards that can actually occur here. This allows planning resources to be dedicated to those risks and vulnerabilities that are the most likely to adversely affect the community. The program's focus in community

preparedness is to educate the public and the City of Loveland organization in becoming more self-sufficient, thereby developing a community that is more disaster resistant and can more quickly recover from a disruptive incident.

In the last five years, the program went through a significant redesign. The major changes included a reassessment of priorities; the creation of new goals and strategies; the reassignment of project work; the occasional hiring of temporary, grant-funded staff; and working toward the alignment with occupational best practices as defined by the Emergency Management Assessment Program standards (EMAP). Three important areas of focus of the redesign were the establishment of clear mission and vision statements and defining the organization's "ethos" or character and essence of what Loveland's Emergency Management program represents. These three are listed below.

Vision Statement - The City of Loveland Office of Emergency Management seeks to cultivate a safer, less vulnerable community that has the local capacity to effectively cope with hazards and disasters.

Mission Statement - To safeguard our community by coordinating and integrating the activities necessary to mitigate against, prepare for, respond to, and recover from threatened or actual disasters.

Ethos - "Self-sufficiency IS emergency preparedness."

Program Goals

- *To prepare the city organization and LFRA to manage and survive emergencies and disasters more effectively through planning, training, and exercises*
- *To cultivate an emergency-resilient community by educating it to be self-reliant (see Ethos)*
- *To streamline policies, procedures, systems, and processes where and when possible*
- *To manage large-scale events with upward-trending effectiveness*
- *To be proactive, agile, and flexible for the benefit of the near term*
- *To be long-term minded in all efforts for the benefit of the broader future*

Staffing, Capital, and Expenses

The current program has one FTE (captain's position with LFRA); CSD "loans" a significant portion of another FTE for maintaining LFRA social media, delivering business continuity and emergency planning, and other Emergency Management (EM) duties as assigned.

The program's assets and capital replacement schedule is recorded within the document *Grant Funded EM Asset Tracking* and is maintained by the LFRA finance personnel. Most of the entries are for equipment that do have an end of life and will need to be replaced.

The program's annual budget is prepared and based on the financial needs of projects and programs, salaries and benefits, training and exercises, employee development, office equipment, Emergency Operations Center maintenance and operation, and communications. Other grant funding opportunities make possible the purchases and contracts that are not outlined within the base budget.

Challenges/ Needs

With regard to achieving programmatic goals, progress is protracted or indefinitely paused in the following areas: (1) planning, (2) training and exercises, (3) mitigation projects, (4) capital improvements, (5) and operations.

1. **Planning:** The research, development, and vetting of emergency plans is a time-consuming endeavor, and it requires a significant amount of face time with planning partners. One FTE should be dedicated to the purpose of writing plans along with other duties as assigned.
2. **Training and Exercises:** The program is currently conducting training and exercises on a limited scale. Based on the feedback from multiple real-world incidents, citywide expectations for this area not being met. One FTE should be dedicated to develop and deliver citywide training and exercises along with other EM duties as assigned.

In the past, the Emergency Management Program Grant (EMPG) funded most of the costs for employee development training. In the President's proposed 2018 Federal budget, the EMPG is not funded. Consequently, this situation will cause us to add these on-going costs to our annual budget request.

3. **Mitigation Projects:** As documented within the Mitigation Master Plan, over 160 individual mitigation projects should be funded and implemented. The main purpose of these projects is to reduce the local hazard risks and to decrease vulnerabilities. These tasks should be financially supported by the City of Loveland and the City Council, at least to the 80% mark.
4. **Capital Improvements:** Several expensive improvements, if funded, would address important programmatic goals. Some of these projects include the upgrade or migration of the city-operated AM radio station, the building of a regional Emergency Operations Center (EOC), the continued enhancement to emergency warning and notification systems, and the replacement of the Mobile Command Vehicle (MCV) at some point.
5. **Operations:** On-going costs are associated with the maintenance and operation of equipment and systems located in the EOC, in the MCV, and other EM-related spaces such as the Joint Information Center and the call center. In the past, the Emergency Management Program Grant (EMPG) funded most of these costs. In the President's proposed 2018 Federal budget, the EMPG is not funded. Consequently, this situation will cause us to add these on-going costs to our annual budget request.

The emergency management program has developed into a reliable, professional, and high quality program for the City of Loveland and LFRA. Reviews of the program in the future will evaluate where changes are needed and where the management of the program should be. Having the program under the authority of the City Manager and operating within the Fire Authority is working. However, within the parameters of continuous improvement, ongoing evaluations are appropriate.

FIRE SERVICE ACCREDITATION

Accreditation in the fire service, simply put, is a continuous improvement plan. It is not an event, but rather a process that demonstrates a fire department's commitment to evaluating risk in the

community and to using data analysis to shape how that organization goes about providing professional services to mitigate risk through both response and prevention. The accreditation process and the strategic plan for a fire department should go hand in hand and work in concert to enhance the overall goal of continuous improvement. Several important terms regarding accreditation include the following:

- *Center for Public Safety Excellence (CPSE)* – The agency that oversees fire accreditation.
- *Commission on Fire Accreditation International (CFAI)* – The governing body that, among other things, reviews all agencies applying for accredited status.
- *Community Risk and Emergency Services Analysis (CRESA)* – A very thorough and all-inclusive risk analysis required by a fire department seeking accreditation.
- *Standard of Cover (SOC)* – Development of goals and data analysis regarding many facets of the fire service, including the number of units and total response time for the department’s response area.
- *Fire and Emergency Services Self Evaluation Manual (FESSEM)* – A standardized self-evaluation for fire departments created by the CPSE involving ten specific categories of evaluation. These categories are broken down further into more specific performance indicators and core competencies.

An article written by Robert Rielage for *FireRescue Magazine*, explains the reason fire departments are seeking accreditation: “...accreditation ushers fire departments into an age of professionalism.” Accreditation is regarded as the best possible self-assessment process, and it is the recognized industry standard for departments publically demonstrating their commitment to improvement. Currently (2017) there are 235 accredited fire departments internationally. Rielage goes on to say, “Fire agencies are definitely an all-hazard emergency service, and therefore we have to look to organizations such as CFAI to validate that we are delivering what services people expect of us.”

Many fire service organizations choose to participate in the accreditation process because of the recognition of excellence the award brings. However, most fire departments pursue accreditation through CFAI for the following four primary, specific, and empirical reasons:

1. It is the best possible assessment process for fire service organizations.
 - *Overseen by a third party*
 - *Data driven*
 - *More complete, covering virtually all of the service areas provided*
2. It is designed to enhance an organization’s goals of continuous improvement.
3. It is an ongoing process that includes annual review and reporting and a five-year re-application and re-accreditation process.
4. It is recognized as the industry standard and “best practice” for fire service evaluation.

The journey to accredited status takes over three years. It requires a commitment to creating the required documents (CRESA-SOC and FESSAM) and working with CPSE to demonstrate that the finalized community risk analysis and self-evaluation done by the organization warrants an accredited status from CFAI.

The CPSE works hand in hand with fire departments throughout the accreditation process. They offer classes and mentors to assist organizations. They also assign a four-person peer team to

comprehensively evaluate the overall operations of the department, their records management system, and documentation practices. This peer team conducts a three-day site visit to the fire department and administers a very thorough evaluation. At the end of the visit the team lead will either recommend that the department move to accredited status or list specific changes that need to occur prior to moving on to achieving accredited status. If the recommendation is to move to accredited status, the team lead goes with the fire chief and other selected members of the department to present the department's request and the team's findings in front of the CFAI executive team. Once they receive the accredited status, the department continues the process and goes before the CFAI every five years for reaccreditation. This is the core mechanism for continuous improvement through CPSE.

Loveland Fire Rescue Authority established the foundation for being an accredited fire department in 2009 with the newly established vision of *“going from good to great, and building the organization to last.”* The *2012 LFRA Strategic Plan* built upon that vision. This document and the guiding principles it contained set in motion the opportunity to become a data driven department, speaking with facts and seeking the best practices and ways for continuous organizational improvement. In 2014, Fire Chief Mark Miller appointed then Engineer Ty Drage to the role of accreditation manager for LFRA; the goal was to move through the process, ending with a recommendation for accreditation by the site evaluation team. Significant work needed to be done to accomplish this goal; the more significant points included:

- Creation of the CRESA-SOC and FESSAM documents
- Becoming a “registered agency with CPSE (08-13-14)
- Moving to the “applicant status” (02-02-17)
- Assignment of peer assessment team (03-17)
- Evaluation and site visit by peer assessment team (05-7/11-17)
- Recommendation for accreditation with CFAI (07-28-17).

The commission from CFAI voted to award LFRA an accredited status, meeting all of the requirements set forth by the CPSE. With the accredited status, LFRA properly embraces the philosophy of continuous improvement in all aspects of service delivery, and will look ahead to see how best to manage the accreditation program in an ongoing way. The accreditation process is currently managed within the Community Safety Division (CSD); further study will take place to see if this or another division should assume responsibility for accreditation. For the accreditation process to be successful, consideration should be given for an accreditation team. The team concept can ensure succession planning, with several people sharing the knowledge and expertise of the technical writing and data analysis required by CFAI. Looking ahead, accreditation and the philosophy of continuous improvement will serve LFRA well in its goal of enduring greatness.

FUTURE AREAS FOR CONSIDERATION

In addition to the abovementioned areas or programs, there are several key services that the LFRA CSD will need to focus on, devote more time and resources for, and improve in to greater enhance the overall city safety in the city and rural fire district. These include:

- Seniors and fire safety
- Apartment-safe living

- Business sprinkler inspections
- Wildland urban interface code
- Technology

Seniors and Fire Safety

According to the United States Fire Administration, older adults run a risk that is 2.5 times higher of dying in a fire than people in younger age groups. They also suffer a higher number of fire related injuries. Because of these facts and that the Loveland community has a significant elderly population, more needs to be done to assist our elderly citizens in fire safety awareness and education. Several programs already exist that highlight areas for education and provide materials to enhance fire safety to this critical demographic. LFRA will need to make a more concentrated effort to improve services and fire safety education with this population group.

Apartment Safe Living

Every year in the United States over 400 people die in apartment fires, and approximately 4400 people are injured. Many of these deaths could have been prevented if there had been working smoke alarms in the residence. The Loveland community has a relatively high percentage of apartments and multi-family dwellings of the Type V construction variety (wood frame construction). Nationally and regionally these types of occupancies have a higher rate of fire occurrence, and for the multi-story variety, a higher life safety threat to citizens. LFRA will need to make a more concentrated effort for education and training for apartment fire safety and apartment safe living. An excellent program is offered by Tualatin Valley Fire Rescue (Oregon). LFRA should review this life safety outreach as part of the *2018 LFRA Strategic Plan*, and if needed, prioritize this as a future community outreach. Currently, all newly built multi-story apartment complexes require the installation of automatic fire sprinklers. While this code requirement will have a positive, life safety impact in the current and future built environment, some existing apartment complexes are buildings not covered by the newer codes. This issue will need to be evaluated carefully by the CSD staff in the future.

Business Sprinkler Inspections

All fire protection systems must be designed, installed, inspected, tested, and maintained by contractors with an endorsement issued by the fire department (LFRA). The ongoing inspection program of installed fire sprinklers for commercial occupancies ensures that these protection systems are in a ready state at all times and protecting the properties of business owners. Nationally and regionally there are inconsistencies in how often and thoroughly these inspections are carried out. In the Loveland community, private contracting companies do these inspections. Other communities, such as Fort Collins (Poudre Fire Authority) utilize fire department personnel for these inspection services. LFRA needs to further evaluate the current inspection system and ensure that the best system for Loveland is in place and that the system is working with the highest level of effectiveness possible.

Wildland Urban Interface Code

The International Wildland Urban Interface Code (WUI) is a model code intended to supplement a jurisdiction's building and fire codes. The objective of the code is to establish minimum regulations to safeguard life and property from the intrusion of fire from wildland fire exposures and fire exposures from adjacent structures, and to prevent structure fires from spreading to wildland fuels, even in the absence of fire department involvement. The first WUI Code was

produced and approved in 2003; the current code in effect is the 2015 version. Although this WUI Code has not been adopted in Loveland or Larimer County, there are many important aspects of it that should be. LFRA has a wildland urban interface problem and currently most of the efforts are being expended in the response side. LFRA should create a partnership with other regional fire departments and responders to either adopt this code or develop directives from this code to help in the area of risk assessment and risk mitigation.

Technology

Technology is impacting every area of life in America; the fire service, and more specifically, the CSD is no exception. However, many technology advancements are currently available that could enhance the performance of LFRA field inspectors and technicians. Integrating technology with fire safety inspections and fire prevention-related work can be seen in new developments with iPads and synchronizable databases, bar coding, and other technology-based services. These innovations can reduce workload through efficiency and greater effectiveness. LFRA should evaluate options that can reduce workload and increase productivity of the CSD staff. Technology may help accomplish this goal, but some growth in the division will be necessary.

CSD Planning Assumptions

CSD Planning Assumption 1 – CSD will likely need more staffing in the future to address a growing population and an ever-increasing workload related to commercial development, plans review, and new inspections.

CSD Planning Assumption 2 - LFRA's role in plan reviews and building review processes is critical to ensure a strong fire-rescue perspective in the review process and a more effective community safety impact in the built environment

CSD Planning Assumption 3 - Specific occupancies within the community will continue to require specialized training and knowledge, skills, and abilities for plan reviews and inspections.

CSD Planning Assumption 4 – The community outreach program is an evolving responsibility that will be impacted by technology, change, and public expectations. Smoke and CO detector programs will likely continue as the most dominant and effective community outreach.

CSD Planning Assumption 5 - The enhancement of training and outreach for emergency management and EOC operations is integral to a total overall community outreach safety plan.

CSD Planning Assumption 6 – Changes/improvements in the area of public education and information will be needed in the future for "at-risk" citizens or areas within the community.

CSD Planning Assumption 7 – Fire service accreditation is and will be a part of LFRA's future. Management of information and processes to maintain accreditation will be a part of the future for LFRA.

CSD Planning Assumption 8 – The wildland urban interface area will continue to be an area of concern based on population increases and more structures in the WUI. Adoption of the *Wildland Urban Interface Code*, along with increased staffing could address this concern.

IX: ORGANIZATIONAL GOALS, STRATEGIES, TACTICS & KEY PERFORMANCE INDICATORS

This section focuses on establishing and setting organizational goals, strategies, tactics and identifying Key Performance Indicators (KPI) to measure and quantify success. These dimensions will establish the department's overall strategy for achieving success in delivering emergency services in a safe and cost effective manner. This section also includes a more comprehensive list of specific measureable metrics, KPIs that are formatted into easy to read charts for review and expression of the various performance measurements established for the organization. In addition, a pared down version of the service level indicators is listed as the "Significant Seven," which has been used as part of the City of Loveland's performance measurements as requested by past City Managers.

THE ORGANIZATIONAL PRIME DIRECTIVE

Most fire service organizations have, at their core, a mission or vision statement that establishes what the organization stands for and is committed to. Loveland Fire Rescue Authority is no exception. The organization's mission statement is:

Through commitment, compassion and courage, the mission of the Loveland Fire Rescue Authority (LFRA) is to protect life and property.

From the management side of the continuum of operations, the "prime directive" adapts this mission statement so it connects to the organization's goals, strategies, and service level indicators. That prime directive is:

To protect life and property in a safe and effective manner

This prime directive will serve as the guiding principle for the organization from a planning and management perspective and serve as a touchstone or guidepost that will serve to maintain organizational focus and direction. In its most simplistic format, it speaks to the issue of “*Citizen Service and Firefighter and Citizen Safety and Survival.*”

ORGANIZATIONAL GOALS

Goals, as defined in this section, are essentially a broad, primary outcome. They tend to be long on results, or outcomes, and short on specifics; in strategic planning, they are about moving forward. Goals change our mindset and direction by changing or redefining the destination. Within the framework of the 2018 LFRA Strategic Plan we have established our organizational goals around the “Four Rs”- *Response, Readiness, Resources and Relationships* (see Figure 9-1). We have also added a fifth goal to this group: Cost Effectiveness. All five of these goals are expanded on in the later portion of this section - “Charts and the Key Performance Indicators.”

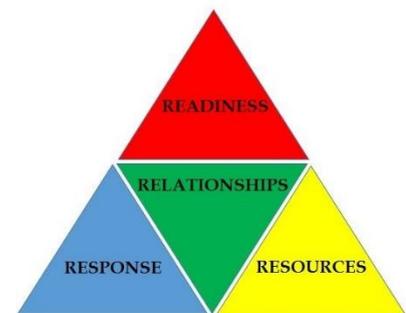


Figure 9-1 Four-R's

The specific goals in this portion of the plan clearly address the salient points established within the prime directive - that being citizen service and firefighter and citizen safety and survival. The five goals are listed below:

1. Response to Emergencies

Deploy an effective emergency response to minimize loss/damage

2. Readiness/Preparedness

Prepare for and mitigate/minimize the risk and outcomes of an emergency incident

3. Resources

Preserve, develop, and improve the resources entrusted to LFRA including vehicles, equipment, facilities, and most importantly, human resources

4. Relationships

Maintain and improve relationships with our staff, strategic partners, and professional colleagues

5. Cost Effectiveness

Deliver cost effective services to the citizens

STRATEGY & TACTICS

Strategies are defined as an approach taken to achieve a specified goal. Another way of describing it is a plan of action designed to achieve a particular goal or set of goals or objectives. Strategy is management's game plan for strengthening the performance of the organization. It really is the “what” we are trying to accomplish.

Tactics are a tool or specific method used in pursuing an objective associated with a particular strategy. Tactics are the actual means used to gain or accomplish an objective; it is the “how” we accomplish things.

KEY PERFORMANCE INDICATORS

A performance indicator or key performance indicator (KPI) is a type of performance measurement. KPIs help evaluate the success of an organization or of a particular activity in which it engages. Within the framework of strategic planning, these KPIs are an empirical way of evaluating performance and the accomplishment of the various goals, strategies and tactics. Within this particular plan, the KPIs will be found within the strategies and tactics set forth in the charts below. There are fifteen KPIs within the *2018 LFRA Strategic Plan*. They are:

- Improve response times
- Achieve and maintain accreditation
- Maintain or improve ISO Public Protection Classification rating
- Increase staffing and number of fire stations for improved emergency response
- Develop leaders and promote leadership
- Prepare ourselves and the community for disasters
- Provide exceptional customer (citizen) service

- Maintain or improve our fire loss levels
- Improve community fire safety and risk reduction
- Utilize technology/innovation to improve response and service levels to the community
- Improve training facilities and training programs to enhance readiness and response
- Improve firefighter health, safety, and survival
- Continue to develop our employees through training, education and experience
- Improve capital funding mechanisms and strategies
- Maintain and improve relationships with strategic partners

These fifteen KPIs (along with the seven performance measurements below) are important to the performance management for LFRA. They are all embedded within the five goals described above (page 96) and can be found in the performance management charts on pages 99-104.

“SIGNIFICANT SEVEN” PERFORMANCE MEASUREMENTS

The “Significant Seven” performance measurements were utilized in the *2012 LFRA Strategic Plan*. They were established, in part, because the City of Loveland required the organization to select key performance measurements where overall performance could be measured using metrics associated with the International City/County Management Association (ICMA’s) performance measurements. They were also utilized because of their value; they are important dimensions that are recorded to measure and track organizational performance. The “Significant Seven” are included in the *2018 LFRA Strategic Plan* because of their continuing value and usability as metrics. These seven are:

1. **Response Times:** Times tracked for emergencies within the Urban Response Area
 - *First arriving unit or member with tactical capability*
 - *For structure fires, first arriving engine or truck, then the balance of the assignment*
2. **Costs Per Capita:** Operational cost comparisons
 - *Costs per capita in comparison with other FRFC departments and selected comparison departments within the Rocky Mountain region*
3. **Fire Loss Per Capita:** Total fire loss comparison
 - *Total fire loss per capita in comparison with other FRFC departments and selected comparison departments within the Rocky Mountain region*
4. **Property Value Saved vs. Loss:** Saved/loss comparison relationship
 - *Measured in both residential and commercial occupancies*
5. **Fires Confined to Room of Origin:** Measuring “flashover” ratio
 - *% of the time that fire was confined to room or area of origin, interceding before flashover occurs*

- 6. Number of Businesses Inspected/Fire Company Safety Visits:** Efforts in fire prevention
- *% and number of businesses inspected by the CSD and % and number of businesses receiving a safety visit by a fire company*
 - *Measurement of the number of times personnel are in a business for code enforcement and safety intervention*
- 7. Customer (Citizen) Satisfaction:** Public perception measurement
- *Overall community performance survey as part of the City of Loveland Quality of Life Survey process*
 - *Citizens and businesses actually receiving LFRA services*

Some of the dimensions within the “Significant Seven” are more objective (such as Response Times and Costs per Capita) while others are more subjective (Property Saved vs. Loss). However, all of these dimensions have value in measuring the organization’s performance, and in the comparison to other regional departments utilizing these same types of dimensions.

CHARTS AND KEY PERFORMANCE INDICATORS

A chart is a graphic representation of data or information. They are used as a diagrammatical of information; they also convey information in a more easy to understand and efficient manner. *The 2018 LFRA Strategic Plan* utilizes charts in Section IX to relate and connect the various dimensions expressed as part of the overall goals and performance indicators. The information expressed in the following charts include:

- Area of Focus
- Goals
- Expectations
- Organizational Strategies
- Organizational Tactics

There are five major areas covered in the following charts that will serve as a primary source for management to monitor and measure the organization’s effectiveness. The five areas are built around LFRA’s “Four Rs.” One additional area has been added that relates to cost effectiveness. The five areas include:

1. Response
2. Readiness/Preparedness
3. Resources
4. Relationships
5. Cost Effectiveness

These five areas make up the categories where the Key Performance Indicators and Significant Seven Performance Measurements are included. They will be monitored, measured, and managed through the establishment of the listed goals, organizational strategies, and organizational tactics within these five major areas. They will be reflected in LFRA’s Annual Report and other reports.

These fifteen KPIs and seven performance measurements are integral to the process of monitoring and measuring LFRA’s performance. LFRA has adopted these as integral to the process of measuring organizational progress and as significant factors in managing continuous organizational improvement.

1. RESPONSE

GOAL: DEPLOY AN EFFECTIVE EMERGENCY RESPONSE TO MINIMIZE LOSS/DAMAGE

EXPECTATIONS:

- LFRA Companies will provide prompt and effective emergency service
- Fire Companies will be skilled and competent at the tactical & task levels
- Incident Commanders will demonstrate a high degree of excellence and proficiency at the strategic/tactical level
- All LFRA personnel will be committed to safe, sane & predictable operations
- Our organization will excel in the area of citizen/customer service
- We will stay committed to proven firefighting models that work well and be open to new and innovative methods that are scientifically better and that enhance safety and survival
- All LFRA personnel will be committed to continuous improvement

STRATEGIES

ORGANIZATIONAL TACTICS

1.1	Effectively deploy appropriate, incident specific resources	1.1.1	Respond with a minimum staffing of 3 firefighters per engine/truck
		1.1.2	Execute a skilled response to meet organizational protocols and benchmarks in a timely manner
1.2	Improve our response times to emergency calls	1.2.1	Meet or exceed our stated total response time goals
		1.2.2	Add staffing and fire stations to improve emergency response times and overall performance
1.3	Demonstrate effective deployment	1.3.1	Improve fire loss/property saved ratio and improve fire loss per capita
		1.3.2	Execute task level operations within LFRA's performance standards
1.4	Improve response performance through traditional and alternate deployment methods	1.4.1	Maintain and improve basic skills (demonstration)
		1.4.2	Remain current on knowledge, skills and abilities in modern fire behavior tactics and task level operations (fire dynamics)
1.5	Provide exceptional citizen (customer) service	1.5.1	Maintain a culture of "enhanced customer service" throughout LFRA
		1.5.2	Create clear organizational expectations for what great citizen/customer service involves
		1.5.3	Review and respond quickly to all compliments and complaints
		1.5.4	Maintain a level of 90% or higher in the City of Loveland's <i>Quality of Life Survey</i>

2. READINESS/PREPAREDNESS	GOAL: PREPARE FOR AND MITIGATE/MINIMIZE THE RISK AND OUTCOMES OF AN EMERGENCY INCIDENT			
	EXPECTATIONS:			
	<ul style="list-style-type: none"> • Provide high quality plan reviews and new building inspections • CSD and Operations will work cooperatively to improve fire/life safety risks, and reduce overall community risk • Target specific fire/life safety risks and develop suitable solutions 		<ul style="list-style-type: none"> • Improve fire safety education and community outreach • Be prepared to lead, manage, and survive disasters in the Loveland community • Be prepared and trained to effectively manage a wide variety of emergency responses 	
	STRATEGIES		ORGANIZATIONAL TACTICS	
	2.1	Improve community fire safety and risk reduction	2.1.1	Maintain/enhance the fire inspection & fire company safety visit programs
			2.1.2	Ensure all applicable fire codes are reviewed/adopted
			2.1.3	Improve CSD records management systems & data entry
		2.1.4	Provide accurate, consistent and timely plan reviews and new construction Inspections	
		2.1.5	Sustain adequate staffing levels within CSD for the required workload	
2.2	Develop and implement a community risk reduction plan in 3 Specific areas: - Residential Apartments (multi-story) - Business fire sprinklers - Wildland urban-interface area	2.2.1	Create a community apartment safe living education program	
		2.2.2	Ensure that business fire sprinklers are inspected regularly	
		2.2.3	Improve fire safety conditions in the wildland urban-interface area in the Loveland community	
		2.2.4	Investigate the use and implementation of the “Ready-Set-Go” program	
2.3	Strengthen the efforts in public fire safety education and community outreach	2.3.1	Evaluate and improve fire safety education to elementary students	
		2.3.2	Continue to develop/improve the community smoke detector and carbon monoxide alarm program in the Loveland community	
		2.3.3	Evaluate and improve fire safety education for senior citizens	

Readiness/Preparedness (cont.)

	<p>2.4 Prepare the City organization and LFRA to effectively manage and survive community disasters</p>	<p>2.4.1 Cultivate an emergency resilient community through education, preparedness and practice 2.4.2 Manage large scale emergency events with upward trending effectiveness 2.4.3 Conduct a large scale community training exercise annually 2.4.4 Work with City staff to complete the mitigation projects identified in the Loveland Mitigation Master Plan</p>
	<p>2.5 Accomplish and retain successful 3rd party evaluations of LFRA as an effective fire/rescue organization</p>	<p>2.5.1 Maintain or improve the current Insurance Services Office (ISO) Public Protection Classification (PPC) rating 2.5.2 Achieve and maintain accreditation through the Commission on Fire Accreditation International</p>
	<p>2.6 Strengthen LFRA’s training efforts in various programs to ensure firefighter and fire officer readiness and preparedness</p>	<p>2.6.1 Maintain and enhance firefighter basic skills for all uniformed personnel that are deployable for firefighting operations 2.6.2 Maintain and enhance the Blue Card Hazard Zone Management program for all line fire officers and acting officers 2.6.3 Utilize technology to enhance or improve various firefighting training programs</p>
	<p>2.7 Provide exceptional citizen (customer) service</p>	<p>2.7.1 Maintain a culture of customer service throughout the organization 2.7.2 Create clear organizational expectations for what great citizen/customer service involves 2.7.3 Review and respond quickly to all compliments and complaints 2.7.4 Maintain a level of 90% or higher in the City of Loveland’s <i>Quality of Life Survey</i></p>

3. RESOURCES	GOAL: PRESERVE, DEVELOP, AND IMPROVE THE RESOURCES ENTRUSTED TO LFRA; INCLUDING VEHICLES, EQUIPMENT, FACILITIES, AND MOST IMPORTANTLY, THE HUMAN RESOURCES	
	<p>EXPECTATIONS:</p> <ul style="list-style-type: none"> • Value people as the reason for our past and future success • Be good stewards of the resources entrusted to LFRA • Continue the excellence in apparatus specifications • Maintain effective equipment and apparatus replacement programs <ul style="list-style-type: none"> • Personal and organizational health and wellness are maximized • Remain committed to proactively address the current and future concerns related to firefighter health and safety • Plan for expansion in administrative office and CSD expansion and for expansion for emergency management facilities (EOC) 	
	STRATEGIES	ORGANIZATIONAL TACTICS
3.1	Attract and maintain a highly trained and dedicated workforce reflective of the community we serve	3.1.1 Ensure wages and benefits remain competitive regionally 3.1.2 Promote LFRA as a “great” organization to work for 3.1.3 Offer a variety of training and promotional opportunities for personnel 3.1.4 Evaluate firefighter hiring process (ongoing)
3.2	Continue to develop employees through training, education and experience	3.2.1 Create an effective, sustainable leadership development program 3.2.2 Continue a vibrant training and education program for employees 3.2.3 Maintain regional relationships and participate in training and educational opportunities offered within region (example FRFC training)
3.3	Improve firefighter health and safety	3.3.1 Stay committed to meeting the intent of NFPA 1500 (standard-FF safety) 3.3.2 Reduce FF exposure to carcinogens- “Healthy In, Healthy Out” program 3.3.3 Continue to utilize and reinforce the LFRA FF Peer Support Team 3.3.4 Continue firefighter fitness program and physicals 3.3.5 Maintain adequate staffing levels
3.4	Maintain and improve fire stations, facilities, vehicles, and equipment	3.4.1 Build new stations as needed and maintain and improve existing facilities 3.4.2 Maintain and continue the apparatus replacement schedule 3.4.3 Continue equipment maintenance and replacement schedule 3.4.4 Improve training facilities and develop training center master plan
3.5	Plan for future expansion in administrative offices, CSD and other accompanying types of emergency services facilities	3.5.1 Evaluate current and future administrative office needs and the office and workspace needs for CSD 3.5.2 Evaluate the need for a new and updated EOC and other support facilities for the City of Loveland Office of Emergency Management

4. RELATIONSHIPS

GOAL: MAINTAIN AND IMPROVE RELATIONSHIPS WITH OUR STAFF, STRATEGIC PARTNERS, AND PROFESSIONAL COLLEAGUES

EXPECTATIONS:

- Foster a culture that builds and supports cohesive, high-performing teams
- LFRA will continue to foster and build relationships with a wide variety of external partners who assist in accomplishing the mission of protecting life and property
- Maintain strong and professional relationships with the community members we serve
- Ongoing efforts are made to ensure strong, effective relationships between labor and management
- Continue to foster a strong relationship/partnership between elected officials within the City of Loveland and Rural Fire Protection District

STRATEGIES

ORGANIZATIONAL TACTICS

4.1	Operate with a “people-first” and “others-centered” focus	4.1.1	Leadership maintains availability and support for our personnel
		4.1.2	Emphasize servant-leadership in training and day-to-day operations
4.2	Build/continue an environment that supports improved employee involvement and relationships	4.2.1	Ensure a high level of organizational responsiveness to personnel’s needs, and maintain an equal concern for organizational needs
		4.2.2	Build collaborative, respectful and sustaining internal relationships at all levels of the organization
4.3	Ensure citizens have high regard for LFRA and that citizen satisfaction remains at a high level	4.3.1	Maintain a level of 90% or higher in the City of Loveland Quality of Life survey
4.4	Sustain and build on the existing relationships with regional strategic partners and elected officials	4.4.1	Continue or improve current automatic/mutual aid agreements
		4.4.2	Carry on the training commitment to regional strategic partners and organizations
		4.4.3	Perpetuate a regional leadership role in the enhancement of relationships between other area fire departments and emergency service providers
		4.4.4	Safeguard a strong and mutually beneficial relationship between elected officials and partners within the City of Loveland and the Loveland Rural Fire Protection District

5. COST-EFFECTIVENESS

GOAL: DELIVER COST-EFFECTIVE SERVICES TO THE CITIZENS

EXPECTATIONS:

- Financial performance management systems are in place and continually refined for better accounting and reporting
- Managers and program directors operate with sound financial stewardship
- Regular reports are made to elected officials that are concise, clear and accurate
- Organizational documents, forms and manuals are reviewed regularly and updated for accuracy and relevancy
- Maintain transparency in financial reporting and encourage public review of annual reports and other Fire Authority financial documents

STRATEGIES

ORGANIZATIONAL TACTICS

5.1	Ensure that citizens continue to receive high quality services for their tax dollars	5.1.1	Maintain positioning at or below the mean or average for costs per capita with LFRA’s regional, comparison fire departments
		5.1.2	Retain positioning at or below the mean or average for firefighters per 1000 population with LFRA’s regional, comparison fire departments
		5.1.3	Utilize the Key Performance Indicators (KPIs) and other performance measurements as benchmarks for financial performance
		5.1.4	Safeguard equality in the Revenue Allocation Formula (RAF) for partner (City and Rural) contribution assessment (currently at 82%/18%)
5.2	Identify external organizational evaluation processes that can validate sound business and management practices for LFRA	5.2.1	Receive the Government Financial Officers Association’s (GFOA) certificate of achievement for excellence in financial reporting
		5.2.2	Have a accurate annual audit that is acceptable to the LFRA Board
5.3	Improve the long-term capital funding mechanisms for the Fire Authority	5.3.1	Create a new impact fee model for the City of Loveland and the governing bodies within the Loveland Rural Fire Protection District

X: RECOMMENDATIONS/IMPLEMENTATION

This section of the strategic plan focuses on recommendations for implementation. The section is broken out into two distinct segments. The first segment is identified as "Strategic Plan Priorities" for LFRA; the second segment is identified as "Other Organizational Needs." Both of these segments focus on the operational period of the plan (2018-2026) with a few exceptions. The categorization for implementation of the plan priorities is based primarily on the elements listed in the *Essential Services Expansion Plan* (see page 106) and the *Future Priorities* (see page 110). Within the listed plan priorities, there are three subcategories:

- High Priority
- Intermediate Priority
- Future Priorities

High Priorities: Elements in either Phase 1 or Phase 2 of the plan (2018-2023) that relate to the addition of needed personnel or high priority capital items.

Intermediate Priorities: Elements in Phase 3 of the plan (2024-2026) that relate to the addition of needed personnel or intermediate priority capital items.

Future Priorities: These are additional capital and personnel priorities that have no specific timeline set for their completion of implementation and most have no funding stream identified. Cost estimates may be lacking for some of these items due to the uncertainty of an implementation date or other information that is lacking for an accurate cost assessment.

In the accompanying chart for the Essential Services Expansion Plan (ESEP page 106) the two highest levels of priorities are color coded with each element listed in the appropriate phase of the plan. With few exceptions the levels of priorities are linked to the phases of implementation.

Beyond the first two levels of the Strategic Plan Priorities, several other system priorities are listed. The other elements in this next segment (Other Organizational Needs) are listed in the proposed order of priority, with no recommended timeline for any of these elements. Another distinction for this section and the needs listed is in their funding. The first two priority levels listed in the first segment of this section have identified funding streams (except for the proposed Quick Response Vehicle) and are a part of the future budget for LFRA; they will be funded by the source listed in the right column (Source) of the ESEP chart (see page 106). The future priority level and the other system needs elements could be described as "unfunded priorities" for the organization. These elements will have to be funded by alternate sources such as additional organizational contribution funding (RAF) grants, or other ancillary funding sources.

There is an emphasis within this strategic plan for hiring of line firefighters; there is also a need for additional civilian positions, which are listed in several of the "Strategic Plan Priorities." The primary focus for hiring in the *2018 LFRA Strategic Plan* is for the needed line firefighter positions to help LFRA reach its minimum staffing goals (see Section V pages 35-40).

As with each section of this strategic plan, the recommendations must always be evaluated and re-evaluated over the operational timelines for the plan. Changes could occur in the prioritization of some of the elements based on changes from the stated planning assumptions. In addition, funding streams could change over time and alternate funding such as grant money could become available, favoring the funding of one departmental need over another.

Essential Services Expansion Plan

Plan on a Page

PHASE 1: 2018 – 2020 (<i>High Priority</i>)	YEAR	COST	SOURCE
Station 7 Construction & Apparatus	2018	4,649,914	LFRA Financing
Replace Fire Engine E-3/ #0156	2020	598,005	LFRA Fleet Replace Fund
Training Center- Burn Building	2020	2,641,228	City TABOR/Fire Capital Exp. Fees
Total Capital \$ Increase Phase 1		\$7,889,147	
Inspector for Community Safety Division (CSD)	2018	74,500	City/Rural Annual Contributions
Station 7 (staffing, facilities, and vehicle maintenance and annual replacement savings)	2019	1,418,520	City/Rural Annual Contributions
Total Operational \$ for Phase 1		\$1,493,020	
PHASE 2: 2021 – 2023 (<i>High Priority</i>)			
PHASE 2: 2021 – 2023 (<i>High Priority</i>)	YEAR	COST	SOURCE
Station 10 Design	2021	409,236	LFRA Financing
Replace Fire Engine E-7/#0109	2021	599,881	LFRA Fleet Replace Fund
Station 10 Construction & Apparatus	2022	4,895,830	LFRA Financing
Replace Fire Engine E-2/#0110	2023	603,567	LFRA Fleet Replace Fund
Replace Rescue 6/#0352	2023	723,071	LFRA Fleet Replace Fund
Total Capital \$ Increase Phase 2		\$7,231,585	
Add 3 FF positions for Heavy Rescue 2	2021	230,000	City/Rural Annual Contribution
Station 10 (staffing, facilities, and vehicle maintenance and annual replacement savings)	2023	1,398,725	City/Rural Annual Contributions
Total Operational \$ for Phase 2		\$1,628,725	
PHASE 3: 2024-2026 (<i>Intermediate Priority</i>)			
PHASE 3: 2024-2026 (<i>Intermediate Priority</i>)	YEAR	COST	SOURCE
Remodel/Expand Station 5	2024	2,935,688	City Funding
Replace Ladder 6/#0202	2024	1,406,282	LFRA Fleet Replace Fund
Add Quick Response Vehicle (QRV) Company	2025	381,598	LFRA Fleet Fund
Replace/Expand Station 3	2025	5,468,492	City Funding
Replace Fire Engine 5/#0111	2025	736,854	LFRA Fleet Replace Fund
Total Capital \$ Increase Phase 3		\$10,928,914	
Add 3 Shift Battalion Positions (East Battalion)	2024	518,400	City/Rural Annual Contributions
QRV Company Staffing	2025	828,423	City/Rural Annual Contributions
Total Operational \$ for Phase 3		\$1,346,823	

STRATEGIC PLAN PRIORITIES

High Priorities Phase 1

Construction of New Fire Station 7 and Apparatus: The construction of a new Fire Station 7 will address the need for improved fire-rescue services in the west side of the Loveland Rural Fire Protection District. This station will also greatly improve response times into an area that is outside of our targeted emergency response goals - an important part of LFRA's efforts in continuous improvement cited by the 2017 accreditation assessment. The station is planned for a single engine company station with three vehicles housed; two vehicles will specialize in addressing the wildland urban interface area in the west side of the district. Capital costs for this expansion are estimated at \$4,649,914 and will be funded by a combination of City Capital Expansion Fees (CEFs) and LFRA financing. Construction is planned for 2018.

Staffing for New Fire Station 7: This item addresses the full-time staffing needed to operate new Fire Station 7; a total of 12 firefighters are needed. Costs include staffing, facilities and vehicle maintenance and annual replacement savings. Staffing needs include 3 Lieutenants, 3 Engineers, and 6 Firefighters (3 firefighters are also added for coverage and "rovers" in the system). "Rovers" cover vacancies for various leaves including vacation, sick leave, injury leave and other assigned leave for shift firefighters. Total cost for this expansion is \$1,418,520 and is covered by the City/Rural annual contributions. Fire Station 7 is expected to be fully operational and staffed in 2019.

Add Inspector for Community Safety Division (CSD): In 2009, the Fire Prevention Bureau (now CSD) lost half of its staff due to a city-wide effort to reduce staff and spending. Several fire prevention-related services were reduced during these times of budget reduction and reorganization. From 2009 to 2017, the total permits submitted to CSD has risen over 200% annually; workload levels have increased commensurately with nearly the same staffing levels in 2009. This Inspector's position is intended to restore needed personnel to the CSD for prevention related functions, primarily providing the necessary staffing for improving inspection services. Estimated full-cost budgeting expenses are \$ 74,500 annually beginning in 2018.

Replace Fire Engine #0156-Smeal/Spartan: A new fire engine will be built and delivered as part of the LFRA Capital Equipment Replacement fund. In 2020 Engine #0156 would have reached the end of its life cycle as an active fire engine for LFRA. This engine is part of the long-term replacement plan and is scheduled to be assigned to Fire Station 2. Capital costs are estimated at \$598,005. Engine delivery is expected in 2020.

Training Center Burn Building: An architectural training campus master plan and burn building design were begun in 2017. Phase 1 of this expansion plan includes the new burn building. The burn building's costs are based on a design for a three story integral tower, garden apartment scenario training mock-up, center hallway applications, enclosed stairways and a facility for master stream operations. Capital costs for construction are estimated to be at \$2.3 million with an additional \$340,000 added for needed site enhancements, bringing the total capital costs for the project to approximately \$2,640,000. Initial operating costs are expected to be absorbed into existing appropriation levels. Construction is scheduled to begin in 2020.

High Priorities Phase 2

Replace Fire Engine #0109- SVI Spartan Gladiator: A new fire engine will be built and delivered as part of the LFRA Capital Equipment Replacement Fund. In 2021, Engine #0109 would have reached the end of its life cycle as an active fire engine for LFRA. This engine is part of the long-term replacement plan and is scheduled to be assigned as a new front line engine. Capital costs are estimated at \$599,881. Engine delivery is expected in 2021.

Architectural and Design for New Fire Station 10: This item is for architectural and design costs for a new fire station in the east part of the City of Loveland. The construction project will include a single engine company, a shift battalion chief, space for ancillary fire apparatus and design for a new fire museum. Total costs are estimated at \$409,236 with funding from LFRA financing. Design is scheduled to begin in 2021.

Construction of New Fire Station 10 and Apparatus: This new fire station will be located east of Centerra Parkway, near the area of Kendall Parkway and Sky Pond Drive. This is one of the fastest growing areas in the LFRA response district, with a burgeoning call load that is mostly outside of our targeted response time goals. Construction costs are planned for a single engine company, a shift battalion chief and additional space for specialized fire apparatus. Costs for the fire museum are not included in these estimates. Total costs are for construction, apparatus/equipment and 1% for the arts; for a total of \$4,895,830, which will be funded through LFRA financing. Construction is planned for 2022.

Staffing for New Fire Station 10: This item addresses the full-time staffing needed to operate new Fire Station 10. Costs include staffing, facilities and vehicle maintenance and annual replacement savings. Staffing needs include 3 Lieutenants, 3 Engineers, and 3 Firefighters. The total O&M costs for this expansion is \$1,398,725 and is covered by the City/Rural annual contributions. New Station 10 is expected to be fully operational and staffed in 2023.

Replace Fire Engine #0110- Crimson/Spartan: A new fire engine will be built and delivered as part of the LFRA Capital Equipment Replacement Fund. In 2023 Engine #0110 would have reached the end of its life cycle as an active fire engine for LFRA. This engine is part of the long-term replacement plan and is scheduled to be assigned as a new front line engine. Capital costs are estimated at \$603,567. Engine delivery is expected in 2023.

Replace Rescue Squad 6 #0352- SVI/Spartan: A new rescue squad will be built and delivered as part of the LFRA Capital Equipment Replacement Fund. In 2023 Rescue Squad #0362 would have reached the end of its life cycle after twenty years of service as a front line apparatus. This squad is part of the long-term replacement plan and is scheduled to be assigned as a new front line Heavy Rescue. Capital costs are estimated at \$723,071. Delivery is expected in 2023.

Addition of 3rd Full-Time Firefighter to Heavy Rescue 2: Since its addition to LFRA's fleet in 2014, Heavy Rescue 2 has operated with two full-time firefighting personnel and the shift Fire Inspection Technician (FIT). While the shift staffing for this unit is listed at three, much of the time it operates as a two-person company; this is mostly due to the added inspection and prevention related duties of the FIT. Firefighter safety concerns and company efficiency are the primary reasons for this item as a Phase 2 High Priority item. Total full-cost budgeting for the

addition of three firefighters are estimated at \$230,000, with funding coming from City/Rural annual contributions. Plans for this expansion of staff for the Heavy Rescue 2 are in Phase 2 sometime in 2021-2023.

Intermediate Priorities Phase 3

Add Three Shift Battalion Chiefs for New East Battalion: This addition addresses the need for three additional battalion chiefs- establishing a second battalion for LFRA. These BCs will share the duties of shift management and are a part of the overall shift command team and incident commanders for larger emergency incidents. Span-of-control is a major factor in fire departments needing to add battalions; LFRA will need a second battalion in 2024. O&M costs are estimated at \$518,000; funding will come from City/Rural annual contributions.

Remodel/Expansion of Fire Station 5: Fire Station 5 at 251 Knobcone Drive has a number of significant deficiencies that have a negative impact on operations and quality of service. These include: undersized functional living areas, undersized area for apparatus and what needs to reside there, lack of space for adequate exercise facility and lack of space for equipment maintenance. There are also noted deficiencies with mechanical, IT, and electrical systems. The station's remodeling costs are estimated at \$2,935,688, which is sourced as City of Loveland funding. The remodel is expected to take place in 2024.

Replace Ladder 6 #0202-Smeal/HME: A new ladder truck will be built and delivered as part of the LFRA Capital Equipment Replacement fund. In 2024 Ladder Truck #0202 would have reached the end of its life cycle after twenty-three years of service as a front line apparatus. This ladder truck is part of the long-term replacement plan and is scheduled to be assigned as a new front line Ladder Truck. Capital costs are estimated at \$1,406,282. Delivery expected: 2024.

Add Quick Response Vehicle/Company: The Quick Response Vehicle (QRV) concept is in use by many fire departments nationally and regionally. The QRV is a smaller fire response vehicle (similar to a Type 6 Engine in appearance) that can be equipped to handle most single engine response calls that a full-sized engine would respond to. The need for these smaller, more manageable vehicles is mostly driven by extensive call loads and alternate tactical and task level needs on the emergency scene. The full cost budgeting for the QRV, capital and staffing costs are listed at \$1,210,021; there is no identified funding stream. 2025 is the target for the QRV.

Replacement/Expansion of Fire Station 3: Fire Station 3 at 900 S Wilson Ave. has a number of significant deficiencies that have a negative impact on operations and quality of service. The station was built in 1979 and sized for two on-duty career staff. The station has undersized functional living areas, including dorms, restrooms, and locker space. It also lacks sufficient dorm and restroom facilities for gender privacy and lacks space for adequate exercise facilities and lacks space for equipment maintenance. The station replacement/expansion costs are estimated at \$5,468,492, which is sourced as City of Loveland funding. The remodel is expected to take place in 2025.

Replace Fire Engine #0111- Pierce/Quantum: A new fire engine will be built and delivered as part of the LFRA Capital Equipment Replacement fund. In 2025 Engine #0111 would have reached the end of its life cycle as an active fire engine for LFRA. This engine is part of the

long-term replacement plan and is scheduled to be assigned as a new front line engine. Capital costs are estimated at \$736,854. Engine delivery is expected in 2025.

OTHER ORGANIZATIONAL NEEDS

Future Priorities

Add Support Battalion Chief Position for Administration: LFRA's administration staffing is in need of reorganizing and shifting of funds to support one full-time forty-hour Battalion Chief's position. This new position will assist in areas that are underserved but of high importance levels. These include: Accreditation Manager, Health and Safety, EMS Coordinator, Radio/Communications, IT/GIS, Budget, Special Projects and other ad hoc assignments. Personnel costs for funding can be reassigned from the vacating of the Public Safety Administrative Director's position. However, there will be funding increases for several of these programs.

Technology Improvements: Two primary areas have been identified within the accreditation process as areas needing improvement. The station alerting system completion is the highest of these priorities. This system is installed in all of the staffed, paid stations, but does not have all of the needed hardware to complete the project. It is estimated that it will take an additional \$100,000 to complete this project. The station alerting system will have a direct impact on improving response times for emergency calls. A new records management system was also recommended to help LFRA improve in its record keeping and data management. No funding estimates are available at the time of this writing.

Additional Training Staff: The LFRA training staff of one Battalion Chief and one Lieutenant has reached their maximum capacity. What is needed is an additional training firefighter to assist with training exercises (set-up and clean up) and general labor at the training center. This position was identified as a need in the *2012 LFRA Strategic Plan* but was never funded. A full time admin position is also needed to relieve training officers of the task of data entry and record keeping for the battalion. Full-cost budgeting is estimated at \$100,000 for both positions.

Part-time/Seasonal Wildland Program Manager: LFRA's wildland urban interface (WUI) area has numerous identified problem areas. This part-time/seasonal program manager could make a significant impact in wildland program management, wildland training, public education/training and emergency response in the area. This position could also manage a seasonal response team into the WUI for high danger wildland seasons. This resource could also be integral to help with the implementation of the *Ready-Set-Go Program (RSG)*. RSG is a program that seeks to develop and improve the dialogue between fire departments and the residents they serve in the WUI. Through education, training and assistance the intent is to help save lives and property for those living in the wildland urban interface areas. There is currently no cost estimates for this item.

Addition of One Information Technologies (IT) Position for LFRA: As LFRA has grown and the maturation of the fire authority has become a reality, the need for a specific, dedicated position for IT service and management has manifested. Currently, LFRA's IT needs are being

provided through the City of Loveland's IT Department. While this has worked in the past, the growth of LFRA has put a strain on the City's ability to continue this service with a high level of customer satisfaction. In addition, LFRA compensates the City for these services. It is believed that hiring an IT specialist is one of the next needed steps for continuous improvement for the organization, and for the continued maturation of the Fire Authority. No identified cost estimate is available at the time of this writing. A study and cost estimation will need to take place in evaluating the current charges for services being paid to the City, and what the full cost budgeting estimates would be for a dedicated full time IT specialist. Thus, the majority of the costs for this new position are expected to come from existing revenue paid for IT services.

Increased Staffing for Station 4/Airport Stand-By: Fire Station 4 has been operational for airport stand-by coverage with one Fire Engineer since Allegiant Airlines ceased their operations at the airport in 2012. With the future implementation of the new "virtual tower" it is expected that the airport will, once again, be home to at least one major carrier and maybe more. This increase in flights and the need for stand-by services for fire-rescue will surpass the current system's capabilities. It is expected that at least two, perhaps more, firefighters will need to be hired to account for the needed crash-fire rescue services for the airlines. At the time of this writing, it is unclear what actual staffing model will be used to address this need, and what the actual staffing levels will be. Thus, no cost estimates are provided at this point in time for said expansion. Ongoing evaluations of the airport operations and progress on the new virtual tower should continue. Also, various staffing models/options should be reviewed and cost estimates developed in preparation for this expansion.

Increased Staffing for CSD: Since 2009, the workload in the CSD has risen over 200% (based on numbers and indicators in 2017). The workforce for CSD is nearly at the same strength as it was in 2009, yet workloads have increased significantly. What is needed in CSD is the ability to hire more part-time fire inspectors and plan reviewers as the workload increases. There is also a need for a full-time public education specialist to replace the public education officer that was lost in the cutbacks in 2009. No cost estimates are available for this item at the time of this writing. A complete workforce analysis and costs projections will need to be completed before accurate costs estimates can be determined.

Add Second Quick Response Vehicle/Company: The QRV concept is explained above. The success of this new alternate response vehicle will drive the need for a second such company. The full cost budgeting for the QRV, capital and staffing costs are listed at \$1,210,021 in 2025 dollars. Currently, there is no identified funding stream for adding this second QRV.

Purchasing Land for New SE Fire Station: There will be a need in the future for a new fire station in the south/southeast area- targeted near Hwy 402 and South Boise Ave. This item is a carryover from the *2012 LFRA Strategic Plan*, and just as in that plan, is only advocating for the purchase of the land. The station is planned for some time in the years 2027-2035, depending on the growth of the area. Because the timeframe for purchasing this land is uncertain, it is difficult to call out specifics for costs. However, it is expected that the need will be for 2-3 acres of property with an estimated cost of \$75,000-\$85,000 per acre. Thus, a \$250,000 cost estimate for land is being utilized. Funding is expected to come from capital expansion or impact fees.

Recommendations/Implementation: Strategic Plan Priorities, Other Organizational Needs

This chart lists the 27 Strategic Planning Initiatives under four important categories: those listed in the *10- Year Capital Plan*; those that were *Carry-Overs* from the *2012 LFRA Strategic Plan*, those listed as *New Initiatives*, yet having an identified funding source (*Fund Sourced*). A final and perhaps most important category are those *New Initiatives that are listed as having no identified funding source (No \$ Sourced)*.

Strategic Plan Initiative	10-Year Capital	2012 Plan Carry-Over	New Initiative Fund Sourced	New Initiative No \$ Sourced
<i>High Priorities-Phase 1</i>				
1. Construction- Station 7 & Apparatus	X	X	X	
2. Staffing for Station 7	X	X	X	
3. Community Safety Division Inspector				X
4. Replace Fire Engine #0156	X	X	X	
5. Training Center Burn Building	X			X
<i>High Priorities-Phase 2</i>				
6. Replace Fire Engine #0109	X		X	
7. Architectural Design for Station 10	X		X	
8. Construction- Station 10 & Apparatus	X		X	
9. Staffing for Station 10	X		X	
10. Replace Fire Engine #0110	X		X	
11. Replace Rescue Squad 6 #0352	X		X	
12. Add 3 rd Full-Time FF for Rescue 2				X
<i>Intermediate Priorities-Phase 3</i>				
13. Add 3 Shift BCs (New East Battalion)	X			
14. Remodel/Expand Fire Station 5	X		X	
15. Replace Ladder Truck 6 #0202	X		X	
16. QRV- Capital and Staffing				X
17. Replace/Expand Fire Station 3	X		X	
18. Replace Fire Engine #0111	X		X	
<i>Future Priorities</i>				
19. Add Support Battalion Chief			X	
20. Technology Improvements				X
21. Additional Training Staff		X		X
22. Part-time Seasonal Wildland Mgr.				X
23. Information Technology Position				X
24. Increase Staffing for Airport Sta. 4				X
25. Increase Staffing for CSD				X
26. QRV (2 nd) - Capital and Staffing				X
27. Purchase Land for S.E. Fire Station		X		X

= Specific Line Firefighter Hiring Initiative/Request

Uniformed Line Firefighter Hiring Years 2012-2026

The following information chart represents the hiring of uniformed, line firefighters over a fifteen year period from 2012-2026. This period also covers the current and future strategic plans for the organization. Three columns follow the years listed; they include the number of firefighters planned for within the strategic plan, the actual number hired, and for what purpose they were hired. The numbers listed from 2018 on are projected numbers from the *2018 LFRA Strategic Plan*.

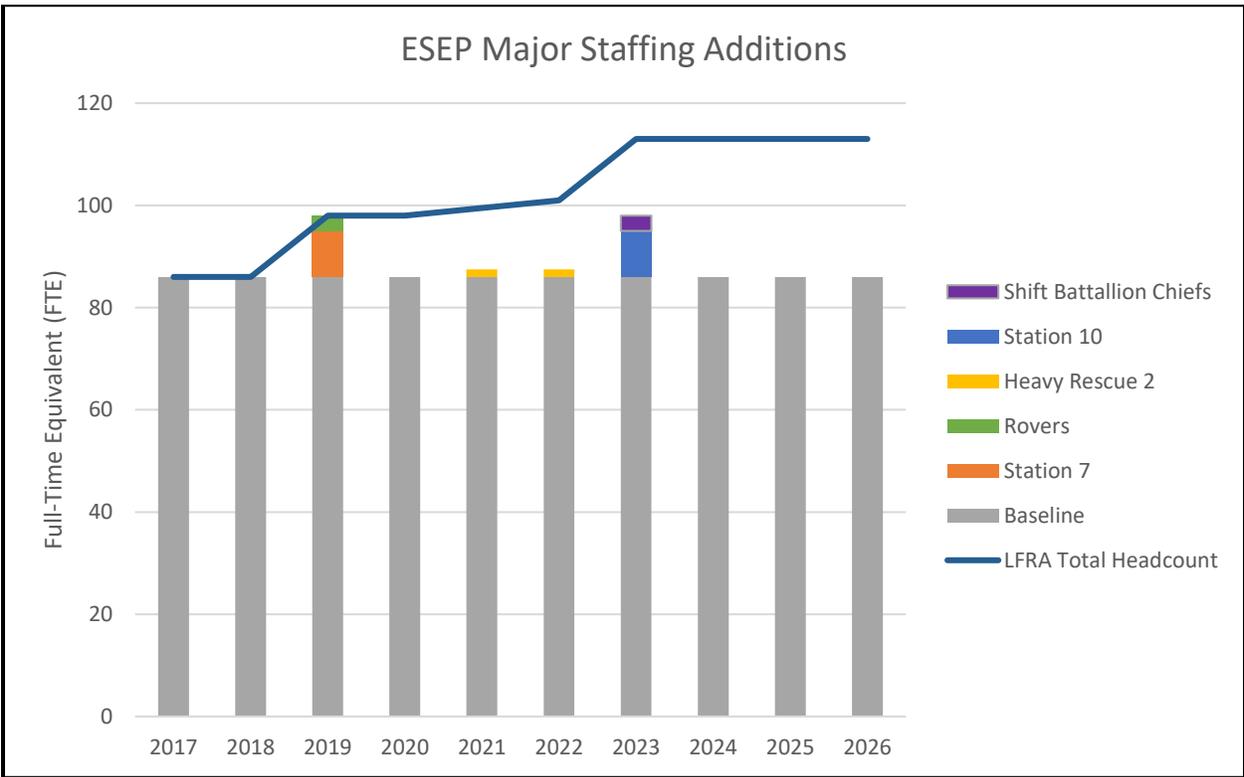
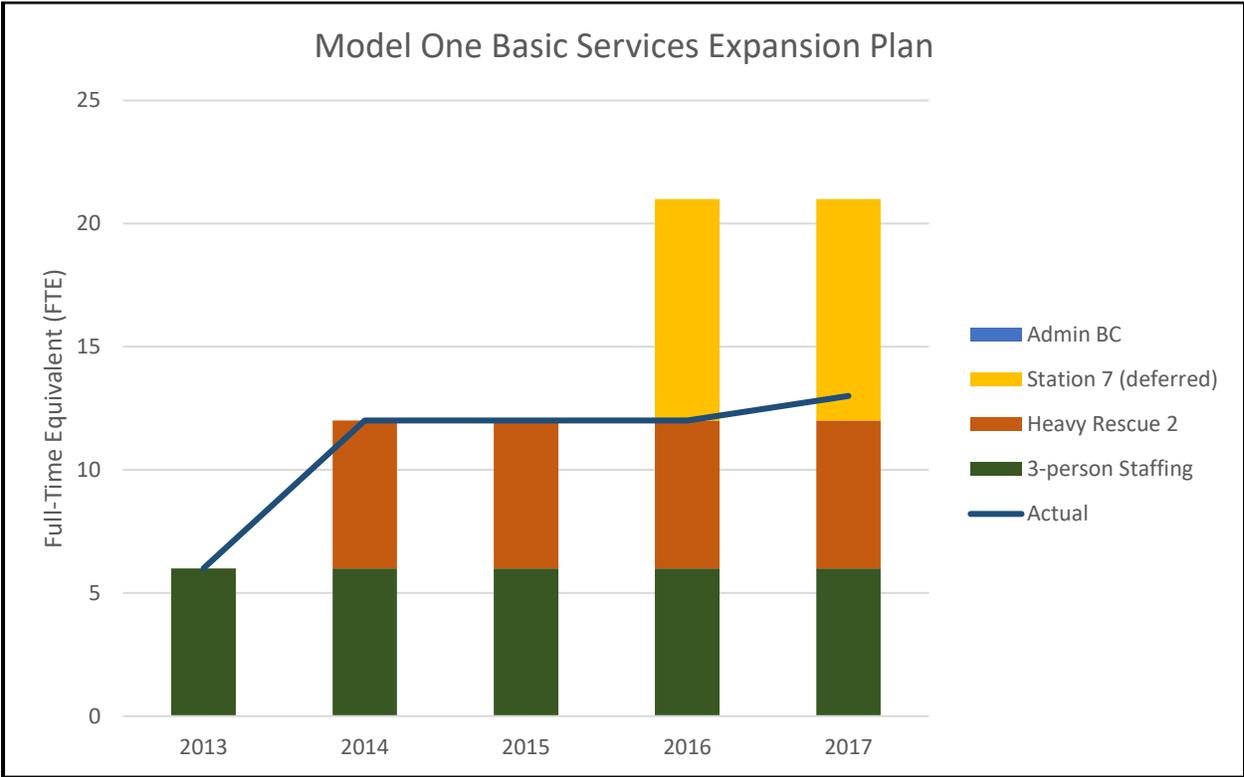
YEAR	POSITIONS PLANNED	ACTUAL # HIRED	PURPOSE FOR POSITIONS HIRED
2012/2013	6	6	Additions to help with increasing minimum staffing up to 3 person crews
2014	6	6	Additions for new Heavy Rescue 2 (with FIT position staffing was at 3)
2015	0	0	No additions for line staff in this year
2016	12	0	12 firefighters were planned for opening Station 7, including 3 coverage positions (“rovers”): hiring was moved out to 2019
2016	6	6	Part-time firefighters (12) were converted to 6 full-time firefighter positions in 2016
2017	1	1	1 new Admin BC was added- funds came from restructuring current admin staff- no new \$
2018 Marks the start of the new LFRA Strategic Plan			
2018	0	0	No additions for line staff in this year
2019	12	---	9 firefighters planned for opening of Station 7 along with 3 coverage positions (“rovers”)- all 12 positions were a part of the <u>2012 Strategic Plan</u>
2020	0	0	No new line additions planned for this year
2021	3	---	3 firefighter positions planned for Heavy Rescue 2 for 3 rd FT firefighter
2022	0	0	No new line additions planned for this year
2023	9	---	9 firefighters planned for opening of Station 10
2024	3	---	3 firefighters planned for 3 shift BC positions (this will be for the addition of 2 nd battalion)
2025	6	---	6 positions planned for the first QRV
2026	0	0	No new line additions planned for this year

NOTE: The positions for the second QRV are not listed in this matrix

■ = Positions requested or planned for



Hiring Comparisons Charts for Model 1 and ESEP (2012-2026)



***LOVELAND FIRE RESCUE
AUTHORITY
2018 STRATEGIC PLAN***
APPENDIX

The appendix section of the 2018 LFRA Strategic Plan contains important, supplementary information of an explanatory nature that can assist in clarifying, or enhancing the information contained within the planning document itself. There are three specific sections within the appendix. They include:

- Appendix A: Glossary of Terms- page 116
- Appendix B: Planning Assumptions- page 128
- Appendix C: LFRA IGA for the Fire Authority- page 136



Fire Department Glossary of Terms

A

Accreditation: Accreditation is a comprehensive, 3rd party generated, self-assessment and quality improvement model. It enables organizations to examine past, current, and future service levels and internal performance and compare them to current research and industry best practices. This process leads to a more efficient and effective emergency service organization.

Advanced Life Support: (ALS) is a set of life-saving protocols and skills that extend Basic Life Support to further support the patient's circulation and provide an open airway and adequate ventilation (breathing). These protocols and skills are typically done in the field by paramedic level services that involve drug and IV therapy and advanced cardiac analysis and intervention.

Alarm: A system for detecting and reporting unusual conditions, such as smoke, fire, flood, loss of air, HAZMAT release, etc. It can also be a specific assignment of multiple fire companies and/or units to a particular incident, usually of fire in nature. The term sometimes refers to a centralized dispatch center for interpreting alarms and dispatching resources.

Apparatus: A term usually used by firefighters describing a department vehicle (i.e. fire engine).

Automatic Aid: Automatic aid is assistance dispatched automatically by contractual agreement between two communities or fire districts.

B

Basic Life Support: (BLS) is a level of medical care which is used for victims of life-threatening illnesses or injuries until they can be given full medical care at a hospital. It can be provided by trained medical personnel, including emergency medical technicians (EMTs),

paramedics, and by qualified bystanders. The main focus of BLS is on Airway, Breathing and Circulation of patients experiencing a medical emergency.

Battalion Chief: A battalion chief is the rank and title of a subordinate fire chief or commanding officer in the firefighting command structure. The title of battalion chief is usually synonymous with firefighting in the United States and Canada. Typically, a battalion chief will be in charge of a shift/battalion including personnel from engine and truck companies and other tactical units.

Berkeley System: Is also referred to as a “Kelley System” for fire department staffing. The Kelly/Berkeley shift schedule uses three shifts (i.e. platoons, A, B and C) to provide 24/7 station coverage. It consists of a 9-day cycle where each platoon works one 24-hour shift, followed by 24 hours off duty, works another 24-hour shift, followed by 24 hours off duty, then works a final 24-hour shift, followed by 4 consecutive days off duty. Personnel work an average of 56 hours per week or 112 hours per two-week pay period, and work the same day of the week for 3 weeks in a row and then have that day off for 9 weeks in a row.

“Blue Card”: The Blue Card Incident Command Certification Program has been developed by Alan, John, and Nick Brunacini to first instruct and then certify fire officers who serve in the role of Incident Commander or as a member of an Incident Management Team (IMT). Through the program fire officers become certified to supervise and manage emergency and hazard zone operations for every day, local "National Incident Management System" Type 4 and Type 5 events, which account for more than 99 percent of all fire department response activity. This program teaches officers how to command everyday incidents so when a major event happens they know how to react effectively.

Burn Building: A specially designed and built structure, used most often at fire department training centers, with a specific purpose of conducting controlled, live fire training drills/exercises. Trained/certified fire training officers manage training in these burn buildings. These structures are designed to simulate real-world, reality based training scenarios under safer conditions. These structures are usually made of concrete and steel with built in heat sensing devices and safety features designed to reduce the chance of injury during live fire training.

C

Capital Expansion/Expenditure: This refers to large capital purchases (over \$250,000) that are a part of the strategic planning effort. These are one-time expenses, as compared to an on-going, annual expense. Fire apparatus and fire stations are some of the most common examples of large capital expansion expenditures.

Company: two or more firefighters organized as a team, led by a fire officer, (Lieutenant or Captain) and equipped to perform certain tactical/task level operational functions.

Company Officer - A fire officer, typically a lieutenant or captain, who leads a team of two or more firefighters in a company. Generally, these are engine companies, with the primary duty of water delivery, and truck companies, who primarily support the engine company's efforts.

Compartment Fire: An "isolated" fire, or a fire which is "boxed in" or "closed off" from the rest of the structure. An example of this is a fire in a room where all the windows and doors are closed preventing the fire from spreading to other rooms.

Confined Space: A confined space is any space: 1) that has limited or restricted means of entry or exit; 2) is large enough for a person to enter to perform tasks; 3) and is not designed or configured for continuous occupancy. Underground utility vaults are an example of these.

Community Safety Division (CSD): An expanded version of a "Fire Prevention Division" that offers a wide array of services including: fire prevention, plan reviews, public safety education and information, inspections, code enforcement, risk management and emergency management.

D

Defensive Attack: An exterior form of fire attack often used when fighting the fire directly or from within a structure is not feasible due to dangers from direct flame, heat, structural collapse or the presence of hazardous materials. Structures which are fully involved with fire are attacked defensively with the main goal being the protection of nearby structures.

Defibrillator: Is an apparatus/device used to control heart fibrillation by application of an electric current to the chest wall or heart. Most fire apparatus, and some community accessed buildings, have Automatic External Defibrillators (AEDs) that can be used to restore normal heart activity via electrical shock. These units are designed to be used with minimal training.

Direct attack: A form of fire attack in which hoses are advanced to the fire inside a structure and hose streams directed at the burning materials. The primary goal of direct attack is to confine and extinguish the fire to the room or area of origin. It is one of the most commonly used and effective way to fight structural fires.

Dispatch: Refers to person or place designated for handling a call for help by alerting the specific resources necessary. Dispatchers operate by receiving calls for assistance, usually by phone, and using radio communications to send out or "dispatch" fire or emergency personnel.

Division Chief: The Fire Division Chief is responsible for the supervision and management of a functional division (Operations, Prevention/CSD) of the fire department and provides professional and technical assistance to the Fire Chief.

E

EMS: An acronym used to refer to Emergency Medical Service(s).

EMT-Basic: A specially trained medical technician certified to provide basic emergency life support services (such as cardiopulmonary resuscitation) before and during transportation to a hospital- also called an emergency medical technician (EMT).

Engine: A fire suppression vehicle that has a water pump and, typically, is designed to carry firehose and a limited supply of water (see page 127). This unit is the primary vehicle for initial fire attack.

Engineer: A firefighter responsible for driving the engine or truck to the scene of the call and operation of the pumps on an engine, to provide sufficient water to the firefighters on the hose. The term may be either a position title or a rank; usage varies among departments.

Engine Company: A group of firefighters assigned to an apparatus with a water pump and equipped with firehose and other tools related to fire extinguishment.

Evacuation: Removal of personnel from a dangerous area, burning building, or other emergency. Also refers to act of removing firefighters from a structure in danger of collapsing.

Exterior Attack: A method of extinguishing a fire which does not involve entering the structure. Often used when so much of the building is involved in fire that there is little or no benefit to risking firefighter safety by directing them into the structure (see also “Defensive Attack”).

F

Fire Authority: A fire and rescue authority is a statutory body made up of a committee or board of local elected officials which oversees the policy and service delivery of a fire and rescue service. The fire authority itself is typically made up of two or more governing bodies with a common interest to establish a “third party” (governing body) to oversee the authority/control of the collective bodies and organizational operations at the policy level.

Fire Flow: The amount of water being pumped onto a fire, or required to extinguish a hypothetical fire. A critical calculation in light of the axiom that an ordinary fire will not be extinguished unless there is sufficient water to remove the heat (BTUs) from the fire. Water is still the primary agent used by firefighters for heat reduction.

Fire Apparatus Manufacturers: Designing and building fire trucks/apparatus is done by a specialized group of professional contractors. They build fire apparatus according to a set of specific national standards: NFPA 1901, *Standard for Automotive Fire Apparatus*. LFRA has utilized several manufacturers over the last two decades; a list below is included:

- Crimson (Now Spartan Em. Response Vehicles) - Full service fire apparatus builder
- HME Ahrens-Fox - Full service fire apparatus builder
- International Trucks - Cab and chassis manufacturer
- Pierce Manufacturing - Full service fire apparatus builder
- Smeal Fire Apparatus - Full service fire apparatus builder
- Super Vac Inc. (SVI) – Full service fire apparatus builder

Fire Inspector: A person responsible for issuing permits and enforcing the *fire code*, including any necessary premises inspection, as before allowing (or during) a large indoor gathering.

Fire Inspection Technician (FIT): A hybrid position that is assigned to the Operations Division as part of a fire company (on 24 hour shift assignment), yet also has fire prevention/CSD functions. Acts as a shift liaison for fire prevention, inspection and code enforcement functions.

Fire Load (BTU/Sq. ft.): An estimate of the amount of heat that will be given off during ordinary combustion of all the fuel in a given space; e.g., a bedroom or a lumberyard.

Fire Loss Levels: This is one of LFRA's 15 Key Performance Indicators (KPIs). It is essentially an estimation of the *total loss* to the structure and contents in terms of replacement in like kind and quantity. It is often measured in amount of property lost vs. what was saved in a fire situation, and in a broader sense, measured in total annual loss per capita.

Fire Marshal: An official heading a bureau for the prevention or investigation of fires. Has legal authority to enforce state and local fire codes and life safety codes/laws. In LFRA this position leads an expanded fire prevention, life safety, and risk management effort within the CSD.

Fire Sprinkler System: For fire protection purposes, an integrated system of underground and overhead piping with at least one automatic water supply source. The above ground piping network is specially sized to supply water to a system of automatic sprinkler heads installed in a systematic pattern. The system is usually activated by heat from a fire and discharges water over the fire area from one or more individually activated sprinkler heads.

Flashover: Defined as the sudden involvement of a room or an area in flames from floor to ceiling caused by thermal radiation feedback. Thermal radiation feedback is the energy of the fire being radiated back to the contents of the room from the walls, floor, and ceiling. Flashover is an extremely dangerous and deadly situation for firefighters and citizens alike.

Fog Nail Nozzle: Fognails are small piercing nozzles with a flow rate of approx. 20 gallons per minute and operate at a higher pressure. The tool is designed to use high pressure to break water droplets into fine particles to cool the high heat "gas cloud" in a structure fire within a confined area. Fognails are generally driven into the confined area and applied from the exterior. These tools have proven themselves extremely effective for attic fires for LFRA.

Forcible Entry: gaining entry to an area using force to disable or bypass security devices, typically using force tools, sometimes using tools specialized for entry (e.g., Halligan, K-tool).

Fully Involved: Term meaning fire, heat, and smoke in a structure are so widespread that internal access must wait until fire streams can be applied. It is generally referred to a fireground situation where the majority of the building is on fire or being consumed by fire.

Front Range Fire Consortium (FRFC): The FRFC is a group of the nine largest fire departments in Northern Colorado and Southern Wyoming, joined together around a shared vision for regional firefighter training and professional development. In 2015/2016, the FRFC

formed a regional fire authority and developed a cogent business plan for operations of their fire academies and professional development for fire officers and leadership training. The organization has been in operation since 1998.

FTE: An acronym used to define or refer to “full-time equivalent” positions within an organization’s workforce. This often refers to the utilization of part-time positions equating to a specific number of full-time positions within the workforce staffing model.

G

GPM: Gallons per Minute - number of gallons being pumped from fire apparatus every minute.

H

HAZMAT: Hazardous materials, including solids, liquids, or gases that may cause injury, death, or damage if released or triggered. Fire department HAZMAT responders are specifically trained at varying levels, from Awareness, Operations to the highest Technician level. HAZMAT Technicians are specialized positions requiring an in-depth 80 hours of additional training beyond the Operations level.

I

Incident Commander: The incident commander, or IC, is the person responsible for all aspects of an emergency response; including quickly developing incident objectives, managing all incident operations, application of resources as well as responsibility for all persons involved. The IC is most often part of the first arriving tactical unit or member of a fire company (officer). Within the Fire Command system, the first upgrade in command is the arrival of the on-duty battalion chief. Command upgrades may progress all the way through outside agencies in Type 1, 2, or 3 incidents (incidents beyond local command and control that elevate to a state or national response level).

Incident Safety Officer: The officer in charge of scene safety at an incident. The Incident Safety Officer (ISO) is a senior member of the "Command Team". This person works directly under and with the incident commander (IC) to help manage the risks that personnel take at emergencies.

Indirect attack: Method of firefighting in which water is pumped onto materials above or near the fire so that the splash rains onto the fire, often used where a structure is unsafe to enter.

Initial attack: First point of attack on a fire where hose lines or fuel separation are used to prevent further extension of the fire.

Interior attack: Directing a team of firefighters into the burning structure, in an attempt to extinguish a blaze from inside the building, minimizing property damage from fire, smoke, and water. It requires a minimum of four fully-equipped firefighters: an entry team of at least two to enter the structure and fight the fire, and two standing by to rescue or relieve the entry team (this is known

as: *Two-in, Two-out*). If the entry team(s) cannot extinguish the blaze, it may become an *Exterior Attack*.

ISO Rating: Insurance Services Office Public Protection Classification Rating. This is a rating published by ISO evaluating fire departments, and assigning a rating or number. Many insurance companies use this number to determine insurance premiums paid by their customers. ISO evaluations rate water supplies, dispatch capabilities and the fire department as a whole in this rating process. Values are made from 1-10 (lower numbers = better rating).

J

Jurisdiction: Jurisdiction generally describes any authority over a certain area or certain persons. In the law, jurisdiction sometimes refers to a particular geographic area containing a defined legal authority. Many times the fire department is referred to as “the authority having jurisdiction.”

L

Ladder Company: A group of fire fighters, officers, and engineers that staff a ladder truck that has a primary duty to support the efforts of engine companies attacking the fire. In most Fire Departments the Ladder Truck Company is responsible for ventilation of a structure on fire. Typically, truck or support functions, are defined as search and rescue, forcible entry, laddering the building, salvage, overhaul and the management of utilities (electrical and gas). See page 127 for apparatus types.

M

Master Stream: A large appliance, either portable or fixed to a pumper, capable of delivering large amounts of water (between 500gpm and 1000 gpm or more) from relatively long distances. These appliances are generally used on large exterior or defensive mode fires.

Medical Emergencies: Are acute injuries or illnesses that poses a risk to a person's life or health (LFRA normally responds to life-threatening medical calls only :). Medicals are classified:

- Alpha: Minor medical problem – Non-life threatening/non-emergent response
- Bravo: Slightly higher priority – Non-life threatening/generally non-emergent
- Charlie: High priority/ALS & BLS response- Emergent
- Delta: High Priority, Life threatening injury/medical response- ALS & BLS Emergent
- Echo: Highest Priority: Life threatening/closest unit response- ALS & BLS Emergent

Multiple alarms: A request by an incident commander for additional personnel and apparatus. Each department will vary on the number of apparatus and personnel on each additional alarm. However, it is normalcy to have extra alarm assignments pre-determined and requested through a dispatch center by utilizing terms such as a “second alarm.”

Mutual Aid: An agreement between nearby fire companies to assist each other during emergencies by responding with available manpower and apparatus when requested by the fire department having jurisdiction. Mutual Aid differs from “Automatic Aid” in that mutual aid must be a specific call for assistance, rather than a built-in automatic response.

MVA: A common acronym used to describe a motor vehicle accident.

N

NFPA: The **National Fire Protection Association**, a research group which sets a number of standards and best practices for firefighting, equipment, and fire protection in the United States. NFPA standards have also been adopted in many other countries.

NIOSH: **National Institute for Occupational Safety and Health**. A U.S. agency responsible for investigation of workplace deaths, including firefighters.

NIMS: The **National Incident Management System**. A federally mandated program for the standardizing of command terminology and procedures. This standardizes communications between fire departments and other agencies. It is based upon simple terms that will be used nationwide. U.S. federally required training programs, from DHS and FEMA, are standardizing many terms and procedures under NIMS. Blue Card follows the intent for NIMS training.

NWCG: An acronym for the **National Wildland Coordinating Group**. The **National Wildfire Coordinating Group** provides national leadership to enable interoperable wildland fire operations among federal, state, local, tribal, and territorial partners. This group has numerous strategic priorities on a national level including: to ensure that all NWCG activities contribute to safe, effective, and coordinated national interagency wildland fire operations.

O

Offensive Attack: Method of firefighting in which water or other extinguisher is taken directly to the seat of the fire, as opposed to being pumped in that general direction from a safe distance (outside). Typically, an offensive attack is a quick, vigorous interior attack on the fire, while simultaneously conducting search operations, protecting the means of egress and escape, then ultimately confining and extinguishing the fire. Fire streams from hand lines of the 1 ½”, 1 ¾” to 2” size are common for the offensive, interior attack.

Operations and Maintenance (O&M): From a budgetary standpoint within strategic planning, O&M expenditures are “ongoing” annual expense. These are contrasted to the one-time capital expenses for budgeting. Typically, the larger O&M expenses are budgeted for hiring of personnel and added ongoing expenditures for new facilities; such as the ongoing costs when a new fire station is opened.

OSHA: **Occupational Safety and Health Administration**, U.S. government agency concerned with regulating employee safety, particularly in hazardous occupations such as firefighting.

Overhauling: Late stage in fire suppression process during which the burned area is carefully examined for remaining sources of heat that may reignite the fire. Often coincides with salvage operations to prevent further loss to structure or its contents, as well as fire-cause determination and preservation of evidence.

P

Pre-fire, Pre-incident Planning: Information collected by fire personnel to assist in identifying hazards and the equipment, supplies, personnel, skills, and procedures needed to deal with a potential incident.

Professional Firefighter: Firefighters are classified as "professionals" by both the International Association of Fire Chiefs (IAFC) and the International Association of Fire Fighters (IAFF trade union). To be regarded as a professional firefighter, one must meet minimum standards and requirements as set forth by 3rd party agencies. These include written tests and skills demonstrations, based on national standards set forth by NFPA. There are two accepted categories of Professional Firefighters--Volunteer Firefighters who may or may not receive pay for services and Career Firefighters whose primary employment and source of earned income is in the fire service.

Pumper: A term used to describe a fire engine. These apparatus were previously called "triple-combination pumpers" because they incorporated three distinct components, namely pump, tank, and hose body. The most commonly purchased piece of fire apparatus is the pumper, or engine. In most departments, the pumper or engine, is the primary apparatus from which most operations are based

Q

Quick Response Vehicle (QRV): The QRV is a smaller fire response vehicle (similar in size to a Type 6 Engine- see page 127) that can be equipped to handle most single engine response calls, medical emergencies, small grass and trash fires, and other service related calls. Its primary use is to reduce the number of calls that a full-sized fire vehicle responds to, and ensure those larger engines, trucks and squads are available for a structure fire or more complex rescue call.

R

Rapid Intervention Crew/Group/Team (RIC, RIG, or RIT): This is a standby crew whose primary purpose is to deploy for the rescue of firefighters in trouble. While all of these versions of the name for a firefighter rescue crew either have been used or continue to be used in several areas, the National Incident Management System (NIMS) has adopted the term Rapid Intervention Crew/Company, ("RIC") to be the standard in the Incident Command System (ICS). In the most basic command organizational structures, the RIC is a resource directly assigned to the IC.

“Red Card”: A Red Card is officially known as an Incident Qualification Card and is employed in the wildland firefighting theater. Red Cards are utilized by state, federal and other fire agencies that work cooperatively with the NWCG. Traditionally, the reference to the “Red Card” has been an indication of accomplishing the basic level of knowledge/skills of wildland firefighting and wildland fire behavior (S-130/S190). However, the true aspect of the Red Card applies to a much wider array of specialized skill sets and operational qualifications within the NWCG system.

Rescue Company: Squad of firefighters trained and equipped to enter adverse conditions and rescue victims of an incident. Often described as part of the truck or support functions on the fireground.

Residential Sprinkler System: A specially designed automatic fire sprinkler system for dwellings and multiple unit residential structures. Water supplies are usually limited and specially designed sprinkler heads are utilized to deliver sufficient water in a given room or area to prevent flashover and allow occupants time to escape. See Fire Sprinkler System and Flashover.

Rovers: This is a fire service term used to describe a shift firefighter position that will cover vacancies for various leaves including vacation, sick leave, injury leave, and other assigned leave for firefighters within that shift. The position was established to reduce the costs for coverage of vacancies with assigned shift resources (as opposed to utilizing overtime staffing to fill vacancies).

S

Scene Safety: Steps taken at or near an emergency scene to reduce hazards and prevent further injuries to workers, victims or bystanders.

SCBA: An acronym for Self Contained Breathing Apparatus; a critical component of firefighting personal protective equipment PPE. A SCBA is a type of respiratory protection equipment that contains breathable compressed air. It is typically used by the firefighters and rescue workers while operating in areas of immediate danger to life and health (IDLH), such as inside a structure fire or in a mine filled with smoke or toxic gas.

Sides A, B, C, and D: Terms used by firefighters labeling the multiple sides of a building starting with side A or Alpha being the front of the structure and working its way around the outside of the structure in a clockwise direction. This labels the front side A or Alpha, the left side B or Bravo, the rear side C or Charlie, and the right side D or Delta.

Staging: This is a physical location, utilized within the incident command system, where responding resources arrive and are “staged” awaiting their assignment. This is often an essential element in personnel accountability program and functions as a management tool for the IC to effectively track and deploy needed resources.

Standard Operating Procedure, Guideline (SOP or SOG): Rules for the operation of a fire department, such as how to respond to various types of emergencies, training requirements, use of protective equipment, radio procedures; often include local interpretations of regulations and standards. In general, "procedures" are specific, whereas "guidelines" are less detailed.

Station Alerting Systems: Fire station alerting is a high-tech concept designed to improve total response time for firefighters (call taking/dispatch, turnout time and response time) and gets the

needed emergency help to citizens faster. It uses technology and automation to integrate existing systems at the dispatch centers and at the fire stations, reducing and eliminating time consuming manual tasks. These systems allow dispatchers to rapidly get the alert and relevant information out to firefighters (call taking/dispatch) and allows firefighters to get fire apparatus responding (turnout time) more quickly. Improvements in tone generation, lighting and electronic readouts are also a part of these station alerting systems.

Structure Fire (or "structural fire"): A fire in a residential or commercial building. Urban fire departments are primarily geared toward structural firefighting. The term is often used to distinguish them from wildland fire or other outside fire, and may also refer to the type of training and equipment such as "structure PPE" (personal protective equipment).

T

Tender (or Water Tender): A specialized piece of firefighting equipment designed to carry larger amounts of water; typically utilized in areas where fire hydrants are absent or few and far between. See page 127.

Truck Company: A group of firefighters assigned to an apparatus that carries ladders, forcible entry tools, possibly extrication tools and salvage covers, and who are otherwise equipped to perform rescue, ventilation, overhaul and other specific functions at fires; also called "ladder company."

Turnout Gear: The protective clothing worn by firefighters. Often referred to as part of the personal protective equipment or PPE worn by firefighters. Another common term utilized to refer to this PPE is "bunker gear."

Two-in/Two-out: Refers to the Fed-OSHA safety requirement of having one team of two firefighters enter a hazardous zone, while at least two others stand by outside in case the first two need rescue - thus requiring a minimum of four firefighters on scene prior to starting interior attack.

V

Ventilation: Important procedure in firefighting in which the hot smoke and gases are removed from inside a structure, either by natural convection or forced either through existing openings or new ones provided by firefighters at appropriate locations (e.g., on the roof). Ventilation can also be accomplished through the use of mechanical fans (positive or negative ventilation) or can be done using hose lines as part of a hydraulic ventilation strategy.

Vertical Ventilation: Ventilation technique making use of the principle of convection in which heated gases naturally rise. Traditionally thought of as cutting an opening in the roof of a structure to allow heated fire gasses and smoke to escape vertically. Most often, the function of vertical ventilation is accomplished through the deployment of truck or support companies.

EMERGENCY RESPONSE SYSTEM- VEHICLE OVERVIEW

VEHICLE	DESIGN/FUNCTION	COMMAND	RESPONSE TIME	STAFFING
<p>ENGINE</p>  <p>TYPE 1 ENGINE</p>	<ul style="list-style-type: none"> - Puts water on the fire - Initial attack hand lines - Master stream application - Water delivery or supply - Primary medical em. response 	<ul style="list-style-type: none"> - Initial Command until BC arrives - May be assigned as Division or Group Supervisor 	<ul style="list-style-type: none"> - 6:30 Response Time* - (90% of time in the Urban Response Area- URA) 	<ul style="list-style-type: none"> - 3 minimum
<p>LADDER TRUCK</p> 	<ul style="list-style-type: none"> - Supports fire attack effort with Search and Rescue, Ventilation, Laddering, Forced Entry, Salvage and Overhaul - Master stream water application 	<ul style="list-style-type: none"> - Initial Command (on Occasion) - Mostly operates as Div./Support Group Supervisor 	<ul style="list-style-type: none"> - Part of balance of 1st alarm response - In URA arrive within 10 min. after dispatch 	<ul style="list-style-type: none"> - 3 minimum - 4 optimum
<p>HEAVY RESCUE</p> 	<ul style="list-style-type: none"> - Supports fire attack effort with Search and Rescue, Ventilation, Laddering, Forced Entry, Salvage and Overhaul - Supports tech. rescue efforts 	<ul style="list-style-type: none"> - Initial Command (on Occasion) - Mostly operates as Div./Support Group Supervisor 	<ul style="list-style-type: none"> - Part of balance of 1st alarm response - In URA arrive within 10 min. after dispatch 	<ul style="list-style-type: none"> - 3 minimum - 4 optimum
<p>WATER TENDER</p> 	<ul style="list-style-type: none"> - Mobile water supply vehicle; used primarily in the rural area where few or no hydrants exist - Also utilized in the wildland/urban interface areas 	<ul style="list-style-type: none"> - No command duties typically assigned to water tenders 	<ul style="list-style-type: none"> - Ancillary/special call apparatus (supports initial attack companies) 	<ul style="list-style-type: none"> - 1 minimum - 2 optimum (staffing part of engine company)
<p>BRUSH TRUCK</p>  <p>TYPE 6 ENGINE</p>	<ul style="list-style-type: none"> - Provides fire attack capability for wildland or grassland fires - Used for access to fires in areas where larger apparatus can't go 	<ul style="list-style-type: none"> - No command duties typically assigned to brush trucks 	<ul style="list-style-type: none"> - Ancillary/special call apparatus (supports initial attack companies) 	<ul style="list-style-type: none"> - 2 minimum - 3 optimum (staffing part of engine company)
<p>COMMAND VEHICLE</p> 	<ul style="list-style-type: none"> - Provides incident management functions for multi-company response - Acts as initial Safety Officer/PIO 	<ul style="list-style-type: none"> - Point of Command Upgrade; manages Division and Group Supervisors 	<ul style="list-style-type: none"> - Part of initial 1st Alarm assignment - Ideal: ≤ 8 Minutes - Target: ≤ 10 Minutes 	<ul style="list-style-type: none"> 1- minimum 2- optimum (BC & Aide)

*Response Goal: Arrive at emergencies inside the URA within 6:30 after being dispatched 90% of the time- *2018 LFRA Strategic Plan* (page26)

BASIC PLANNING ASSUMPTIONS

The basic planning assumptions for LFRA are broken out into two distinct areas: **Stage One** and **Stage Two**. Stage One covers eight basic assumptions that serve as the foundation of this plan for the years 2018-2026. The planning assumptions listed in Stage One have identified goals and objectives; some have cost estimates for the areas of expansion or improvement. Stage Two is based on long-term expectations of what may occur beyond 2026. It is more general and contains no set goals or objectives or costs, but rather initiatives that are likely to be needed. The Basic Planning Assumptions are the forecasting tools for staffing and large capital expenses only.

Planning Assumptions for Loveland Fire Rescue Authority for Stage One and Stage Two *Stage 1 assumptions are more specific and listed for years 2018-2026 (see ESEP in Part 3)*

Stage One Planning Assumptions

1. **Service Levels Provided** - The Fire Authority expects to maintain or improve current City and Rural District response service levels and those projected for future expansion.
2. **Population Expansion** - Projections for expansion will assume a continuing growth of 2% to 2.5% per year from 2018-2026. This would calculate into a population of approximately 121,000 in 2026 for the Fire Authority service area or response area.
3. **Station/Fire Company Expansion** - Projections for replacement or addition of new fire stations and staffing would include:
 - Adding 2 fully staffed fire stations- 18 new full time positions to staff these stations
 - Adding 3 full-time positions for coverage or shift fill-in
 - Adding 3 full time positions for the 3rd firefighter on Heavy Rescue 2.
 - Adding 3 full time positons for the addition of three new shift battalion chiefs
 - Adding 2 Quick Response Vehicles (first QRV will be placed in area of need)
4. **Workforce Staffing Methods** - Projections for Stage One include the use of both full-time paid and volunteer firefighters. Stations within the Urban Response Areas (URA) would be staffed with full-time paid firefighters, minimum staffing at three firefighters per company. Volunteer firefighters will staff Big Thompson Canyon stations.
5. **Airport Expansion**- Northern Colorado Regional Airport is expected to expand its services in the near future. The numbers of larger passenger flights will likely increase in the next 2-3 years. More personnel and other firefighting resources will be needed if this expansion occurs. One QRV may be utilized to address the initial expansion of services.
6. **Additional Non-Uniformed FTEs** - Projections for workforce expansion in this area should include an IT specialist and an additional administrative assistant, and additional part time inspectors and plan reviewers in the Community Safety Division.
7. **Completion of the Accreditation Process**- The Fire Authority expects to become a fully accredited agency through the Commission on Fire Accreditation (CFAI) and will have in place plans for ongoing reaccreditation after the initial certification.
8. **Selection of the Essential Services Expansion Plan (ESEP)** – The Essential Services Expansion Plan is to be the strategy of choice for the 2018 LFRA Strategic Plan.

Stage Two Planning Assumptions

Stage Two (2027-2035) will include planning expectations without identified funding streams. These planning assumptions are expected to be very general and based on a historical and projected forecast of what the department's needs will be during this timeframe.

1. Organizational Planning Goals/Expectations - Projections for this next phase (2027-2035) include consideration for:

- Expansion of the training center and completion of its master plan
- Relocation of Fire Station 1 and/or LFRA's Headquarters and Administration and the Community Safety Division (CSD)
- Full staffing of the airport station (Station 4) for area coverage and addressing more expanded airport operations, and/or expansion in the commercial business park or commercial area around the airport. This will be reviewed on an "as needed basis" within the City of Loveland and the Rural District's planning process, and periodically with the Airport Director and the Director of Public Works to ensure proper service level needs are maintained
- Addition of one fire station to the south/southeast corridor, projected for the area of South Boise and Highway 402, depending on growth and service level needs
- Expansion of an additional truck/heavy rescue company
- Expansion for a paid staff position for Big Thompson Canyon station (40-hour training and response position)
- Expansion of resources for the wildland urban interface area, including prevention, mitigation and enforcement functions
- Expansion of the staff within the training division
- Increase of minimum staffing from three firefighters per company to four firefighters for specific companies (ex. truck, heavy rescue and some specific engine companies)
- Evaluation of the fire authority for LFRA as the best governance model and to evaluate future growth opportunities and expansion possibilities for the area/district.

2. Workforce Staffing Analysis - Projections in Stage 2 should include a comprehensive analysis of the three-person staffing system for each fire company. The authority should conduct this analysis utilizing the latest available research and data to best meet the community's fire/rescue needs. This analysis would include:

- Workforce staffing model for both 3-person and four-person engine companies
- Use of the Quick Response Vehicle as part of the overall workforce staffing model
- 24 hour shift staffing models including the traditional models (Berkley system currently in use at LFRA), the 48-96 system (currently in use in other regional departments) and other shift staffing models
- A workforce staffing and needs analysis of the Big Thompson Canyon area
- Impacts of staffing and workload within the criteria established for the authority's accreditation
- Any other workload/staffing issues and impacts

Specific Planning Assumptions from Applicable Sections- Listed by Subject/Area

Staffing and Deployment-

Staffing and Deployment Planning Assumption 1 - LFRA fire companies (engine, truck, and squad companies) will be staffed at three personnel minimum with a target for deployment for structure fires at 16 firefighting personnel, meeting the intent of NFPA 1710.

Staffing and Deployment Planning Assumption 2 - The full-time paid (career) staffing model will be utilized for fire stations in the Urban Response Area. The volunteer firefighter model for staffing and deployment will be used for LFRA stations in the Big Thompson Canyon.

Staffing and Deployment Planning Assumption 3 - The use of technology and other scientific discoveries for fire suppression will continue to be evaluated by LFRA leadership and personnel. Changes to operational procedures and overall tactical operations will be examined and incorporated into LFRA's procedures where appropriate.

Staffing and Deployment Planning Assumption 4 - Alternate staffing and deployment methods, such as the use of QRVs, will be a part of LFRA's future operational practices.

Staffing and Deployment Planning Assumption 5 - Periodic, ongoing evaluations for the efficiency and effectiveness of the LFRA staffing model are needed. In addition, there is a need for a future, more comprehensive, workforce-staffing analysis to determine the best and most effective future staffing model for LFRA.

Staffing and Deployment Planning Assumption 6 - All future staffing levels within every division of LFRA are based on normal forecasted expansion of population and businesses or industrial complexes within the Fire Authority's response area.

Staffing and Deployment Planning Assumption 7- Automatic aid (auto-aid) and mutual aid will continue to be a vital part of LFRA's initial emergency response planning and long-term solutions for additional staffing for the emergency scene. Training with and building and keeping strong relationships with surrounding and regional fire departments will be a priority.

Emergency Medical Services-

EMS Planning Assumption 1 - The current model for the EMS system within the LFRA district, which includes BLS services and support functions provided by LFRA and ALS services and transport provided by TVEMS, provides high quality levels of citizen service and a high level of EMS patient care.

EMS Planning Assumption 2 - The response model that is currently in place, with the noted targets for performance of a BLS unit on scene within 6 minutes and 30 seconds from the time of dispatch and an ALS transport unit on the scene within 9 minutes 90% of the time within the Urban Response Area is appropriate as a target for performance goals.

EMS Planning Assumption 3 - Relevant performance measurements need to be monitored, measured, and reviewed at least annually for adherence to specific standards of performance.

EMS Planning Assumption 4 - A continuing collaborative process between LFRA and TVEMS for strategic and operational planning is necessary for of high quality EMS in the LFRA district.

EMS Planning Assumption 5 - A commitment for continuous improvement in the EMS system within the LFRA district will include Basic Life Support Services, Advanced Life Support Services, Emergency Medical Dispatching, and Public Medical Awareness and Training including activation of the EMS system and citizen CPR training.

EMS Planning Assumption 6- Steps will be taken by LFRA and TVEMS to continue the designation of Loveland as a “Heart Safe Community” for the immediate future.

EMS Planning Assumption 7 – Solid working relationships between LFRA and TVEMS should remain a very high priority for both agencies. Technological advances will occur in the future and will likely have a positive effect on EMS services. Plans for adoption of technology should be evaluated carefully and made when they make sense and improve EMS services.

Wildland Urban Interface (WUI)-

Wildland Planning Assumption 1- Future trends suggest that the WUI problem is likely to grow to a higher level from 2018-2026, including more people and structures within the WUI zone.

Wildland Planning Assumption 2 - The current model of fire protection and mitigation for wildland fire operations will likely not be adequate for the future. More resources and funding will need to be invested to keep up with the anticipated future needs.

Wildland Planning Assumption 3 - Current federal and possibly state resources, upon which we currently depend, may be reduced or even eliminated in the future.

Wildland Planning Assumption 4 - Development of even stronger operational partnerships and regional cooperative relationships will be needed to offset the loss of federal and state resources in order to maintain an adequate and reliable emergency response. Local Incident Management Teams (IMTs) should be evaluated and developed for future operations in the region of northern Colorado, including areas within the LFRA response district.

Wildland Planning Assumption 5 - If voluntary programs such as education and engineering in the Five Points approach above are successful, many of the problems listed in this section of the plan could be adequately addressed. Any improvements, trigger points, and tracking of data should be identified and implemented into the long-range future plans.

Wildland Planning Assumption 6 – New programs for community education and involvement in the WUI area will need to be evaluated and pursued in order to make prevention and mitigation programs more effective. LFRA should consider the *Ready, Set, Go Program** for the future.

Wildland Planning Assumption 7 – Enhancement of the resources within Stations 8 and 9 will be a part of the plan for improvement in the WUI for LFRA. The opening of new fire station 7 will play an important role in training and coordinating the available WUI resources for LFRA and other regional partners.

Special Operations (SOT)-

Special Operations Planning Assumption 1- The current model of operations for SOT works well and is adequate for the current call load and community demand for services in this area.

Special Operations Planning Assumption 2 - Future growth in the community and region surrounding LFRA's response area will likely place much more demand on the services of the department's SOT and render the current model inadequate.

Special Operations Planning Assumption 3 - Additional funding will be needed to account for additional training and equipment for SOT processes. Identified funding streams within LFRA will need to be identified and obtained in order to maintain an adequate level of SOT services and emergency response capability. Alternate funding streams, including grants will need to be investigated to address the needs created by growth and expansion.

Specialized Operations Planning Assumption 4 - A regional approach to the problem of enhanced services needed for SOT is perhaps the most viable and best option for maintaining and improving overall specialized operations service levels within the LFRA response area. The idea of developing a regional team for specialized operations should be investigated within the time parameters set forth by this plan. Some progress has been made in this area in the last few years; more is needed to be done to formalize agreements and develop even stronger working relationships with other regional agencies.

Specialized Operations Planning Assumptions 5 - The linkage to the state's FEMA USAR Team, Colorado Task Force I, is a viable option and enhancement to the local and regional team approach for special operations. Work should continue within the timeframe of this plan to develop emergency response agreements (IGAs or MOUs). A more seamless process for request for service, dispatch, response, and deployment should be developed for the local and/or regional specialized operations team with other state and federal agencies.

Specialized Operations Planning Assumption 6 – LFRA membership into the Colorado Task Force 1 Team would benefit LFRA and the Loveland community. Efforts should continue to pursue openings on this team for LFRA personnel.

Specialized Operations Planning Assumption 7 – The staffing levels on Heavy Rescue 2 is an issues that needs to be addressed within the *2018 LFRA Strategic Plan*. The current three-person minimum staffing level includes the FIT position, which renders Heavy Rescue 2 to a two-person company a significant amount of the time until the FIT can arrive on the emergency scene. This should be a priority item for the *2018 LFRA Strategic Plan*.

Training Battalion-

Training Planning Assumption 1- Based on current firefighter staffing levels and call loads, the current staffing structure for Training will be inadequate for the future training needs of LFRA.

Training Planning Assumption 2 - There is an immediate need for an additional full-time 40-hour firefighter within the training division to help with the basic level training work. Other personnel expansion would also need to be considered within the timeframe of this strategic plan.

Training Planning Assumption 3 - A comprehensive long-term analysis for how the training efforts will be carried out in the future using the Centralized, Decentralized and Ad Hoc training delivery methods should be carried out and included in this as part of this and future strategic plans for LFRA.

Training Planning Assumption 4 – An evaluation of relative training technology needs to be initiated in order to make classroom and other training more efficient and effective and have a positive impact on area coverage and emergency response times.

Training Planning Assumption 5 – Additional land acquisition should be investigated to increase and improve the existing buffer between LFRA’s training center and other area properties.

Safety and Survival:

Safety Planning Assumption 1 - LFRA currently has a good safety culture and a commitment to firefighter and citizen safety, including meeting the intent outlined in *Healthy-In, Healthy-Out*.

Safety Planning Assumption 2 – The nature of firefighting and rescue carries with it inherent risks. LFRA will remain committed to meeting the intent of applicable national safety standards, and committed to continuous improvement for the safety and survival of citizens and personnel.

Safety Planning Assumption 3 - There will be a financial cost to staying committed to enhanced firefighter and citizen safety and survival. Some of these costs may be unforeseen and fall outside the bounds of normal financial planning and budgeting as part of strategic planning.

Safety Planning Assumption 4 – There is a need for enhancement of the management and oversight for LFRA’s department health and safety program. Assignment of this responsibility specifically to a chief level officer is warranted and needed.

Safety Planning Assumption 5 – There is a need for additional organizational efforts for cancer awareness education and the reduction in firefighter exposure to carcinogens.

Safety Planning Assumption 6 - Safety planning will be a part of this strategic plan and other plans that follow.

Human Resources and Support (HR)-

HR Planning Assumption 1 – The hiring of a new HR Manager will have a positive impact in several areas within the organization. These would include stabilizing the LFRA HR system and creating an effective HR infrastructure.

HR Planning Assumption 2 – HR Management will expand its consultative/strategic role within LFRA in several key areas including Benefits/ Compensation, Employee Relations, Policy Compliance, Personnel Development and Risk Management.

HR Planning Assumption 3 – LFRA HR Management will maintain an effective and collaborative relationship with the City of Loveland Human Resources Department.

HR Planning Assumption 4 – Fitness and wellness evaluations are a high priority impacting firefighter safety and survival. Efforts and programs will be continued and enhanced, meeting the intent of current NFPA fitness standards.

HR Planning Assumption 5 – The LFRA Peer Support program is an important operation for LFRA personnel and will continue to be supported at the current or higher level within the *2018 LFRA Strategic Plan*.

Other Important Areas-

Other Areas Planning Assumption 1 – The ancillary areas that are identified within this section are important to LFRA and integral, in most areas, to the accomplishment of the organization’s mission.

Other Areas Planning Assumption 2 – It is important for LFRA to maintain strong relationships with local law enforcement; concerted efforts to improve these relationships, particularly with Loveland PD will be continued throughout the duration of this *2018 LFRA Strategic Plan*.

Other Areas Planning Assumption 3 – The citizen assistance program is an important initiative for LFRA to prioritize for the future. The organization will enhance its outreach to citizens who have experienced an emergency event.

Other Areas Planning Assumption 4 – LFRA has grown as an organization and with this growth has come a number of additional responsibilities and needs/functions that could best be managed through a support division or battalion. LFRA will need to evaluate this within the timeframe of the *2018 LFRA Strategic Plan*.

Other Areas Planning Assumption 5 – The Big Thompson Canyon Battalion is an integral part of LFRA’s firefighting resources. In order to maintain effective and safe service levels, a minimum number of trained/certified structural firefighters will be maintained within the BTC’s battalion.

Community Safety Division (CSD)-

CSD Planning Assumption 1 – More staffing will likely be needed in CSD for the future to address a growing population and an ever-increasing workload related to commercial development, plans review, and new inspections.

CSD Planning Assumption 2 - LFRA's role in plans review and building review processes is critical to ensure a strong fire-rescue perspective in the review process and a more effective community safety impact in the built environment

CSD Planning Assumption 3 - Specific occupancies within the community will continue to require specialized training and knowledge, skills, and abilities for plan reviews and inspections.

CSD Planning Assumption 4 – The community outreach program is an evolving responsibility that will be impacted by technology, change and public expectations. Smoke and CO detector programs will likely continue as the most dominant and effective community outreach.

CSD Planning Assumption 5 - The enhancement of training and outreach for emergency management and EOC operations is integral to a total overall community outreach safety plan.

CSD Planning Assumption 6 – Changes/improvements in the area of public education and information will be needed in the future for "at-risk" citizens or areas within the community.

CSD Planning Assumption 7 – Fire service accreditation is and will be a part of LFRA's future. Management of information and processes to maintain accreditation will be a part of the future for LFRA.

CSD Planning Assumption 8 – The wildland urban interface area will continue to be an area of concern based on population increases and more structures in the WUI. Adoption of the *Wildland Urban Interface Code*, along with increased staffing could address this concern.

F O U R T H A M E N D M E N T T O T H E I N T E R G O V E R N M E N T A L A G R E E M E N T F O R T H E E S T A B L I S H M E N T A N D O P E R A T I O N O F T H E L O V E L A N D F I R E R E S C U E A U T H O R I T Y A S A S E P A R A T E G O V E R N M E N T A L E N T I T Y B E T W E E N T H E C I T Y O F L O V E L A N D A N D T H E L O V E L A N D R U R A L F I R E P R O T E C T I O N D I S T R I C T C O N C E R N I N G T H E L E A S E A N D T R A N S F E R O F R E A L A N D P E R S O N A L P R O P E R T Y T O T H E A U T H O R I T Y

WHEREAS, on August 19, 2011, pursuant to that certain Intergovernmental Agreement for the Establishment and Operation of the Loveland Fire Rescue Authority as a Separate Governmental Entity ("Formation Agreement"), the City of Loveland ("City") and the Loveland Rural Fire Protection District ("District") created the Loveland Fire Rescue Authority ("Authority"), a public entity of the State of Colorado, for the purpose of providing fire suppression, fire prevention and public education, rescue, extrication, hazardous materials and emergency medical services (collectively, "Emergency Services") within their joint jurisdiction and service area. The Formation Agreement subsequently was amended pursuant to the First, Second, and Third Amendments to the Intergovernmental Agreement for the Establishment and Operation of the Loveland Fire Rescue Authority as a Separate Governmental Entity. The Formation Agreement and the First, Second, and Third Amendments thereto are referred to collectively herein as the "Formation Agreement", and the City and District are referred to collectively as the "Parties" or individually as a "Party";

WHEREAS, pursuant to Sections 6.1 and 6.2 of the Formation Agreement, the City initially leased for renewing one-year periods its Fire and Rescue Department real and personal property ("City Fire Property") to the Authority for the provision of Emergency Services within the Authority's jurisdiction;

WHEREAS, pursuant to Section 7.1 and Article VIII of the Formation Agreement, the District initially leased for renewing one-year periods its fire equipment and apparatus ("District Fire Equipment") to the Authority for the provision of Emergency Services within the Authority's jurisdiction, except that the District Fire Equipment leased to the Authority did not include any fire equipment or apparatus then used by the Big Thompson Canyon Volunteer Fire Department ("Canyon Department");

WHEREAS, Article XIV of the Formation Agreement acknowledges that the Parties intended an initial transition term of five years, during which time the Parties were to evaluate the benefits, effectiveness, governance, and operational efficiency of the Authority;

WHEREAS, the governing bodies of each of the Parties and the Authority have determined that the Authority is performing effectively and efficiently, and that it is in the best interests of the Parties, the Authority, and the citizens they serve for the Authority to take title to or hold pursuant to long-term leases the City Fire Property and District Fire Equipment, as well as all real property owned by the District, and the fire equipment and apparatus used by the Canyon Department (collectively, the "Property Transfer");

WHEREAS, the governing bodies of each of the Parties and the Authority have further determined that it is in the best interests of the Parties, the Authority, and the citizens they serve to simplify the procedures for the Parties' payment of costs to the Authority, so as to provide regularity in payment amounts and to reduce the administrative burdens associated with processing and accounting for such payments;

WHEREAS, the Parties desire to enter into this Fourth Amendment to the Formation Agreement ("Fourth Amendment") to accomplish the Property Transfer and payment simplifications; and,

WHEREAS, the Parties agree that all other terms and conditions of the Formation Agreement shall remain in full force and effect.

NOW, THEREFORE, IN CONSIDERATION OF THE MUTUAL COVENANTS CONTAINED HEREIN, AND OTHER GOOD AND VALUABLE CONSIDERATION, THE RECEIPT AND SUFFICIENCY OF WHICH ARE HEREBY ACKNOWLEDGED, THE PARTIES AGREE AS FOLLOWS:

1. That Section 4.1 of the Formation Agreement is amended in its entirety to read:

Section 4.1 Annual Budget

The Board shall adopt an annual budget for maintenance and operation costs, capital costs, costs of services, and personnel costs, subject to approval of the annual budget by the Parties' respective governing bodies. The Authority's annual budget shall become effective after approval by the Parties' respective governing bodies without further action required of the Board. Any supplemental budget of the Authority requiring additional contributions by the Parties also shall become effective only after approval of the Parties' respective governing bodies. Supplemental budgets of the Authority not requiring additional contributions by the Parties shall become effective after approval of the Board. The Authority shall comply with all applicable requirements of the Local Government Budget Law of Colorado.

2. That Section 5.1 of the Formation Agreement is amended in its entirety to read:

Section 5.1 Payment of Costs

(a) Beginning on January 1, 2016, each Party shall pay to the Authority its respective allocated share of the Authority's total annual contribution to the Consolidated Volunteer Pension Plan (defined in Article X below) ("Pension Plan Share"). Each Party shall pay its Pension Plan Share on or before November 30 of each year. The Parties' Pension Plan Share percentages are equal to their Allocated Share percentages, defined below.

(b) Beginning on January 1, 2012, each Party shall pay to the Authority its respective allocated share of all of the total estimated costs and expenses of the Authority as set forth in the Authority's approved annual budget ("Allocated Share"); provided that pursuant to subparagraph (a) above, beginning on January 1, 2016, each Party will pay its Pension Plan Share separately, and it will not be part of each Party's Allocated Share. The Parties' Allocated Share percentages are set forth on Exhibit A attached hereto and incorporated by reference.

(c) In order to provide the Authority with sufficient operating revenue at the start of each year, on January 1 of each year, each Party shall advance one-sixth of its Allocated Share to the Authority ("Annual Advance"). Following payment of the Parties' Annual Advances, each Party shall thereafter remit to the Authority on or before the last day of each month between February and November one-twelfth of its Allocated Share. No portion of a Party's Allocated Share shall be due in December.

3. That Section 6.1 of the Formation Agreement is amended in its entirety to read:

Section 6.1 Lease of City Fire Real Property

Effective January 1, 2017, the City shall lease its City Fire Real Property to the Authority for a period of 25 years at a rate of \$1.00 per year, with one automatic renewal for an additional successive twenty-five-year period. The City and the Authority shall enter into one or more Lease Agreement(s) in a form mutually acceptable to the City and the Authority. Each Lease Agreement shall give both the City and the Authority the right to terminate such lease at any time for any business reason upon one year's prior written notice to the other party; provided, however, that if the City terminates the Lease Agreement, it must offer the Authority alternative real property space at the same rental rate for the balance of the initial 25 year term and renewal term.

For purposes of this Section 6.1, "City Fire Real Property" shall mean: Fire Station 1, located at 410 E. 5th Street; Fire Station 2, located at 3070 W. 29th Street; Fire Station 3, located at 900 S. Wilson Avenue; Fire Station 4, located at 4900 Earhart Road; Fire Station 5, located at 252 Knobcone Drive; Fire Station 6, located at 4325 McWhinney Boulevard; the Fire Training Facility, located at 100 E. Fire Engine Red Street; and, the Fire Administration Offices, located at 410 E. 5th Street; all in the City of Loveland, Colorado. The District agrees that in the event this Agreement is terminated as provided for herein, that the leases of the City Fire Real Property shall automatically terminate and the City shall be entitled to retake and retain sole and exclusive possession and control of all of the City Fire Real Property without the need for any judicial process to evict the Authority or the District from the City Fire Real Property or in any other manner to take exclusive possession and control of the City Fire Real Property from the Authority or the District.

4. That Section 6.2 of the Formation Agreement is amended in its entirety to read:

Section 6.2 Transfer of City Fire Personal Property

Effective January 1, 2017, the City shall transfer and convey to the Authority all right, title, and interest in and to all apparatus, vehicles, tools, equipment, and all other personal property owned by the City for the purpose of providing fire, rescue, and emergency medical services (collectively, "City Fire Personal Property"); except that the City Fire Personal Property shall not include: (i) the 2005 Freightliner/LDV Mobile Command Vehicle (Fleet #3300), or (ii) any apparatus maintenance tools, or any Opticom or other information technology systems or components owned by the City. The City Fire Personal Property shall be transferred "as-is" with no warranty by the City; provided, that the City shall assign any manufacturer's warranties on any City Fire Personal Property if such warranties are still in force and effect. Conveyance of the City Fire Personal Property shall be accomplished by one or more Bills of Sale in a form mutually acceptable to the City and the Authority. The City shall not receive any monetary consideration for transferring and conveying all right, title, and interest in and to the City Fire Personal Property to the Authority. In the event that any apparatus or vehicle transferred to the Authority as part of the City Fire Personal Property is subsequently sold by the Authority, the proceeds from such sale shall be applied to the purchase of new Authority-owned apparatus or vehicles, or shall be deposited into a dedicated Authority apparatus and vehicle replacement fund.

5. That the Exhibit B: Human Resources, Administrative, and Operational Support Services Provided by the City attached to the Formation Agreement is hereby deleted and replaced by the new Exhibit B: Human Resources, Administrative, and Operational Support Services Provided by the City (Amended December 14, 2016) attached to this Fourth Amendment as Attachment.

6. That Section 7.1 of the Formation Agreement is amended in its entirety to read:

Section 7.1 Transfer of District Fire Personal Property

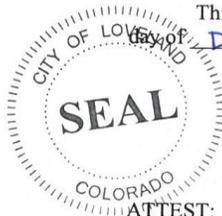
Effective January 1, 2017, the District shall transfer and convey to the Authority all right, title, and interest in and to all apparatus, vehicles, tools, equipment, and all other personal property owned or leased by the District for the purpose of providing fire, rescue, and emergency medical services (collectively, "District Fire Personal Property"); except that the District Fire Personal Property shall not include any Opticom or other information technology systems or components owned by the District. The District Fire Personal Property shall be transferred "as-is" with no warranty by the District; provided, that the District shall assign any manufacturer's warranties on any District Fire Personal Property if such warranties are still in force and effect. Conveyance of

the District Fire Personal Property shall be accomplished by one or more Bills of Sale in a form mutually acceptable to the District and the Authority. The District shall not receive any monetary consideration for transferring and conveying all right, title, and interest in and to the District Fire Personal Property to the Authority. In the event that any apparatus or vehicle transferred to the Authority as part of the District Fire Personal Property is subsequently sold by the Authority, the proceeds from such sale shall be applied to the purchase of new Authority-owned apparatus or vehicles, or shall be deposited into a dedicated Authority apparatus and vehicle replacement fund.

7. That Article VIII of the Formation Agreement is amended in its entirety to read:
The District shall continue to maintain and fund the Canyon Department. Set forth on Exhibit C attached hereto and incorporated by reference, is the organizational chart for the Authority which shows the Canyon Department Chief under the operational control of the Authority's Fire Chief. The District shall continue to maintain the Big Thompson Canyon Volunteer Firefighters Pension Fund as a separate pension fund. The Authority and the City shall have no responsibility for the funding of this pension fund or for funding any other costs related to the operation of the Canyon Department.
8. That the Inventory Summary Report: Loveland Rural Fire Protection District attached to the Formation Agreement as part of the Exhibit C thereto is hereby deleted and removed from Exhibit C.
9. That the following new Section 7.3 is added to the Formation Agreement:
Section 7.3 Lease of District Fire Real Property
Effective January 1, 2017, the District shall lease its District Fire Real Property to the Authority for a period of 50 years at a rate of \$1.00 per year. The District and the Authority shall enter into one or more Lease Agreement(s) in a form mutually acceptable to the District and the Authority. Each Lease Agreement shall give both the District and the Authority the right to terminate such lease at any time for any business reason upon one year's prior written notice to the other party; provided, however, that if the District terminates the Lease Agreement, it must offer the Authority comparable alternative real property space at the same rental rate for the balance of the 50 year term. For purposes of this Section 7.3, "District Fire Real Property" shall mean: Fire Station 8, located at 1461 W Highway 34, zip code 80537; and Fire Station 9, located at 433 Chipmunk Place, zip code 80515. The City agrees that in the event this Agreement is terminated as provided for herein, that the leases of the District Fire Real Property shall automatically terminate and the District shall be entitled to retake and retain sole and exclusive possession and control of all of the District Fire Real Property without the need for any judicial process to evict the Authority or the City from the District Fire Real Property or in any other manner to take exclusive possession and control of the District Fire Real Property from the Authority or the City.
10. That Section 9.2 of the Formation Agreement is amended in its entirety to read:
Upon termination of this Agreement, the City Council and District Board, or the authorized representatives of each, shall promptly meet and discuss, in good faith, the allocation of the Authority's assets between the City and the District, including all apparatus, vehicles, equipment, tools, cash funds, and all other real or personal property then owned by the Authority, of whatever type or nature whatsoever (collectively, "Authority Assets"). Any Authority Assets acquired by the Authority under this Agreement as the result of a Party's special monetary contribution, approved by Resolution of the Authority Board and identified in the Authority's fixed asset record, or by a Party's direct conveyance to the Authority, shall be returned to that

contributing Party if said assets are still owed by the Authority in the form originally purchased or conveyed. All remaining Authority Assets shall be distributed between the Parties in proportion to their percent of allocation of funding set forth in Exhibit A. The Parties shall strive in good faith to ensure that the allocation of Authority Assets to each Party enables it to provide adequate fire, rescue, and emergency medical services within its boundaries. In the event that the Parties are not able to agree upon the allocation of Authority Assets despite their good faith efforts, then the Authority Assets, or such portion thereof for which the Parties are not able to agree, shall be sold, and the sales proceeds shall be distributed to the Parties in proportion to their percent of allocation of funding set forth in Exhibit A.

11. All other provisions of the Formation Agreement remain in force as written and are unaffected by this Fourth Amendment.



This Fourth Amendment to the Formation Agreement is entered into as of this 14th day of December, 2016.

CITY OF LOVELAND

By: Stephen Adams
Stephen C. Adams, City Manager

ATTEST:

Laura S. Andrews
City Clerk

LOVELAND RURAL FIRE PROTECTION DISTRICT

By: Dave Legits
Dave Legits, President

ATTEST:

[Signature]
Secretary

**Attachment 1
EXHIBIT B**

Human Resources, Administrative, and Operational Support Services Provided by the City
(As Amended December 14, 2016)

City Service	Cost Allocation Formula
<p>City Clerk Including without limitation:</p> <ul style="list-style-type: none"> • Processing City Council agenda items related to the Authority. • Records assistance, including scanning software and guidance on records retention. • Coordination of records destruction. 	<p>The City shall determine the total portion of the "City Clerk" budget line item that will be charged to all customer departments ("City Clerk Department Share"). The City shall allocate to the Authority that portion of the City Clerk Department Share as is equal to the proportion of City Council agenda items related to the Authority during the immediately preceding calendar year to the total number of City Council agenda items.</p>
<p>Budget and Finance Including without limitation:</p> <ul style="list-style-type: none"> • Planning and budgeting City contributions to fire capital improvements. • Processing Authority annual and supplemental budget approval through City Council. • Submitting the Authority's annual and any supplemental budget to the Department of Local Affairs ("DOLA") on behalf of the Authority. • Recording journal entries and budget transfers. • Month-end closing of accounting records. • Year-end closing transactions. • Opening new account and project numbers. • Fixed asset tracking and reconciliations. • External auditing, accounting questions and research. • Including the Authority's financial information in the City's comprehensive annual financial report. Submit the annual financial report to DOLA on behalf of the Authority. • Payroll processing and reconciliation. • Purchasing Card administration as requested by Authority. • Reviewing invoices and documentation, and processing weekly vendor check and ACH payments. • Preparing and filing applicable tax reporting. 	<p>The City shall determine the total portion of the "Finance" budget that will be charged to all customer departments ("Finance Department Share"). The City shall allocate to the Authority that portion of the Finance Department Share as has been determined by the most recent time study to be attributable to the amount of time the Finance Department spends working on Authority matters.</p>

<ul style="list-style-type: none"> • Verification of deposits and bank reconciliation. 	
<p>Dispatch Including without limitation:</p> <ul style="list-style-type: none"> • CAD administration and all dispatching functions. 	<p>The City shall determine the total portion of its costs and expenses incurred in operating its dispatching service that will be charged to customer departments ("Dispatch Department Share"). The City shall allocate to the Authority that portion of the Dispatch Department Share as is equal to the proportion of the number of Authority calls dispatched to the total number of calls dispatched.</p>
<p>IT Infrastructure and Telecommunications Including without limitation:</p> <ul style="list-style-type: none"> • Installing and maintaining all hardware and software for network switches, general and specific Authority use servers, PCs, laptops, mobile display units, status screens, Surface Pros/iPads, printers/copiers, desktop phones, and email system. 	<p>The City shall determine the total portion of its administration, infrastructure, and telecommunications costs and expenses incurred in supporting IT units, including network switches, servers, laptops, printers, PCs, phones, mobile data terminals, etc., that will be charged to all customer departments ("IT Unit Department Share"). The City shall allocate to the Authority that portion of the IT Unit Department Share as is equal to the proportion of the number of Authority IT units to the total number of IT units supported by the City. Costs and expenses related to servers, mobile data terminals, etc., that are dedicated to the Authority's use or are shared by the City Police Department and the Authority, will be charged to the Authority either in full for Authority-dedicated units, or proportionately based upon the number of Authority units to the total number of Authority and Police Department units.</p>
<p>IT Application Services Including without limitation:</p> <ul style="list-style-type: none"> • Business analyst assistance for all software programs for incident reports (such as ETI, OMEGA, Visinet), scheduling and timesheets (such as Telestaff), and financial systems (including payroll). • Geographic Information Systems (GIS) assistance the Authority's mapping requirements. 	<p>The City shall determine the total portion of its costs and expenses incurred in hiring and/or contracting with a business analyst and GIS support that will be charged to all customer departments ("IT Application Department Share"). The City shall allocate to the Authority that portion of the IT Application Department Share as is equal to supporting the software and GIS network components utilized by the Authority.</p>
<p>Human Resources Including without limitation:</p> <ul style="list-style-type: none"> • Administration of random drug testing program. • Employee training (as requested by the Authority). • Title VII and ADA compliance. • Track CDL physicals and license renewals on the provider contract. 	<p>The City shall determine and charge the Authority that portion of the City's "Human Resources" budget line item that reflects the City's actual costs in providing the Human Resources services to the Authority.</p>

<p>Facilities Including without limitation:</p> <ul style="list-style-type: none"> • Performing or contracting for all building maintenance and repair functions at all City Fire Real Property, including painting, HVAC system, roof repairs, cabinet building, cubical reconfigurations, etc. • Contracting and paying for all utilities at the City Fire Real Property, including water, sanitation, sewer, electricity, light, heat, gas, power, fuel, and janitorial; all such services to be charged at the City rate where applicable. • Managing all facilities construction projects within the City's boundaries. 	<p>The City shall determine a cost per square foot by dividing the City's total budgeted amount for the operation and maintenance of all City facilities by the total square footage of all City facilities, including the City Fire Real Property ("Square Foot Amount"). The City shall allocate to the Authority an amount equal to the Square Foot Amount multiplied by the total square footage of all of the City Fire Real Property, less a discount mutually agreed upon annually by the City and Authority, reflecting the limited public use of the City Fire Real Property and those janitorial functions provided by the Authority Personnel. If the City and Authority are unable to agree upon the discount amount by August 1, then a 10% discount shall be applied.</p>
<p>Fleet Maintenance Including without limitation:</p> <ul style="list-style-type: none"> • Performing preventative maintenance and minor repairs on all apparatus and vehicles owned or leased by the Authority ("Authority Fleet"). • Coordinating and managing maintenance or repairs to the Authority Fleet to be made by third party contractors and/or vendors. • Providing fuel supply and access to all City fueling locations to the Authority Fleet as part of the City's fleet fuel contract. • Maintaining life-to-date cost for maintenance by apparatus/vehicle. • Maintaining fuel usage records by apparatus/vehicle. 	<p>Maintenance and Repair: The City shall determine the actual cost of any parts ordered or otherwise provided to accomplish any City-provided maintenance or repair, plus any mark-up fee routinely and customarily charged by the City to its own City departments on any such parts ordered or otherwise provided, and the amount of any labor charges based upon a fee-for-service schedule to be mutually agreed upon annually by the City and Authority. If maintenance or repair is made by a third party contractor or vendor, the City shall charge the Authority the actual undisputed amount of such third party's invoice.</p> <p>Fuel: The City shall determine the actual number of gallons and total cost of all unleaded and diesel fuel utilized by the Authority ("Fleet Fuel Amount"). The City shall charge the Authority the Fleet Fuel Amount that is equal to the actual cost of the number of gallons of unleaded and diesel fuel utilized by the Authority, plus any mark-up fee routinely and customarily charged by the City to its own City departments on unleaded and diesel fuel.</p>

Loveland Fire Rescue Authority

Wildland Program

Future Planning and Appraisal Document for LFRA's Wildland Program



Wildland Program Staff: Captain Robert Carmosino, Captain Mark Lyons, Engineer Jason Tanner, Firefighter Paul Brown

Additional Contributor(s): Battalion Chief Rick Davis

January 2018

Executive Summary

History:

Loveland Fire Rescue Authority’s (LFRA) wildland program strives to meet the four R’s (Response, Resources, Readiness and Relationships), continued growth from good to great and enduring greatness; while continually enhancing the needs of the organization, surrounding districts, and community. Through continued development to maintain and improve on items identified, annually the most substantial variable impacting wildland urban interface fire risk is still the human factor.

A review of wildfire activity exhibited staggering numbers in Colorado since 1990. Larimer County area has provided startling facts based on trending erratic and hostile fire conditions. The research enforces the need to provide our personnel with the best training, equipment and apparatus to handle these changing conditions. Since 2000, Colorado has been averaging nearly 2,000 wildfires per year and averaging nearly 95,000 acres. The staggering results of these fires are:

- (1990 – 1999) 21,500 acres, 26 total deaths (14-FF), 18+ structures, and 0 injuries.
- (2000 – 2009) 386,328 acres, 12 total deaths (11-FF), 1,047+ structures, and 140 injuries.
- (2010 – 2013) 308,006 acres, 8 deaths, 1,375+ structures, and 5 injuries
- (2014 – 2015) 26,544 acres, 0 deaths, 2 structures, 3 injuries
- Listed are ten significant wildfires located in LFRA’s response area (local/mutual/auto aid). Site for fires at: http://www.denverpost.com/ci_20753857/interactive-timeline-history-major-wildfires-colorado

Bobcat Fire (6/2000) – Loveland/Larimer	Round Mountain Fire (2010) – Loveland/Larimer
Big Elk Fire (2002) – Estes Park	Crystal Fire (4/2011) – Larimer County
Picnic Rock Fire (2004) – Ft. Collins/Larimer	Hewlett Fire (5/2012) – Ft. Collins/Larimer
Old Stage Fire (2009) - Boulder (Mutual Aid)	High Park Fire (6/2012) – Larimer County
Reservoir Road Fire (9/2010) – Loveland/Larimer	Woodland Heights (6/2012) – Estes Park

These results continue to support the wildland planning assumptions (1-6) as identified in the 2012 Strategic Plan. In addition, the fuel, weather and topography in conjunction with the Wildland Urban Interface (WUI) support the significance of situational awareness, improved strategic/tactical and task level operations. This along with the appropriate apparatus and regional relationships will impart a smarter approach and mitigation of incidents.

LFRA involvement in Wildland interface operations has transformed in various levels over the years. In the mid 90’s, all members were certified as S130/190. The Bobcat Fire reinforced the decision to evolve LFRA’s wildland certifications and training towards more supervisory qualified personnel as Engine and Squad bosses. In early 2000, all Loveland Fire personnel received the S-215 (wildland urban interface) and officers Captain and higher certified in S-290 (Intermediate Wildland Fire Behavior). A number of WUI exercises and the annual Larimer County Wildland Summit between 2008 – 2012 enhanced

certifications and trainings while developing new relationships and increasing our level of service. The growth and development obtained lead to LFRA purchasing new apparatus, gear, training in-house and with surrounding departments. Through the support of the Loveland Fire Rescue Authority Board, Loveland Rural Fire Protection and City of Loveland funds were appropriated ahead of schedule to purchase necessary equipment and apparatus identified in the 2012 strategic plan. In addition to apparatus and equipment, Battalion Chief Rick Davis continued to enrich the wildland program by cultivating the relationships with Larimer County Emergency Services, Larimer County Parks, Colorado State Forest Service, US Forest Service, Poudre Fire Authority, Colorado Division of Fire Prevention and Control (FMO), and other various agencies. These relationships have proven to be invaluable to LFRA especially considering current federal and state resources have started to be reduced, or potentially eliminated in the future.

Program Status:

A continual evaluation on all aspects of the wildland program ranges from wildland management, personal protective equipment (WPPE), tools/appliances/hose, training, certifications, apparatus, Community Wildfire Protection Plan (CWPP), Red Zone, and deployment operations.

Management of the wildland program went through a transformational process and a number of disciplines within the program are divided among other programs.

1. Wildland Personal Protective Equipment (WPPE) and fire shelters
 - a. Purchasing, inspection, product research relocated to the quarter master program. The program qualified to; review, research and identify the best practices necessary to purchase, repair and disseminate department gear.
2. Wildland hose/adapters
 - a. Purchasing, inspection, product research relocated to the apparatus committee were equipment under hose and nozzles. Again providing a more efficient process to purchase, replace and repair department necessities.
3. Radio Communications
 - a. Purchase, repair, reprogramming of VHF radio system was relocated to the communications program to manage
4. Apparatus (development and purchase)
 - a. Design, develop and purchase continues to be under apparatus; which was necessary to maintain consistency among other wildland apparatus as it pertained to equipment for current and future purchases.

The location of all the wildland material was sporadically dispersed in a manner that was difficult to manage. Therefore, in 2015, all the extra material was removed from each stations, an updated inventory list was created, and then all equipment has sense been placed into the warehouse inventory. An inventory of all tools, appliances, and hose was completed in October 2017.

Training continues to look for new and challenging ways to prepare our personnel to be proficient strategically, tactically and at task level operations. Wildland training is working on developing ways to

provide wildland training at a lower cost and still meeting the needs of the required recertification expectations. Training and certifying all of our personnel to meet qualifications based on the expected all hazard needs identified by local, state and federal expectations.

There are certifications required and listed within the LFRA matrix: S-130/190/L-180 Basic Wildland Firefighter/Leadership, S-215 Structure Protection (WUI), and S-290 Intermediate Wildland Fire Behavior for Captains and Chiefs. A review of the specific certifications and level required is a subject for potential changes. LFRA has members that have received more specialized training and certifications. They are:

Engine Boss (13)	Firefighter Type 1 / Crew (Squad) Boss ICT5 Trainee (19)
Engine Boss Trainee (29)	Firefighter Type 1 (31)
Incident Command Team 4 (2)	Firefighter Type 1 Trainee (45)
Incident Command Team Trainee 4 (1)	Tree Faller A/FAL3 (12)
Strike Team Leader/Task Force Leader (2)	Tree Faller B/FAL2 (2)
Task Force Leader Trainee (1)	Helicopter Crew Member (1)
Firefighter Type 1 / Crew (Squad) Boss ICT5 (6)	

It is the intent of the Wildland program to increase qualified members, as the growing potential for large-scale wildland incidents develop locally, regionally and nationally. In 2017, all members completed to meet the base requirements for all NWCG qualifications by completing the L-180 and S-133 courses.

The apparatus options for LFRA are currently 1-Type 3 engine, 5 - Type 6 engines, 1 – Type 4, 4 -Type 2 tenders (2 city, 1 rural), and 8 –Type I engines. There is potential of researching the current and future apparatus needs as new stations are constructed.

Red Zone project is currently in a redevelopment process. We are looking at a different program; which was created out of South Metro Fire Rescue as a potential system. Crews completed through the Red Zone surveys north of Hwy 34 to County Road (CR) 24H to CR 27; East to Wildland Urban Interface line. Until the new system is in place, and in service we have not identified how to transfer the already collected material over from the current Red Zone program. Therefore, it is on hold. Capt. Lyons has been in the process of helping with the research and development of the new program.

LFRA will continue to place resources into Resource Ordering and System Status (ROSS) for wildland deployments. LFRA will evaluate the resources of equipment and personnel in order to determine what level of deployment to be signed up for from National, Rocky Mountain Area Coordination Center (RMAACC) - GACC, to Local. While maintaining sufficient resources within the LFRA to handle local necessities. The availability for deployments hinges on the amount of personnel within LFRA to backfill to cover the demands and needs of the system. The deployment operations for LFRA are to currently remain within local and regional locations.

2017 Accomplishments:

- Annual refresher training was completed and all paperwork submitted for Red Card certifications. All information was updated in the Incident Qualification System (IQS).
- All wildland inventory of all appliances, adapters and hose was relocated to the training area warehouse for inventory.
- During the annual WPPE inspections the fire shelters expiring or were damaged this year were replaced and new gear issued as necessary. There was a reallocation of wildland packs to the stations by the quartermaster group. The packs have been assigned to each apparatus for personnel assigned to each seat. They will no longer be individually assigned to personnel.
- Updated our dispatch information from Rocky Mountain Area – GACC (Wyoming, North Dakota, South Dakota, Nebraska and Colorado) and National deployment. We had three teams deploy to three different wildland incidents and we had on single resource deployment with the Overland Trail hand crew out of Larimer County.
- LFRA was not able to get personnel sent out for Sawyer refresher training with the Larimer County crews. The Larimer County crews were short-staffed trainings were cut. The intent is to complete all sawyers recertification on an annual basis.
- The Community Wildland Protection Plan (CWPP) was completed by Lt. Rene Macias and submitted for final approval. This was placed on hold until the maturation process was completed for LFRA. I will be meeting with the Chief Miller and Captain Mialy to determine the next course of action in getting it implemented.
- Calibration for Kestrel weather units need to be completed. There is a number of Kestrels that will need to be updated on the maintenance log in 2018 and 2019. Wildland project will work on updating the maintenance log for these on the log sheet. Re-update our maintenance plan and submitted to finance. Units have been placed on a rotational plan.
- Continuing to move forward with the NWCG Crosswalk program and we are currently in the process of:
 - All Battalion Chiefs have been updated with the completion of their FFT1, Crew Boss and Engine Boss certification
 - All members on LFRA with FFII or higher has completed or is working on completing the Firefighter Type 1 position task book
 - In 2017, all officers and acting officers completed the S-230 and S-231 online NWCG courses along with the practical's for each in January (S-230) and February (S-231).
 - We successfully passed the Colorado Division of Fire Prevention and Control audit of all wildland certifications for all Loveland Fire Rescue Authority members (city and canyon). LFRA's inspection date was January 19, 2017.
 - All members on LFRA have updated their training files for wildland for L-180, L-280 and S-133 for the audit. Chief Neal with the Canyon Battalion assisted in getting this completed in a timely fashion.
- Updated all GPS' within LFRA and BTCVFD
 - Updated to Montana 650's (city and canyon)
- Completed a replacement plan for GPS' and Kestrels
 - GPS' place on a 10 year replacement plan

- Maintenance plan also changed per the manufacture to a 3 year not yearly
 - Kestrels per manufacturer – 20 years
- Deployment options for tracking personnel available was updated on Xcel spreadsheet, but we would like to identify the possibility of utilizing Telestaff. Due to upgrade in Telestaff and other programs associated with the upgrade, this will be placed on hold until 2018.
- Updated the Colorado Resource Rate Form (2018-2021) with all apparatus and equipment for all-hazard deployment.
- All Battalion Chief' completed the position taskbooks for strike/taskforce leader.
- A number of members completed their FFT1 position taskbooks. We need to continue to work with crewmembers to complete their current taskbooks.
- Completed a S215 course for a number of members that needed it for their acting Lieutenant position.

Objectives and Timelines

Timeline	Objective	Assignment
Annual	1. Conduct annual budget review and update equipment needs and replacement plans	Capt. Goodale, Kristen Cummings, Cheryl Cabaruvias
Annual	2. Complete calibration of Kestrel's listed within the maintenance plan	Eng. Curtis, FF Heckman
Annual	3. Inspect all Wildland personal protective equipment (WPPE)	Eng. Sandoli, WPPE
Annual	4. Complete Red Card physical fitness requirements	Capt. Goodale, Capt. Carmosino
Annual	5. Complete annual refresher training as required for Red Card (LFRA - 8 hours minimum)	Eng. Sanfilippo
Annual	6. Evaluate and identify instructors for following year's instructional content (LCES, Loveland, CO State, etc.)	Capt. Goodale, Eng. Sanfilippo
Annual	7. Provide additional quarterly trainings	Eng. Sanfilippo, BC Starck, Lt. Stuart
Annual	8. Review and update CWPP	Capt. Goodale, Chief Miller, Capt. Mialy
Annual	9. Complete Red Zone/New Wildland Program – Tentatively on Hold	Capt. Lyons, Capt. Goodale
Annual	10. Train and Certify newly promoted Lieutenants to Crew and Engine Boss (Plan for after first year)	Eng. Sanfilippo
Annual	11. Evaluate LFRA's deployment opportunities	DC Ward, Capt. Goodale
Annual	12. Update or create new Colorado Resource Rate Form	Capt. Goodale
	(The items that have been struck out have been accomplished.)	
2018	13. Train and Certify remaining personnel with LFRA to Advanced Firefighter I (S131)	Capt. Goodale, Eng. Sanfilippo
2018	14. Review and update all personnel on current wildland certifications (L-180, S-133, S-290, S-215, etc.)	Capt. Goodale, Eng. Sanfilippo
2018	15. Train and Certify personnel that need S-290 and S-215 for current positions or future promotional opportunities	Capt. Goodale, Eng. Sanfilippo

2018	16. Update and develop new Wildland Blue Card and provide training on scenario's	Capt. Goodale, BC Starck, Lt. Stuart, Eng. Sanfilippo
2018	17. Continue to provide training to all to meet requirements for position task books with FFT1 - ENGB	Capt. Goodale, Eng. Sanfilippo
2018	18. Look at current progressive hose lay process and then evaluation the Smokey Pack as an optional replacement	Capt. Goodale, Eng. Sanfilippo, FF Traver Heckman, Lt. Stolz
2018	19. Identify programs for community wildland prevention such as: Ready, Set, Go program	Capt. Goodale, Eng. Sanfilippo
2018	20. Upgrade to new Red Zone/wildland mapping program	Capt. Lyons, Capt. Goodale
2018	21. Verify and update contract with company to calibrate existing and future Kestrel's	Capt. Goodale, FF Heckman, Kristen Cummings
2018	22. Review "LFRA Model: Five Point Approach" (pg. 52)	Capt. Goodale
	23.	
2019	24.	
2019	25.	
2019	26.	
2019	27.	
2019	28.	
	29.	

Objective Details

Annual Objectives:

1. **Conduct an annual budget review and update equipment needs and replacement plans –** Evaluate previous and current year's budget to identify future needs and procedures. Identify equipment and gear that need to be replaced or released from system (work with quartermaster).
2. **Complete calibration of Kestrel's listed within the maintenance plan –** The calibration process for the Kestrels takes 24 hours per unit. Based on this time consuming process it is unrealistic due to our schedules to successfully complete the recalibration process. Therefore, it has been contracted out to a third party.
3. **Inspect all WPPE –** LFRA personnel will conduct a gear inspection on an annual basis towards the first of the year. This allows new gear to be ordered and replaced before the height of the wildland season. The Quartermaster Program completes this.
4. **Complete Red Card physical fitness requirements –** LFRA personnel will complete the requirements for physical fitness to determine both fit for duty and Red Card recertification. Coordinated with Health and Fitness program to have all members completed by the end of March.
5. **Complete annual refresher training as required for Red Card –** The wildland safety refresher training is required for Red Card recertification per NWCG guide PMS 310-1. A total of 8 hours with specific material including Entrapment Avoidance, Fire Shelter Deployment,

Human Factors and physical fitness evaluation. Review of the Wildland Fire Safety Training website provides great topics for coming year. <https://www.nifc.gov/wfstar/>

6. **Evaluate and identify instructors for following year's instructional content** - In 2017, LFRA extended out to other departments (Berthoud) for annual refresher training. Learning opportunity from this is the instructor is one that needs to be evaluated prior to having them instruct. Therefore, we need to identify potential instructors for next year. (LCES, Loveland, CO State, Berthoud, PFA, etc.)
7. **Provide additional quarterly trainings** – Trainings are based on organizational areas of improvements identified during calls, other trainings, and organizational needs. Such trainings are to enhance survival and response services.
8. **Review and update CWPP** – This is a dynamic project and will need to have a review of objectives.
9. **Complete Red Zone surveys, pay for yearly maintenance fee** – Engine crews will continue to complete Red Zone surveys and work with IT program management to apply all data to MDT's as a layer for responding companies. – **Tentatively on hold**
10. **Certify newly promoted Lieutenants to Crew and Engine Boss** – This will be an as needed process as promotions transpire. There will be opportunities to have acting officers complete the process.
11. **Research and re-evaluated deployment opportunities** – Re-evaluate deployment options on an annual basis as more personnel are hired into the organization. **LFRA will assess and evaluation based on surrounding weather conditions, apparatus and personnel availability and list available to deploy either Locally, on the Rocky Mountain Area Coordination Center (RMACC) geographic area (GACC) for deployments to Wyoming, Colorado, North Dakota, South Dakota, and Kansas, or Nationally.**
12. **Update new Colorado Resource Rate Form (2018-2021)** – Research and complete the new CRRF agreement for LFRA. Continue to update as new or old apparatus come into the system. Also complete updates to the form as apparatus is reassigned.

2018 Objectives

13. **Train and Certify remaining personnel with LFRA to Advanced Firefighter I (S131)** – There are still a number of personal that need to attend the S131 Advanced Firefighter training for wildland certification. This training can be completed in house with Zoom.
14. **Review and update all personnel on current wildland certifications** – All current members meet the core certifications (S130/190, L-180, S-133). Acting Lieutenant's and higher meet core certifications and the required certification S-215. Acting Captains and higher meet all core classes, S215 and S290, which is required per the qualification matrix. It is the intent to continue to meet these certifications and move the organization to a higher level of certification with the following:
 - a. Battalion Chief's and higher to Strike/Task Force Leaders
 - b. Lieutenant's and Captain's (acting in both included) to Engine Boss
 - c. Firefighters and Engineers to Advanced Firefighter Level (FFT1)

15. **Train and Certify personnel that need S-290 and S-215 for current positions or future promotional opportunities** – As of the end of 2017, all potential candidates currently seeking or eligible to test for promotions had these two certifications. However, we will need to identify those that are interested in promoting for the new Fire Stations and provide a class or send them to outside schools.
16. **Update and develop new Wildland Blue Card and provide training on scenarios** – A new blue card sequence has been developed along with training scenarios. We need to review and update them. In addition, we need to work on additional blue card scenarios. Work with the Blue Card program to identify future classes.
17. **Continue to provide training to all members to meet requirements for position task books with FFT1 to ENGB** – There are a number of items in each position task book where trainings count toward their position task book check offs.
 - a. **We need to specifically look at developing a training towards “Lookout” responsibilities and requirements.**
 - b. **There is also a class developed to teach current and future engine bosses on proper pre-deployment, deployment and post-deployment procedures. We need to identify a training time and dates to present these to those that are deploying only**
18. **Look at current progressive hose lay process and then evaluation the Smokey Pack as an optional replacement** – We have completed the evaluation process through a number of crewmembers on the pros and cons. The strongest concern for the smoky packs was the size of the bag. We are looking at the cost to produce new ones or change items within the bag to make it more effective to our use.
19. **Start community programs for Wildland prevention and safety** – Look at the Ready, Set, Go program for possible implementation to be used with the wildland community.
20. **New Red Zone or Wildland hazard identification program** – Two different programs have been evaluated. There are pros and cons with each one of these programs, but there is still more research to perform before finalizing. We also need to identify funding to change to the new program selected.
21. **Verify and update our contract with Kestrel Calibration Company** – make sure the contract that we have is still viable, if the contract is still up current. If not work with Administration to make sure it is correct.
22. **Review the 2012 Strategic plan for wildland** - See what needs to be completed or updated for future strategic plan

LFRA,

I would like to recognize the ARFF program personnel for your commitment and dedication to this area of our operations. Your commitment to additional training and focus in the area of ARFF operations has once again paid off. The Northern Colorado Regional Airport completed their FAA inspection this afternoon and we passed with flying colors. A special thanks to Gina for putting all the information together and ensuring that we were ready for the 2018 inspection. The inspector was truly impressed with her efforts and the efforts of all of our personnel. Also would like to thank the work the Josh Valerio completed last year to make sure we were on our way for this year's evaluation. There were no noted improvement needed to our program as we move forward. The inspector was impressed with our focus and value on training, and wished other fire departments focus on this as much as we do.

Nice work everyone.

Jason M Starck
Battalion Chief – Training
Loveland Fire Rescue Authority



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Loveland Fire Rescue Authority EMS Program



EMS Future Planning Document

Battalion Chief Tim Smith – Program Manager

Lieutenant Shelby Vrem

Engineer Robbie Popp

Engineer Chris Smith

Engineer Chris Wining

Firefighter Aaron Steinbach

Firefighter Nate Unruh

Firefighter Zach Cain

Canyon Battalion Micaiah White

January 2018

Executive Summary

History of LFRA EMS Program

In 1983 Loveland Fire Rescue (LFRA) began to deliver basic EMS service to the community. During that time an individual's decision about whether or not they wanted to be an EMT-B was completely on a voluntary basis. As the years progressed, more and more firefighters became trained and certified as EMT-B's. In 1991 Chief Minor made a requirement that all paid personnel had to be a minimum of first responder. Six years later in 1997, Chief Minor updated the requirements for paid personnel and required each one to become an EMT-B. This is now the standard for all paid personnel at Loveland Fire Rescue Authority.

For many years, Thompson Valley EMS (TVEMS) and LFRA have had a close working relationship with one another: LFRA providing basic life support (BLS) and TVEMS providing advanced life support (ALS) and transport capabilities. Additionally, TVEMS was the sole provider for EMS training until 2008 when LFRA was recognized as a dedicated training site by the Colorado Department of Health and Environment. At one point in time LFRA had approximately one dozen individuals trained and certified to administer IV therapy. However, due to the difficulties associated with maintaining the level of certification, that portion of the program ceased to exist in 2011.

In addition to certifications, the LFRA EMS program has witnessed many changes in the use of equipment over the years, most notably however is the addition of Automated External Defibrillators (AED) to our apparatus in the late 1990's. At one point in time combi-tubes had been introduced into the system, but were withdrawn in 2011 due to a lack of use.

Current Status of LFRA EMS Program

The importance of sound and professional EMS delivery is a prime component of community safety and quality of life. In 2017, LFRA responded to 3,928 EMS incidents; up slightly from last year's 3,928 EMS calls, however, overall EMS call for service went down to 3% of LFRA's overall call volume. 786 incidents were motor vehicle accidents (MVA); also slightly up from last year's 786 MVA's. While not all of the MVA's required patient care, the vast majority do.

It is imperative for LFRA to continue the good working relationship with TVEMS while recognizing their high level of performance in the area of ALS Transport. Accordingly the LFRA *2012 Strategic Plan* states, "LFRA strategically envisions remaining a BLS provider in the future and providing a support system for the ALS and transport services being offered through TVEMS." The *2012 Strategic Plan* has also identified that LFRA will use "a 5:59 target for total response time" in the urban response area for EMS incidents.

2017 accomplishments:

- Revise and Renew LFRA Training Group Policy & Procedure
- Trained 184 high school kids trained in CPR
- Significant Trauma Care
- 100% Echo medicals CQI
- 4 joint TVEMS/LFRA trainings
- Canyon Battalion integrated

The Future of LFRA EMS Program

The goal of the LFRA EMS program is to provide the highest level of patient care to the citizens that we serve. Consequently the future direction of the EMS program is the continual delivery of quality EMS training to our personnel while strengthening the relationship with TVEMS in order to meet the aforementioned goal. This will be accomplished not only through training, but by providing our personnel with the best equipment possible and ensuring good quality control of EMS reports.

Objectives and Timelines

Timeline	Objective	Assignment
Annual	1. Provide quality and professional EMS training on an annual basis.	Lt. Vrem & TVEMS Training Staff
Annual	2. Ensure adequate and proper supplies of EMS equipment.	Engineer Popp
Annual	3. TVEMS provide annual CPR refresher	TVEMS Training Staff
Annual	4. Provide consistent and standard quality control of EMS reports.	Firefighter Houlihan
Annual	5. Ensure that 4 joint EMS training sessions will take place with TVEMS.	LFRA Firefighter (?)
Annual	6. Review the EMS Program	EMS Program Personnel
2015	7. Continued participation in Heart Safe Loveland	Capt. Klaas
2015	8. Program succession documents	EMS Program Personal
2015	9. LFRA Infection Control compliance	Engineer Kolb
2015	10. Significant Trauma Care class sponsored by TVEMS for Active Assailant incidents	Capt. Klaas & TVEMS Capt. Larson
2015	Develop AED Replacement/Rotation	Engineer Curtis
2015	11. Evaluate & Resume CQI	Capt. Klaas & FF Houlihan
2015	12. Situational Awareness class for TVEMS	Chief Davis & Capt. Turner
2015	13. Group Supervision class for TVEMS Command Staff	Capt. Klaas

2016	14. TVEMS provide annual CPR refresher	TVEMS Training Staff
2016	15. Continued participation in Heart Safe Loveland	Capt. Klaas
2016	16. Acquire PulsePoint Smart Phone app. for our community	Capt. Klaas
2016	17. Develop inventory/stock agreement with TVEMS	Chief Miller/T. Curtis
2016	CQI 100% of Echo medical incidents	Eng. Houlihan
2016	18. Standardized deployment for cardiac arrest emergencies	Eng. Kolb
2016	19. Significant trauma care supplies for EMS kits	Eng. T. Curtis
2016	20. Place AED's in staff vehicles (if grant awarded)	Eng. T. Curtis
2017	21. EMS skills data collection	Capt. Klaas
2017	22. EMS response time data collection	Capt. Klaas
2017	23. Continued participation in Heart Safe Community	Capt. Klaas
2017	24. EMS Emergency Operations Leadership Course	Chief Starck
2017	25. MCI Practical training and alignment with TVEMS	Capt. Simons & Klaas
2017	26. Significant Trauma Care training update & Review	Capt. Larson & Klaas
2017	27. "Firefighter Down" – CPR and Trauma Care	Capt. Forman & Klaas
2017	28. Revise and Renew LFRA Training Group Policy & Procedure	Chief Smith & Capt. Klaas
2017	29. Canyon Battalion EMS Integration	Klaas & Powers
2018	30. EMS skills data interpretation and recommendations	Chief Smith
2018	31. Continued participation in Heart Safe Community	Chief Smith
2018	32. Smaller-scale MCI practical exercises (task & tactical)	?
2018	33. EMS Emergency Operations Leadership Course	Chief Smith
2018	34. LFRA skills assessment	Lt. Vrem
2018	35. LFRA/TVEMS IGA Review/Revision	Chief Miller/Smith
2018	36. Cardiac arrest deployment refresher training	?
2018	37. Firefighter rescue out of the IDLH training	?
2019	38. Full scale functional MCI drill	
2019	39.	
2019	40.	

Objective Details

Annual Objectives

1. In conjunction with TVEMS, we will provide quality and professional training on annual basis. LFRA personnel need to meet the State of Colorado qualifications with a minimum of 36 hours of training for EMT-B in order to recertify every three years,

this includes the following topics: preparatory, OB, pediatric, trauma, patient assessment, airway, medical/behavioral, and electives.

2. With the use of the weekly ordering system, adequate and necessary EMS equipment shall be provided to each station on an as-needed replacement basis. However, effort shall be made to stock used EMS supplies from the on-scene ambulance.
3. TVEMS will provide CPR refresher training to LFRA in January of each year at no cost. This is a cost saving service TVEMS they have offered, however LFRA will be responsible the American Heart Association renewal fee/cards.
4. Provide quality control checks of EMS reports to ensure our members are writing in a succinct and professional manner while adhering to established medical protocols.
5. 4 joint trainings between LFRA and TVEMS will continue and include: Ambulance driving skills, trauma scenario with multiple patients, and cardiac arrest scenarios.
6. Annual review of the EMS program and Training Group license, to be completed by personnel assigned to the program.

2015 Objectives

1. ~~TVEMS provide annual CPR refresher training.~~
2. ~~All three components that make up the EMS program (Training, Supplies, & Quality Assurance) will be drafting documents that outline their roles and responsibilities. This will include items such as vendors, contacts, guides, etc.... Currently, if one of us leaves the program, we have no documents to pass on (tribal knowledge). This was accomplished through the Accreditation Performance Indicators.~~
3. ~~After the Ebola scare at the end of 2014, we found out LFRA may have a few gaps with our infectious disease control compliance. We will be evaluating this for LFRA and ensuring we are meeting the needs of the industry standards. This will include annual N95 mask fit testing, annual infectious disease control training, and possibly some additional PPE on the front line apparatus. We did do our annual infectious disease class, but did not do N95 fit testing. We will try to accomplish this in 2016. Also we are still working with the Hazmat program manager to identify what, if any PPE we may carry for infectious disease. This item was a result of the Ebola scare last year.~~

4. ~~TVEMS has committed to providing all LFRA firefighter with significant trauma care training. This training is needed as part of the active assailant response. This course will be sponsored by TVEMS and will mimic the Tactical Combat Casually Care curriculum. TVEMS TEMS taught 9 classes for LFRA.~~
5. ~~Currently we have a maintenance program for our AED's, but we still need to develop a replacement/rotation plan for all front line apparatus AED's. This was developed with the assistance of Administrative Director Wheeler.~~
6. ~~LFRA will reinstate our quality control evaluations for EMS reports and EMS protocols. We currently do not have anyone with the knowledge on how this is done. The last person that did this in the organization has moved on and left nothing behind. We will be starting over and building this back up. We will also develop documents as guides on how we practice and measure LFRA's quality control. This was developed by Eng. Houlihan.~~
7. ~~TVEMS has request Chief Davis' Situational Awareness class. This is an additional request based of his Blue Card Awareness class in 2014. Chief Davis taught these classes for TVEMS.~~
8. ~~LFRA will provide TVEMS Command Staff a Group/Division Supervision class. The intent behind this class is to help their staff understand our expectations and help define their role and responsibility as Medical Group Supervisor.~~

2016 Objectives:

1. ~~LFRA has sent several members to CPR instructor class for the past several years. This has proven costly, time consuming and a struggle to balance out each shift with instructors. TVEMS already has CPR instructors and has offered to provide this training at no cost. Not only is this cost effective for LFRA, but a continued benefit of our relationship with TVEMS. TVEMS agreed to provide this and will continue to do so in 2017.~~
2. ~~Continue to participate in the Heart Safe Community. We will hopefully be receiving a grant for 18 AED for LFRA support vehicles. We also provide a booth at the annual Emergency Preparedness Expo and donate to the Mckee Foundation Gala. I would also like to help TVEMS host a few "hands only" CPR classes when there is influx of request. LFRA continued to participate in this innitavtive by training 270 high school students CPR, participating in the expo and donating to the Gala.~~
3. ~~I would like to acquire the smart phone PulsePoint app. I believe this goes hand and hand with the heart safe community and bridges the gap between the people we~~

train in CPR, provide AED's to by getting them notified that their in the area of a sudden cardiac arrest incident. This app. also has other benefits like public alerting for major incidents and public relations events.

4. ~~We need to have something in writing that identifies what EMS supplies TVEMS will and will not stock or replace for LFRA. This was a point of confusion a few times in 2015. A document would help us better manage our EMS supplies. This was done in email format and is still somewhat confusing. With the rise in EMS supplies, TVEMS asked we change how we obtain our stock used on calls. LFRA may need to consider future budgeting for some EMS supplies that expire or are used in training.~~
5. ~~CQI 100% of our Echo medical incidents. Due to having only one person CQI, we have been CQI'ing only a portion of these incidents. Now that we have modified the way LFRA reviews EMS reports (Officer review), we can now dedicate more time on the high acuity incidents such as Echo medicals. This has been accomplished with the addition of another EMS program person. This has proved effect and we are seeing better analyzation of data and more detailed documentation.~~
6. ~~Standardize our deployment on cardiac arrest, much like our tactical deployment on structure fires or extrications. Cardiac arrest interventions all required a similar initial treatment plan or initial sequence; CPR, defibrillation and airway management. We can standardize our deployment with some standard actions and deployment. This will be done in conjunction with our partners at TVEMS. This was accomplished for LFRA, however; TVEMS opted not to participate. This has proven to increase the efficiency of crew deployment for cardiac arrest and better communication to arriving ALS care providers. This was successfully vetted out during our joint cardiac arrest trainings with TVEMS. It 'm still hopeful that TVEMS and LFRA can collaborate on a standard deployment model.~~
7. ~~Place the significant trauma care medical supplies in the apparatus medical kits. These kits were primarily set up for our RTF kits, but can easily be used and are more likely to be used on daily trauma calls. This will also allow us to have a resupply for our RTF kits in the event we have a large scale active assailant or MCI. This was accomplished and already approved effective by being utilized on GSW victim. The Trauma Surgeon reported that the quick application of hemostatic gauze had a direct impact in saving the patient's life.~~
8. ~~We are in the final stages of being awarded a heart safe community grants for 18 AED. These AED will be place in all of our staff and support vehicles. This was accomplished and we placed AEDs in 18 LFRA dept. staff and support vehicles.~~

2017 Objectives:

1. *By enhancing our LFRA EMS reporting procedures at the end of 2015, we now have a years' worth of data that we need to collect and begin to track it.* This did not get done in 2017. As a Captain, I did not have access to the data collection software.

2. ~~Continue to participate in the heart safe community initiative by raising awareness, educating the public with CPR training, awarding heart safe funds for AED's and holding a position on the board.~~ LFRA participated in HSC board meeting and at 5 HSC CPR trainings.
3. *Last year, LFRA provided an EMS Group/Division supervisor class to the Officers at TVEMS. An item that came out of that class was more emergency scene leadership classes for TVEMS. I would like to put on a few classes for them this year. Conceptually, this course will cover leadership, situational awareness, tactical decision making under stress, and a few practical scenarios.*-This did not get accomplished in its entirety, however; we completed a hands-on training for Med Group Supervisor.
4. *An item that came out of last year tri-annual airport emergency drill was a need to improve our MCI operations. I would like to work with TVEMS on our triage, tracking and resource management in some classroom and practical training that aligns the two agencies.* This did not get completed. We are still working with TVEMS on some potential protocol changes (START Triage) and some technology patient tracking mechanisms.
5. *LFRA has focused a fair amount of time to firefighter emergencies on the fire ground. This includes MAYDAY communication, firefighter survival, and firefighter rescue. I would like to include firefighter patient care as the next step in our firefighter emergency training (CPR and Trauma Care).* This did not get accomplished. The month we had this scheduled, the training was bumped for water supply training that was need for accreditation.
6. ~~LFRA's Training Group license expires in 2017. The EMS program manager will need to work with the Training Battalion to revise and renew LFRA Training Group Policy & Procedure.~~ This was accomplished and the Training Group License was renewed.
7. ~~With the inclusion of the Canyon Battalion into LFRA, the LFRA EMS program manager will need to work with the Canyon Battalion EMS coordinator to incorporate the canyon into the LFRA EMS program. Items that need to be looked at are budget, CE training, supplies, equipment and certifications.~~ This objective was met. The budget, supplies, equipment and certifications have all been standardized.

2018 Objectives:

1. LFRA EMS reporting procedures have been implemented since the end of 2015. There is two years' worth of data to analyze and identify trends and variances with our EMS skills, training and equipment.
2. Continue to participate in the heart safe community initiative by raising awareness, educating the public with CPR training, awarding heart safe funds for AED's and holding a position on the board.
3. Conduct smaller-scale MCI practical exercises to refresh the TVEMS & LFRA line staff task and tactical skill for MCI.

4. Provided and TVEMS operational leadership classes to the Officers at TVEMS. This course could cover leadership, situational awareness, tactical decision making under stress, and incorporate few practical scenarios (Blue Card sims).
5. LFRA needs to conduct EMS skills assessment and make this an annually task to be compliant with Training Group license.
6. TVEMS/LFRA IGA revision to include EMS supplies, training and operational responsibilities/commitments.
7. Cardiac arrest deployment refresher training.
8. Firefighter rescue outside of the IDLH environment. We need to train on firefighter patient care after the firefighter has been rescued. This is a missing piece to our firefighter emergency training (CPR and Trauma Care).

DRAFT



FIRE ADMINISTRATIVE DIVISION

by Fire Chief Mark Miller

OVERVIEW

May Leadership Truism

"We are here to make a difference, and mend the fractures of the world, one act at a time".

ADMINISTRATIVE & HR MATTERS

• LFRA, Loveland Police Department and Municipal Court (Judge Geri Joneson) hosted the other members of the Executive Leadership Team (ELT), for a few hours of show and tell on May 29th. The purpose of the day was to introduce our peers to some of the intricacies of each of our agencies. We started the day with several mock summons and conjured-up accusations by Judge Joneson. This provided a perfect snapshot into "a life in the day of a Municipal Judge".

That was followed by the ELT getting a chance to look at much of the complex equipment, with several hands-demonstrations relative to police and fire tools of the trade. We all walked away with a better understanding of each other's world. Mayor Marsh, and Council Member Johnson (and daughter Frankie), Council Member Olson, and Council Member Wright attended as well. Thanks for all the staff work that went into making it happen, thanks to everyone being good sports (see pics).

• May was a busy month conducting job analysis or a new admin position, as well as getting ready for two new LFRA employees, including one CSD Inspector position and one Emergency Management Specialist (to replace a vacant position). Both of the positions will start June 4th – more on their particulars next month!

FIRE AND RESCUE ADVISORY COMMISSION (FRAC)

• FRAC members have been busy the past couple months with a couple projects identified in the 2018

Strategic Plan. Specifically, they have done some analysis regarding the current location of fire station 3. At some point, the station is due to be demolished and rebuilt due to the fact it has outlived its useful/functional life. To that end, it made sense to look at the current location to determine whether it was still serving that area appropriately concerning response times, lot size, etc.

Additionally, FRAC was tasked with doing analysis regarding future growth projections along the HWY 402 corridor, and the south/southeast area with our Urban Response Area. This is quite an undertaking, and much research and analysis has, and is being done. Eventually, FRAC will provide LFRA Executive staff and Board with a "white paper" indicating their findings. Thanks to the entire FRAC commission for their passion and commitment to this important project. Strong work!

EXECUTIVE LEADERSHIP TEAM TRAINING





FIRE OPERATIONS DIVISION

by Division Chief Greg Ward

SIGNIFICANT INCIDENT RESPONSES

May 21, 2018

The Loveland Emergenc Communications Center dispatched LFRA and Thomson Valley EMS to a rope rescue incident at approximately 8:45PM, dispatchers received reports of a group of hikers had become stranded on the north side of the river and could not traverse back up the steep mountain side to safety. Responders arrived on scene to find a group of five hikers, including two small children needing rescue from the north side of the river. Mutual aid dive rescue resources were requested from Larimer County Dive Rescue and Estes Valley Fire District. Swiftwater rescue swimmers accessed the hikers to ensure that they were uninjured. Crews utilized the rapid deployment watercraft and a four rope system to transport the hikers to safety.



May 22, 2018



Dispatchers received a 911 from a neighbor reporting a house fire on West 11th Street at approximately 8AM, Engine 1 arrived on scene of a small house with smoke coming from the eaves and attic space. Crews performed immediate fire attack and search operations, the main body of fire was located on the main level of the house in a bedroom. The house sustained significant smoke damage.

May 23, 2018



LFRA and Berthoud Engine 1 were dispatched to a house fire just before 4PM, reported by the occupants of the house. Crews arrived on scene and discovered a fire in the basement furnace room. The fire appeared to have burned for some time until running out of oxygen. The furnace room sustained significant fire and smoke damage, the rest of the structure had limited smoke damage.

May 26, 2018



LFRA responded with the Poudre Fire Authority to a reported house fire at approximately 6:45Am. Crews located a fire in the walls that had extended to the attic space. LFRA assisted with completing the primary search of the structure and overhaul operations.



FIRE OPERATIONS DIVISION

by Division Chief Greg Ward

SIGNIFICANT INCIDENT RESPONSES

May 26, 2018



LFRA was dispatched to a house fire in Windsor to assist Windsor-Severance Fire Rescue. Crews worked to extinguish a garage fire that extended to the attic of the house. The structure received significant fire and smoke damage. LFRA Engine 6's crew performed overhaul and ventilation operations, Chief 7 and Battalion 1 assisted the incident commander.

May 28, 2018



LFRA, TVEMS and Larimer County Park Rangers were dispatched at approximately 10:45Am to a report of an injured mountain biker on the Devils Backbone Trail. Rescuers did not receive a specific location on the trail of the injured rider. A ranger riding a mountain bike

located the injured rider within 20 minutes of arriving on scene. The ranger was able to direct the LFRA rescue all-terrain vehicle to the patient for transport off of the trail to the parking lot. A TVEMS medic on board the all-terrain rescue vehicle was able to provide treatment and monitoring during the transport off of the trail.

May 30, 2018



A dive rescue response was dispatched to the Big Thomson River and Namaqua Road for a vehicle upside-down in the river. Responders arrived on scene and located a vehicle in the river, the driver of the vehicle was out and safely on the shore. LFRA dive rescue personnel placed haz mat containment booms in the river to contain fluid leaks from the vehicle and assisted with the removal of the car from the river. LFRA operated on scene for approximately 1.5 hours.

Welcome to New Firefighter, Linda Crane



Please help us welcome Firefighter Linda Crane to the LFRA family! Linda is finishing up the final stages of the LFRA Firefighter Academy. Once the academy is complete, she will be assigned to Engine 5, B Shift.



COMMUNITY SAFETY DIVISION

by Division Chief Ned Sparks

FIRE PREVENTION

Code Enforcement – Article written for the City Update with the assistance of Patty Parker in Courts, Lisa Schwartz and Tom Hacker in PIO and Tim Brown from LPD about illegal fireworks. Review and redefining the Fire Safety Program and inclusion of pre-plans for emergency incidents – requirement by ISO and one of the areas evaluated during accreditation. Reorganizing CSD workload and processes with the departure of one employee and the addition of two others.

Plan Review – High profile projects; higher interest in hangars at the airport, multiple projects in 2534, increase in County projects. Safety concerns with the Lovelander Hotel being addressed.

Fire Investigations – Continue arson investigation for West 11th and continued investigation of West Co Rd 20.

EMERGENCY MANAGEMENT

Summary of Accomplishments - Several meetings were attended this month to work toward building resiliency for Loveland's OEM, including an upgrade to the FAB emergency generator, ongoing maintenance needs of the MCV, the integration of GIS data sets during EOC activations, laptop software updates, and a discussion about a potential site for a backup EOC.

Mass Gathering Plan - was finalized and distributed. This plan will address the response to events such as a mass shooting or a vehicle driven into a crowd. The next step is to develop its companion document, a Mass Gathering Incident Recovery Plan.

Wildfire risk reduction and public education program - document created and provides numerous recommendations for developing and delivering the most effect method and means for a program tailored to meet the needs of the LFRA response district. This document was shared with LFRA command staff.

SAFER Grant application - was successfully submitted and requests the funding of wages and benefits for 12 FFs to staff station 7 (9 FFs and 3 rovers). We will receive an answer in the next 2 to 6 months on if we are awarded or not

EXECUTIVE LEADERSHIP TEAM TRAINING, cont.



Your Personal **Wildland Fire ACTION GUIDE**



Ready



Set



Go!



8th Edition

Ready, Set, Go!



Saving Lives and Property through Advance Planning

This publication was prepared by the International Association of Fire Chiefs' RSG! Program and the USDA Forest Service, U.S. Department of the Interior, and the U.S. Fire Administration.

To learn more about the Ready, Set, Go! Program and its partners, visit www.wildlandfireRSG.org.

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The fire season is a year-round reality, requiring firefighters and residents to be prepared for the threat of wildland fire.

Each year, wildland fires consume hundreds of homes in the Wildland-Urban Interface (WUI) – a high-risk wildfire area containing natural fuels where houses are built. Studies show as many as 80 percent of the homes lost to wildland fires could have been saved if their owners had followed simple fire-safe practices. In addition, wildland fire related deaths occur because people wait too long to leave their homes.

Your fire department takes every precaution to help protect you and your property from wildland fire. However, in a major wildland fire event, there simply may not be enough fire resources or firefighters to defend every home.

Successfully preparing for a wildland fire enables you to take personal responsibility to protect yourself, your family, and your property. In this Action Guide, we provide tips and tools you need to prepare for a wildland fire threat; to have situational awareness when a fire starts; and to act early as directed by local officials.

The Ready, Set, Go (RSG)! Program works in collaboration with existing wildland fire public education efforts. RSG is brought to you in partnership with the fire service, and amplifies the common goal we all share for wildland fire preparedness. Visit us at www.wildlandfireRSG.org to learn more about becoming prepared.

The IAFC's Wildland Fire Programs offer guidance, insight, and resources that support your local fire department in their outreach, mitigation, and response efforts. Visit www.iafc.org/wildland to learn more about wildland fire risk reduction and to access our resources.

You are a key leader to creating change. You and the members of your community can take simple steps to increase your wildland fire preparedness. Your knowledge and actions may empower others to follow your lead, increasing their safety and potentially decreasing property loss and damage. Being prepared for a wildland fire is vital, as responder resources can be spread thin. Taking advanced personal action can result in improved safety for all involved.

Fire is, and always has been, a natural occurrence. Hills, canyons, and forests burned periodically long before homes were built. Wildland fires are fueled by a build-up of dry vegetation and driven by seasonal hot and dry winds, which are extremely dangerous and difficult to control. Many people have built homes in the WUI without fully understanding the impact a fire may have on their lives. Few have adequately prepared their families and homes for a timely evacuation in the event of a wildland fire.

It is not a question of if, but when, the next major wildland fire will occur. Through advanced planning, understanding, and preparation we can all be partners in the wildland fire solution. The tips on the following pages are designed to help create awareness and a safer environment for you, your family, and fire personnel.

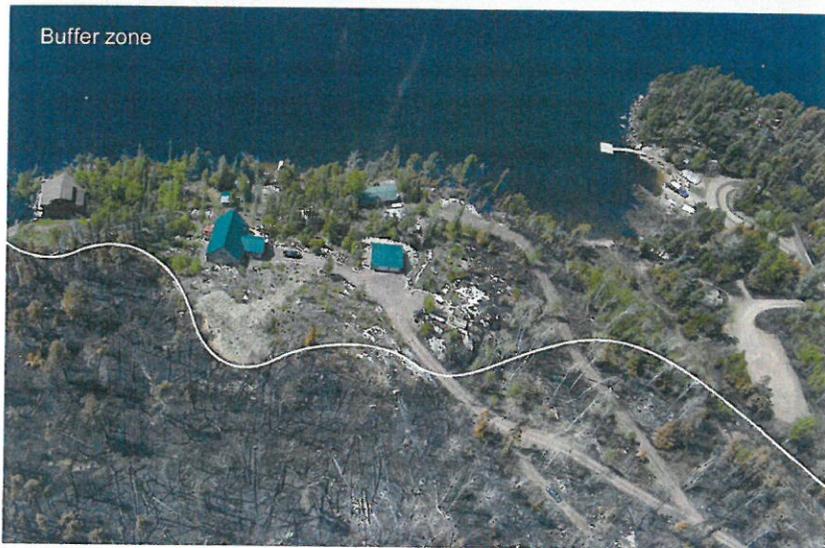


Defensible space around property

Living in the Wildland-Urban Interface and Ember Zone

Ready, Set, Go!

begins with a house that firefighters can defend.



Buffer zone

Defensible Space Works

If you live next to a dense vegetation area, the Wildland-Urban Interface (WUI), you should provide firefighters with the defensible space they need to protect your home. Create a buffer zone by removing weeds, brush, and other vegetation. This helps keep the fire away from your home and reduces the risk from flying embers. Fire preparedness education programs provide valuable guidance on property enhancements.

Homes on the Wildland Boundary are at Risk too

A home within one mile of a natural area is considered a part of an ember zone, where wind-driven embers can be a risk to your property. You and your home must be prepared well before a fire occurs. Ember fires can destroy homes or neighborhoods far from the actual front of the fire. Prepare your home with the tips from the following pages.



Ember damage, but home saved

Consider This

Unmanaged vegetation between and around homes increases the risk of wildland fire spreading throughout the community, and endangering lives and property. Pre-fire planning, fuels management, and sufficient fuel breaks allow firefighters the space they need to keep fire from entering the community.

“Fire preparedness education programs provide valuable guidance on property enhancements.”

—Nick Harrison, Texas A&M Forest Service

Create Defensible Space

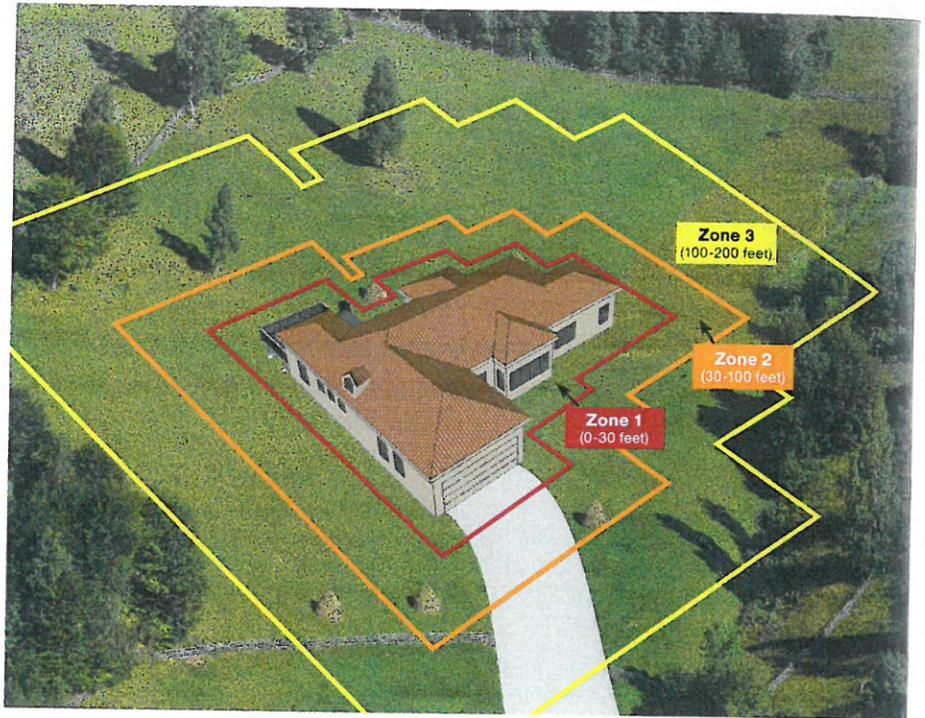
Defensible space is the space between a structure and the wildland area that creates a sufficient buffer to slow or halt the spread of fire to a structure.

It protects the home from igniting due to direct flame or radiant heat. Defensible space is essential to help protect a structure during a wildland fire.

You can create defensible space by removing weeds, brush, and other vegetation from around your property.

Defensible space is made up of three zones around your home; Zone 1: 0-30ft, Zone 2: 30-100ft, and Zone 3: 100-200ft.

Follow the advice under each zone to help protect your home.



ZONE 1

0-30 feet around your home or to property line

- Use hard surfaces such as concrete or noncombustible rock mulch 0-5 feet around home.
- Use non-wood, low-growing herbaceous vegetation. Succulent plants and ground covers are good choices.
- Store firewood and other combustible materials at least 30 feet away from your home, garage, or attached deck.
- Trim back touching or overhanging branches from the roof to a distance of at least 10 feet.

ZONE 2

30-100 feet around your home or to property line

- Create vegetation groups, "islands," to break up continuous fuels around your home.
- Remove ladder fuels to create a separation between low-level vegetation and tree branches to keep fire from climbing trees.
- Remove leaf and needle debris from the yard.
- Keep grass and wildflowers under 8 inches in height.

ZONE 3

100-200 feet around your home or to property line

- Create and maintain a minimum of 10 feet between the tops of trees.
- Remove ladder fuels, creating a separation between low-level vegetation and tree branches to keep fire from climbing up trees.
- Remove dead trees and shrubs.

Ladder Fuels

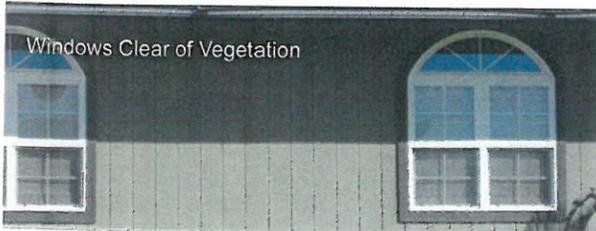
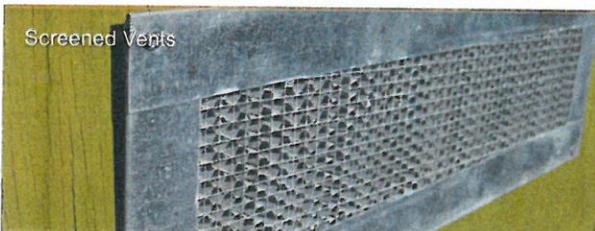
Ladder fuels allow the fire to climb from the surface fuels into the upper portion of the tree. They can be eliminated by increasing horizontal and vertical separation between vegetation.



Making Your Home Fire Resistant – Harden Your Home

Construction materials and the quality of the defensible space surrounding the structure are what increases the chance of survival in a wildland fire. Embers from a wildland fire will find the weak spot in your home's fire protection scheme and can easily catch because of small, overlooked, or seemingly inconsequential factors. Below are some measures you can take to safeguard your home.

Home Improvements



BALCONIES and DECKS

Construct your balconies or decks with noncombustible materials, and do not store combustible items underneath them. If there is a fire threat, bring any furniture into your home. Embers can collect in or on combustible surfaces, or beneath decks and balconies, igniting the material and entering the home through walls or windows.

To harden your home even further, consider protecting your home with a residential fire sprinkler system. In addition to extinguishing a fire started by an ember that enters your home, a sprinkler system can help protect you and your family year-round from any home fire.

ROOFS

Roofs are the most vulnerable surface where embers land because they become lodged and can start a fire. Roof valleys, open ends of barrel tiles, and rain gutters are all points of entry. **Block off all open spaces, and regularly inspect these areas.**

EAVES

Embers can gather under open eaves and ignite combustible material. **Enclose your eaves to prevent ember intrusion, and regularly clear away debris that collects here.**

VENTS

Embers can enter the attic or other concealed spaces and ignite combustible materials. Vents in eaves and cornices are particularly vulnerable, as are any unscreened vents. **Use corrosion resistant metal mesh to screen all vents, and check them regularly to remove any debris that collects in front of the screen.**

WALLS and FENCING

Combustible siding or other combustible/overlapping materials provide surfaces and crevices for embers to nestle and ignite. **Build or remodel with noncombustible or ignition-resistant materials wherever possible, regularly clear away debris from any crevices, and perform annual upkeep.**

WINDOWS and DOORS

Embers can enter gaps in doors, including garage doors. **Install weather proofing around your garage door, and if your garage is attached to your home make sure the interior door is solid and on self-closing hinges.**

Plants or combustible storage near windows can be ignited from embers and generate heat that can break windows and/or melt combustible frames. **Wherever possible, use dual-paned windows with tempered glass, as they are less likely to shatter from radiant heat.**

Tour a Wildland Fire Prepared Home

Home Site and Yard: Ensure all vegetation within 100 feet around your home or to your property line is well-managed. This area may need to be enlarged in severe fire hazard areas. This may mean considering the impact a common slope or neighbor's yard may have on your property during a wildland fire. Remember the importance of routine maintenance. Keep woodpiles, propane tanks, and combustible materials away from your home and other structures such as detached garages, barns, and sheds. Ensure trees are away from power lines.

Inside: Keep working fire extinguishers on hand. Install smoke alarms on each level of your home and near bedrooms. Test them monthly and change the batteries twice a year.

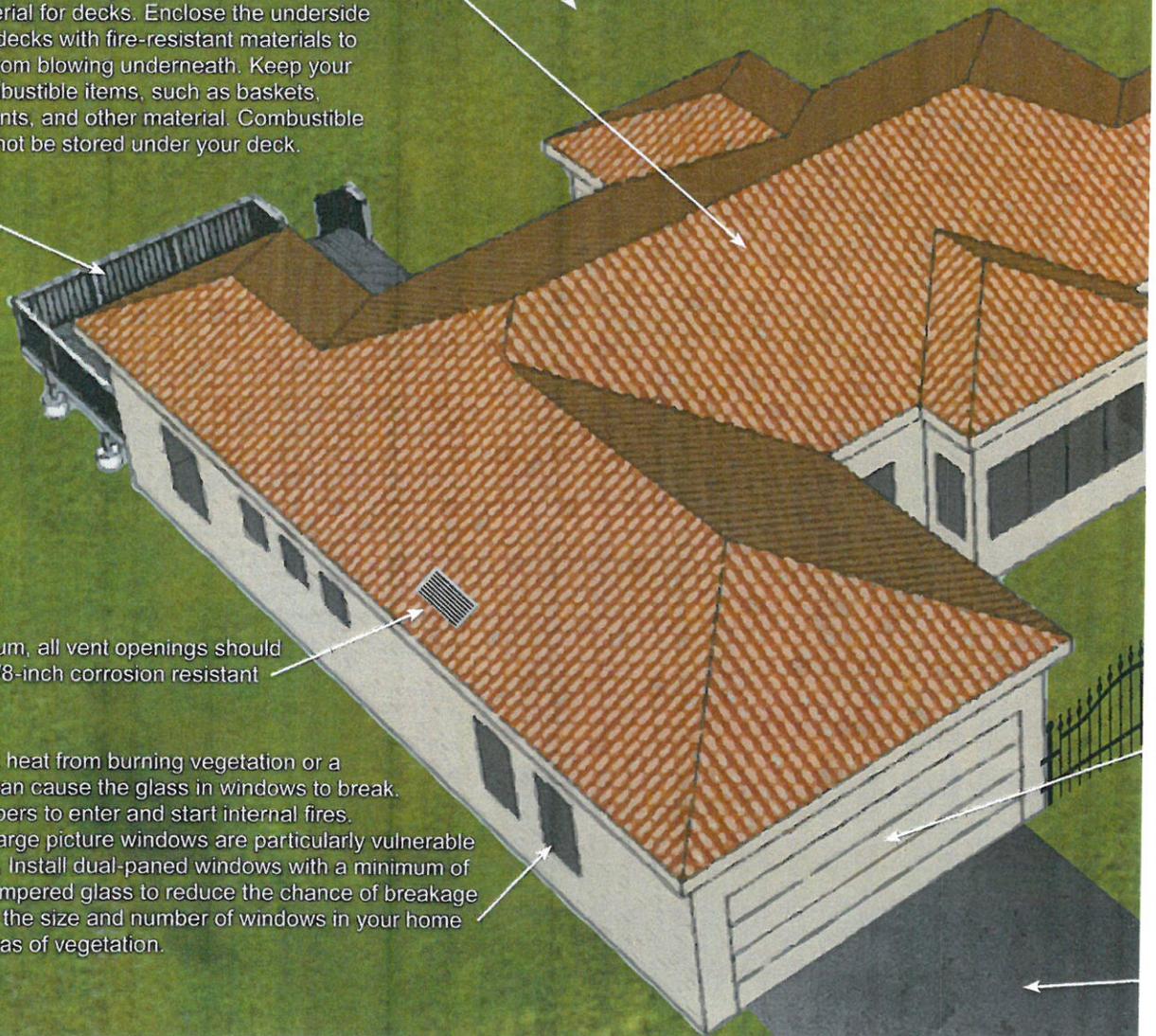
Address: Make sure your address is clearly visible from the road and constructed of noncombustible materials. Reflective numbering is recommended.

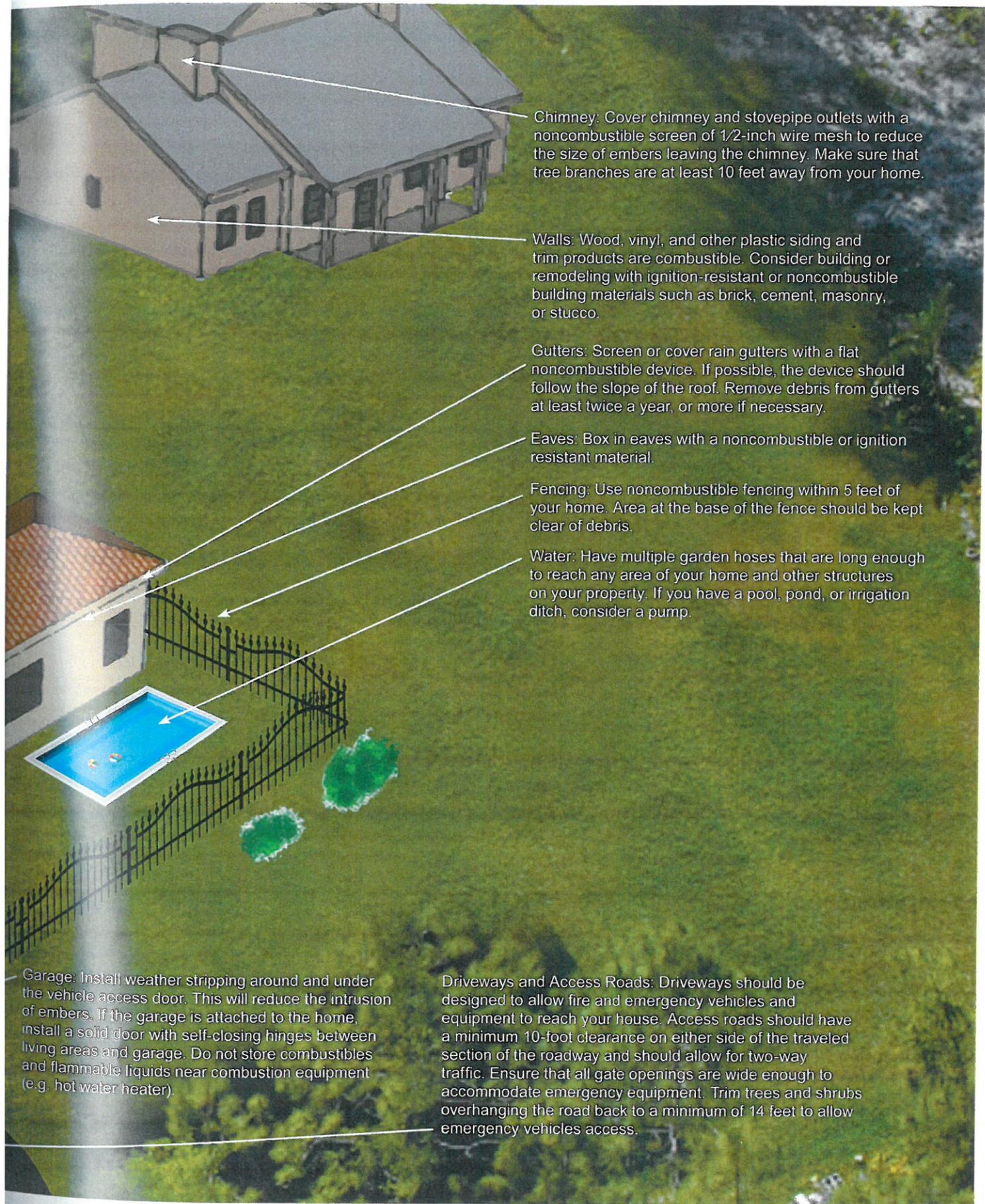
Roof: Use a Class A fire-rated roof covering, such as composition shingles, metal, or tile, when roofing or re-roofing. Block any spaces between roof decking and covering to minimize ember intrusion. Clear pine needles, leaves, and other debris from your roof and gutters. Prune tree branches within 10 feet of your roof.

Deck/Patio Cover: Use heavy timber or noncombustible construction material for decks. Enclose the underside of balconies and decks with fire-resistant materials to prevent embers from blowing underneath. Keep your deck clear of combustible items, such as baskets, flower arrangements, and other material. Combustible materials should not be stored under your deck.

Vents: At a minimum, all vent openings should be covered with 1/8-inch corrosion resistant metal mesh.

Windows: Radiant heat from burning vegetation or a nearby structure can cause the glass in windows to break. This will allow embers to enter and start internal fires. Single-pane and large picture windows are particularly vulnerable to glass breakage. Install dual-paned windows with a minimum of one pane being tempered glass to reduce the chance of breakage during a fire. Limit the size and number of windows in your home that face large areas of vegetation.





Chimney: Cover chimney and stovepipe outlets with a noncombustible screen of 1/2-inch wire mesh to reduce the size of embers leaving the chimney. Make sure that tree branches are at least 10 feet away from your home.

Walls: Wood, vinyl, and other plastic siding and trim products are combustible. Consider building or remodeling with ignition-resistant or noncombustible building materials such as brick, cement, masonry, or stucco.

Gutters: Screen or cover rain gutters with a flat noncombustible device. If possible, the device should follow the slope of the roof. Remove debris from gutters at least twice a year, or more if necessary.

Eaves: Box in eaves with a noncombustible or ignition resistant material.

Fencing: Use noncombustible fencing within 5 feet of your home. Area at the base of the fence should be kept clear of debris.

Water: Have multiple garden hoses that are long enough to reach any area of your home and other structures on your property. If you have a pool, pond, or irrigation ditch, consider a pump.

Garage: Install weather stripping around and under the vehicle access door. This will reduce the intrusion of embers. If the garage is attached to the home, install a solid door with self-closing hinges between living areas and garage. Do not store combustibles and flammable liquids near combustion equipment (e.g. hot water heater).

Driveways and Access Roads: Driveways should be designed to allow fire and emergency vehicles and equipment to reach your house. Access roads should have a minimum 10-foot clearance on either side of the traveled section of the roadway and should allow for two-way traffic. Ensure that all gate openings are wide enough to accommodate emergency equipment. Trim trees and shrubs overhanging the road back to a minimum of 14 feet to allow emergency vehicles access.

Ready, Set, Go!

Create Your Own Action Guide

Now that you have done everything you can to prepare your home, it is time to prepare your family. Your Wildland Fire Action Guide must be prepared with all members of your household well in advance of a fire. Use these checklists to help you prepare and gain situational awareness in the threat of wildland fire.

Ready – Get Ready

- Create a Family Disaster Plan that includes meeting locations and communication plans and rehearse it regularly. Include the evacuation of large animals such as horses in your plan.
- Have fire extinguishers on hand and teach your family how to use them.
- Ensure that your family knows where your gas, electric, and water main shut-off controls are and how to use them.
- Plan and practice several different evacuation routes.
- Designate an emergency meeting location outside the fire hazard area.
- Assemble an emergency supply kit as recommended by the American Red Cross. Keep an extra kit in your vehicle.
- Appoint an out-of-area friend or relative as a point of contact so you can communicate with family members.
- Maintain a list of emergency contact numbers in your emergency supply kit.
- Have a portable radio or scanner so you can stay updated on the fire and weather emergency announcements.



Set – Be Prepared

- Monitor fire weather conditions and fire status. See www.inciweb.nwccg.gov. Stay tuned to your TV or local radio stations for updates.
- Evacuate as soon as you are 'set!'
- Alert family and neighbors.
- Dress in appropriate clothing (i.e., clothing made from natural fibers, such as cotton, and work boots). Have goggles and a dry bandana or particle mask handy.
- Ensure that you have your emergency supply kit on hand that includes all necessary items, such as a battery powered radio, spare batteries, emergency contact numbers, and a lot of drinking water.
- Remain close to your house, drink plenty of water, and ensure your family and pets are accounted for until you are ready to leave.

INSIDE CHECKLIST, IF TIME ALLOWS

- Close all windows and doors, leaving them unlocked.
- Remove all shades and curtains from windows.
- Move furniture to the center of the room, away from windows and doors.
- Turn off pilot lights and air conditioning.
- Leave your lights on so firefighters can see your house under smoky conditions.

OUTSIDE CHECKLIST, IF TIME ALLOWS

- Bring combustible items from the exterior of the house inside (e.g., patio furniture, children's toys, door mats, etc.) If you have a pool, place combustible items in the water.
- Turn off propane tanks and other gas at the meter.
- Don't leave sprinklers on or water running. They can effect critical water pressure.
- Leave exterior lights on.

- Back your car into the driveway to facilitate a quick departure. Shut doors and roll up windows.
- Have a ladder available.
- Patrol your property and extinguish all small fires until you leave.
- Cover attic and ground vents with pre-cut plywood or commercial seals if time permits.

IF YOU ARE TRAPPED: SURVIVAL TIPS

- Stay in your home until the fire passes. Shelter away from outside walls.
- Bring garden hoses inside house so embers and flames do not destroy them.
- Look for spot fires and extinguish if found inside house.
- Wear long sleeves and long pants made of natural fibers such as cotton.
- Stay hydrated.
- Ensure you can exit the home if it catches fire (remember if it's hot inside the house, it is four to five times hotter outside).
- Fill sinks and tubs for an emergency water supply.
- Place wet towels under doors to keep smoke and embers out.
- After the fire has passed, check your roof and extinguish any fires, sparks or embers. Check the attic as well.
- If there are fires that you cannot extinguish, call 9-1-1.

Go! – Act Early

By leaving early, you give your family the best chance of surviving a wildland fire. You also help firefighters by keeping roads clear of congestion, enabling them to move more freely and do their job in a safer environment.

WHEN TO LEAVE

Do not wait to be advised to leave if there is a possible threat to your home or evacuation route. Leave early enough to avoid being caught in fire, smoke, or road congestion. If you are advised to leave by local authorities, do not hesitate!

WHERE TO GO

Leave to a predetermined location (it should be a low-risk area, such as a well-prepared neighbor or relative's house, a Red Cross shelter or evacuation center, motel, etc.)

HOW TO GET THERE

Have several travel routes in case one route is blocked by the fire or by emergency vehicles. Choose the safest route away from the fire.

WHAT TO TAKE

Take your emergency supply kit containing your family and pet's necessary items.



EMERGENCY SUPPLIES LIST

The American Red Cross recommends every family have an emergency supply kit assembled long before a wildland fire or other emergency occurs. Use the checklist below to help assemble yours. For more information on emergency supplies visit www.redcross.org/get-help.

- Three-day supply of water (one gallon per person, per day) and non-perishable food for family (3 day supply).
- First aid kit and sanitation supplies.
- Flashlight, battery-powered radio, and extra batteries.
- An extra set of car keys, credit cards, cash, or traveler's checks.
- Extra eyeglasses, contact lenses, prescriptions, and medications.
- Important family documents and contact numbers, including insurance documents.
- Map marked with evacuation routes.
- Easily carried valuables and irreplaceable items.
- Personal electronic devices and chargers.
- Note: Keep a pair of old shoes and a flashlight handy in case of a sudden evacuation at night.

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My Personal Wildland Fire ACTION PLAN

Write up your Wildland Fire Action Plan and post it in a location where every member of your family can see it. Rehearse it with your family.

During high-fire-danger days in your area, monitor your local media for information and be ready to implement your plan. Hot, dry, and windy conditions create the perfect environment for a wildland fire.

IMPORTANT PHONE NUMBERS

Out-of-Area Contact _____ Phone: _____

Work _____

School _____

Other _____

EVACUATION ROUTES

1 _____

2 _____

3 _____

WHERE TO GO

LOCATION OF EMERGENCY SUPPLY KIT(S)

NOTES

Contact your local fire department for more tips to prepare before a wildland fire.



My Personal Wildland Fire ACTION PLAN

Residential Safety Checklist

Tips To Improve Family and Property Survival During A Wildland Fire

Ready

Get ready

- Dispose of or relocate combustible material from around your home.
- Trim trees & bushes allowing ample space between your home & landscape vegetation.

Set

Be prepared

- Arrange your 'Go-Kit' with prescription medication, emergency supplies, important documents, and other essential items.
- Create your own action plan; involve your family & practice exit plans from the home & neighborhood frequently.
- Be sure you're familiar with local emergency notification systems & evacuation systems.

Go!

Act early

- Get your 'Go-Kit' and leave well before the threat approaches following a planned accessible route.
- Stay aware of the situation and follow your plan.
- Cooperate with local authorities during evacuation & re-entry processes.

Ready, Set, Go!

www.wildlandfireRSG.org



of

Loveland Fire Rescue Authority

Special Operations Program

February 2nd, 2018



Future Planning Document – BC Tim Smith (2017) and BC Rick Davis (2018)

Rick Davis – Program Leader
Lieutenant Jeremy Adent – Haz Mat Team Leader
Lieutenant Dave Friedrichsen – Urban Search & Rescue Team Leader
Lieutenant Matt Hintzman – Dive Team Leader

Executive Summary

History:

The Special Operations Team (SOT) was created in 2005 and the first Rescue School was held in the spring of 2006. The original specialized teams in Loveland Fire at that time were the Dive, Hazardous Materials, and Rope. The decision in favor of consolidating the teams was to take advantage of the skills and cross train personnel to assist with all the disciplines for rescue and haz mat operations.

Consequently, SOT consists of three primary areas: hazardous materials response, urban search and rescue (USAR), and water rescue. Personnel working in these primary areas are haz mat technicians, haz mat specialists (highway, railcar, and radiological), collapse rescue, confined space rescue, rope rescue, trench rescue, large animal rescue, dive rescue, and swift water rescue.

Team members are encouraged to possess a minimum of one technician level certification and become proficient at the operations level for the other SOT disciplines. Rescue school is a full team training performed every other year (on the even years) for approximately five days. Throughout the week of training, personnel perform basic rescue skills during scenario-based training. During the odd-numbered years, monthly and/or quarterly training sessions are scheduled to provide members the opportunity to maintain proficiency in the varied skills associated with the SOT program.

The SOT mission statement is, *“The Special Operations Team goal is to provide coordinated and efficient specialized rescue services and hazardous materials response to the citizens of Loveland and the Loveland Rural Fire District. Maintaining a high degree of mobility with the ability to deploy a response element as requested throughout the region.”*

Since the inception of the Special Operations Team in 2006, personnel have deployed to various incidents and worked during multi-operational periods:

- 2007 – Carter Lake water treatment plant explosion involving chlorine gas
- 2007 – Longmont Circuits West for a chemical related fire
- 2007 – Georgetown Cabin Creek Xcel Hydroelectric Plant for a rescue standby following a flash fire and fatality
- 2008 – Windsor tornado
- 2008 – Loveland Engeman Enterprises haz mat incident for an ammonia release after cylinders were over-pressurized
- 2013 – Big Thompson Task Force Estes Park for the flood
- 2013 – Loveland Area Command during the flood for wide area search and hazardous materials identification
- 2015 – Berthoud tornado

Other significant incidents since 2006 include:

- East 4th Street building façade collapse
- Car through an apartment building at 45th Street and Garfield Avenue
- Car into a house at 8th Street and Garfield Avenue involving a fatality
- Rope rescue at Ice Falls in the Big Thompson Canyon
- 0300 rope rescue, pick-off in the Big Thompson Canyon
- Crosier Mountain Trail rescues
- Extrication on Storm Mountain access road
- A dog in a mine shaft
- Lake Loveland dive rescue involving a fatality
- Boyd Lake dive rescue involving a fatality
- Boedecker Lake dive rescue involving a fatality
- Namaqua Park swift water/dive rescue with a fatality
- Eden Valley dive rescue with a fatality
- Idlewild Dam night time rope rescue
- 500-gallon propane tank flare-off at 5th Street and Jefferson Avenue
- Double fatality dive rescue at the ponds adjacent to Fairgrounds Park on South Railroad Avenue
- Several clandestine drug laboratories
- Several large animal rescues including one involving three horses
- A high angle rescue at the Medical Center of the Rockies during construction
- Several rope rescue incidents in the area of Combat Rock in Drake and other locations on Storm Mountain

Current Personnel Status of SOT

The Special Operations Team consists of 51 personnel from five different agencies: Loveland Fire Rescue Authority (LFRA), Thompson Valley Emergency Medical Services (TVEMS), Berthoud Fire Protection District (BFPD), Front Range Fire Authority (FRFA), and Windsor-Severance Fire Rescue (WSFR). Additionally one, civilian structural engineer is affiliated with the team.

LFRA – 31 personnel:

- Haz Mat
 - 13 – Haz mat technicians
 - Four haz mat specialists trained in the following:
 - Radioactive materials
 - Railcars
 - Highway cargo tanks
- USAR
 - 7 – Collapse rescue technicians
 - 1 – Collapse rescue specialist (USAR – structural engineer)
 - 7 – Confined space technicians
 - 2 – Technical animal rescue

- 16 – Rope rescue technicians
- 16 – Trench rescue technicians
- 4 – Wide area search
- Water Rescue
 - 12 – Public safety divers
 - 13 – Swiftwater rescue technicians

TVEMS – 10 paramedics trained at the operations level for all disciplines

- 8 – Emergency Medical Technicians – Paramedics (EMT-P)
- 2 – Emergency Medical Technicians – Paramedic (EMT-P) captains

Berthoud Fire Protection District – three technicians:

- 3 – Public safety divers/swift water technicians

Front Range Fire Rescue Authority – three technicians:

- 3 – Haz mat technicians; including one that is a rope rescue technician

Windsor Severance Fire Protection – three technicians:

- 3 – Swift water rescue technician
- 1 – Confined space technicians
- 1 – Rope rescue technicians
- 1 – Collapse rescue technician
- 1 – Wide area search

2017 Accomplishments:

- LFRA collaborated with the Larimer County Dive Team for the training and certification of two new divers and one swift water technicians.
 - Schiffelbein and Knickelbein (needs swift water)
- Two new members on FEMA USAR Colorado Task Force 1 (COTF-1)
 - Friedrichsen (Rescue Specialist)
 - Pollema (Haz Mat Specialist)
 - Deployed to Florida with COTF-1 for Hurricane Irma
- Annual dive equipment service completed
- Annual dive check off (open water 2017) and swift water skills
- In January, Engineer Adam Baukol completed an ice rescue trainer course through Dive Rescue International.
- In-house air monitoring calibration
- Completed monthly shift training sessions
- Friedrichsen and Summer attended the Humming Bird Class in Colorado Spring for the sonar on dive boat

- Fischer, Friedrichsen, and Pollema attended the FEMA Wide Area Search class at West Metro
- Fischer attended the Trench Rescue Course at TEEEX
- Vrem attended the Crude Oil by Rail course at TEEEX
- Completed annual medical surveillance of haz mat technicians
- Engelhardt, Hessler, and Klinger attended the three day Cameo, Marplot, and Aloha class
- Andersen, Clark, Engelhardt, and Hessler attended a two day air monitoring course
- Horse mannequin valued at \$15,000 was donated to LFRA
- Engineer Gonzales completed awareness and operational level animal rescue training for all three shifts using the donated equipment

Planning Document Items Not Accomplished in 2017

- Wide area search (scheduled for April 2018)
- Alignment of LFRA certifications with NFPA 1006, *Standard for Technical Rescue Personnel Professional Qualifications*
- Air monitoring course
- Re-engaging Northern Colorado agencies in forming a Northern Colorado Technical Rescue Team
- Lieutenant Andersen was slated to attend a haz mat specialist class, but had to cancel due to an injury

2017 Capital Purchases:

- Rope equipment and enhancements (including highline kit)
- HydraFusion Rescue Struts for lifting and stabilizing
- Air monitor replacements including a new four gas Sensit detector
- Five Level A suits
- Second drone purchased (smaller DJI Mavic Pro)

2017 Significant Incidents:

- Storm Mountain climber who fell
- Building collapse trapping dozens of cows
- Big Thompson River llama rescue with Estes Park
- Berthoud plane crash into lake with dive response needed to remove victims

Future:

As we begin 2018, the members of the SOT leadership team will conduct a SWOT (strengths, weaknesses, opportunities, and threats) analysis of the program. Furthermore, an evaluation of the following areas will determine:

- If the current team concept is still functional

- If the current approach to training is still effective
- Is enough money being allotted in the budget to cover the costs of training and replacing equipment
- Do we have an adequate number of technicians in the various disciplines
- Which members are no longer active and need to be removed from the team

In October of 2017, Loveland Police Sergeant Ryan Ertman, who is also the commander for the Northern Colorado Bomb Squad (Loveland Police, Fort Collins Police, CSU Police, and Larimer County Sheriff’s Office), approached LFRA asking for assistance with the hazardous materials component of their squad. Due to their training requirements and the technical nature of hazardous materials and air monitoring equipment, the bomb squad has not been able to maintain an adequate level of haz mat training for their personnel. Consequently, Ertman asked for a total of four, haz mat technicians to assist them: two from LFRA and two from the Poudre Fire Authority (PFA). After several discussions with Ertman and seeking volunteers, the haz mat technicians selected from LFRA SOT to participate as para-techs with the bomb squad are Lieutenants Ben Andersen and Dustin Waldorf. In February of 2018, Andersen and Waldorf along with the two-haz mat techs from PFA will attend a 24-hour school hosted by the bomb squad. The four techs will be trained as bomb squad para-techs that will familiarize them with equipment, procedures, hazardous, etc., but they are not being trained as bomb technicians.

In January 2018, LFRA SOT hosted a meeting with PFA and Greeley Fire to discuss the potential for a regional technical rescue response. The parties present agreed that the first steps would revolve around regional training that meets NFPA 1006, *Standard for Technical Rescue Personnel Professional Qualifications* and NFPA 1670, *Standard on Operations and Training for Technical Search and Rescue Incidents*. Greeley BC Kuznik is a member of the Front Range Fire Consortium (FRFC) steering committee and agreed to approach the FRFC chiefs to gauge their willingness to fund training.

2018 Objectives and Timelines

Annual	1. Complete a minimum of six dives for each diver	Hintzman
Annual	2. Complete triannual diver training program	Hintzman
Annual	3. Monthly/Quarterly training sessions	SOT Leadership
Annual	4. Equipment maintenance services	SOT Leadership
Annual	5. Schedule shift SOT training	Captains
Annual	6. Hazardous materials rodeo	Adent
2018	7. Rescue School wide area search	Smith
2018	8. Rescue School trench class	Fischer

2018	9. Northern Colorado Bomb Squad para-tech training	Andersen & Waldorf
2018	10. SOT SWOT analysis	SOT Leadership
2018	11. Evaluate functionality of team concept	Davis
2018	12. Alignment of our certification standard to NFPA 1006	SOT Leadership
2018	13. Evaluate functionality of SOT training program	SOT Leadership
2018	14. Evaluate budget needs related to equipment replacement	SOT Leadership
2018	15. Regional tech rescue response/training	Davis/Friedrichsen
2018	16. Determine if there are an adequate number of technicians/specialists and evaluate team member participation	SOT Leadership
2018	17. Add two members to CO TF-1	Smith
2018	18. Add one swift water tech instructor	Hintzman
2019	19. Annual training	SOT Leadership
2019	20. Explore BNSF training opportunities	Adent
2019	21. Explore possibility of haz mat courses including air monitoring	Adent
2019	22. Add one PSSI/DR1 instructor	Hintzman

Objective Details

Annual Objectives

1. Complete a minimum of six dives for each diver. Each Public Safety Diver is required to dive a minimum of six times per year to maintain the Dive Rescue International certification.
2. Complete triannual diver training. A three-year training program is in place to ensure competent and skilled dive team members receive the necessary training. During the first year, all divers complete a pool session training for skills, safety survival & entanglement, lift bags, and diver/tender communications. During year two, all divers will complete an open water training session where similar skills are performed, and during year three the watermanship test and SCUBA skills checkoff/recertification is completed.
3. Monthly SOT member training. SOT leadership provides input for the 2018 monthly LFRA training calendar for team and department training.
4. Equipment maintenance service. The large number of equipment used for SOT operations requires preventative maintenance and servicing. Examples include dive equipment, cylinders, tools, and power plants for extrication.
5. Schedule shift SOT training. The captains will coordinate awareness and/or operations level training for shift personnel. This helps maintain the three-tier system of response during intensive rescues.
6. Hazardous materials rodeo. The Front Range Fire Consortium (FRFC) Haz Mat Group plans and schedules a haz mat rodeo, which is a multiple skills training day allowing the regional teams to practice their skills. The number of Job Performance Requirements (JPR) for the

State of Colorado Hazardous Materials Technician recertification is high, and some of the JPRs are highly technical; therefore consolidating the trainings with regional teams makes the trainings more practical.

2018 Objectives

7. Rescue school wide area search. This is a three-day, FEMA funded course that will be offered twice during the week of April 23 in conjunction with trench rescue. BC Smith is coordinating the registration and logistics.
8. Rescue school trench rescue. This too is a three-day course based on the TEEEX training that Engineer Fischer attended in 2017. See Item Number 7.
9. Northern Colorado Bomb Squad para-tech training. This is a 24-course for Andersen and Waldorf along with two haz mat technicians from PFA. At the conclusion of the training, the para-techs will be familiar with the bomb squad procedures, techniques, equipment, various explosive devices, and they will have the ability to assist squad members with their PPE.
10. SOT SWOT analysis. The information from the SWOT analysis will be used to complete Items 11, 13, 14, 15, and 16.
11. Determine whether the current model is still functional to include the bulk of SOT operating from Station 2.
12. Alignment with NFPA 1006 to maintain consistency with Colorado Task Force 1 and regional partners.
13. Does the current model of providing SOT training to team members and awareness/operations level training to LFRA members still work.
14. There is a need to replace several high priced equipment items. Does the current budget allocations meet this need or is there a necessity to increase the budget for equipment purchases.
15. Regional technical rescue response and training. Given the high costs associated with training personnel and purchasing equipment, it is the goal of LFRA to work with PFA and Greeley Fire to determine the best possible approach to this problem.
16. The SOT leadership will determine if there is an adequate number of technicians and specialists in the various disciplines. The evaluation will also explore the participation level of the membership.
17. Add two more LFRA members to Colorado Task Force 1.

2019 Objectives:

18. SOT leadership will evaluate the effectiveness of the 2018 training and determine future needs.
19. Baukol will be added as a swift water technician instructor
20. It is the desire of the SOT leadership to capitalize on the relationship and training opportunities that have been established with the Burlington Northern-Santa Fe Railroad.

21. Explore the possibility of hosting State sponsored haz mat tech and air monitoring classes.
22. Add Tanner as a PSSI/DR1 instructor to help offset costs of instruction