



AGENDA FOR THE
ENGLEWOOD CITY COUNCIL
STUDY SESSION
MONDAY, DECEMBER 10, 2012
COMMUNITY ROOM
6:00 P.M.

- I. **ESCI Fire Service Presentation**
Emergency Services Consulting International, conducting a survey on fire services in the cities of Englewood and Littleton, will discuss their findings and recommendations with the Englewood and Littleton City Councils.

- II. **Executive Session**
In the City Council Conference Room and pursuant to C.R.S. 24-6-402-4(a) and C.R.S. 24-6-402-4(e), City Council will discuss two real estate/negotiations matters (Flood/Market Place).

*Littleton Fire and Rescue and
Englewood Fire Department
Colorado*

Cooperative Efforts Feasibility Study
Draft for Client Review

December 2012



Table of Contents

Acknowledgements	iii
Executive Summary	1
Agency Baseline – Evaluation of Current Conditions	3
Overview of Organizations	3
Management Components	13
Environmental Scan	21
Modified SWOC Analysis	21
Community Forums	31
Staffing and Personnel Management.....	32
Support Programs – Training, Life Safety Services (Fire Prevention), and Communications	42
Training	42
Life Safety Services (Fire Prevention).....	48
Life Safety Services Program Assessment	51
Communications and Dispatch Functions	56
Emergency Medical Services Support and System Oversight	61
HAZMAT Services Support and Response Capability	66
Fiscal Analysis.....	68
Economic Indicators	72
EFD Historical Financial Review	76
LFR Historical Financial Review	86
Capital Assets and Capital Improvement Programs.....	100
Facilities	100
Apparatus	101
Capital Equipment	101
Service Delivery and Performance	123
Demand.....	123
Distribution.....	129
Concentration	139
Reliability	143
Performance Summary	145
Incident Control and Management Methods.....	149
Mutual and Automatic Aid Systems.....	149
Future Opportunities for Cooperative Efforts	151
Strategy A – Status Quo	154
Strategy B – Create a Fire Authority (FA).....	156
Strategy C – Link with an Existing Fire Authority (FA)	170
Strategy D – Formation of a New Fire Protection District	171
Strategy E – Annexation of Englewood, Littleton, and HRMD to LFPD	175
Strategy F – IGA between EFD and LFR	176
Findings, Recommendations, and Plan of Implementation	177
Findings.....	177
Recommendations.....	178
Recommended Strategy	180
Framework for Action.....	183
Appendices	185

Appendix A: Table of Figures	185
Appendix B: Community Forum Agenda and Surveys	189
Appendix C: Summary Table of Stakeholder Interviews	194

Acknowledgements

Emergency Services Consulting International (ESCI) would like to acknowledge that without the assistance and support of the administrative staff and personnel of the Englewood Fire Department and Littleton Fire Rescue this project could not have been completed.

The Acknowledgements will be completed prior to publication of the final report.

Executive Summary

The executive summary will be completed prior to publication of the final report.

Agency Baseline – Evaluation of Current Conditions

The Cooperative Efforts Feasibility Study involves the Englewood Fire Department (EFD) and Littleton Fire Rescue (LFR). Data provided by the EFD and LFR was combined with information collected in the course of ESCI's field work and used to develop an overview of the subject organizations. The purpose of the following organizational overview is two-fold. First, it verifies the accuracy of the baseline information and ESCI's understanding of each agency's composition—the foundation from which the feasibility analysis is developed. Second, the overview serves as a reference for the reader who may not be familiar with the details of each agency's operations.

Overview of Organizations

The first section of the analysis of current conditions relates the history, formation, general description of the cities of Englewood (COE) and Littleton (COL), the EFD and LFR. Additionally, LFR serves two contract areas, the Littleton Fire Protection District (LFPD), and the Highlands Ranch Metropolitan District (HRMD). An overview of each district and their relationship and how they interact today with LFR is described.

City of Littleton (COL)

Littleton, a home rule municipality, is contained in Arapahoe, Douglas, and Jefferson counties. Over 99 percent of the residential units and city population and 93 percent of the area are located in Arapahoe County. The City of Littleton traces its historical roots to the "Pikes Peak" gold rush of 1859

Littleton Fire Rescue (LFR)

Soon after the incorporation of the Town of Littleton on March 8, 1890, the new citizens began looking into a number of civic projects to improve local life. High on this list was a fire department. In July 1890, several public-spirited gentlemen (many of them members of the Weston Lodge of Masons) gathered some equipment and volunteers for the purpose of building a fire station.

By 1960, population growth forced the City and the Littleton Fire Protection District to abandon the 70-year-old volunteer system and professional firemen were hired for the first time. In 1974, it became the first fire department in the state to include a paramedic unit.

Today, Littleton Fire Rescue (LFR) provides emergency response services and life safety education programs to the citizens of the City of Littleton, the Littleton Fire Protection District (LFPD), and the Highlands Ranch Metropolitan (Metro) District (HRMD). This service is provided a population estimated at over 230,000 people residing in a 100 plus square mile area. Emergency response services include: fire suppression, emergency medical services, hazardous materials response, technical rescue, dive rescue and recovery, and wildland fire suppression.

Littleton Fire Protection District (LFPD)

As the community around the City of Littleton grew, so did the demand for fire protection. Up until 1949, the City of Littleton Fire Department willingly provided its services to the unincorporated areas around the City. Early in 1949, Littleton firefighters informed the City Council that the vast majority of calls they responded to were outside the City limits and that residents outside of town “ought to help pay” for fire protection services. As a result of these discussions, the Littleton City Council passed a resolution stating that the Littleton Fire Department would no longer respond to calls outside the City unless a district was formed to help pay its share of fire protection costs. On June 11, 1949, the Littleton Fire Protection District (LFPD) was formed, purchasing its first fire engine in November of that year.

During the 1960’s the City and LFPD bought their own fire apparatus independently and responded from the two City fire stations. Firefighters decided whether to take the City or LFPD engine depending on the jurisdiction where the call occurred.

The contract was amended in 1964 to more equitably distribute operating costs between the City and the LFPD. In November 1966, a new contract was written calling for the LFPD to build a new fire station on West Coal Mine Road, paying for 11 firefighters for that station and setting a 50/50 cost distribution for operating expenses of the department. The 1966 contract also called for a study to evaluate fire protection services and cost apportionment between the City and LFPD, resulting in the *Carl Becker Management Report*. The main purpose of the report was to determine a way to equitably finance the operations of the fire department. The report calculated that a jointly funded and operated fire department would cost about half as much as two separate ones. The report also concluded that the fairest way to distribute costs was to establish a formula using the number of calls and the assessed valuation of each jurisdiction.

That formula is used to this day. In 1990 the City/LFPD contract was updated and signed, again based on the *Becker Report*.¹

Highlands Ranch Metropolitan District (HRMD)

The Highlands Ranch Metropolitan District (HRMD) is the local government of Highlands Ranch, Colorado. Highlands Ranch is a 22,000-acre master-planned community that was founded in 1981. In 2010, the community had an estimated population of 96,713 living in 30,126 single family homes and 4,745 multi-family units.²

As the community of Highlands Ranch started development in 1980, Highlands Ranch Metro District (HRMD) purchased its own engine and used off-duty City of Littleton firefighters to provide daily coverage from 8:30 a.m. to 4:30 p.m. The City negotiated a contract with the HRMD to provide after-hours fire services on a fee-per-call basis. In 1981, a communications service contract was also arranged. These contracts were renewed each year until 1984 when an extended three-year contract was signed. The new contract combined the fire and communications contracts and expanded the fire service contract to include mapping, plan reviews, inspections, and fire investigations. The contract specified fixed monthly fees in addition to the fee-per-call compensation for emergency responses. The 1984 contract was in force until January 1, 1988, when the HRMD opened its first fire station. At that point, a new fire protection service contract, nearly identical to the existing City/LFPD agreement, was signed by the City and the HRMD.³

A new singular agreement negotiated in 2011 was signed in January 2012 for providing fire protection services to the City of Littleton, Littleton Fire Protection District, and Highlands Ranch Metropolitan District. Terms of the contract specify the emergency and non-emergency services that are provided, equipment ownership, cost allocation, and the establishment of a review committee for decision-making on system operation. Established service level criteria, equipment, staffing, capital apparatus ownership, and the budgeting process are included in contract exhibits.

¹ *Littleton Fire Rescue 2008 Annual Report*, pages 3-4.

² U. S. Census Bureau.

³ *Littleton Fire Rescue 2008 Annual Report*, page 4.

City of Englewood (COE)

The City of Englewood (COE) is located just south of the City of Denver and centrally in the metropolitan area. Englewood offers a small town atmosphere of community with all the benefits of a larger metropolitan area nearby; it is a home-rule city with a council-manager form of government.⁴

Englewood was incorporated in 1903, and the City Charter was adopted by residents in 1958. The City Council is made up of seven members elected on a non-partisan basis. The Mayor and the Mayor Pro Tem are elected by the Council.

Englewood's population according to the 2010 Census is 30,255. There are an estimated 15,478 residential housing units in Englewood.

Englewood is home to 1,602 businesses within industrial, manufacturing, and service sectors; it has a full-time employment base of 24,800 jobs:

- 11,360 jobs in the office and professional sector
- 4,600 jobs within the retail sector
- 8,800 jobs in the industrial and commercial zoned land area

Englewood's beginnings are traced to gold. In the mid-1800s, prospectors on their way to California stopped in Colorado to pan its streams.

Englewood saw major progress in the 1920s. Broadway was paved, a chamber of commerce was formed in 1921, and General Iron Works came to Englewood in 1924. In the mid-1920s, Englewood fought to maintain its identity. Two separate elections were held after some 300 local residents requested annexation to Denver. Loyal citizens voted to reject Denver and retain their city by a narrow margin of four votes in one election, six in the other.

Today, community members actively participate in civic and volunteer opportunities. Englewood has one of the most successful Neighborhood Watch programs in the nation, helping neighbors keep an eye out for one another's safety. And there are many organizations and programs that offer assistance to neighbors who are elderly or disabled. Englewood has been described as a community with a small-town feel and big city amenities.

⁴ Source: City of Englewood website, About Englewood, July 6, 2012.

Englewood Fire Department (EFD)

In the winter of 1907, just four years after Englewood's incorporation, the Englewood Volunteer Fire Department (EVFD) was first organized. From humble beginnings in the homes of interested residents, the first formal meeting was held in May of 1908, with Harry Wagner elected to lead the fledgling fire department. By the end of the year, the fire department had adopted a constitution and bylaws, received their certificate of incorporation from the state of Colorado, and had chosen Stanley Hill as their first fire chief.

EVFD ventured into emergency medical help in 1940 when it received a donation of an ambulance and basic first aid training. In 1947, with the help of local Jaycees, a new Chevrolet ambulance was donated and the fire department moved to standard first aid training. This leadership in emergency medical was marked again when the fire department accomplished training of the first emergency medical technician (EMT) in the state.

The transition from a volunteer force to a combination department began in 1952 with the hiring of eight volunteer firefighters to serve as officers (lieutenants) and drivers. In 1970, with career staffing approaching 50 personnel and volunteer membership at less than 10 members, the City Council supported the dissolution of the EVFD organization and formally established the Englewood Fire Department (EFD).

During the 1970's, EFD regularly staffed three fire stations, expanded the EMT program and acquired a new "modular" ambulance to meet emerging federal ambulance standards. With the move into a new Police/Fire Complex, EFD expanded to four fire stations – to include Jefferson, Belleview, Tejon and Federal stations. Following a significant fire incident on the City's northeast side, more than a dozen firefighters were added to the force in 1974 to allow staffing with 21 personnel on duty each day. The Belleview Station was replaced in 1980 with the opening of the Acoma Station.

The EMS commitment of EFD continued in 1975 with initiation of advanced life support services through an agreement with Swedish Medical Center under the tutelage of Dr. Brittain; ten EFD firefighters were trained to paramedic certification and began delivering this advanced level of care.

Firefighter training took a significant step forward in 1975 when the City of Englewood and the City of Littleton, along with Littleton Fire Protection District, agreed to pursue a joint fire-training center. Situated on a four-acre parcel on the east side of the South Platte River and between

the two cities, the South Metro Fire Training Academy intergovernmental operations developed a fire hydrant system, a five-story training tower, a burn building and a classroom facility.

Following steady growth in the 1960's and 70's, EFD faced steady fiscal pressure beginning in the late 1980's and continuing to today. During that time period, the City experimented with a Public Safety Services concept (combined police and fire administration) from 1989 until 2008, when the two City departments were restored to conventional police and fire organizational models. In the early 1990's shift staffing was reduced to 17 per shift and administrative staffing was reduced as well.

The long-standing collegial relationship between EFD and Littleton Fire & Rescue (LFR) has now led to a comprehensive study to examine further opportunities for cooperative service delivery.

Survey Table 1: Organization Overview

Survey Components	EFD	LFR
1. Responsibilities & Lines of Authority		
A. Governing body	Englewood's City Council consists of seven members, one representative for each of the four districts in the City, and three who represent the City At-Large. The City Council Members are elected by the voters and serve four-year staggered terms. City Council decides which of its members will serve as Mayor and Mayor Pro Tem.	Mayor and City Council. General municipal elections for council are held in odd-numbered years with four city council seats up for election. Council members are elected for four-year terms, except one at-large council member who is elected to a two-year term. The seven-member council elects the president and president pro tem, who serve officially as Littleton mayor and mayor pro tem.
i) head of governing body	Mayor, Randy Penn	Mayor, Debbie Brinkman
ii) key employee of governing body	City Manager	City Manager and City Attorney
iii) meetings	City Council meets the first and third Mondays of every month	Weekly (2 and 2 workshops)
B. Elected official authority defined	Englewood, Colorado, Code of Ordinances, Part I, Home Rule Charter, Article I, General Provisions	Yes, City Charter, 1-3-2: Definitions, General
C. Fire chief position		
i) hired by contract	No	No
ii) term of contract	N/A	N/A
iii) periodic performance evaluation	Yes, annually	Yes, annually
D. Fire chief/authority defined	Yes	Yes, City Charter, 1-5-3: Department of Fire
E. Policy and administrative roles defined	Yes	Yes
2. Attributes of Successful Organizations		
A. Rules and regulations maintained	Policies and SOGs (standard operating guidelines)	PPP or the personnel, policies, and procedures
i) process for revision provided	No	Yes, minimum of two times per year with the management group of the City. Followed by a review and a notification period
B. Legal counsel maintained	Yes, city attorney	Yes, city attorney
i) consultation available	Yes	Yes
ii) labor counsel	Yes, contract out labor issues	Yes
C. Financial controls	Yes	Yes
i) financial control system	Yes	Yes
ii) financial review	Yes, audit, Comprehensive Annual Financial Report (CAFR)	Yes, audit, Comprehensive Annual Financial Report (CAFR)
iii) auditor	Yearly	Yearly
iv) frequency of review	Annually	Annually
D. Governing body minutes maintained	Yes	Yes

Survey Components	EFD	LFR
i) availability of minutes	Yes, agendas and audio of meetings are available via the City website	Yes, agendas and video of meetings are available via the City website
3. Organizational Structure		
A. Structure type	Typical top down hierarchical organizational structure	Typical top down hierarchical organizational structure
B. Descriptions of all jobs maintained	Yes, on the intranet	Yes, on the intranet
i) job descriptions updated	Yes, updates are noted on job description. Changes are described, annotated, and dated. Description includes appropriate elements.	Upon vacancy, the current job description is sent to the hiring manager for review and so any changes can be made. Incumbent candidates can request a change with a process for modification.
C. Employment agreements	Collective bargaining agreement with the Englewood Firefighters IAFF Local No. 1736 is for 2012 and 2013	Collective Bargaining Agreement, specifies that includes comparable at 50 percent
4. Chain of Command		
A. Unity of command	Yes	Yes
B. Span of control	Battalion chiefs manage one shift of multiple fire stations (3) and ensures proper operation levels	Battalion chiefs supervise eight captains
C. Hiring/Firing authority	Yes, fire chief, bureau chiefs can hire and fire	Yes, fire chief, bureau chiefs can hire and fire
5. Formation and History		
A. Organization formed	1908	1890, 1960 as a career fire department
B. History maintained	Yes	Yes
i). Individual or group responsible	Formally by the Englewood Historical Society and informally by former EFD volunteers	Department members volunteer to maintain history
6. General Description of Agency		
A. Agency type	Municipal fire department	Municipal fire department, contracted to provide fire and emergency services for Highland Ranch Metro District and Littleton Fire Protection District
B. Area, square miles	Englewood 6.56 square miles	Littleton 12.98 square miles 100+ service area
C. Headquarters	3615 S. Elati Street, Englewood, CO	2255 W. Berry Ave, Littleton, CO
D. Fire stations	3	8
E. Other facilities	Shared training center	Shared training center, fire prevention, city shop
F. Emergency vehicles		
i) engine	1	6
ii) engine, reserve	2	3
iii) ladder truck	0	2
iv) ladder truck, reserve	0	0
v) telesquirt	1	0
vi) medic	2	5

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Survey Components	EFD	LFR
vii) medic, reserve	1	3
viii) heavy rescue	1	0
ix) command	1	1
x) hazardous materials	1	1
xi) boat	0	1
xii) other	Air unit, 1 Utility, 1 Antique engine, 1 Antique ambulance, 1	Squad (RIT, rehabilitation), 1 Brush units, 2
G. ISO rating	3	3
i) date of most recent rating	May 2012	January 2002
ii) receiving and handling fire alarms	6.55 of 10.00	9.65 of 10.0
iii) fire department	32.00 of 50.00	31.05 of 50.00
iv) water supply	38.39 of 40.00	38.64 of 40.00
v) divergence	-6.39	Data not Available
vi) total creditable points	70.55 of 100.00	
H. Total fire department personnel, uniformed and civilian	58.5	152.0
i) administrative and support personnel, full-time	7.5	25.0 13.0 fire department 12.0 communications center
ii) administrative and support personnel, volunteer	0.0	2.0
iii) operational personnel, full-time	51.0	129.0
iv) operational personnel, volunteer	0.0	0.0
7. Finance Overview		
A. Designated fiscal year	Calendar year	Calendar year
B. Assessed property value, FY 2011	\$515,667,340	\$610,285,533 Includes areas in Arapahoe, Jefferson, and Douglas counties (Preliminary Assessed Valuation as of August 2011)
C. Revised 2012 general operating fund budget, fire department	\$7,051,515 – fire support and operations	\$16,010,460 – fire \$2,016,420 – Emergency Medical Transportation Enterprise \$500,290 – planning and permitting
D. General fund property tax, city levy FY 2012 budget	\$2,880,000 (estimated)	\$4,080,400 (estimated)
i) levy rate (FY 2002 through 2011)	5.880 mills per \$1,000 of assessed value	6.662 mills per \$1,000 of assessed value and has not changed since 1991
E. Bonds, fire department	Yes, two	None
i) levy rate	Qualified energy conservation bonds, \$118,393 payment in the fiscal year 2012 budget	N/A
F. Other tax levy, public safety	None	None
i) levy rate	N/A	N/A

Survey Components	EFD	LFR
8. Demographics		
A. Population, 2011	30,255	96,713 – Highlands Ranch ⁵ 41,737 – Littleton ⁶ 100,000 – Littleton Fire Protection District ⁷ 238,450 – Total
i) population history (2002 – 2011)	Year	Population
	2002	32,658
	2003	32,410
	2004	32,491
	2005	32,491
	2006	32,491
	2007	32,286
	2008	32,532
	2009	32,532
	2010	30,255
	2011	30,255
B. Total residential units, 2010	15,478 ⁸	19,434 ⁹
C. Businesses, 2010	4,968 ¹⁰	7,194 ¹¹
9. Alarms (2011)		
A. Fire	70	225
i) value of property exposed to fire, 2011	Not determined	\$28.5 million
ii) value of property lost to fire, 2011	Not determined	\$3.85 million
B. Other	800	3,110
C. EMS/rescue	2,970	8,851
D. Hazardous condition	Included with other	257
E. False and good intent	269	1,157
F. Total	4,109 4,153 including outside assistance provided	12,884

⁵ 2010, Denver Regional Council of Governments (DRCOG)

⁶ Ibid.

⁷ 2010, Littleton FR estimate.

⁸ U.S. Census, QuickFacts, 2010.

⁹ Ibid.

¹⁰ U.S. Census, QuickFacts, 2007.

¹¹ Ibid.

Management Components

This section of the study examines each department's efforts in organization management and measures that are being taken to plan for the future.

Growth of organizational responsibility and change are common challenges for today's fire and EMS service leaders. EFD and LFR are not immune to having adequate management to meet current conditions. Contemporary leaders of emergency service agencies must address management complexities of consistent and adequate response, maintenance of member firefighting and emergency medical competency, recruitment of a qualified and diverse workforce, adequate administrative controls, and a complete logistical support system. A projected increase in response activity workload and finite financial resources will necessitate changes in administration, support, and operational staffing to meet anticipated service demand.

To be effective, management of fire departments needs to be based on multiple components. The elements of appropriate management begin as simply as identifying and institutionalizing the organization's mission, vision, values and measuring progress through a spectrum of essential mechanisms, including the establishment of policy and operational documents, development of internal and external communications practices, and implementing proper reporting and record keeping.

The size of an organization may be considered a factor determining the degree to which the basic management components apply. However, all of the identified elements apply equally to any fire department, without regard to its size or complexity. For this reason, the analysis of management components is applied equally to EFD and LFR. The following survey table examines each agency's management efforts. Recommended actions for each department are located at the end of the survey table.

Survey Table 2: Management Components

Survey Components	EFD	LFR
1. Mission, Vision, Strategic Planning, Goals and Objectives		
A. Mission statement adopted	Yes, The Englewood Fire Department is dedicated to the protection of life, property and the environment through a commitment to excellence in emergency response, training, public education, fire prevention, and the efficient utilization of resources	Yes, Professionals dedicated to prompt, compassionate service
i) displayed	No	Yes
ii) periodic review	N/A	Four months
B. Vision established and communicated	No	Yes
C. Values of staff established	No	Yes
i) organizational focal points	N/A	No
D. Strategic or master plan	No, training chief is tasked with creating a strategic plan for the fire department	No
i) adopted by elected officials	N/A	No
ii) published and available	N/A	No
iii) periodic review	N/A	No
E. Agency goals and objectives established	No	No
i) date developed	N/A	N/A
ii) periodic review	N/A	N/A
iii) tied to division/personnel performance statements/plans	N/A	N/A
iv) objectives linked to programs	N/A	N/A
v) performance objectives established	N/A	N/A
F. Code of ethics established	Yes, City of Englewood	Yes
2. Availability of SOPs, Rules and Regulations, Policies		
A. Copies of rules provided	No, new employees are instructed where to find them on-line	Yes
i) last date reviewed	2005	On-going
B. Copies of SOGs or guidelines available	Yes	Yes
i) regular update	As needed	Yes
ii) process for development of new SOGs	Yes	Semi-formal
iii) SOGs used in training evolutions	Yes	Yes
C. Policy manual available	Yes, (policy manual) for EFD Operations Manual, signature affixed	Yes
i) reviewed for consistency	No	No
ii) reviewed for legal mandates	Yes	Yes

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Survey Components	EFD	LFR
iii) training on policies provided	Yes	Yes
3. Internal and External Communications		
A. Internal communications		
i) regularly scheduled staff meetings (fire department)	Yes, every Thursday at 0900	Yes, weekly
ii) written staff meeting minutes	Yes	Yes
iii) memos	Yes, attached to an e-mail	Yes, memos
iv) member newsletter	No	No
v) member forums	No	No
vi) open door policy	Yes	Open door – chain of command
vii) bulletin board	Yes	Yes
viii) vertical communication path clearly identified	Yes	Yes
ix) e-mail	Yes, all employees	Yes, all employees
x) employee mail boxes	Yes, all employees	Yes, all employees
xi) voice mail	Yes, all office phones	Yes, all phones
xii) issues taskforce	No	Yes
B. External communications		
i) community newsletter	Englewood Citizen – City	Littleton report – City
ii) website	Yes	City/fire, citizen alert notification system
iii) advisory committee(s)	In the past	No
iv) complaint process	Yes	Yes, follows the chain of command
v) email	Yes, setting up Facebook and Twitter accounts for the City	Yes
vi) community survey	Yes	No
vii) local community planning organizations	No	Review committee with members from the COL, HRMD, and LFPD
viii) focus groups	No	No
4. Decision Making Process		
A. Preferred management methodology of the fire chief	Open, engaged, and non-judgmental	Openly engage – people person
B. Management process identified	No	No
C. Decision making process established	Collaborative	Template
5. Document Control		
A. Process for public access established	Yes	Yes
B. Hard copy files protected	Yes	Yes
C. Computer files backed up	Yes, daily	Yes, daily
6. Security		
A. Building security	Yes, hard access at headquarters and combination lock on fire stations	Yes, hard access and pass card
B. Office security	Yes, secure police – fire building	Yes
C. Computer security	Yes, password protected (dual authentication)	Yes
D. Vehicle security	Yes	Yes

Survey Components	EFD	LFR
E. Capital inventory maintained	Yes	Yes
i) asset security system used	Yes, through finance and purchasing	Yes
ii) inventory interval	Daily vehicle checks	Daily vehicle checks
F. Monetary controls used	Yes	Yes
i) cash access controls	Yes	Yes
ii) credit card controls	Yes	Yes
iii) purchasing controls	Yes	Yes
7. Reporting and Records		
A. Records kept by computer	Yes	Yes
i) type of platform	PC	PC
ii) operating system	Windows 7 and XP	Windows 7
B. Periodic report to elected officials	Yes	Yes
i) financial report	No	No
ii) management report	Yes, monthly summary of responses, training, inspections and department activity	No
iii) operational report	No	No
iv) distributed to others	No	No
C. Annual report produced	No	Yes
i) distributed to others	N/A	Web-site
ii) analysis of data provided	No	Yes
D. Required records maintained	Yes	Yes
i) incident reports	Yes, Fire Manager	Yes
ii) patient care reports	Yes, Fire Manager	Yes
iii) exposure records	Yes, by City HIPPA Compliance Officer	Yes, (funded for the 2013 budget) EMS captain
iv) SCBA testing	Yes, annually	Yes, in-house
v) hose	Yes	Yes, in-house
vi) ladder	Yes, Failsafe and UL	Yes, Consolidated Testing
vii) pump	Yes, staff and City service center mechanic	Yes, in-house
viii) breathing air	Yes	Yes, third party
ix) vehicles	Yes, City shop	Yes, City shop
x) gas monitors	Yes, annually	Yes, annually

Policies, Rules, Regulations, Manuals and Handbooks

Englewood and Littleton are organized as home rule municipalities under Article XX of the Constitution of the State of Colorado.¹² EFD and LFR operate as departments of their

¹² Colorado Home Rule Municipalities are self-governing under Article XX of the Constitution of the State of Colorado; Title 31, Article 1, Section 202 of the Colorado Revised Statutes; and the Home Rule Charter of each municipality.

respective cities. Various policies, regulations, procedures, and handbooks are promulgated by the cities and departments to facilitate the personnel management process.

Both cities have personnel policy manuals as the primary set of documents that describe the employer-employee relationship, procedures, and how employees are expected to conduct themselves in non-emergent situations. Education on policies is provided to new hires and current employees on updates and newly created rules and procedures. Policies specific to the departments are contained as rules and regulations. A third set of documents are used for guidance when responding and operating at emergency incidents.

Employees in both fire departments have access to the personnel policies and guidelines via a hard copy desk manual and in electronic format on the intranet.

Reports and Records

Internal fire department record and reporting systems appear to be adequate with more similarities than differences in the records management systems (RMS). Records for employees are maintained on employment history, medical evaluations, injuries, discipline, commendations, and work assignments by city human resource department. Required records maintained include:

- Incident reports
- Patient care reports
- Exposure records
- Equipment testing
 - SCBA
 - Hose
 - Ladder
 - Pump
 - Breathing air
 - Vehicles
 - Gas monitors

Organizational Structure

A well-designed organizational structure should reflect the lines of responsibility and authority within the agency, provide for the equitable distribution of the workload, and clearly define the official path of internal communication. The lines of an organizational chart visually clarify

accountability, coordination, and supervision. Detailed job descriptions should provide the particulars of each job within the organization, helping to ensure that each individual's specific role is clear and focused on the overall organization mission.

Span of control, also known as span of management, is a human resources management term that refers to the number of subordinates a supervisor can effectively manage. Developed in the United Kingdom in 1922 by Sir Ian Hamilton, the concept of span of control evolved from the assumption that managers have finite amounts of time, energy, and attention to devote to their jobs. In his research of British military leaders, Hamilton found that leaders could not effectively control more than three to seven people directly.

This generally accepted rule of thumb for span of control is still considered relevant today and applies not only to the military, but correspondingly to the fire service. It is important to note that all managers experience a decrease in effectiveness as their span of control exceeds the optimal level. In other words, the limitations implied by span of control are not shortcomings of individual managers but rather of managers in general. In addition, it is important to understand that span of control refers only to direct reports rather than to an entire corporate hierarchy (i.e., all personnel in the fire department).

Extending span of control beyond the recommended limits engenders poor morale, hinders effective decision-making, and may cause loss of the agility and flexibility that give many entrepreneurial firms their edge.¹³

EFD and LFR's organizational structures are typical top-down hierarchy found in most public emergency service providers. The following two figures (Figure 1 and Figure 2) show the current organizational structure for the departments.

¹³ Hendricks, Mark, *Span Control*, Entrepreneur, January 2001.

Figure 1: EFD Organization Chart

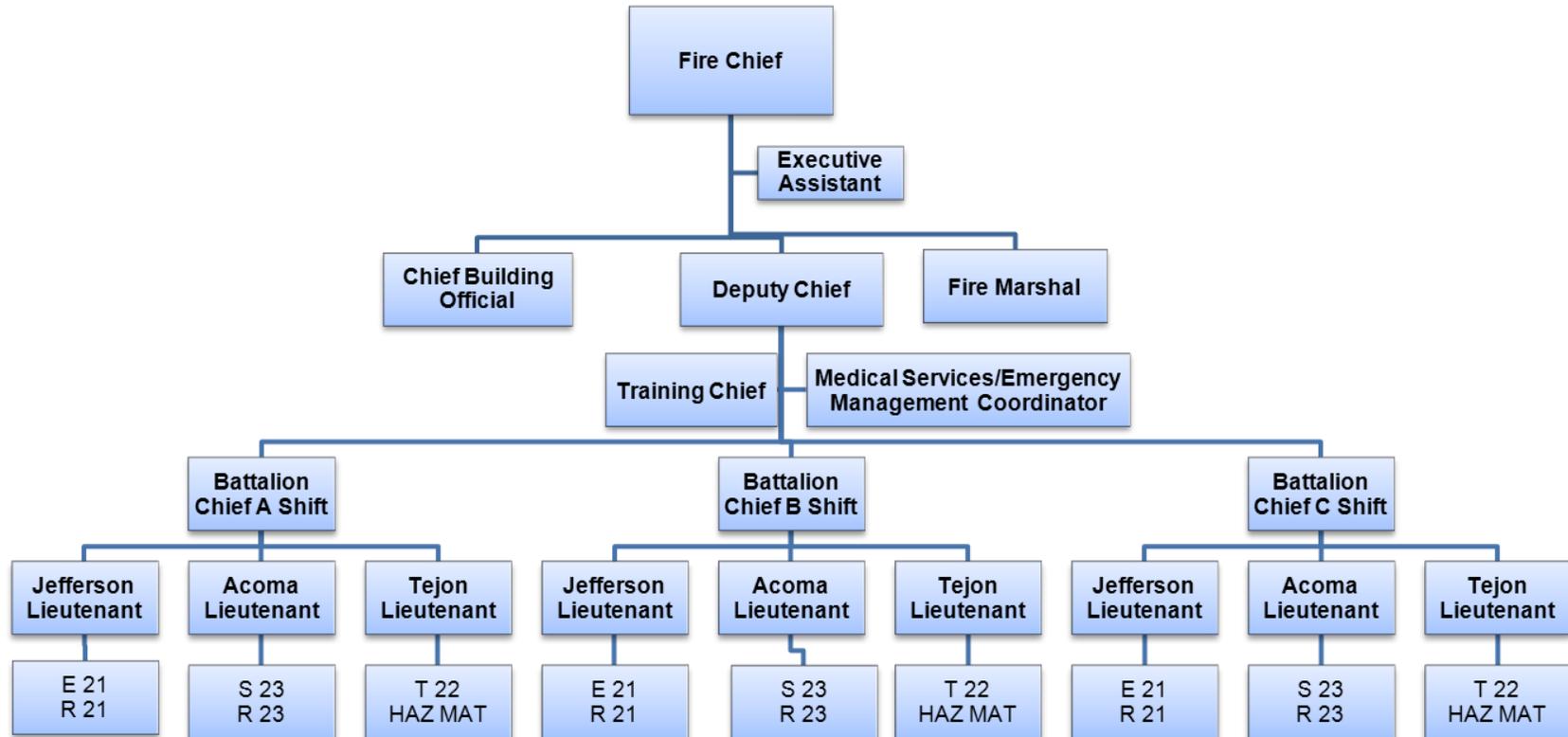
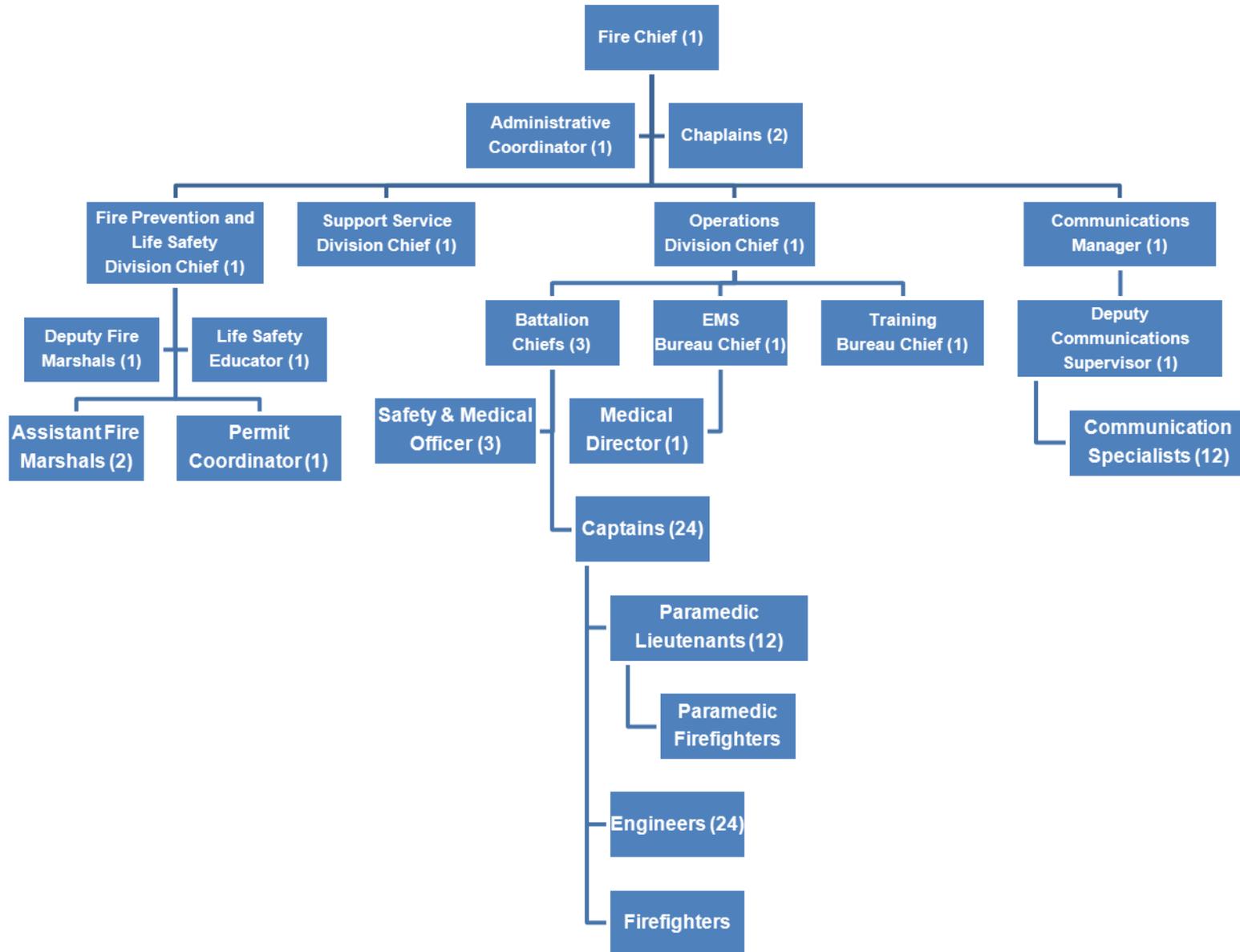


Figure 2: LFR Organization Chart



Environmental Scan

In order to assess the current situation and ultimately identify and review service options, ESCI needed to evaluate the external and internal environment surrounding the ultimate delivery of fire and EMS-related services in the two jurisdictions. To this end a variety of “environmental scan” methodologies were employed; specifically, ESCI utilized:

- Structured communication with internal and external stakeholders in a series of one-on-one and group interviews, which included COE, COL, EFD, HRMD, LFPD, and LFR elected officials and staff.
- Structured review of current agreements, previous studies, reports, and plans.
- On-site review of facilities.
- Modified SWOC analysis (Strengths, Weaknesses, Opportunities, and Challenges).

Structured Stakeholder Interviews

Interviews with internal and external stakeholders, which included:

- Identification of customer expectations.
- Determination of each stakeholder’s vision for the future of the organization and the region as it relates to service delivery.
- Opinion of individual fire department service delivery system strengths and weaknesses and ability to continue to deliver services at an acceptable level.
- Identification of current and future challenges and critical issues that may impact the organization or the delivery of service.
- Thoughts and ideas as to how the current situation could or should be improved.
- Positive aspects of cooperative services between EFD and LFR.
- Hurdles to cooperative services between EFD and LFR.
- Thoughts on other agencies that could or should be involved in cooperative efforts with EFD and LFR.

Structured Review of Current Agreements, Previous Studies, Reports, and Plans

Using selected reports, agreements, and other documents from each city, fire department, and HRMD and LFPD, ESCI mined information for additional factors that would be appropriate when considering opportunities for cooperative efforts and the development of strategies and options.

Modified SWOC Analysis

The methodologies employed in the environmental scan were used for the development of an analysis of the organizational strengths, weaknesses, opportunities, and challenges (SWOC). Items that were identified during the identified during stakeholder interviews that comprise the

SWOC analysis are listed in the following tables (Figure 3, Figure 4, Figure 5, Figure 7, and Figure 6). Comments are a synopsis as reported to ESCI by individuals and groups and are the individual's perceptions. Those comments with a bracketed number indicate the sum of like responses by individual responders.

Organizational Strengths

Stakeholders were asked to identify the advantages, positive things and strengths of their own department's (LFR or EFD) existing fire and EMS system.

Figure 3: Organizational Strengths

Organizational Strengths as Identified by:	
COE and EFD	COL and LFR (HRMD and LFPD)
Quick response (5)	Strong culture of customer service and pride in ownership of the organization
Citizen survey results gives the fire department high marks (4)	Ability to deliver EMS in a timely manner, with ALS engines, very strong paramedic cadre
Citizens believe that the fire department is part of a full service city	Paramedics are into innovation (i.e., King video laryngoscope)
Small town feel of the fire department (2)	The department knows EMS and has set a high bar for folks to be in (employed by) LFR
Identity and the citizens recognize them and pride in the organization	Proximity of the resources and ability to move them around in the area
Participation in community and local events (2)	Depth of resources
Authority given to personnel to handle situations (2)	That some firefighters live in HRMD
Size and the number of fire stations provide the City with a good level of service	Littleton citizens are getting a good bargain on fire and EMS
Traditional department with longevity (2)	Overwhelming strength is the paramedics, special caliber individuals
Fire department that is well equipped to handle all incidents (2)	Excellent equipment and always seem to be able to obtain it
City has gone away from the larger apparatus (ladder truck), and are well-suited to EMS	Strong medical quality assurance, quality improvement (QA/QI)
Strength in their medical service	Level of education for paramedics, not the typical PowerPoint
Cohesive group of employees	Scenario house that is a skills practice center for paramedics
Good hardworking personnel	QA program that is intense and provides great feedback
Flexibility and ability to work through issues	Paramedics receive feedback within 48 hours on every cardiac case; provided LFR with over 400 follow-ups last year
Well trained professionals (5)	LFR's community involvement
Commitment to the department and the City	LFRCC has the advantage of a dedicated fire and EMS (3)
Public perception of the fire department is one of a pristine image	LFRCC dispatchers are trained in emergency medical dispatch (EMD), hazardous materials, and can be sent to the scene to handle the communications function

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Organizational Strengths as Identified by:	
COE and EFD	COL and LFR (HRMD and LFPD)
From a citizen stand point you cannot beat the coverage offered by the EFD	LFRCC has an interface with South Metro Fire Rescue that sends the closest unit
Service is very good	Efficiencies in the shared services with LFR, HRMD, and LFPD
Pride of the personnel (customer service) (2)	LFR provides excellent services
Strong EMS and a strong Tactical Medic Program (2)	Paying little for service compared with neighbor (3)
Biggest strength is the personnel	High quality capital assets (2)
Good fire prevention program; company inspections with cooperative working relationship with businesses	Paramedic on each piece of apparatus
Good medics (3)	Dedicated and quality personnel (2)
Good relationships with other City departments and schools	Department focus on safety and pride in department's history "where we were and where we are now"
Local control	Quality line personnel
Opportunity for the firefighter/EMTs to try multiple jobs	Department is lean, has flexibility, ingenuity and good leadership
	Well-trained personnel (LFR)

Current Organizational Weaknesses

Stakeholders were asked to identify some of the disadvantages, negatives, or weaknesses of their department's (LFR or EFD).

Figure 4: Organizational Weaknesses

Organizational Weaknesses as Identified by:	
COE and EFD	COL and LFR (HRMD and LFPD)
There are good hardworking personnel in the department but no succession planning. Fire department has not been good at growing leaders.	Department is thin (staffing) and has not grown with the area (3)
Low staffing of line (operations) and administration (2)	Training facility is outdated, on the river, and is underutilized
Cost (fire department) is expensive (2)	Need for better documentation
Separating fire for the police created a great deal of angst	High number of administration and support personnel
Funding and sustainability of the system, finances (7)	Overtime issues and managing overtime
While other City departments are cutting the fire department continues to grow	Injury leaves
Fire department is in a transitional time and it used to be a public safety service department	Not sure that Englewood would add any resources
There are some issues with fire department leadership	More likely to request resources from West Metro and South Metro

Organizational Weaknesses as Identified by:	
COE and EFD	COL and LFR (HRMD and LFPD)
The sense is that they are paying top dollar for fire personnel	Complicate the cost allocation with contract agencies
Fire department is traditional to a fault	Not providing full transport
Firefighters are not team players	Low staffing of line (operations) and administration (4)
No ability for the fire department to think outside of the box	Lack of leadership (command staff groupthink) (2)
Concerned about their future including: contract agency, swallowed up by another department, loss of job, City is not ready to step up for them	Need for a vision, master plan, strategic plan, and standards of coverage study (2)
Fire department is top-heavy	Poor response time, no established standards and questionable tracking system
Sense that EFD and LFR have different ideals because of travel time and frequency	Previous administrations did not treat partner agencies well
A lack of leadership (2)	Expansion to include EFD would challenge partnership
No direction for day-to-day operation	Internal communication
Leadership does not advocate for the fire department	Training center is substandard
Labor issue and who is taking over who or the survivor	Potential of retiring chiefs, loss of leadership
The staffing level does not allow for adequate coverage on concurrent calls (3)	Some firefighters seem to say, "I want mine and more." "We want to be the first to have..."
Administration has been routinely reduced in staff to where many of the programs are not adequately supported	Influence and impact of "union" leverage
Resources have been reduced and yet demand for services has continued to increase	On-going tension regarding full transport and staffing (2)
The City needs to evaluate ways to increase revenue	Service gaps, TrailMark, Wadsworth, and Lochmoor (response model), South Metro FR provides over 1,100 responses annually for LFR
City mill levy has been static, the City relies only on sales tax revenue	Revenue model (sales tax) is flawed
Fire stations are in poor condition (2)	
There is no strategic planning for the City and other City departments (2)	
Support for fire department programs is lacking, staff have split duties/functions	
Firefighters willing to carry on programs but frustrated with lack of minimal monetary support	
Morale issues	
Small number of people to take on many tasks / programs, doing too much with too few people (2)	
Since 2004 fire department has lost support positions with no plan to deal with workload. Strategy is to not replace people as they retire with no thought to program impact	
Need to review programs, prioritize and make adjustments	

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Organizational Weaknesses as Identified by:	
COE and EFD	COL and LFR (HRMD and LFPD)
Money tends to go to the "latest/greatest"	
City management does not think highly of the fire department (2)	
Fire department is seen as a luxury or burden	
City council will praise the fire department right up until budget time	
Fire department administrative staff is inadequate to carry out critical functions, too much important work falls through the cracks	
Training is not adequate	
No long-term plan for funding, maintenance, vehicle replacement, etc.; it is all day to day (3)	
Issue of overtime costs	
City is underfunding the fire department at about 25 percent	
Compensation is lower than other fire and EMS agencies	

Opportunities for Cooperation

In the table below (Figure 5), responses to the question, "In your view, what are the positive aspects that may be realized by having Littleton and Englewood work more closely together or combine?" are catalogued.

Figure 5: Organizational Opportunities

Organizational Opportunities as Identified by:	
COE and EFD	COL and LFR (HRMD and LFPD)
Operational and administrative efficiencies (3)	Cultures are similar and Englewood is proud of their fire department
Yes, with the proviso that it has to be sustainable	Standard operating procedures (SOPs) are similar, the way they fight fires is the same
Shared cost and expertise, save money and resources, potential to solve some budgetary issues (3)	Have begun doing some training cooperatively
Opportunities for advancement (2)	Communications center
Economies of scales, larger resource pool (4)	Better coverage for the area, more efficient deployment of resources, greater number of units in the system (6)
Professionalism that LFR displays	Reduction in personnel costs
An adjunct with them in some fashion could create a new culture	Improvement in specialty team (2)
Collectively reduce the amount of rolling stock, shared capital resources (2)	Standardized training versus trying to operate on the scene and learn

Organizational Opportunities as Identified by:	
COE and EFD	COL and LFR (HRMD and LFPD)
Proximity of the fire departments	Need for fewer fire stations
The two cities are doing similar things and yet each operating separately	Efficiencies
Yes for training and for fire education, flexibility in training (4)	Economies of scales (3)
Consolidation could provide additional resources and allow both agencies (fire departments) to determine optimum coverage and response, especially important for concurrent calls, improve low-frequency/hi-risk incident response, enhances operations (5)	Unified communications center (3)
Would allow for considering an authority	Improved battalion chief coverage
Less duplication	Additional resources, bigger might be better, potential reduction regarding span of control with potential second shift battalion chief
Share apparatus	More sustainable system
Joint purchasing, consolidation of support programs (2)	Fan of regionalism
Central dispatch, merge communications (6)	Natural fit, should integrate well (3)
Resources that cannot say no	Similar communities
More sustainable (sustainability) (3)	Streamline administration
Shared risk; an intermediate step (2)	Offer more creative ways to respond to citizen needs
Lots of positives	Better white shirt and blue shirt ratio
Makes sense	Purchasing
Improved on-scene support (safety officer);	Solid management
Four-person dedicated truck company	
Rapid intervention team (RIT)	
No-brainer to consolidate	
Handle simultaneous incidents; improved communications	
Dedicated fire mechanic	
Integrated expertise	
Personnel for prevention activities	
Open up dive team membership for EFD personnel	
Ability of personnel to move between fire stations	

Identification of Critical Issues

A clear understanding of the critical issues facing each organization today is a yardstick with which to measure projected improvement from cooperative efforts. With this understanding, leaders will be prepared to face and devise appropriate strategies to mitigate or minimize the issues. Additionally, the enunciation of critical issues to employees and city council members

increases their awareness of the organization’s priorities and assists them in becoming focused on solutions.

During ESCI’s interviews with stakeholders, interviewees branded similar issues as critical for the two cities and fire departments. Overriding all other concerns were financial sustainability, and the ability of the fire department to maintain a high level of service. General themes included capital equipment replacement, staffing (administration, support, and emergency operations), service demand, finance, and succession planning.

Responses from individuals are listed by the level of importance and frequency. For example for COE and EFD, 14 people felt that finances were the number one critical issue and one felt that it was a need for efficiencies. Inputs are summarized below:

Figure 6: Critical Issues

Critical Issues as Identified by:	
COE and EFD	COL and LFR (HRMD and LFPD)
1. Funding, financial (Budget problems are not with the fire department but with other city departments), finance, financial, financing (14)	1. Finances, keeping up with the expenditures growth and competing with other jurisdictions for sales tax, revenue, funding, and at a rate for the service level wanted by the constituents (8)
1. Need for efficiencies	1. Staffing level (3)
2. Funding, Fire department expenses are growing faster than revenue (3)	1. Loss of younger (new) employees leaving because of uncertainties
2. Long term sustainability (3)	1. Governance
2. Communication	1. Vehicle replacement program, funding
2. Sustainability (2)	2. Finances (3)
2. Facilities and apparatus	2. Staffing level
3. Succession planning	2. Maintaining streets and overall the municipal infrastructure
3. HIPPA (Health Insurance Portability and Accountability Act) compliance	2. Command staff and leadership
3. Steering committee	2. Increasing service demand
3. Leadership	2. Response times
3. Service demand and inadequate resources	2. Fire Station No. 11 is located in a bad location and was poorly designed
3. Need to know where they (fire department) are going	2. Fire Station No. 13 is in the wrong location
3. Labor issues in the Englewood Fire Department	3. Revenue (2)
4. Leadership	3. Governance
5. Need for a mentor program	3. Leadership and Direction
6. Need for succession planning	3. Culture change
	3. Succession planning (lack of)
	3. Are staffing assumptions correct?

Critical Issues and Challenges to Cooperative Efforts

Equal in importance as identifying internal critical issues is the task of ascertaining what the fire departments will face if they undertake cooperative efforts. Having an appropriate level of forward thinking permits an agency to identify what problems may be encountered if a decision is made for greater collaboration. Awareness of issues ensures that EFD and LFR do not miss opportunities or face challenges unprepared.

EFD and LFR management should examine current, pending, and future issues as a matter of routine discussion topic at internal staff meetings and in dialogue during joint agency meetings. The following items (not identified in priority order) are identified by those interviewed during the stakeholder input process:

Figure 7: Critical Issues and Challenges to Cooperative Efforts

Organizational Challenges as Identified by:	
COE and EFD	COL and LFR (HRMD and LFPD)
Funding (2)	A need for goals and objectives that the two cities could politically agree on
Agency identity, loss of identity (2)	Determine if there is an economy of scales
How a cooperative effort would be sold to the public	Need for a finance person to work with the fire department
Selling the idea to the line personnel of the Englewood Fire Department, participation of the personnel in the process	Equity or parity for all parties
Where we go with leadership	Increase staffing and can demonstrate efficiencies
How can firefighters transfer throughout the system	Communication center
Standardization of compensation and benefits	Must be financially sustainable
Culture, merging cultures (4)	Need to take care of the employees. Nobody can get screwed on the deal
Address the issue of citizens wanting their own (perception) fire department	Fire union will fill any vacancies when there is no decision.
Finances (cost effective, sustainable, and has to stem the growth of where they are currently going)	Governance issue, there is a need for an RFA soon
Cost equity	Police interaction between the cities
An easy transition for the personnel (no loss of job, benefits, and longevity), that personnel are respected and taken care of (2)	Who pays and how, Englewood has to become part of a larger system
Maintain or improve service delivery levels, service level and the perception of the public on safety and service (2)	Financial structure
Overtime costs	Governance Model and organizational structure (who's in charge) (2)
Cost neutral or has cost avoidance	Cultural differences

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Organizational Challenges as Identified by:	
COE and EFD	COL and LFR (HRMD and LFPD)
Resolve transport and non-transport issue	Financial support from partnering agencies
Clarify the role of EMS in the department	Funding (2)
What is the role of the IT department in a merger	Management structure (governance)
Financial outcome has to be feasible and sustainability, funding (6)	Logistics; level of service; staffing
Personnel from both departments are taken care of	Leadership; both governance and management
Do not feel any issue is critical	Equity with levy, revenue and capital assets
Getting the city council buy-in	Integration of personnel
Establishing the mechanism; RFA, district, contract?	Who is the "top Chief?" Personnel integration
Organizational structure	Administrative procedures
How do we integrate (move over); i.e., rank	Uniforms, patches, logos, and organization name
How will it work; have to be a joint powers board (fire authority)	Economic makes sense
Joint powers board; clear and functional structure	Service makes sense to citizens, public relations initiative on benefits of collaboration
Seniority; rank structure; job security	Partner support; staff, and union support
Cultural melding	Who is going to manage (governance)
Certifications and standards	Establishing the mechanism; RFA, district, contract? Term of agreement; i.e., short or long-term?
Rank structure; pay and benefits; job security; which organizational chart (do EFD Driver/Operators Engineers lose rank); minimum qualifications for promotion (6)	Organizational structure
Do not want to get "Parked"	Merging cultures (3)
Governance (decision making and stability) (3)	There is a need for goals and objectives that the two cities could politically agree on
Physician advisor	Determine if there is an economy of scales
Allocation of resources; deployment	Need for a finance person to work with the fire department
Pay disparity	Equity or parity for all parties
Policy	
Agency identity, loss of identity (2)	
How a cooperative effort would be sold to the public	
Selling the idea to the line personnel of the Englewood Fire Department, participation of the personnel in the process	

In interviews stakeholders were offered a time to share other thoughts that they might have regarding cooperative efforts between EFD and LFR. A list of their comments in random order are listed below.

Figure 8: Stakeholders Other Comments on Cooperative Efforts

Combined Stakeholder Comments
Do not look at Denver, South and West Metro; they would look at EFD personnel as disposable
Sheridan would be a good consideration for combining with LFR and EFD
A number of promotional examinations coming up
The only planning the City has done for the fire department is that they know that in four years everyone in management will be gone because they are all in the drop program
What would be done with emergency management for the cities
A feeling that the current organizational governance model should be changed. It is “flawed”-did not represent all of the participating agencies fairly and do not see how it was possible to add a 4th partner. The current system should be changed – prior to any consideration of “merging”
Belief that unless staffing would increase, especially in administration, having an additional work load would not be beneficial
Some lag in communications when calls go to Douglas County. No heart burn with calls going to Metcom
Look first at an IGA between the cities as a model
No reservations and feels that they could
Not too worried about governance
Could be a cooperative effort with Sheridan. Sheridan is less financially stable than Englewood but could be able to combine fire stations
Hope that it would be a good relationship
Dispatch is an area of potential for cooperative efforts, co-locating a communication center with Metcom and LFRCC
Training is a major area of potential for cooperative efforts
Possibly field maintenance of apparatus with mobile units
Option of battalion chief coverage
Payment for servicing people that have been discharged from the hospital
Making certain that everyone is involved in the process (under a consolidation)
Dedicated training and using a PAU (peak activity unit)
Succession plan, all of the employees in administration is on the drop plan and will be gone in less than five years
Department is over manned and over equipped
Growth of fire department expense is outstripping income of other City departments
Inability of the fire department to look at innovation
Need for a steering committee to work through the process
A leader could develop a more progressive fire department
Loss of the mall is described by everyone as the drop in revenue
Pride of ownership by employees in the Englewood FD
Actively pursue grants
Should one of the fire stations be closed, what is the impact on response, service levels, and would it save any money?
Name of a new organization: <i>Littlewood, Engleton, Metro Fire Rescue</i>
Possibly for combining training, communications, support and logistics
Issue of Trail Mark needs to be addressed

Combined Stakeholder Comments
Emergency medical is the backbone of the fire departments
Fire department wants to get out of the gate and have been hampered by funding
Fire department accreditation
Expense of operating a hazardous materials program
Feel optimistic because the agencies are working together on the wastewater treatment plant
How would Highlands Ranch Metropolitan District and Littleton Fire Protection District benefit?
Complications of adding another partner
Outsource fire and life safety plans review

Community Forums

ESCI's associates facilitated two community public input meetings (one on November 7 and the second on November 8). They were intended to provide information and to gather input from members of the general public, community organizations, and neighborhood associations. Forum attendance averaged about 65 persons for the two meetings. The forums permitted ESCI to gauge public sentiment toward options for fire and EMS system changes, and enable a discussion centered on the following issues:

- Customer (community members) perception of emergency services
- Desired level of service
- Support for a consolidated emergency services system
- General input on fire and EMS

The project team prepared a survey instrument, questions, and forms that were used during the community meetings. A professionally produced presentation of study objectives were used to increase customers' understanding of their role in the process. The results of the assessment of current resources, projections of future demand and risk, and the fire service costs and existing funding sources were summarized, presented and discussed in each meeting.

The ESCI presentations prompted a number of questions from interested citizens but did not yield statistically valid data in the form of citizen input. As anticipated and is normal, citizens from both communities expressed reluctance to yield control of their EMS and fire services to another bureaucracy or a third party.

Staffing and Personnel Management

Fire and EMS (emergency medical service) organizations must provide adequate staffing in three key areas: emergency services, administration, and support. ESCI surveyed each of the fire departments to assure that a reasonable balance between the three areas is maintained given the realities of available local resources.

Administration and Support Staff

One of the primary responsibilities of a fire department's administration and support staff is to ensure that the operational entities of the organization have the ability and means to accomplish their responsibilities on emergency incidents. Efficient and effective administration and support are critical to the success of a fire department. Without sufficient oversight, planning, documentation, training, and maintenance, the department will fail any operational test. Additionally, like any other part of the department, administration and support require appropriate resources to function properly.

Emergency Services Staff

It takes a highly trained staff of emergency responders to put the appropriate emergency apparatus and equipment to its best use in mitigating incidents. Insufficient staffing at an operational scene decreases the effectiveness of the response and increases the risk of injury to both firefighters and citizens.

The results of this study will document any current or potential staffing challenges faced by EFD and LFR. The study findings will measure the current service demand, and determine the ability of each department to serve its community with adequate response, in both emergency services delivery and administrative functionality.

Several standards address staffing issues, specifically, the *OSHA Respiratory Protection Standard 29 CFR 1910.134*; *NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, to the Public by Career Fire Departments*; and *NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* are frequently cited as authoritative documents. In addition, the

Center for Public Safety Excellence (CPSE) publishes benchmarks for the number of personnel required on the emergency scene for various levels of risk.¹⁴

Personnel Management Systems

However, numbers and deployment of people are not the only considerations. Careful attention must be paid to managing the workforce to achieve maximum productivity for the organizations as well as maximum satisfaction for the individuals. A safe working environment, fair treatment, and recognition for a job well done are key components to job satisfaction.

It is also important that the organization’s members know to whom they should go when they have a problem, question, or issue related to their relationship to the organization. In large organizations and municipalities a human resource department typically handles this function. Staff within such a department addresses questions, issues, and tasks related to appointment, benefits, performance, discipline, promotion, or termination of employees.

Survey Table 3: Staffing and Personnel Management

Survey Components	EFD	LFR
1. Policies, Rules, Regulations, and Operational Guidelines		
A. Human resource manager	Sue Eaton, Director of Human Resources	Erich WonSavage, Human Resources Director
B. Personnel policy manual maintained	Yes, hard copy and electronic	Yes, Littleton Personnel Policies and Procedures
i) manual provided at initial hiring	Yes, employees directed to electronic version on the City intranet	Yes, employees directed to electronic version on the City interlink site, hard copy in each city facility
ii) training provided	Yes	Yes
iii) periodic review and update	As needed	Yes
C. Rules and regulations provided	Yes	Yes
D. Operational guidelines provided	Yes, SOGs (standard operating guidelines)	Yes, SOPs (Standard Operating Procedures)
E. Position descriptions current/accurate	Yes	Yes
E. Desk manuals	Yes	Yes
F. Retention program established	No	No
2. Compensation, Point System, and Benefits		
A. Uniformed employee compensation, FT annual 2012		
i) fire chief	\$113,505.60	\$132,167.88
ii) bureau chief	N/A	\$104,904.02 to \$112,440.12
iii) division chief	N/A	\$114,626.72 to \$115,188.06

¹⁴ CPSE: formerly the Commission on Fire Accreditation International (CFAI).

Survey Components	EFD	LFR
iv) deputy fire chief	\$98,533.78 (range \$93,136 to \$121,076)	N/A
v) training chief	\$95,583.60	N/A
vi) fire marshal	\$85,055.54	N/A
vii) deputy fire marshal	N/A	\$84,768.06
viii) assistant fire marshal	N/A	\$75,732.02
ix) life safety educator	N/A	\$69,852.12
x) EMS coordinator/emergency management coordinator	\$84,217.76	N/A
xi) safety and medical officer	N/A	\$95,039.10 to \$98,868.12
xii) executive assistant	\$52,621.96	N/A
xiii) administrative coordinator	N/A	\$50,255.92
xiv) permit coordinator	N/A	\$50,304.02
xv) intern	\$29,016.00	N/A
xvi) battalion chief I, operations	\$90,300.50	\$98,770.10 to \$104,112.06
xvii) battalion chief II, operations	\$94,815.53	N/A
xviii) captain paramedic, operations	N/A	\$90,600.12 to \$98,622.94
xix) lieutenant, operations	\$83,737.72	N/A
xx) lieutenant paramedic, operations	N/A	\$82,319.12 to \$86,100.04
xxi) driver operator/engineer, operations, A, C	\$76,125.20	\$72,393.10 to \$75,301.98
xxii) driver operator/engineer paramedic, operations	\$79,931.46	\$78,549.90
xxiii) firefighter I – paramedic, operations, A	\$79,585.44	\$75,301.98 to \$77,445.94
xxiv) firefighter II – paramedic, operations, B	\$72,350.40	\$73,835.06
xxv) firefighter III – paramedic, operations, C	\$65,773.09	\$72,317.96
xxvi) firefighter I, operations	\$69,204.73	\$68,853.98 to \$70,153.98
xxvii) firefighter II, operations	\$62,913.39	N/A
xxviii) firefighter III, operations	\$57,193.99	N/A
xxix) firefighter IV, entry	\$50,206.77	\$46,164.04
B. Additional compensation		
i) EMT premium pay	No	No

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Survey Components	EFD	LFR
ii) paramedic pay	Firemedic assigned and authorized by the Fire Chief to perform on a regular basis receive 15 percent over and above the affected employee's hourly rate	No
iii) driver operator engineer	DOEs that maintain a paramedic certification (EMT-P) receive 5 percent increase over and above the affected employee's regular hourly rate	No
iv) clothing allowance	Provided and replaced as needed	Provided and replaced as needed, plus \$270 annually for uniform cleaning, shoes, and other work related items
v) longevity pay	No	Discontinued
vi) other specialty pay	<p>Shift fire investigators receive \$0.41 per hour and discretionary merit pay of up to \$600 each year Each employee is eligible for merit pay up to \$1,200 per year for:</p> <ul style="list-style-type: none"> • Hazardous Materials Team Leader/Instructor • Technical Rescue Team Leader • Safety Education Team Leader • Child Passenger Safety Team Leader • Fire Investigation Team Leader, Honor Guard Team Leader • SWAT Medic Team Leader • Wild Land Fire Team Leader • Characterization Team Leader • Other assignments as determined by the fire chief after consultation with the Union <p>(No merit pay is to be paid in 2012 and 2013)</p>	Yes, for specially team leaders, \$150 per month
vii) holiday pay	80 hours of holiday time-off or pay	Yes, equivalent to three working shifts at regular pay
C. Career employee benefits		
i) social security	Yes, new hires after 1996	No, only for fire department employees not covered by FPPA
ii) workers' compensation	Yes, Colorado Intergovernmental Risk Sharing Agency (CIRSA)	Yes,

Survey Components	EFD	LFR
iii) pension	FPPA	FPPA
iv) deferred compensation	No	No
v) medical insurance	Yes	Yes, employee, one dependent, or family, with employees paying 18 percent (City pays 75 percent of voluntary electrocardiogram at five-year intervals)
vi) dental insurance	Yes	Yes, cost of employee coverage only
vii) short and long term disability insurance	Short term disability from illness/injury at 100 percent of the employee's regular wage up to nine hundred sixty (960) working hours, 4 shifts	Yes, provided by the City, long-term FPPA
viii) life insurance	Yes, equivalent to the annual salary	Yes, equivalent to the annual salary
ix) vision insurance	Yes	Yes
x) survivor income benefit	Through FPPA	Through FPPA
xi) additional life insurance	No	No
xii) vacation	See Figure 9	See Figure 10
xiii) other	N/A	Sick leave buy out, tuition reimbursement per City policy,
D. Labor agreement		
i) signatory parties	The Englewood Firefighters Local #1736 and the City of Englewood	Littleton City Manager's Office and Local #2086 International Association of Fire Fighters, effective January 1, 2011
ii) term and duration	2012 and 2013	Two years, 2011 – 2012
3. Disciplinary Process		
A. Disciplinary policy established	Yes, in operations manual	Yes, City policies
B. Disciplinary process communicated	At time of hire and when changes occur	At time of hire and when changes occur
C. Appeal process provided	Yes	Yes
i) recent litigation	No	No
ii) pending litigation	One pending EEOC action	No
4. Counseling Services		
A. Critical incident stress debriefing	Yes, provided by HealthOne	Yes
B. Employee assistance program	Yes	Yes, Minds and Associates
C. Intervention program	Yes	Yes
5. The Application and Recruitment Process		
A. Recruitment program	Formerly had one, not currently active	Denver Regional Council of Governments, (DRCOG) program
B. Application process		
i) qualification check	Yes, EPD	Yes, outside vendor
ii) reference check	Yes, EPD	Yes, outside vendor
iii) background check	Yes, EPD	Yes, outside vendor

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Survey Components	EFD	LFR
iv) physical standards established	Yes	Yes, CPAT (Candidate Physical Ability Test)
v) knowledge testing	Yes	Yes, DRCOG
vi) interview	Yes, hiring board interview and a chiefs interview	Yes, hiring board interview
vii) medical exam required	Yes, same as incumbents	Yes
viii) psychological exam required	Yes	Yes
6. Testing, Measuring, and Promotion Process		
A. Periodic competence testing	Yes, annually by training	Yes, annually by training
B. Periodic physical competence testing	Yes	No
C. Periodic performance review	Yes, annually	Yes, annually
D. Promotional testing	Yes	Yes
7. Health and Safety		
A. Medical standards established	Yes, NFPA 1582, Medwell	Yes, entry level physical and follow-up physicals every five-years. Hazardous materials personnel yearly.
i) periodic medical exam	Annually	Five-year interval, hazardous materials personnel yearly.
B. Safety committee established	Yes	Yes, City and LFR
i) membership	Training chief, EMS, battalion chief, lieutenant, driver operator/engineer, firefighter, and City HR	Training chief and operational personnel (1 per shift)
ii) meetings	Monthly	Annually and as needed
iii) meeting minutes	Yes	Yes
8. Administration and Other Support Staff		
A. Fire chief	1.0	1.0
B. Operations chief	0.0	1.0
C. Deputy fire chief	1.0	0.0
D. Support services chief	0.0	1.0
E. EMS bureau chief	0.0	1.0
F. EMS coordinator	0.5	0.0
G. Emergency management coordinator	0.5	0.0
H. Training bureau chief	1.0	1.0
I. Training officer	0.5	0.0
J. Safety and training officer assigned to administration	0.0	1.0
K. Fire marshal	1.0	1.0
L. Deputy fire marshal	0.0	1.0
M. Assistant fire marshal	0.0	2.0
N. Life safety educator	0.0	1.0
O. Permit coordinator	0.0	1.0
P. Executive assistant	1.0	00
Q. Administrative assistant	0.0	1.0

Survey Components	EFD	LFR
R. Intern (grant funded)	0.5	0.0
S. Communications supervisor	0.0	1.0
T. Deputy communications supervisor	0.0	1.0
U. Dispatchers	0.0	11.0
V. Total administrative and support staff	7.0	26.0
W. Percent administrative and support to total personnel	12.07	16.77 percent, including communications personnel; 9.15 percent fire department only
9. Emergency Service Staff		
A. Battalion chief	3.0	3.0
B. Safety and training officer	0.0	3.0
C. Captain	0.0	24.0
D. Paramedic lieutenant	0.0	15.0
D. Lieutenant (some have paramedic certification)	9.0	0.0
E. Engineer	15.0	24.0
F. Paramedic firefighter	14.0	21.0
G. Firefighter	10.0	39.0
I. Total operational staff	51.0	129.0
J. Fire department total	58.0	155.0
10. Use of Career and Volunteer Personnel		
A. Career schedule		
i) length of normal duty period	24 hours on, 24 hours off, 24 hours on, 24 hours off, 24 hours on, 96 hours off of work in nine consecutive days	48 hours on and 96 hours off
ii) FLSA period	72-hour, nine-day cycle	136-hour, 18-day cycle
iii) duty hours per week	56 hours	56 hours
iv) normal shift begins	0700	0800 operations personnel, battalion chiefs at 0700
v) callback requirements	No	No
vi) residency requirements	No	No
vii) standby duty requirements	No	No
B. Operational career services		
i) fire suppression	Yes	Yes
ii) EMS/rescue, first response	Yes	Yes
iii) EMS, advanced life support	Yes	Yes
iv) specialized rescue	Hazardous materials, SWAT medics, heavy rescue, water	Hazardous materials, SWAT medics, heavy rescue, water
v) fire prevention inspections	Line personnel complete the primary inspection followed up by fire prevention	Yes, fire prevention

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Survey Components	EFD	LFR
vi) emergency management	Yes	Yes
vii) public education	Yes	Yes
viii) hazardous materials response (level)	Technician	Technician
D. Volunteer services		
i) medical director	1	1
ii) chaplain	No	1
11. Responsibilities and Activity Levels of Personnel		
A. Assignment of routine duties:		
i) by position	Acting list comprised of candidates that have passed the test	Qualified interested personnel
ii) by areas of personal interest	Yes	Yes
B. Special duties assigned by:		
i) bid	No	Qualified interested personnel
ii) duty assignment	Fire chief appointment	Qualified interested personnel
iii) areas of personal interest	Yes	Yes
C. Committees and work groups		
i) EMS quality management	QI (Quality Improvement)	QA position was eliminated two years ago and is being funded in the 2013 budget, EMS captain
ii) chaplain	No	Yes, two. Carry pagers and are notified of incidents in the service area
iii) training	Yes	Ad hoc
iv) safety	Yes, City and fire department	Yes
v) building development	N/A	Ad hoc
vi) standards	No	Ad hoc
vii) other	Life safety education	Ad hoc

Figure 9: EFD Annual Vacation Leave Accrual

Years of Service	Hourly Accumulation Per Month	Annual Total Hours	Shifts
0-4 years continuous service (through 48 months)	15	156	6.5
5-9 years continuous service	15	180	7.5
10-14 years continuous service	19	228	9.5
15-19 years continuous service	21	252	10.5
20-24 years continuous service	23	276	11.5
25+ years continuous service	25	300	12.5

Figure 10: LFR Annual Vacation Leave Accrual

Years of Service	Battalion Chief	Other 24-Hour Fire
1 year up to 5 years	204	180
5 years up to 10 years	228	204
10 years up to 15 years	252	228
15 years up to 20 years	276	252
Over 20 years	300	276

Administration and Support Staffing Levels

Like any other part of a fire district, administration and support require appropriate resources to function properly. Analyzing the administrative and support positions of a fire department facilitates an understanding of the relative number of resources committed to this important function. The appropriate balance of the administration and support components to the operational component is critical to the success of a department’s mission and responsibilities. The following figure outlines the administration and support organizational structure of EFD and LFR. ESCI began with a review of the administration and support positions of the departments.¹⁵

Figure 11: Administrative and Support Staffing, FTEs

Position	EFD	LFR
Fire Chief	1.00	1.00
Operations Chief	0.00	1.00
Deputy Fire Chief	1.00	0.00
Support Services Chief	0.00	1.00
EMS Bureau Chief	0.00	1.00
EMS Coordinator	0.50	0.00
Emergency Management Coordinator	0.50	0.00
Training Bureau Chief	1.00	1.00
Training Officer	0.50	0.00
Safety and Training Officer	0.00	1.00
Fire Marshal	1.00	1.00
Deputy Fire Marshal	0.00	1.00
Assistant Fire Marshal	0.00	2.00
Life Safety Educator	0.00	1.00
Permit Coordinator	0.00	1.00
Executive Assistant	1.00	0.00
Administrative Assistant	0.00	1.00
Intern (grant funded)	0.50	0.00
Administration and Support Total	7.00	13.00

The administration and support staff for EFD is comprised of seven FTEs; LFR has 13 FTEs. Fire prevention staff are counted in administrative and support staffing as the primary function of

¹⁵ Communication center employees are not included in the administrative and support staffing FTEs.

these positions is outside of emergency response. The current ratio of administrative personnel to operational personnel in EFD is 12.07 percent and 9.15 percent for LFR. ESCI has found that municipal emergency services agencies generally require a 10 to 15 percent ratio of administration and support to operational personnel.¹⁶

Figure 12 summarizes the number of FTEs authorized to staff the LFRCC. Communication center functions for EFD are operated by the Englewood Police Department.

Figure 12: Communication Center Staffing, FTEs

Position	EFD	LFR
Communications Supervisor	0.00	1.00
Deputy Communications Supervisor	0.00	1.00
Dispatcher	0.00	11.00
Communications Total	0.00	13.00

Operational Staffing Levels and Deployment

Direct customer services for emergency operations are provided by full-time career personnel by EFD and LFR. The following figure lists the number of operational personnel by position and rank.

Figure 13: Emergency Operations Staffing, FTEs

Position	EFD	LFR
Battalion Chief	3.00	3.00
Safety and Training Officer	0.00	3.00
Captain	0.00	24.00
Paramedic Lieutenant	0.00	15.00
Lieutenant (some have paramedic certification)	9.00	0.00
Engineer	15.00	24.00
Paramedic Firefighter	14.00	21.00
Firefighter	10.00	39.00
Emergency Operations Total	51.00	129.00

¹⁶ ESCI recognizes that organizational goals, regulatory environment, and workload are the actual drivers that determine the number of administrative personnel required to deliver support services. The 10 to 15 percent ratio is the range that ESCI typically sees in fire service organizations and is used for comparison purposes.

Support Programs – Training, Life Safety Services (Fire Prevention), and Communications

Training

A well-trained workforce is essential to safely deliver effective fire suppression and emergency medical services. Training, education and development of department personnel are critical functions for LFR and EFD. Without a comprehensive training program, emergency outcomes are compromised, departmental personnel are at risk, and the cities may be exposed to increased liability for the actions of its employees. “One of the most important jobs in any department is the thorough training of personnel. The personnel have the right to demand good training and the department has the obligation to provide it.”¹⁷

Emergency personnel operate in a complex, dangerous, and dynamic environment, as emphasized nationally by the fatalities and serious injuries that occur annually. Training is the single most important factor that prepares emergency personnel to meet the challenges of the situations and environments in which they work. The International Fire Service Training Association (IFSTA) states:

...regardless of the particular system used, an effective training program will include: (1) the continuous training of all levels of personnel in the organization; (2) a master outline or plan; (3) a system for evaluating the scope, depth, and effectiveness of the program; and (4) revising the program, as required, to include changing state and federal mandates, advances in equipment, products, and operational techniques.

The function of a training program is not merely imparting personal knowledge and technical skills to an individual, it is developing the self-confidence to perform correctly under stressful if not hostile conditions. Firefighting is inherently dangerous; it is important that firefighters practice working within the confines of calculated risk. With fire department training, individuals are exposed to emergency situations where they will be required to interact with a number of realistic variables. Training gives firefighters situational awareness, a necessary tool in their arsenal.

In addition to firefighter training, emergency medical services (EMS) skills training is equally important. EMS responses make up the majority of the calls for service for most fire departments and all the calls for EMS agencies. EMS personnel must receive high quality initial and continuing education to ensure they are capable of providing appropriate patient care for a

¹⁷ Klinoff, Robert. *Introduction to Fire Protection*, 4th edition, Delmar Publishers, 2012. Clifton Park, NY.

wide variety of medical and trauma situations. Studies have shown that while moving and lifting patients, EMS providers are more likely to sustain back injuries that lead to missed work than workers in most other workplaces. In addition to injuries suffered while handling patients, EMS providers are at risk from injury responding and transporting patients, operating in traffic, and from violent encounters. OSHA and other standards require annual training in bloodborne pathogens and communicable disease control. A training program must be systematic and must provide positive feedback to the trainee, firefighter/EMT, or fire officer/supervisor. The goals of training should always focus on performance, never merely on acquiring a certain number of training hours.

Today's industry standards outline certain areas that are considered integral to effective training programs. The program should include the following:

- General training competencies
- Training administration and scheduling
- Training facilities and resources
- Training procedures, manuals, and protocols
- Record keeping (records management system)
- Organizational priority to training
- Training program clerical support services

A training program that includes the above will help ensure that personnel have the capacity to respond effectively and safely to calls for service in their communities.

Survey Table 4: Training Services – Firefighter and EMS

Survey Components	EFD	LFR
1. General Training Competency		
A. Incident command system	Yes, National Incident Management System (NIMS); all personnel have been through FEMA matrix to the appropriate level	Yes, National Incident Management System (NIMS); all personnel have been through FEMA matrix to the appropriate level
B. Accountability procedures	Passports (not widely used; more used out of city); scene board; IC uses tactical worksheet to track personnel	Yes, on routine incidents and emergencies
C. Policy and procedures	Both hard copy and electronic; JPRs; probationary FF manual	Yes, all electronic
D. Safety procedures	Operations; H drive	Yes, all electronic

Survey Components	EFD	LFR
E. Recruit academy	No; formal 3-week orientation; new hires must be FFI & EMT; or EMT with 1/year experience; or volunteer FF/EMT with two years' experience	Yes, 12 to 13 weeks
F. Special rescue (high angle, confined space, etc.)	Operations level (not USAR)	No
G. Hazardous materials	All are minimum operations certified; 15 technicians that participate on Arapahoe/Douglas team; cooperating with Littleton	All are minimum operations certified; 15 to 20 technicians that participate on Arapahoe/Douglas team; cooperating with Littleton
H. Wildland firefighting	Wildland team; 8 people; red card credential; will send Type I team for structure protection	Wildland team; all recruits are red card credential; will send Type I team for structure protection, Type VI, and State owned Type III (task book level qualified)
I. Vehicle extrication	Extrication team; train-the-trainers	Extrication team; train-the-trainers
J. Defensive driving	On-going training is not consistent; DOE training manual; knowledge content; check-off lists for competency	Yes, EVOC (Emergency Vehicle Operator Course)
K. Use and care of small tools	Just basic firefighter training	Just basic firefighter training
L. Radio communications & dispatch protocol?	Nothing formal; on-the-job	Yes, during the academy and OJT
M. EMS skills and protocol?	Minimum of EMT; Denver metro area protocols; on-going performance improvement training monthly	Minimum of EMT; Denver metro area protocols; on-going performance improvement training monthly
2. Training Administration		
A. Director of training program	Training Officer	Training chief
B. Education or background	Masters of Science; EFO	BS education
C. Goals and objectives identified	Not formalized; working on shift training officers; plan to hand off day-to-day in order to focus on promotional	Yes, annual training plan
D. Governing body support and concurrence	No formal contact on that level	Yes
E. Personnel knowledge and understanding	Yes	Yes
3. Training Facilities and Resources		
A. Training facilities (tower, props, pits)	3.5 acres, classroom, 5-story tower, 2-story burn building, cargo-container maze prop, confined space "worm," LPG tree and tank prop, concrete pad, PPA prop, extrication area	3.5 acres, classroom, 5-story tower, 2-story burn building, cargo-container maze prop, confined space "worm," LPG tree and tank prop, concrete pad, PPA prop, extrication area
i) live fire prop	Yes, not used	Yes, not used
ii) fire and driving grounds	Yes	Yes
B. Classroom facilities	Classroom building; 2,000 square feet; also EOC	Classroom building; 2,000 square feet

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Survey Components	EFD	LFR
C. VCR, projectors, computer simulations	Yes, no simulations; limited computer simulator at HQ for B/Cs and TO	Yes, computer based simulation
D. Books, magazines, instructional materials	Yes	Yes
4. Training Procedures Manual		
A. Manual developed and used	Yes	Yes
B. IFSTA manuals used	Yes	Yes
5. Methodology Used for Training		
A. Manipulative	Yes	Yes
B. Task performances	Aligned with certifications; annual job skills assessment	Aligned with certifications; annual job skills assessment
C. Annual training hours	Yes; ~ 50 per individual	Yes, more than 200 hours
D. Use of lesson plans	Some yes	Yes
E. Night drills	Yes; 1 – 2 per year; usually LPG	Yes; 1 – 2 per year; usually LPG
F. Multi-agency drills	Not recently; ~ annually	Yes, at a minimum of one per year
G. Inter-station drills	Yes, monthly	Yes, monthly
H. Physical standards or requirements	Evaluated twice per year; once is LMHC professional fit-for-duty; one is combat challenge < 7 minutes	No
I. Annual performance evaluation conducted	Yes	Yes
6. Operations and Performance		
A. Disaster drills conducted	Table-top annually; expanded exercise annually; UASI regional exercises	No
B. Attention to safety	Assigned safety officer at incidents; safety review team; highway safety emphasis; safety policies; communicable disease; PPE	Assigned safety officer at incidents; safety review team; highway safety emphasis; safety policies; communicable disease; PPE, shift safety officer
C. Post incident critique	Yes; most fires; as needed by B/C	Yes, all fire incidents
D. Priority by management toward training	No; TO time is diluted with other duties	High
7. Recordkeeping		
A. Individual training files maintained	Electronic; duty of company officer to maintain	Yes, electronic (High Plains)
B. Records and files computerized	Yes	Yes
C. Daily training records	Yes	Yes
D. Company training records	Yes	Yes
E. Training equipment inventoried	No; small inventory	Yes
F. Lesson plans used	Sometimes	Yes
G. Pre-fire planning included in training	No; lost in shuffle of multiple duties	Yes
H. Check-out system on training materials	Yes, training officer	Yes, training chief
8. Personnel Trained		
A. Training objective (who, level, etc.)	JPRs	JPRs

Survey Components	EFD	LFR
B. Employee development program used	DOEs & Lieutenants	Yes, driver operator, officer, and paramedic
C. Goals and objectives identified	No	No
9. Administrative Priority		
A. Budget allocated to training	Yes	Yes
B. Education and training of training officer	Masters + EFO	Yes, BS
C. Using certified instructors	No	Yes
D. Annual training report produced	No	Yes, part of annual report
E. Adequate training space/facilities/equipment	Yes	Yes, burn building needs evaluated/repared
F. Maintenance of training facilities	General janitorial yes; burn building needs repair	General janitorial yes; burn building needs repair
10. Training Program Clerical Support		
A. Administrative secretary support	Shared; limited	No
B. Records computerized software used	Yes	Yes
C. Adequate office space, equipment, and supplies	Yes	Yes

The training programs for LFR and EFD are similar in basis (standards; e.g. NIMS, NFPA) and content; however, they do not appear to be aligned in delivery and practice. Rather, they appear to be nuanced according to local preference and convenience. Recruit training appears to be the most divergent, with LFR opting for a formal 12-week academy; EFD hires new personnel with established skills and delivers a three-week local orientation program.

On-going training program content is developed around the requirements for continuing education for emergency medical certifications, as well as skills maintenance coursework for firefighter, driver, incident command, and related skills. Creating a program around these requirements is appropriate and offers an important opportunity to align LFR and EFD programs with coordinated curriculum and schedules. Training efficiencies could be further developed through a joint training manual; which, if properly composed, provides an instructor reference that promotes standardized and consistent operations. While there is a consistent emphasis on skills maintenance and necessary credentials, both programs appear to lack measured attention to key “high risk/low frequency” incidents that pose a significant risk to public safety agencies; e.g., natural disasters, multi-company and multi-agency incident responses, and mass casualty scenarios.

Individually, LFR and EFD operate understaffed training programs with very capable training personnel performing similar work; there is a lost opportunity for this talent to coordinate efforts

and increase program effectiveness. There is also a troubling dilution of training program work with “other duties” that detract from critical deliverables. Both programs appear to lack clearly established direction in the form of substantive program goals and performance measures. Program reporting (annual) is generic and offers only gross training hour documentation with no clear measures of competencies. Program effectiveness is further hampered by inadequate or non-existent administrative support.

Both agencies share membership/ownership in the Metro Fire Training Academy (MFTA). Developed in the late 1970's and early 80's, this facility and site has experienced funding reductions, minimal maintenance, and decreased use; its viability appears to have been marginalized by the development of a more complete facility in 2009 by West Metro Fire and Rescue (Lakewood, Colorado). The MFTA operation is further impacted by emerging water quality discharge issues. MFTA does not have a permit for discharging into the South Platte River except for emergency incidents. Immediately downstream of the training center is the Englewood municipal water intake site and there is state and public sensitivity related to the water utility. Because of the location, there is little or no reaction time if there were a leak, spill, or discharge. While this matter remains unresolved, any solution will require the permit for the Training Academy be modified.

When fire agencies consider the possibilities of working together, training programs offer an ideal and practical starting point. As members work with each other in a learning environment, not only are shared skills developed, but interpersonal and interagency relationships begin to grow. Consolidated, effective training is clearly one of the most important components of a cooperative service delivery plan.

Life Safety Services (Fire Prevention)

An aggressive risk management program, through active fire and life safety services, is a fire department's best opportunity to minimize the losses and human trauma associated with fires and other community risks.

The National Fire Protection Association recommends a multifaceted, coordinated risk reduction process at the community level to address local risks. This requires engaging all segments of the community, identifying the highest priority risks, and then developing and implementing strategies designed to mitigate the risks.¹⁸

The NFPA recommendation cited above is foundational to the current Community Risk Reduction (CRR) approach that typifies best practices across the United States and even internationally. Grounded in a prioritized, data-rich assessment of community risk(s), this focused approach enables fire departments to concentrate limited resources – including response personnel – on the most compelling life and property risks in their community. CRR also fosters a critical evaluation of strategies toward selecting and implementing the most appropriate.

Integral to these efforts, the fire department should actively promote fire resistive construction, built-in warning and fire suppression systems, and an educated public trained to minimize its exposure to fire and health issues and to respond effectively when faced with an emergency.

Survey Table 5: Life Safety Services – Fire Prevention

Survey Components	EFD	LFR
1. Code Enforcement		
A. Fire codes adopted	International Fire Code (IFC) and Residential Code	International Fire Code (IFC)
i) code used – year/version	2012 (July 5 th); City Ordinance	2009; City Ordinance; + Centennial + Jefferson and Douglas Counties
B. Local codes or ordinances adopted, amendments	Some; Knox Box	Minor
C. Sprinkler ordinance in place	Building Code; all new residential	Per IFC
2. New Construction Inspections and Involvement		
A. Consulted in proposed new construction	Yes	Yes
B. Perform fire and life safety plan review	Yes; fire sprinkler review sent out	Yes
C. Sign-off on new construction	Yes	Yes
D. Charges for inspections or reviews	Through Building Department	LFR fee schedule (website)

¹⁸ Kirtley, Edward, Fire Protection Handbook, 20th Edition, 2008, NFPA, Quincy, MA.

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Survey Components	EFD	LFR
E. Perform existing occupancy inspections	Yes; FM does high hazard	Selected by risk (500 out of 5,000)
F. Special risk inspections	As needed	Yes
G. Storage tank inspections	Yes	Yes
H. Key-box entry program in place	Yes	Yes
I. Hydrant flow records maintained	Yes; flow tests	Water districts; mostly computer modeled
3. General Inspection Program		
A. Self-inspection program in place	No	No; tried but participation declined and program was discontinued
B. Frequency of inspections	Most every two years; high hazards annually	Annually
C. Inspection program	Yes	Yes
D. Citation process in place and formally documented/adopted	Yes; also "fee letter" on re-inspection (3 rd visit)	Yes
i) court cited to	Municipal Court	Municipal or District
E. Inspections computerized	Yes	Yes
F. Community feedback system in place	Not formally	No
G. Number of personnel devoted to program	One	Five off-duty personnel as well
H. Fees for specialty inspections	No	Yes
4. Fire Safety and Public Education		
A. Public education/information officer in place	No	Yes
B. Feedback instrument used	No	For some programs (schools and mini-academies)
C. Public education in the following areas:		
i) calling 9-1-1	Yes	Yes
ii) EDITH (exit drills in the home)	Yes	Yes
iii) smoke alarm program	Yes	Yes
iv) fire safety (heating equipment, chimney, electrical equipment, kitchen/cooking, etc.)	Yes	Yes
v) injury prevention (falls, burns/scalding, bike helmets, drowning, etc.)	Yes	Yes
vi) fire extinguisher use	Yes	Yes
vii) fire brigade training	Yes	No (fire warden training)
viii) elderly care and safety	Yes	Yes
ix) curriculum used in schools	Yes	Yes
x) baby-sitting classes offered	No	Yes
xi) CPR courses, blood pressure checks offered	Yes	Yes

Survey Components	EFD	LFR
D. Publications available to public	Yes	Yes
E. Bilingual information available	Undetermined	Undetermined
F. Annual report distributed to community	No	Annual and monthly
G. Juvenile firesetter program offered	No (mutual aid)	Yes
H. Wildland interface education offered	N/A	Limited; wildland team
5. Fire Investigation		
A. Fire origin and cause determination	Yes	Yes
B. Arson investigation and prosecution	Police	Yes
i) arson investigation training provided	Yes	Yes
C. Person responsible for investigations	FM	FM
D. Local FIT membership (fire investigation team)	Yes	Yes
E. Process for handling juvenile suspects	Yes	Yes
F. Liaison with law enforcement	Yes	Team members train with law enforcement
G. Scene control practices in place	Yes	Yes
H. Photographer available	Police	Yes
I. Adequate and appropriate equipment issued/supplied	Yes	Yes
J. Evidence collection process in place	Yes	Yes
K. Release required for entry	Yes	Yes
L. Reports and records of all incidents made	Yes	Yes
M. File, record, and evidence security	Yes	Yes
6. Statistical Collection and Analysis		
A. Records kept by computer	Yes	Yes
i) type of operating platform	PC	PC
ii) software used	Fire Manager	Fire Manager
B. Information collected in the following areas:		
i) fire incidents	Yes	Yes
ii) time of day and day of week	Yes	Yes
iii) method of alarm (how received)	Yes	Yes
iv) dispatch times	Yes	Yes
v) response times	Yes	Yes
C. Information analyzed & used for planning	No	Yes

Survey Components	EFD	LFR
D. Reports made & distributed	NFIRS to State of Colorado	NFIRS to State of Colorado
E. FTEs used in data collection & analysis	0.0	Part of other duties
F. Are fire facilities networked?	Yes	Yes
i) e-mail used	Yes	Yes
ii) intranet/shared software programs	Yes	Yes
iii) fax used	Yes	Yes

Life Safety Services Program Assessment

Both EFD and LFR fire prevention programs are grounded in common International Fire Code (IFC) codes and standards. Incumbent fire marshal office (FMO) staff attest to administrative support for the program and legislative support is affirmed by continued albeit limited program funding.

The City of Englewood’s office of Building and Safety is a division of the Fire Department; its staff consists of a chief building official, building inspector, plumbing/mechanical inspector, electrical inspector, residential plans examiner, and a permit technician. Additionally, EFD has a fire marshal, and both the chief building official and the fire marshal report to the fire chief. There is a functional connection between the EFD and LFR fire marshal’s offices as the LFR staff provides coverage for EFD when the fire marshal is away from the area.

In certain circumstances, the normal departures of key staff personnel offer opportunities to examine new approaches to program delivery. In the EFD/LFR scenario, the incumbent fire marshal has announced her intention to retire at the end of 2012; no plan is in place to immediately fill that position. This situation offers an excellent opportunity to consider cooperative efforts within this important program area.

LFR staffing includes one fire marshal, one deputy fire marshal, two assistant fire marshals, one life safety educator, one permit coordinator, and five line operations personnel who work for the FMO while off-duty. While this appears to be a more robust staffing scheme, the Littleton fire prevention program is responsible for a more complex set of communities. This staffing includes coverage for the City of Littleton, Littleton Fire Protection District, and the Highlands Ranch Metro District; further, their functions extend beyond Arapahoe County into both Douglas and Jefferson Counties.

The LFR fire marshal reports program activity monthly to Chief and generally in an annual report and is accountable through the administrative chain of command. The EFD fire marshal does not publish an activity report.

Code Enforcement

Effective code enforcement requires local adoption and use of a current fire code. Both the City of Littleton and the City of Englewood have adopted the International Fire Code (IFC); however, EFD uses the 2012 edition (adopted July 5) while Littleton is using the 2009 edition. This outcome stems from Littleton's working relationship with multiple jurisdictions; i.e., the adopting ordinance must be approved by City of Littleton and City of Centennial, as well as both Douglas and Jefferson Counties.

New Construction

All proposed new construction plans for either jurisdiction are routed through the respective fire marshal's office for both fire and life safety plans review. The FMO is responsible for field inspections and signature approval on all new construction. Both cities have approved a fee schedule, payable locally, through the permitting process.

Both fire marshals operate inspection programs, which include performing inspections of:

- existing occupancies
- special events and high occupant load
- fire code permits
- storage tanks, both above and below ground installations

Emergency Building Access System

When responding to automatic fire alarms in secured, unoccupied buildings, emergency response personnel need rapid access, especially when there is no external indication of an emergent situation. LFR and EFD both currently use the Knox-Box[®] key-box entry system to facilitate emergency response and access to designated properties. The developer or building owner purchases the security box, installs it per fire department specification, and inserts essential keys that allow emergency access to the facility. Using a fire department master key, response personnel can immediately enter the building to address the incident and minimize property damage. Such rapid entry both reduces on-scene wait times and allows emergency response resources to return to service more quickly.

Water Supply System

The City of Englewood operates a municipal water utility and periodic flow testing is conducted to verify capacity and system performance. While the City of Littleton operates a municipal water utility, LFR services extend beyond that boundary and involve multiple water districts. Most of the system performance data is derived from computer modeling with only limited flow testing.

General Inspection Program

EFD and LFR have established scheduled occupancy inspection programs which call for all commercial occupancies to be inspected. Inspection frequency is annual in LFR and biennial in EFD; however, EFD high hazard occupancies are inspected annually. The EFD fire marshal handles all high hazard inspections; all other occupancies are initially inspected by EFD engine company staff (engine company inspections). The LFR fire marshal's office handles all inspections, which are selected by risk; generally inspecting 500 occupancies annually from among the 5,000 total occupancies. Most inspection records are maintained in hard copy format.

Identified code violations are turned over to the respective jurisdiction for enforcement action; this is municipal court for EFD and either municipal or district court for LFR. Neither FMO has a formal community feedback system in place; the fire marshal follows up individually with any registered complaint.

A self-inspection program is not currently used by either FMO; LFR tried this type of program, but after initial interest participation ebbed significantly and the program was terminated.

Fire Safety and Public Education

Both LFR and EFD conduct fire and life-safety public education efforts; LFR has one FTE dedicated to this program while EFD lost a similar position several years ago. Program delivery in Englewood comes from EFD line personnel; neither program attempts measurement of outcomes but LFR does deploy a feedback instrument within the schools and for their mini-academies. EFD does not publish activity reports and LFR publishes both a monthly (internal) and annual (external) program report.

Both agencies deliver NFPA curricula in the school system at various grade levels. Bi-lingual education resources are limited. Fire and life safety curricula also include the following topics:

- 9-1-1
- EDITH (exit drills)
- Smoke alarms
- Fire safety
- Injury prevention
- Extinguishers
- Elder safety & care
- Baby-sitting (LFR only)
- CPR

A juvenile firesetter counseling program is available in LFR, but EFD refers these cases to a neighboring agency.

Neither fire marshal attempts to address wildland fire interface risks primarily because the risk in EFD is non-existent and the risk in LFR is judged to be limited.

Fire Investigation

LFR and EFD maintain active fire investigation programs, which include fire origin and cause determination. The fire marshal is responsible for the fire investigation program and the fire investigations team (FIT) includes FMO staff and operations personnel. Regular training is provided to program personnel. Both programs have access to a trained fire investigations photographer. The FMO maintains an acceptable inventory of equipment and supplies.

Both EFD and LFR ensure scene control after a fire incident unless and until the crime of arson is suspected or determined. At that point, scene control is transferred to law enforcement. The FMO completes, maintains, and securely stores reports and records for all fire incidents. Incident evidence is locally maintained through an established, secure process for collecting, recording, and filing/storing evidence. Evidence is maintained in a secured area, for which a formal release is required for entry.

Statistical Collection and Analysis

The fire incident records created and maintained by EFD and LFR include data about the type of incident, time and method of alarm, dispatch time, and response time. Incident data is electronically captured and stored in a networked PC-based system using Fire Manager[®]

software. Reports are published at least annually on this data; these reports are primarily distributed internally and in an NFIRS report to the State of Colorado.

General Conclusions

The LFR and EFD fire prevention programs are fairly comprehensive, organized, and efficient. However, a significant responsibility and workload rests on a very limited number of personnel. In the EFD situation, there is essentially no functional redundancy; with anticipated staff changes and no succession plan in place, the program may struggle.

With the duplicative responsibilities and limited personnel, both agencies stand to realize significant value by fostering interjurisdictional fire prevention programs, especially in the areas of fire and life safety public education, juvenile firesetter counseling, and incident scene investigation.

Communications and Dispatch Functions

Communication center operations are essential, directly affecting fire and EMS response times, service levels, overall service delivery, and customer satisfaction. Dispatch operations are integral to a successful emergency operation, starting with the initial “alarm” and continuing until units are available for redeployment. ESCI reviewed current emergency communications and dispatch functions and analyzed the impact of various service delivery options, including:

- Communications overview
- Management and staffing
- Facilities
- Training
- Performance benchmarks

The following table outlines ESCI’s review of the two study dispatch centers. Interviews with managers of the Englewood Police Fire Dispatch Center and Littleton Fire Rescue Communications Center (LFRCC) provided information for this section.

Survey Table 6: Communications and Dispatch Functions

Survey Components	ECC	LFRCC
1. Communications Provider		
A. Emergency Dispatch Agency	Englewood Police Fire Dispatch Center	Littleton Fire Rescue Communications Center (LFRCC)
i) population served	30,255	LFR, 233,000, Cunningham FPD, 57,000 Total 290,000
ii) 9-1-1 PSAP – (public safety answering point)	Yes	Secondary PSAP with six feeding into LFRCC, PSAPs are being networked
iii) surrounding bordering PSAPs	Denver, Littleton, South Metro (Met Com)	S-Englewood, W-West Metro FPD, E-South Metro FPD, Castle Rock, Denver, and Aurora
iv) surrounding and mutual aid fire departments	Littleton FR, West Metro FPD, South Metro FPD	Englewood FD, West Metro FPD, South Metro FPD, West Douglas County FPD
B. Organizational structure		
i) mission statement, goals, and objectives	Police and fire department mission statement	General Fire Department
C. Authorized communications staffing		
i) work schedule	Three basic shifts, day 8 hours, evening 8 hours and night 10 hours	8-hour shifts, rotating on a 4-month basis
ii) minimum staffing policy	2	2, days and swing at full staffing there are 3, excluding the communications director

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Survey Components	ECC	LFRCC
iii) state requirements for public safety dispatchers	None required	No, use internal standards, meet APCO 33 standards
iv) union representation	City bargaining unit	No
2. Communications Facility & Equipment		
A. Facility		
i) Security	Yes, card system and key access	Yes, card system
B. Computer aided dispatch (CAD)		
i) Geo data base	Yes, with CAD and a standalone mapping system (Contact One) for cellular calls	Yes, with CAD and a standalone mapping system (Contact One) for cellular calls
C. Emergency power		
	Diesel generator and UPS replaced this year.	Yes at both facilities, generator tested monthly, UPS two times a year. Generator and UPS replaced this year.
D. Telephone equipment		
	Yes, Positron Viper System	Yes, Positron Viper System
E. Radio system		
	Yes, Colorado DTR System 800, CCNC with a backup VHF system	Yes, Colorado DTR System 800, CCNC with a backup VHF system
F. Radio control		
	CCNC, Consolidated Communication Network Colorado	CCNC, Consolidated Communication Network Colorado
G. Recording equipment		
	Yes, Stansill voice logger	Yes, Stansill voice logger
H. Workstations		
	Four consoles, three with transmission capability	Four consoles
I. Mobile communications devices		
	Yes	Yes
J. Fire/EMS notification system		
	EFD Proprietary	West Net First-In
K. Alarm monitoring/fire systems		
	No (Swedish Hospital only)	No (City Center only)
K. Back-up plan/center operations		
	Command van and can switch to Arapahoe County	Yes, at Fire Station No. 12 has a four-position center with two for fire and two for police. Facility is an EOC for the City.
L. Emergency notifications		
	Yes, Everbridge notification system reverse 9-1-1	Yes, Everbridge notification system reverse 9-1-1
M. Other duties		
	Yes, some data entry	Yes, public education activities kindergarten and first grade, and other activities with the fire department
3. Communications/Dispatch Operations		
A. Availability of performance standards and/or benchmarks		
	Evaluation process	Yes, for EMS use QA process. 80 percent or less coaching counseling. 90 percent or higher using National Academy of Emergency Dispatch "Pro Q.A." with a minimum of 10 percent of the calls
i) 9-1-1 time standards		
	No	Yes, dispatch within 60 seconds 90 percent of the time 45 seconds for processing and 15 seconds for dispatch is monitored continuously

Survey Components	ECC	LFRC
ii) call processing/dispatch time standards adopted	No	Yes, in the contract with HRMD, LFPD, and Cunningham FD
B. Evaluation of dispatch activities	Yes	FirstWatch
i) by time/day/month	No	Yes
ii) by incident type	No	Yes
iii) by unit	No	Yes
C. Standard operating procedures	Yes	Yes
D. Quality assurance program	Yes	Yes
E. Training program	Yes, in-house and a budget for outside training activities	Yes, in-house. Trainers are APCO certified
F. Emergency medical dispatch (EMD)	Yes	Yes
G. Position descriptions	Job descriptions and SOPs	Job descriptions and SOPs
H. Evaluations	Personnel evaluation	Annually using standard city form. QA 10 percent-feedback within 30 days working towards 72 hours
I. Workload activity, 2011		
i) 9-1-1 calls	Data not Available	10,043
ii) 7-digit incoming calls	Data not Available	17,348
iii) average speed of answer	Data not Available	4 seconds for all 9-1-1 and 10 digit emergency lines
iv) average telephone processing times	Data not Available	Calls were in queue for unit assignment from time answered 89.87% of the time within 45 seconds
v) law enforcement activities	Data not Available	N/A
vi) fire/EMS calls initiated	Data not Available	Answer time to unit committed within 60 seconds 90.5% of the time
4. Fire Stations		
A. Total area protected	City of Englewood 6.56 square miles	City of Littleton 13.83 square miles, HRMD 21.6 square miles, HRMD-OSCA 12.8 square miles, LFPD Douglas County 6.4 square miles, Jefferson 11.8 square miles, Arapahoe 25.1 square miles, LFPD Total=43.3 Total w/ Open Space Conservation Area (OSCA) 91.53 square miles w/o OSCA 78.73 square miles Cunningham
i) total area protected for EMS transport	6.56 square miles	Same as above
B. Total number of fire stations	3	11
i) number of stations staffed full-time	3	11
ii) number of stations staffed part-time	0	0

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Survey Components	ECC	LFRCC
iii) number of unstaffed stations	0	0
C. Average area protected by each station	1.19 square miles	8.32 square miles
D. Response time goals adopted	No	Turn out, dispatch, and arrival time
i) for fire emergencies	No	Yes
ii) for EMS emergencies	No	Yes
iii) actual response times documented	Yes	Available in CAD not routinely evaluated
E. Standard response protocols adopted	No	Yes
i) by alarm type (apparatus per alarm)	No	Yes
ii) by apparatus type (persons per app)	No	Yes
F. Call back system	Yes	Yes
5. Emergency Apparatus		
A. Availability for dispatch		
i) engine	1	6
ii) ladder truck	0	1
iii) telesquirt	1	1
iv) medic	2	5
v) command	1	1
vi) hazardous materials	1	1
vii) boat	0	1
B. Availability of reserves (response ready)		
i) engine	2	3
ii) ladder truck	0	1
iii) medic	1	2
6. Risk (Hazard) Analysis		
A. History of fire loss documented	No	Yes
B. Major hazards identified and mapped?	Yes	Yes
C. Fire inspections conducted	Yes	Yes by Fire Prevention Bureau
D. Pre-incident plans used	Very little	Yes
E. Disaster plans in existence	Yes, EOP and Hazard Mitigation Plan	Yes, EOP and Hazard Mitigation Plan
F. Maps in all vehicles	Yes, hard copy	Yes CAD and hard copy
G. Mutual aid agreements in effect	Yes	Yes
H. Duty officer system in place	Yes	Yes
i) scene accountability maintained	Yes, Passport	Yes
I. Compliant with SARA Level III?	Yes	Yes
J. Liaison with public works	No	Yes
i) hydrant location/placement	Yes	Yes
ii) main installation	Yes	Yes
iii) fire flows calculated	Yes	Yes
iv) fire hydrants marked	No	No
v) water sources identified	Yes	Yes main system only

Emergency Communications Assessment

In-depth analysis of emergency communications resources and facilities is beyond the scope of work for this study. However, ESCI interviewed leadership of the centers to obtain an appreciation for how 9-1-1 communications are managed in Arapahoe County. A weakness was observed as a result of multiple dispatch centers serving the County. For example a 9-1-1 caller may be transferred from an original answering point to the appropriate communications center. Anytime emergency callers are handed off to another agency there is a risk of time delay and confusion to the caller. Other shortcomings noted included:

- The lack of 9-1-1 benchmarks and adopted call processing/dispatch time standards for the Englewood Police Fire Dispatch Center.
- Englewood communications center does not have the ability and authority to dispatch the closest available unit to an emergency incident.

A communications authority was formed in 1987 by an Intergovernmental Agreement (IGA) between Arapahoe County and various cities, towns, and fire protection districts within Arapahoe County. The Arapahoe County E-911 (9-1-1) Emergency Communications Service Authority is a separate legal entity for funding the purchase and maintenance of the 9-1-1 network for emergency communications service. The Authority funds the costs of providing 9-1-1 telephone services including the maintenance of equipment. Funds for staffing of dispatch centers are the responsibility individual agencies.

Participants in the Authority include all of Arapahoe County, with the exception of the City of Aurora. There are seven dispatch centers or Public Safety Answering Points (PSAPs). The Public Safety Answering Points are: Arapahoe County Sheriff's Office, Englewood Police and Fire Departments, Glendale Police Department, Greenwood Village Police Department, Littleton Police Department, Littleton Fire Rescue, and South Metro Fire Rescue (Metcom). All of the PSAPs are being networked.

Emergency Medical Services Support and System Oversight

EMS Authority, Regulation, and Medical Direction

Effective system management, support and medical direction is essential to the delivery of EMS; this includes the key components of logistical support, medical control and oversight, quality assurance, and appropriate credentialing of personnel. In Colorado the statutory authority for the regulation of emergency medical and trauma services rests with the Colorado Department of Public Health and Environment (CDPHE) granted in Colorado Revised Statutes (C.R.S. 25-3.5-102.). The Emergency Medical and Trauma Services Section of CDPHE certifies and administers the rules and regulations regarding EMTs (emergency medical technician; Basic, Intermediate, and Paramedic). In order to practice, an EMT must be under the direction and license of a Colorado-licensed medical director (physician advisor). As of January 2011, medical directors and the authorized medical acts of EMTs are administered by the Emergency Medical and Trauma Services Section.

EMS Training

EMS personnel respond to many different types of calls and must be adequately trained to properly treat a diverse set of medical and trauma situations. High quality initial training is essential to adequately prepare providers for an EMS agency. The agency should have a thorough orientation program for new personnel. This orientation program should include agency policies and procedures as well as mentorship for the new provider to transition to providing care for patients in real-life situations.

EMS personnel need sufficient call volume in terms of regular patient contacts to build an experience history that equips them for timely and accurate patient assessment. EMS providers also need continuing education to evaluate their experiences, incorporate new techniques, and maintain both their competency and certifications. Continuing education (CE) should not only provide the required certification hours but should also continually challenge providers to improve their ability to provide care and prevent skill degradation. High-acuity skills such as intubation should be practiced regularly to ensure providers are prepared for these low-frequency events. Providers' skills should be assessed periodically to provide the EMS personnel and supervisors the confidence in their capacity to perform in critical situations.

Additionally, the training program should be strongly linked to the agency's Quality Assurance/Quality Improvement (QA/QI) program. The QA/QI program will recognize the providers' strengths as well as opportunities for improvement. A high quality training program

that includes patient care skills as well as responder safety will help ensure that agencies have the capacity to safely and effectively respond to calls for service in their communities.

Survey Table 7: Emergency Medical Services Support and System Oversight

Survey Components	EFD	LFR
1. Logistical Support		
A. Staff		
i) administrative/management	EMS/Emergency Management Coordinator (50/50); practically EMS takes more effort/time	EMS Chief; EMS Captain position previously vacant and recently authorized for filling
ii) field supervisor	No	EMS Lieutenant (field/unit)
iii) clerical support	Executive assistant when available	None
iv) billing/collections/AP support	Contract billing; Intermedix transport and treat/release	Contract billing; Intermedix EMSC handles all complaints
v) inventory management	Locked area; inventoried weekly; standardized inventory	Automated; order via web; order tracked by EMSC; drop shipped to stations Use narcotic vending machines; monitor and track use
2. Medical Control		
A. Written protocols adopted	Denver Metro Protocols	Denver Metro Protocols
B. Case reviews conducted regularly	Yes	Hospital audits ~ 30 percent of incidents; EMS Captain will pick this up when filled
C. In service training	Monthly	Monthly; teleconference (not reliable) In house ACLS & PALS
D. Pre-hospital RMS	Yes; High Plains/Fire Manager	Yes; High Plains/Fire Manager
E. Uniform data points in pre-hospital record	Yes	Yes
F. Reporting compliance	Yes	Yes
G. QA/QI oversight	Yes	Yes; but limited
3. Q.A./Q.I.		
A. Internal committee	Yes; four paramedics (1 per shift & at large) + coordinator + MPD + hospital liaison + data manager	No
B. Lessons learned are shared?	Through continuing education	Limited
C. Participation?	Yes	Limited
D. Charts spot evaluated for accuracy?	All charts	Limited
4. Certification/Recertification		
A. OTEP system in place?	Yes	Yes; state requirements
B. Skills assessment performed by qualified evaluators?	Yes	Hospital
C. Recertification exams (if required) administered by qualified testing center?	National Registry or OTEP	State recertification process

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Survey Components	EFD	LFR
D. Trauma certified	N/A	N/A
5. EMS Planning		
A. EMS system oversight	State Board of Health	Medical Director
B. EMS advisory committee	Denver Metro EMS Coordinators Group	Denver Metro EMS Coordinators (do not attend)
C. EMS plan (strategy) is established for the area.	Regional EMS & Trauma Advisory Council; an evolving process	Not aware of it
i) EMS plan is current and regularly reviewed	In process	N/A
D. Data collection process	Yes	Yes
i) data analysis evaluated	Periodically; quarterly	Annually
E. Response time report	Yes	Yes (Admin Captain)
F. Customer service report	No	Yes
G. QA/QI report	Yes	Annual report with key performance indicators
H. Medical direction	Yes	Yes; Dr. Eby
6. System Finances		
A. EMS and transport fee schedule:		
i) BLS non-emergency	\$625.00 plus equipment use	\$650.00 plus equipment use
ii) ALS non-emergency	\$625.00 plus equipment use	\$650.00 plus equipment use
iii) BLS emergency	\$625.00 plus equipment use	\$750.00 plus equipment use
iv) ALS emergency 1	\$625.00 plus equipment use	\$750.00 plus equipment use
v) specialty/critical care	N/A	N/A
vi) aid call/no transport	N/A	N/A
vii) Oxygen	\$40.00	\$50.00
viii) mileage rate (per mile)	\$8.00 per mile	SAA
ix) date of last fee schedule change	2007	2009
B. Transport collection rate	37 percent	Data not Available
i) ALS collection	Same	Data not Available
ii) BLS collection	Same	Data not Available
iii) emergency and non-emergency	N/A	Data not Available
7. EMS System		
A. Established chain of command or PIC process	Yes; within EFD	Yes; EMSC reports to Operations
B. Mutual aid provides for backup responses	Yes	Auto and mutual aid
C. Air resources, helicopter	Yes	Yes; Air Life
D. Agency engages in cross training	Yes	Yes
E. Joint contingency plan for operations	Yes	Yes
F. Mass casualty incidents, multiple patient scenes, and disaster planning	Periodically	Annually but efforts are hindered by lack of resources
G. Post-incident analyses	Yes; shift level	No
H. Research and development program	MPD active; EFD is involved with research and implementation	Yes; ultrasound study; lactate study; now inactive

Emergency Medical Services Program Assessment

LFR and EFD operate their EMS programs with appropriate certification and approval of state authorities. All EMTs and paramedics are certified through the state. Both programs use the Denver Metro written EMS protocols for field operations. Responders with these two agencies both have the quantity of patient contacts that serve to build competent field providers.

Emergency room physicians experienced in emergency medicine and EMS serve as the medical directors (physician advisors) for the agencies. Medical control for EFD comes from the Swedish Medical Center (Level I Trauma Center; Englewood). Medical control for LFR comes from the Littleton Adventist Hospital. The medical directors and EMS staff have enacted training and competency requirements for paramedic and EMT personnel as per state requirements. The LFR EMS program is managed by the EMS Bureau Chief with the assistance of an EMS Captain. The EFD EMS program is managed by an EMS/Emergency Management Coordinator who is responsible for both EMS and Emergency Management. By design, the workload is to be equally split between the two disciplines; however, the EMS program demands more time and attention. Given the volume of patient contacts, this program is significantly understaffed and merits at least one if not two additional staff personnel to handle required duties and workload.

Continuing medical education (CME) and in-service training are available to each fire department's EMS personnel generally on a monthly basis; although LFR personnel note some unreliability with their in-service training. Qualified in-house EMS instructors also provide training in each fire department. Additionally, base hospital physicians and nurses periodically provide training. Training drills are conducted periodically in the handling and management of mass casualty incidents. Triage procedures and supplies are adequate and available.

Each agency's EMS staff is responsible for:

- EMS program delivery
- Quality assurance/improvement
- Paramedic and EMT training and continuing medical education
- Emerging issues in medical treatments and systems
- Serve as the liaison with the medical community

EMS Deployment

EFD staffs two ALS ambulances 24/7, each with a paramedic/firefighter and an EMT/driver responding from two strategically located fire stations. LFR operates five ALS ambulances 24/7 each with a paramedic lieutenant and an EMT/firefighter from four of their eight stations throughout the service area. One unit is physically located in the City of Littleton, two units are located in Littleton Fire Protection District, and one unit is located in Highlands Ranch Metro District. Additionally, each LFR station has a least one paramedic assigned regardless of apparatus deployment. The system depends on mutual aid from other jurisdictions at those times when additional EMS transport units are required during peak activity or at larger medical incidents. EMS resource support system is available from surrounding fire/EMS agencies at the regional level. When needed, a medical transport helicopter may be called to the scene of a medical emergency to assure rapid transport of patients, as well as for patients that require specialized treatment outside of the sphere of care provided locally.

Both EMS programs include transportation of the sick and injured to a local hospital. EFD has routinely transported all patients; LFR, which presently contracts for some of its EMS transports, has received approval to begin transport of all patients beginning January 2013. For LFR, the primary destination is Littleton Hospital with Swedish Medical Center as the next most frequent destination. For EFD, the vast majority of patients are transported to Swedish Medical Center. LFR and EFD each have an established EMS transport fee schedule, which varies both in application and rates; however, both agencies use Intermedix as a contractor for EMS billing and collection.

Based upon discussions with a cross section of EFD and LFR personnel, the field operations of both agencies closely resemble one another and appear to be characterized by a good working relationship. Noted differences appear to be in titles and “style” of patient care, which typically arise from perceptions as opposed to careful analysis or assessments. There are some difference is the EMS fleet as LFR has a standardized vehicle design/layout and has more vehicles in their fleet. The difference in medical control is not insignificant and should be thoroughly examined as part of any effort toward cooperative service deliver.

HAZMAT Services Support and Response Capability

Large quantities of hazardous materials are transported through Englewood and Littleton. The cities have major transportation corridors, Interstate 470 and highways 85, and railroad mainlines which are used daily to transport large amounts of hazardous materials. Hazardous materials when either accidentally or intentionally released, can threaten the lives and health of residents and visitors. Chemical releases also threaten air and water quality, private and public lands, and the economy. Hazardous materials incidents also pose a serious threat to the health and safety of firefighters.

Hazardous materials response is a specialized component of any fire department, with a number of levels by which response can be defined. The lowest and least technical level of training is the awareness level, incrementally increasing involvement of operations, technician, and specialist. *OSHA 1910.120 Hazardous Waste Operations and Emergency Response*, provides definitions for each level, as well as required training, duties, and responsibilities. The State of Colorado Hazardous Materials Responder Certification Program is based on these standards.

The Englewood Fire Department and Littleton Fire Rescue are members of the Arapahoe Douglas Hazardous Materials Response Team. Formed 20 years ago, this regional team was one of the first in the country to regionalize and share resources for the mitigation of hazardous materials emergencies. All EFD and LFR firefighters are certified to the Operations level. The majority of the regional team members are certified to the *NFPA 472*¹⁹ and State of Colorado Hazardous Materials Technician certification levels.

Survey Table 8: HAZMAT Services Support and Response Capability

Survey Components	EFD	LFR
1. Physical Resources		
A. Apparatus	Haz-Mat 22	Haz-Mat 18
B. Equipment for Level B	Yes	Yes
C. Equipment for Level A	Yes	Yes
D. Equipment for decontamination	Yes	Yes
E. Equipment for plume modeling/spot weather analysis	Yes	Yes

¹⁹ *NFPA 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*, Current Edition: 2013.

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Survey Components	EFD	LFR
F. Equipment for plugging/diking/spill containment	Yes	Yes
G. Gas monitoring for concurrent red zone and perimeter analysis	Yes	Yes
2. Staff Resources		
A. Awareness certified personnel	0	0
B. Operations certified personnel	38	141
C. Technician certified personnel	13	15 to 20
D. WMD certified personnel	Yes	Yes
E. Haz-Mat IC certified personnel	Yes, battalion chief	Several hazardous materials personnel
F. Haz-Mat Safety Officer certified personnel	Yes	Yes
3. Miscellaneous		
A. Mutual aid partners	Littleton Fire Rescue	Englewood Fire Department
B. Team assembly time for offensive Level A entry	Yes, with Littleton Fire Rescue	Yes, with Englewood Fire Department
C. Team certified to which level?	Technician	Technician

Fiscal Analysis

This section of the report will provide a quantifiable look at background facts on the financial controls, budgeting processes, historical and current budgets for Englewood, Littleton, EFD, and LFR. The information reported in the next table (Survey Table 9), comprised of agency supplied background financials and sourced data, allowed ESCI to create a financial baseline for both fire departments. A baseline can then be used to measure results and provide a projection of the financial health of each organization under a status quo state. It is also the framework for measured financial outcomes for cooperative efforts and strategic initiatives.

Survey Table 9: Fiscal Analysis

Survey Components	EFD	LFR
1. Budgetary Controls		
A. Designated fiscal year	Calendar year	Calendar year
i) budget cycle	One year	One year
B. Budget officer	Frank Gryglewicz, Finance and Administrative Services Director	Doug Farman, Finance Director Tiffany Hooten, Assistant Finance Director
C. Budget development process		
i) governance	City council	City council
ii) administration	City manager	City manager
iii) financial management	Finance and Administrative Services Director	Finance Director
iv) staff	17.63	11
v) community	Budget hearing	Budget hearing
D. Budget adoption process		
i) budget approval	City council	City council
ii) funding approval	File with the state, approval 30 days prior to the start of budget	File with the state, approval 30 days prior to the start of budget
E. Financial control officer	Frank Gryglewicz, Finance and Administrative Services Director	Doug Farman, Finance Director
i) financial report	Monthly	Monthly
ii) financial review	Financial system reporting is real-time	Financial system reporting is real-time
F. Basis of accounting	Modified accrual basis of accounting	Modified accrual basis of accounting
G. Purchasing		
i) purchasing policy	Yes, citywide	Yes, citywide
ii) credit cards	Purchase card w/monthly limits; department head, exec assistant, command staff, fire marshal, battalion chiefs, lieutenants	Purchase cards, yes, department heads and staff (63)

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Survey Components	EFD	LFR
iii) purchase orders	Yes: POs are required when purchases exceed credit card limit, for purchases of computers, software, and capital items; also required for commodities, inventory and rentals exceeding \$5,000; purchases are over \$10,000 require City Manager's approval	Yes, but not required
iv) open accounts	Yes; very limited	No
v) petty cash accounts	Yes, \$180 controlled by the executive assistant. Spot audits conducted by City finance	None in the fire department
vi) central supplies/logistics	No	No
vii) joint agreements/ventures	No	No
viii) JPAs	No	No
ix) bidding	Yes, follow state and city charter	Yes, follow state and city charter
x) leases	On April 20, 2008, the City entered into a lease agreement for two fire trucks. Lease payments are due in annual installments beginning in 2008 and ending March 1, 2017, with interest at 4.24%. Lease payments are made by the General Fund.	Yes, ladder truck at Fire Station No. 18, fire engine and medic unit on a five-year lease beginning in 2012
2. Planning		
A. Strategic/Master planning	No, training chief is tasked with creating a strategic plan for the fire department	No
i) plan period	N/A	N/A
ii) periodic review	N/A	N/A
iii) goals	N/A	N/A
iv) funding	N/A	N/A
B. CIP Capital improvement plan	No	Yes, informal and not adopted by the council
i) plan period	N/A	Five-year
ii) periodic review	N/A	Yes, annually
iii) projects	N/A	Yes
iv) funding	N/A	No long-term funding plan, pay as you go
2. Budget		
A. Service level defined	No	No
B. Operating budgetary funds	Yes	Yes
i) organized by program or category	Yes	Yes
ii) sub accounts	No	No, internally by projects (informal)
C. Reserve funds	No	No
D. Revenue funds	Yes	No
E. Enterprise funds	No	Yes, ambulance fund
F. Adopted budget FD income accounts, 2012 amounts	\$725,000	\$2,285,000

Survey Components	EFD	LFR
i) EMS transport revenue	Yes, Intermedix in Wheat Ridge, 7.0 percent of net ²⁰	Yes, Intermedix in Wheat Ridge, 4.5 percent of net
ii) MED membership program	No	No
iii) Plan review & permits	Yes	Yes
G. Revised budget FD expense accounts, 2012 General Fund		
i) personnel	\$6,286,012	Administration – \$314,040 Emergency services – \$12,545,710 Support services – \$1,245,080 Prevention/education – \$284,790 Paramedics – \$820,580 Training – \$290,840 Permit plan – \$509,420
ii) contractual	\$488,170	Combined above
iii) commodities	\$223,135	Combined above
iv) capital outlay	\$54,198	Combined above
H. Municipal overhead	No	6.00 percent (City and districts are reviewing the percentage and are planning to update allocation)
i) reserve fund contributions	\$0	No
ii) fleet rental charges	\$0	Actual
iii) fleet maintenance charges	Yes	Yes
iv) motor fuel charges	Yes	Yes
v) property/casualty insurance	Yes	Yes
vi) medical and dental insurance	Yes	Yes
vii) workers' compensation	Yes	Yes
viii) workers' compensation mod rate		
ix) employee pension plan	FPPA	FPPA as of April 1, 2009. Charles Schwab prior
x) city administrative overhead	No	Yes, was 6.12 percent, with the new contract it is at 6.00 percent.
3. Debt		
A. Bonded debt	No	No
B. Capital lease	On April 20, 2008, the City entered into a lease agreement for two fire trucks. Lease payments are due in annual installments beginning in 2008 and ending March 1, 2017, with interest at 4.24%. Lease payments are made by the General Fund.	Yes, ladder truck at Fire Station No. 18

²⁰ City of Englewood, Budget 2012.

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Survey Components	EFD	LFR
C. Unfunded liability		
i) pension fund	No	No
ii) workers' compensation claims	No	No
4. Revenue		
A. Tax levy		
i) limitations	TABOR requires local governments to establish emergency reserves. Reserves must be at least 3 percent of fiscal year spending (excluding bonded debt service). Local governments are not allowed to use the emergency reserves to compensate for economic conditions, revenue shortfalls, salary or benefit increases.	TABOR requires local governments to establish emergency reserves. Reserves must be at least 3 percent of fiscal year spending (excluding bonded debt service). Local governments are not allowed to use the emergency reserves to compensate for economic conditions, revenue shortfalls, salary or benefit increases.
B. Service contracts	Yes, IT handles MDTs and contract for LifePaks and AEDs	Yes, MDTs and LifePaks
C. Grants		
i) recent awards	Emergency Management Performance Grant, Emergency Medical and Trauma Services (\$150,000 in the last two years), auxiliary power unit for the public safety center, mass notification sirens (\$39,000), medical equipment (\$25,000)	Yes, SCBAs
ii) county grants	No	No
ii) outstanding applications	EMPG for fiscal year 2013 for match for backup to the City's entire data base	Yes, SAFER for three firefighters
D. Fundraising		
i) Foundation	No	No
E. Fees for service		
i) ambulance transport fee structure	Yes	Yes
ii) billing for fire response	Yes	Yes
iii) inspection fee	Yes	Yes
iv) hazardous materials	Yes	Yes
v) recovery outside of city	No	No
vi) airport/port fee(s)	No	No
vii) event stand-by charges	Yes	Yes

This section of the report will provide a comparative snapshot of historical financial results and a projection of what each organization will look like through 2017 assuming that the organization structure and service conditions remain unchanged. The information provided calculates the departments' operations as if they were stand-alone fire departments including all associated

costs. This will provide a view of the financial impact of EFD and LFR as they currently operate in each city's budget.

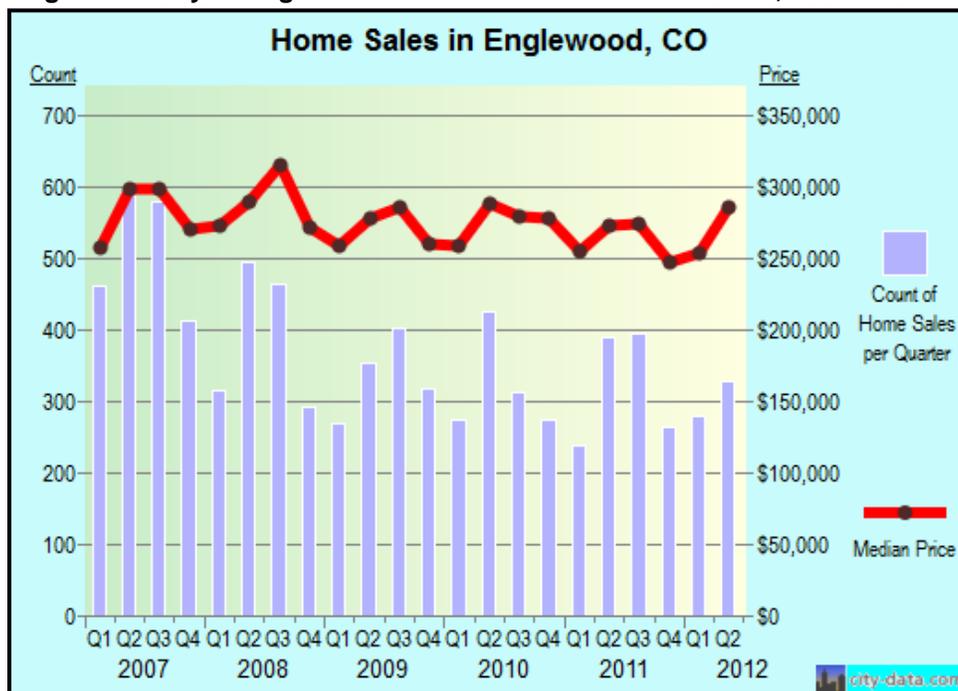
Economic Indicators

Economic indicators specific to Colorado, Arapahoe County, and the local area will provide the historical basis for projecting future costs that impact the operation of each organization. Information in this section is provided to substantiate the forecast and projected increases in taxable assessed value, revenue, and expenditures. This will be accomplished by reviewing historical home retail sales information, unemployment statistics, and a ten-year historical review of CPI-U.

Historic Residential Property Sales

The assessor's office utilizes recent residential home sales in establishing new appraised values. In the following figures are the number of home sales and the median value by quarter from January 2007 through June 2012 for the cities Englewood and Littleton. The figure below is for the City of Englewood:

Figure 14: City of Englewood Median Value and Home Sales, 2007 – 2012²¹



²¹<http://www.city-data.com/city/Englewood-Colorado.html>

Figure 14 shows that retail home sales have trended down from 2007 to current with an up-tick in the second quarter of 2012. The average sales price of homes has been in the range of \$250,000 to \$290,000.

Figure 15 shows the number of home sales and the median value by quarter from January 2007 through June 2012 in the City of Littleton.

Figure 15: City of Littleton Median Value and Home Sales, 2007 – 2012²²

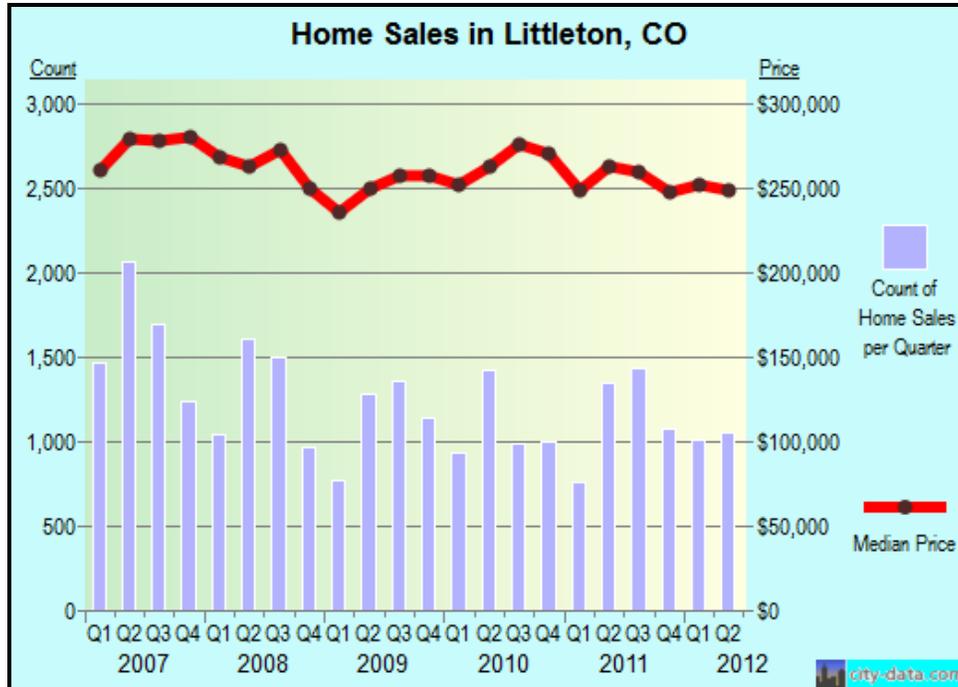


Figure 15 shows that retail home sales have trended down from 2007 to current. The peak sales prices of \$275,000 were in 2007. The average sales price of these homes has been in the range of \$250,000 to \$275,000.

Historic Unemployment Rate

The level of employment in the region could potentially impact the number of homes being sold and the ultimate sales price. In the following table, the historic unemployment rates are shown for Arapahoe County:

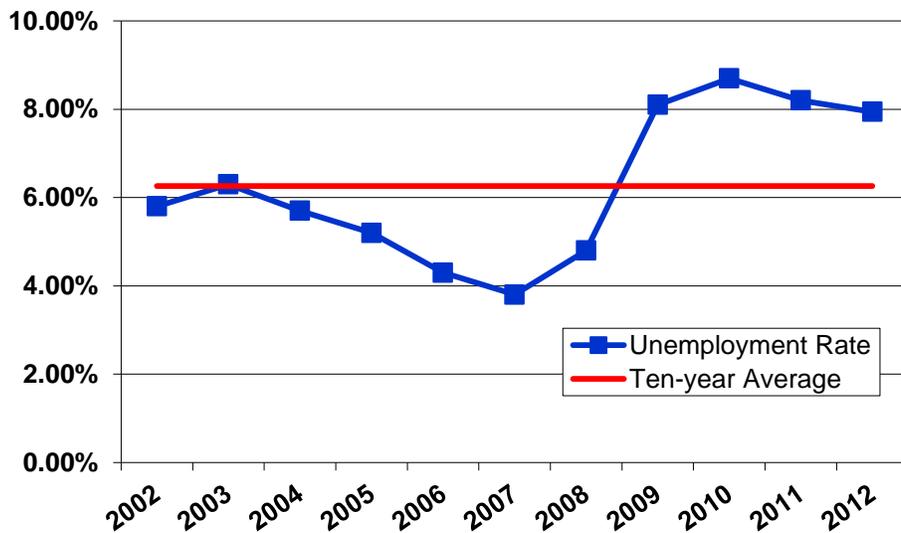
²² Ibid.

Figure 16: Unemployment Table, 2002– 7/31/2012²³

Year	Unemployment Rate	Ten-year Average
2002	5.80%	6.26%
2003	6.30%	
2004	5.70%	
2005	5.20%	
2006	4.30%	
2007	3.80%	
2008	4.80%	
2009	8.10%	
2010	8.70%	
2011	8.20%	
2012	7.94%	

The next chart graphically displays the same historical unemployment information:

Figure 17: Unemployment Graphic, 2002 – 7/31/2012



The growth in the unemployment rate from 2007 through 2012 doesn't provide a strong indicator that the housing market will improve dramatically in the next few years.

Annual Inflation Rate

Inflation is also an important consideration when forecasting cost. For the purpose of this analysis, ESCI will use the average Consumer Price Index for all urban consumers (CPI-U) reported for the 2002 through June 30, 2012, period for the Denver, Boulder, and Greeley

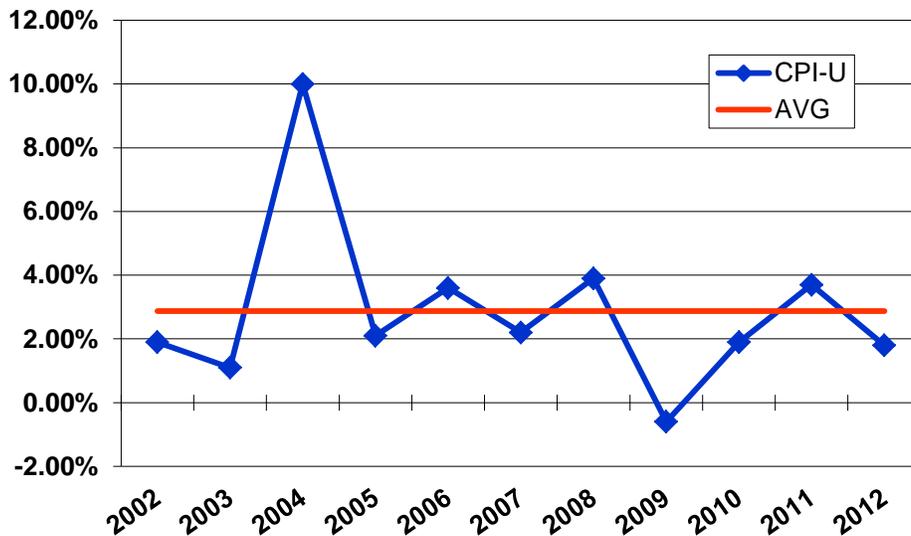
²³ Bls.gov for Arapahoe County LAUPS08010003.

Statistical Area as compiled by the U.S. Department of Labor.²⁴ The information is displayed in both table and graphical format below.

Figure 18: Historical and Average CPI-U Table, 2002 – 6/30/2012

Year	CPI-U	Average
2002	1.90%	
2003	1.10%	
2004	10.00%	
2005	2.10%	
2006	3.60%	
2007	2.20%	
2008	3.90%	
2009	-0.60%	
2010	1.90%	
2011	3.70%	
2012	1.80%	2.873%

Figure 19: Historical and Average CPI-U Graphic, 2002 – 6/30/2012

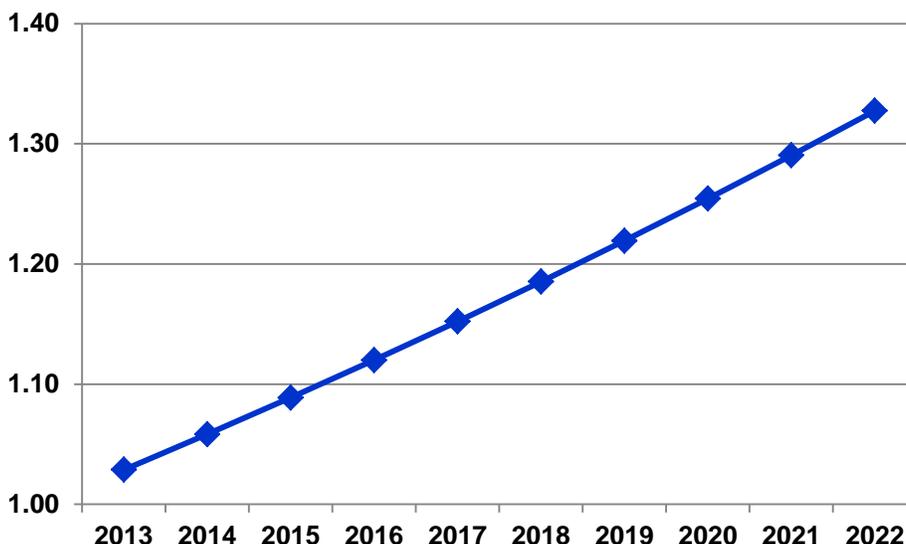


The ten-year average Consumer Price Index – Urban (CPI-U) was 2.873 percent per year. This rate is used for analytical purposes during this financial review. The use of this value is an estimate to project potential cost trends in future years. However, the actual CPI-U for a given year could be higher or lower.

²⁴ U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index—All Urban Consumers, Series Id: CUUSA433SA0 Not Seasonally Adjusted, Denver, Boulder, Greeley statistical area.

Historical data was used to develop an inflation index for the years 2013 through 2022. The CPI-U average increase will be applied to other revenue and expense categories of the 2012 budgets to develop the forecast impact on the future financial stability of each organization.

Figure 20: CPI-U Forecast Budget Impact Graphic, 2013 – 2022



Expenditures in 2022 are projected to be approximately \$1.33 for each of today's dollars.

For the purposes of projecting growth in TAV the information above was used. The following percent factors will be applied to the 2012 budgeted TAV.

Figure 21: Forecast TAV Growth Rates, 2012 – 2017

Year	Percent Increase
2012	0.00%
2013	0.00%
2014	0.25%
2015	0.50%
2016	1.00%
2017	1.25%

The use of these values is an estimate to project TAV trends in future years. However, the actual TAV for a given year could be higher or lower.

EFD Historical Financial Review

The budget for EFD includes two primary cost centers: 1) fire support and operations and 2) building and safety. An initial set of figures provides a detail review of the department including

both of these cost centers. The second section of the report removes the building and safety cost center and provides information on only fire support and operations.

EFD Debt

On April 20, 2008, the City of Englewood entered into a lease agreement for two fire trucks (engines). Lease payments are due in annual installments beginning in 2008 and ending March 1, 2017, with interest at 4.24 percent.

Figure 22: EFD Debt Obligation

Description	Funding Source	Origination Date	Maturity Date	Principal Loan Balance of 12/31/11	Comments
Two Fire Engines	General Fund	4/20/2008	3/01/2017	615,811	Interest rate 4.24%
Total Debt				615,811	

Figure 23: EFD Debt Amortization Schedule, 2012 – 2017

Description	2012	2013	2014	2015	2016	2017	Total
Principal	92,282	96,195	100,274	104,526	108,957	113,577	615,811
Interest	26,111	22,198	18,119	13,867	9,436	4,816	94,547
Total Cost	118,393	118,393	118,393	118,393	118,393	118,393	710,358

For the purpose of this review to collect and report all cost associated with the fire department, the above debt will be shown as debt expense in the fire department’s financial statements.

City of Englewood Historical Taxable Assessed Value (TAV)

Figure 24 shows the historical TAV for EFD from 2008 through 2012. It includes the change in assessed value by year and the applicable tax rate.

Figure 24: City of Englewood TAV and Tax Rate, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Estimated Actual	2012 Budget
TAV	468,278,710	511,624,330	511,424,730	519,213,320	515,667,340
Percent of Change	0.16%	9.26%	-0.04%	1.52%	-0.68%

The annual average percentage change for TAV from 2008 through 2012 was an increase of 2.04 percent. However, the average rate of increase was considerably lower from 2010 to 2012 at 0.27 percent.

EFD Historical Revenue

Figure 25 provides a detailed review of EFD building and safety revenue from 2008 through 2012.

Figure 25: EFD Building and Safety Revenue, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Estimated Actual	2012 Budget
EMS Transport Fee	733,384	644,041	680,501	725,000	725,000
Charge for Services	66,717	627	11,190	0	0
Federal Grant	3,030	42,550	65,697	38,888	38,888
State Grant	0	9,270	0	0	0
Sale of Scrap Material	161	0	2,830	0	0
Other	40	0	0	4	4
Contractor License Fee	78,200	77,736	86,211	70,000	70,000
Building Permit Fee	184,298	111,973	137,884	150,000	150,000
Electrical Permit Fee	39,444	29,945	33,820	25,000	25,000
Mechanical Permit Fee	21,125	21,796	25,088	30,000	30,000
Plan Review Fee	95,771	63,180	87,566	85,000	85,000
Misc. Permit Fee	55,720	78,853	129,268	60,000	60,000
Other	33,764	32,033	33,174	23,701	23,701
City Subsidy	5,903,789	6,208,264	6,132,673	6,284,748	6,622,532
Total Revenue	7,215,443	7,320,268	7,425,902	7,492,341	7,830,125
Percent Change in Subsidy		5.16%	-1.22%	2.48%	5.37%
Effective Levy Rate	12.607	12.134	11.991	12.104	12.843

The City's revenue contribution, labeled City Subsidy, is the amount required to fully fund the fire building and safety department operation's budget. Total City Subsidy to support the fire department's budget has increased an average of 2.95 percent between 2009 and 2012. The effective tax rate shown in the table is the levy rate required to fund fire operations at the same level as the City contribution to the fire department's budget.

EFD Historical Expenditures

Figure 26 depicts the historical spending for EFD building and safety by cost center from 2008 through 2012.

Figure 26: EFD Building and Safety Expenditures by Cost Center, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Estimated Actual	2012 Budget
Fire Support & Operations	6,593,519	6,710,007	6,773,670	6,843,394	7,169,908
Building & Safety	621,924	610,261	652,232	648,947	660,217
Total Expenditures	7,215,443	7,320,268	7,425,902	7,492,341	7,830,125

In following table the historical spending for EFD building and safety from 2008 through 2012 by percentage for each cost center is shown.

Figure 27: EFD Building and Safety Expenditures Percent by Cost Center, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Estimated Actual	2012 Budget
Fire Support & Operations	91.38%	91.66%	91.22%	91.34%	91.57%
Building & Safety	8.62%	8.34%	8.78%	8.66%	8.43%
Total Expenditures	100.00%	100.00%	100.00%	100.00%	100.00%

The next table is a compiling of the total EFD building and safety department by expense category from 2008 through 2012.

Figure 28: EFD Building and Safety Expenditures, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Estimated Actual	2012 Budget
Personnel	6,326,436	6,471,866	6,605,800	6,661,386	6,859,810
Commodities	259,726	257,359	214,028	241,512	237,012
Contractual	546,151	526,748	549,356	538,054	554,035
Capital	83,130	64,295	56,718	51,389	60,875
Debt	0	0	0	0	118,393
Transfer Out	0	0	0	0	0
Total Expenditures	7,215,443	7,320,268	7,425,902	7,492,341	7,830,125

In the next series of tables, only funds for EFD are displayed. Figure 29 depicts the historical spending for EFD from 2008 through 2012 by percentage for each expense category. Approximately 88 percent of the total EFD budget is personnel services costs.

Figure 29: EFD Expenditures Percent by Category, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Estimated Actual	2012 Budget
Personnel	87.68%	88.41%	88.96%	88.91%	87.61%
Commodities	3.60%	3.52%	2.88%	3.22%	3.03%
Contractual	7.57%	7.20%	7.40%	7.18%	7.08%
Capital	1.15%	0.88%	0.76%	0.69%	0.78%
Debt	0.00%	0.00%	0.00%	0.00%	1.51%
Transfer Out	0.00%	0.00%	0.00%	0.00%	0.00%
Total Expenditures	100.00%	100.00%	100.00%	100.00%	100.00%

Expenditures reflected above are lower than actuals as the costs do not include expenditures associated with all services provided to EFD by the City. These costs are generally referred to as in-kind and include services such as payroll processing, human resources, accounts payable, risk management, legal, information technology (IT) support, budgeting and financial control/reporting.

EFD Fire Operations Historical Revenue

Figure 30 provides a detailed review of fire operations revenue for EFD from 2008 through 2012.

Figure 30: EFD Fire Operations Revenue, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Estimated Actual	2012 Budget
EMS Transport Fee	733,384	644,041	680,501	725,000	725,000
Charge for Services	66,717	627	11,190	0	0
Federal Grant	3,030	42,550	65,697	38,888	38,888
State Grant	0	9,270	0	0	0
Sale of Scrap Material	161	0	2,830	0	0
Other	40	0	0	4	4
City Subsidy	5,790,186	6,013,609	6,013,451	6,079,502	6,406,016
Total Revenue	6,593,519	6,710,097	6,773,670	6,843,394	7,169,908
Percent Change in Subsidy		3.86%	0.00%	1.10%	5.37%
Effective Levy Rate	12.365	11.754	11.758	11.709	12.423

The City of Englewood's revenue contribution, labeled City Subsidy, is the amount that is required to fully fund the fire department operations budget. Total City Subsidy to support the fire department's budget has averaged an 2.58 percent increase between 2009 and 2012. The effective tax rate shown in the table is the levy rate required to fund fire operations at the same level as the City contribution to the fire department's budget.

EFD Fire Operations Historical Expenditures

In Figure 31 historical spending for EFD is depicted by cost category from 2008 through 2012.

Figure 31: EFD Fire Operations Expenditures, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Estimated Actual	2012 Budget
Salary & Wages	4,731,934	4,885,766	4,938,475	4,897,737	5,041,751
Benefits & Taxes	1,050,694	1,043,001	1,090,427	1,207,459	1,244,261
Commodities	244,611	246,147	204,102	223,135	223,135
Contractual	488,202	475,940	489,000	468,726	488,170
Capital	78,078	59,243	51,666	46,337	54,198
Debt	0	0	0	0	118,393
Transfer Out	0	0	0	0	0
Total Expenditures	6,593,519	6,710,097	6,773,670	6,843,394	7,169,908

A depiction of the historical spending for EFD from 2008 through 2012 by percentage and expense category is below (Figure 32).

Figure 32: EFD Fire Operations Expenditures Percent by Category, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Estimated Actual	2012 Budget
Personnel	71.77%	72.81%	72.91%	71.57%	70.32%
Benefits & Taxes	15.94%	15.54%	16.10%	17.64%	17.35%
Commodities	3.71%	3.67%	3.01%	3.26%	3.11%
Contractual	7.40%	7.09%	7.22%	6.85%	6.81%
Capital	1.18%	0.88%	0.76%	0.68%	0.76%
Debt	0.00%	0.00%	0.00%	0.00%	1.65%
Transfer Out	0.00%	0.00%	0.00%	0.00%	0.00%
Total Expenditures	100.00%	100.00%	100.00%	100.00%	100.00%

Personnel service costs (including benefits and taxes) have consistently remained at approximately 88 percent of the total department budget during the five years.

EFD Historical Summary

The following table summarizes the historical fund activity of EFD fire operations from 2008 through 2012.

Figure 33: EFD Fire Operations Fund Balance, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Estimated Actual	2012 Budget
Revenue	6,593,519	6,710,097	6,773,670	6,843,394	7,169,908
Expenditures					
Personnel	4,731,934	4,885,766	4,938,475	4,897,737	5,041,751
Benefits & Taxes	1,050,694	1,043,001	1,090,427	1,207,459	1,244,261
Commodities	244,611	246,147	204,102	223,135	223,135
Contractual	488,202	475,940	489,000	468,726	488,170
Capital	78,078	59,243	51,666	46,337	54,198
Debt	0	0	0	0	118,393
Transfer Out	0	0	0	0	0
Total Expenditures	6,593,519	6,710,097	6,773,670	6,843,394	7,169,908

EFD Capital Improvement Plan

EFD does not have a stand-alone capital improvement plan. However, EFD submits a multi-year project list each year for inclusion in the City’s capital improvement plan (CIP). Included in the 2012 – 2016 City’s CIP are the items shown in the table below:

Figure 34: EFD Submitted Capital Projects to the City CIP, 2012 – 2016

Description	2012 Budget	2013	2014	2015	2016
Interior Painting all Fire Stations	0	32,000	0	0	0
Replace Windows in Woman's Dorm	0	16,500	0	0	0
Replace Carpeting all Fire Stations	0	0	3,000	0	0
Relocate Door in Battalion Chief's Bathroom	0	0	9,000	0	0
Total Amount in City CIP	0	48,500	12,000	0	0

EFD doesn’t have a vehicle replacement plan. ESCI developed a vehicle replacement plan for EFD projecting the useful life of vehicles and scheduling the replacement date of these vehicles based on the remaining useful life. The replacement date assumes that all vehicles will be placed in reserve status for five years prior to disposal. Figure 35 shows the useful life expectancy (years) of vehicles by type used in financial calculations:

Figure 35: EFD Expected Vehicle Useful Life

Vehicle Type	Useful Life
Engine	20
Aerial	20
Medic	9
Staff Vehicle	7

The next figure depicts a vehicle replacement plan using the expected remaining life of EFD's in-service vehicles.

Figure 36: EFD Vehicle Replacement Cost Projection

Vehicle No.	Purchase Date	Make	Useful Life	Years left as of 12/31/11	Replacement Cost	Reserve Required' @ 12/31/11	Annual Reserve Required
6501	2007	Crimson Pumper	20	16	465,000	93,000	23,250
6502	2007	Crimson Rescue	20	16	375,000	75,000	18,750
6488	2000	ALF Pumper	20	9	525,000	288,750	26,250
6490	2001	ALF TeleSquirt	20	10	600,000	300,000	30,000
6493	2002	ALF Pumper	20	11	525,000	236,250	26,250
6354	2012	Dodge/Taylor Made Ambulance	9	9	125,000	0	13,889
6353	2009	Chevy/MedTec Ambulance	9	7	125,000	27,778	13,889
6351	2011	Ford Escape Hybrid	7	7	35,000	0	5,000
6474	1948	Chevy Ambulance Antique	0	0	0	0	0
6475	1930	Ford Pumper Antique	0	0	0	0	0
6492	2002	GMC Yukon	7	0	35,000	35,000	5,000
9494	2003	Freightliner Pumper	20	12	275,000	110,000	13,750
6499	2005	Freightliner Pumper	20	14	275,000	82,500	13,750
6503	2008	Chevy Silverado 2500	7	4	35,000	15,000	5,000
Total Annual Funding Requirement						1,263,278	194,778

Implementation of the above plan would require a beginning fund balance of \$1,263,278 and an annual accrual/budget of \$194,778 adjusted for inflation each year. The City is not in a financial position to encumber this amount of money to provide for consistent replacement of apparatus. However, ESCI does recommend that a process be established to begin reserving for vehicle replacement.

EFD Unfunded Pension Liabilities

Englewood Fire Department has two defined benefit pension plans is use by its full-time and volunteer employees.²⁵ Both plans are affiliated with the Colorado Fire and Police Pension Association (FPPA). The following two figures provide a funding status as of the most recent actuarial validation. The following table depicts the historical activity of the full-time employee fund from 2008 through 2012:

²⁵ EFD pension liability is for former volunteers. EFD no longer has volunteer personnel.

Figure 37: Full-Time Employee Unfunded Pension Liability²⁶

Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded	Funded Ratio
1/01/2004	11,407,493	12,095,021	(687,528)	94.3%
1/01/2006	11,422,910	12,121,516	(698,606)	94.2%
1/01/2008	11,822,112	11,787,457	34,655	100.0%
1/01/2010	9,398,792	10,821,073	(1,422,281)	86.9%

Historical activity of the volunteer employee fund from 2008 – 2012 is shown below in Figure 38:

Figure 38: Volunteer Employee Unfunded Pension Liability²⁷

Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded	Funded Ratio
1/01/2005	277,587	305,165	(27,578)	91.0%
1/01/2007	256,120	244,526	11,594	104.7%
1/01/2009	175,956	214,557	(38,601)	82.0%
1/01/2011	124,457	165,844	(41,387)	75.0%

EFD Status Quo Financial Forecast 2012 – 2017

Using the assumptions outlined in the section Economic Indicators, projections of financial stability were created for EFD. Financial forecasts use the 2012 budget as the beginning point for all calculations. Any changes made to the base data, are identified in the section under review.

City of Englewood Forecast Taxable Assessed Value (TAV)

The growth factors used for TAV are shown in the table below:

Figure 39: COE Forecast TAV Growth Rate by Year, 2012 – 2017

Year	Percent Increase
2012	
2013	0.00%
2014	0.25%
2015	0.50%
2016	1.00%
2017	1.25%

²⁶ City of Englewood, 2011 CAFR, page 105.

²⁷ Ibid.

Figure 40 is the forecast changes in the TAV from 2012 through 2017 using the above growth factors.

Figure 40: COE Forecast TAV, 2012 – 2017

Description	2012 Budget	2013	2014	2015	2016	2017
TAV	515,667,340	515,667,340	516,956,508	519,541,291	524,736,704	531,295,913

EFD Forecast Revenue

The City of Englewood’s subsidy to the revenue for EFD fire operations is a forced value to cover the Department’s costs for the year. A corresponding effective levy rate is shown to provide a comparative cost. All other revenue categories have been inflated at the ten-year average CPI-U of 2.873 percent.

Figure 41: EFD Fire Operations Revenue Forecast, 2012 – 2017

Description	2012 Budget	2013	2014	2015	2016	2017
EMS Transport Fee	725,000	745,829	767,257	789,300	811,977	835,305
Charge for Services	0	0	0	0	0	0
Federal Grant	38,888	40,005	41,155	42,337	43,553	44,805
State Grant	0	0	0	0	0	0
Sale of Scrap Material	0	0	0	0	0	0
Other	4	4	4	4	4	5
City Subsidy	6,406,016	6,592,757	6,785,079	6,983,151	7,187,143	7,397,235
Total Revenue	7,169,908	7,378,595	7,593,495	7,814,792	8,042,678	8,277,349
Percent Change in Subsidy	5.37%	2.92%	2.92%	2.92%	2.92%	2.92%
Effective Levy Rate	12.423	12.785	13.125	13.441	13.697	13.923

EFD Forecast Expenditures

The following points identify the cost increase factors included in the expenditure forecast (Figure 42).

- Salaries and wage were increased at 3.0 percent annually. This value was selected as it is slightly higher than the ten-year CPI-U of 2.873. Collective bargaining organizations may request an increase at or above the cost of living increases.
- All other expense categories were inflated at the ten-year average CPI-U of 2.873 percent except for debt.
- Debt payment was forecast using the current amortizations/payment schedule.

Figure 42: EFD Fire Operations Expenditure Forecast, 2012 – 2017

Description	2012 Budget	2013	2014	2015	2016	2017
Salary & Wages	5,041,751	5,193,004	5,348,794	5,509,257	5,674,535	5,844,771
Benefits & Taxes	1,244,261	1,279,726	1,316,235	1,353,819	1,392,511	1,432,343
Commodities	223,135	229,539	236,127	242,904	249,875	257,046
Contractual	488,170	502,180	516,593	531,419	546,671	562,360
Capital	54,198	55,753	57,354	59,000	60,693	62,435
Debt	118,393	118,393	118,393	118,393	118,393	118,393
Transfer Out	0	0	0	0	0	0
Total Expenditures	7,169,908	7,378,595	7,593,495	7,814,792	8,042,678	8,277,349

EFD Forecast Summary

Figure 43 summarizes fund activity to provide a snapshot of what the fund balance would be in each year from 2012 through 2017.

Figure 43: EFD Fire Operations Forecast Summary, 2012 – 2017

Description	2012 Budget	2013	2014	2015	2016	2017
Revenue	7,169,908	7,378,595	7,593,495	7,814,792	8,042,678	8,277,349
Expenditures						
Personnel	5,041,751	5,193,004	5,348,794	5,509,257	5,674,535	5,844,771
Benefits & Taxes	1,244,261	1,279,726	1,316,235	1,353,819	1,392,511	1,432,343
Commodities	223,135	229,539	236,127	242,904	249,875	257,046
Contractual	488,170	502,180	516,593	531,419	546,671	562,360
Capital	54,198	55,753	57,354	59,000	60,693	62,435
Debt	118,393	118,393	118,393	118,393	118,393	118,393
Transfer Out	0	0	0	0	0	0
Total Expenditures	7,169,908	7,378,595	7,593,495	7,814,792	8,042,678	8,277,349

Changes in assumption for TAV, CPI-U, wages, and benefits could alter the projection of these values. The assumptions and results above do not include any costs for the replacement of department vehicles or the funding of the unfunded liabilities for pension and medical insurance.

LFR Historical Financial Review

LFR’s budget includes two primary cost centers 1) fire support and operations and 2) building and safety. The Building and Safety cost center prior to 2012 was operated as an enterprise fund so comparative information for prior years will not include this new cost center. Financial data will be shown two ways with the initial set of figures providing a detailed review of the department including both of these cost centers. A second section of the report removes the

building and safety cost center and provides information on only fire administration and support and emergency operations.

LFR Debt

In May 2006 the City entered into a lease agreement for the purchase of a ladder truck. The lease payments are equally shared between LFR and the Highlands Ranch Metropolitan District (HRMD). The lease payments are due in annual installments beginning in 2007 and ending May, 2014, with interest at 4.10 percent.

Debts for LFR are shown in Figure 44.

Figure 44: LFR Debt

Description	Funding Source	Origination Date	Maturity Date	Principal Loan Balance	Comments
Ladder Truck	Special Projects Fund	May 2007	May 2014	281,877	Interest rate is 4.10%
Medic 13, Engine 11	Special Projects Fund	2012	2019	1,000,160	Not Determined
Total Debt				1,282,037	

Figure 45 shows the amortization schedule of the lease payments through 2019.

Figure 45: LFR Debt Amortization Schedule

Date	Ladder Truck	Medic 13, Engine 11	Total Payment
2012	93,959	125,020	218,979
2013	93,959	125,020	218,979
2014	93,959	125,020	218,979
2015	0	125,020	125,020
2016	0	125,020	125,020
2017	0	125,020	125,020
2018	0	125,020	125,020
2019	0	125,020	125,020
Total Cost	281,877	1,000,160	1,282,037

For the purpose of this review to collect and report all costs associated with the fire department, the above debt will be shown as debt expense in the fire department's financial statements.

City of Littleton Historical Taxable Assessed Value (TAV)

Figure 46 shows the historical TAV for LFR from 2008 through 2012. It includes the change in assessed value by year and the applicable tax rate.

Figure 46: City of Littleton TAV and Tax Rate, 2008 – 2012

Description	2008	2009	2010	2011	2012
TAV	597,233,409	617,092,320	640,017,100	640,240,690	610,285,533
Percent Change	10.15%	3.33%	3.71%	0.03%	-4.68%

The annual average percentage change for TAV from 2008 through 2012 was an increase of 2.51 percent. However, the average rate of change was considerably lower from 2010 to 2012 at (0.31) percent.

LFR Historical Revenue

Figure 47 provides a detailed review of fire operations, permits and plan review revenue for LFR from 2008 through 2012.

Figure 47: LFR, Permits and Plan Review Historical Fire Revenue, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Actual	2012 Budget	
Fire Services – Highlands Ranch MD	5,365,381	5,528,865	5,630,997	5,783,720	5,695,210	
Fire Services – Littleton FPD	5,149,796	5,159,932	5,263,713	5,387,090	5,238,980	
Restitution City	0	3,070	1,262	610	610	
Misc. Revenue	645	2,885	500	1,520	0	
Admin Fee – Littleton FPD	315,672	315,833	339,911	333,750	338,300	
Admin Fee – Highland Ranch	329,151	338,414	359,271	356,410	364,330	
Special Events	0	27,419	9,581	15,180	15,180	
Bike Medics	17,220	1,218	6,980	6,000	6,000	
Dive Team Salvage	291	0	0	0	0	
Sale of Capital Assets	0	13,783	11,150	28,550	0	
FEMA Katrina	13,572	4,524	0	0	0	
USAR	2,157	0	0	0	0	
UASI Grant	0	2,312	4,086	0	0	
Fire Service Donations	5,040	0	0	0	0	
Building Permits	0	0	0	0	400,000	
Re-inspections Fees	0	0	0	0	500	
Plan Checking	0	0	0	0	150,000	
City Subsidy	4,946,558	4,303,156	4,349,502	3,585,539	4,020,329	
Total Revenue	16,145,483	15,701,411	15,976,953	15,498,369	16,229,439	
Percent Change City Subsidy		-13.01%	1.08%	-17.56%	12.13%	
Effective Levy Rate		8.28	6.97	6.80	5.60	6.59

City of Littleton’s revenue contribution, labeled City Subsidy, is the amount that is required to fully fund fire operations, permits and plan review operation’s budget. Total City Subsidy to support the department’s budget has averaged -4.3 percent from 2009 to 2012. The effective tax rate shown in the table is the levy rate required to fund fire operations at the same level as the City contribution to the fire department’s budget.

LFR Historical Expenditures

The following table (Figure 48) depicts the historical spending for fire operations, permits and plan review by cost centers from 2008 through 2012.

Figure 48: LFR, Permits and Plan Review Expenditures by Cost Center, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Actual	2012 Budget
Administration	561,148	529,268	496,911	422,459	533,019
Emergency Services	12,229,871	12,268,656	12,390,871	12,519,670	12,545,710
Support Services	1,530,318	1,363,371	1,281,542	1,181,460	1,245,080
Prevention & Education	594,734	573,263	551,499	195,560	284,790
Paramedics	731,357	482,285	785,401	778,990	820,580
Training	498,055	484,568	470,729	400,230	290,840
Permits	0	0	0	0	509,420
Total Expenditures	16,145,483	15,701,411	15,976,953	15,498,369	16,229,439

In the following table a depiction of historical spending for fire operations, permits and plan review from 2008 through 2012 by cost center percentage is shown.

Figure 49: LFR, Permits and Plan Review Expenditures Percent by Cost Center, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Actual	2012 Budget
Administration	3.48%	3.37%	3.11%	2.73%	3.28%
Emergency Services	75.75%	78.14%	77.55%	80.78%	77.30%
Support Services	9.48%	8.68%	8.02%	7.62%	7.67%
Prevention & Education	3.68%	3.65%	3.45%	1.26%	1.75%
Paramedics	4.53%	3.07%	4.92%	5.03%	5.06%
Training	3.08%	3.09%	2.95%	2.58%	1.79%
Permits	0.00%	0.00%	0.00%	0.00%	3.14%
Total Expenditures	100.00%	100.00%	100.00%	100.00%	100.00%

Historical expenditures are shown in the next table for LFR from 2008 through 2012 by percentage for each expense category.

Figure 50: LFR, Permits and Plan Historical Expenditures Percent by Category, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Actual	2012 Budget
Salaries	69.42%	68.88%	70.96%	69.83%	68.78%
Taxes & Benefits	20.69%	21.59%	20.20%	21.73%	21.35%
Supplies & Materials	9.17%	8.77%	8.11%	7.67%	8.36%
Debt	0.58%	0.60%	0.59%	0.61%	1.35%
Intergovernmental Transfers	0.14%	0.16%	0.15%	0.17%	0.16%
Capital	0.00%	0.00%	0.00%	0.00%	0.00%
Total Expenditures	100.00%	100.00%	100.00%	100.00%	100.00%

Approximately 90 percent of the total fire operations, permits and plan review budget is expended to cover personnel services costs (including taxes and benefits).

Expenditures reflected above are lower than actuals as the costs do not include expenditures associated with all services provided to LFR by the City. These costs are generally referred to as in-kind and include services such as payroll processing, human resources, accounts payable, risk management, legal, information technology (IT) support, budgeting and financial control/reporting.

Medical Transport Enterprise Fund

Medical transport costs are itemized and reported through an enterprise fund. The information in the figure below is the historical activity from 2008 through the 2012 budget.

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Figure 51: Medical Transport Enterprise Fund, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Actual	2012 Budget
Beginning Balance	(753,499)	(552,719)	(50,845)	189,463	231,083
Revenue					
Emergency Transport Services	3,950,612	4,073,275	4,468,710	4,994,020	4,990,000
Billing Adjustment	(1,099,540)	(2,023,691)	(2,085,144)	(2,807,790)	(2,800,000)
Contractor Fines	0	10,040	6,940	5,000	5,000
Collection Company Receipts	66,812	85,928	96,752	81,550	90,000
Total Revenue	2,917,884	2,145,552	2,487,258	2,272,780	2,285,000
Net Collection Percent	73.86%	52.67%	55.66%	45.51%	45.79%
Expenditures					
Salary	931,901	995,657	1,030,693	1,034,290	988,460
Overtime	125,399	92,059	96,615	94,000	94,000
Medicare	12,459	13,254	14,910	14,660	14,010
Workers Comp Ins.	32,779	24,705	24,756	35,020	23,220
Medical Insurance	123,363	139,049	140,820	164,890	160,520
Life	2,279	2,621	2,979	3,300	3,130
Disability	12,257	13,047	14,160	12,110	14,850
Dental	6,217	6,562	7,170	7,340	6,890
Uniform Cleaning Allowance	3,510	2,632	3,037	3,510	3,510
Unemployment Insurance	105	106	95	110	850
Retirement	83,867	95,143	106,920	101,130	96,660
Supplies Other Special	25,187	71,790	56,021	70,000	78,850
Medical Supplies	107,844	119,619	142,439	120,000	130,000
Collection fees	35,411	39,936	42,643	49,000	49,000
Bank Fees	0	2,143	2,323	2,400	2,400
Billing Fees	140,536	159,001	138,996	156,000	156,000
Audit	0	0	0	0	1,120
Travel & Training	0	0	5,107	0	40,000
Vehicle Maintenance	19,865	14,613	71,145	60,000	57,640
Vehicle Fuel	0	0	25,712	40,000	32,900
Vehicle Insurance	0	0	6,006	10,000	9,610
Medical Equip. Maintenance	17,670	15,662	19,739	18,400	20,000
Property & Liability Insurance	0	0	11,320	14,000	16,800
Other Charges	162	0	0	0	0
Bad debts	650,938	0	0	0	0
Other Equipment	72,020	5,529	0	0	0
Medical Equipment	56,335	36,056	0	221,000	16,000
Total Expenditures	2,460,104	1,849,184	1,963,606	2,231,160	2,016,420
Adjustments to Fund Budget	(257,000)	205,506	(283,344)	0	0
Ending Balance	(552,719)	(50,845)	189,463	231,083	499,663

LFR Fire Operations Historical Revenue (without Building and Safety)

The following figure represents details of fire operations revenue for LFR from 2008 through 2012.

Figure 52: LFR Fire Operations Revenue, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Actual	2012 Budget
Fire Services – Highlands Ranch MD	5,365,381	5,528,865	5,630,997	5,783,720	5,695,210
Fire Services – Littleton FPD	5,149,796	5,159,932	5,263,713	5,387,090	5,238,980
Restitution City	0	3,070	1,262	610	610
Misc. Revenue	645	2,885	500	1,520	0
Admin Fee – Littleton FPD	315,672	315,833	339,911	333,750	338,300
Admin Fee – Highland Ranch	329,151	338,414	359,271	356,410	364,330
Special Events	0	27,419	9,581	15,180	15,180
Bike Medics	17,220	1,218	6,980	6,000	6,000
City Subsidy	4,946,558	4,303,156	4,349,502	3,585,539	4,061,409
Total Revenue	16,145,483	15,701,411	15,976,953	15,498,369	15,720,019
Percent Change City Subsidy		-13.01%	1.08%	-17.56%	13.27%
Effective Levy Rate	8.28	6.97	6.80	5.60	6.65

The City's revenue contribution, labeled City Subsidy, is the amount required to fully fund the fire department operation's budget. Total City Subsidy to support the fire department's budget has averaged -4.1 percent from 2009 to 2012. The effective tax rate shown in the table is the levy rate required to fund fire operations at the same level as the City contribution to the fire department's budget.

LFR Fire Operations Historical Expenditures without Building and Safety

In the following table (Figure 53) historical spending for LFR by cost category is listed for 2008 through 2012.

Figure 53: LFR Fire Operations Expenditures, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Actual	2012 Budget
Salaries	11,208,137	10,815,005	11,336,697	10,821,990	10,849,940
Taxes & Benefits	3,340,496	3,390,446	3,226,884	3,367,560	3,372,260
Supplies & Materials	1,480,862	1,377,057	1,295,022	1,188,660	1,252,640
Debt	93,959	93,959	93,959	93,959	218,979
Intergovernmental Transfers	22,029	24,944	24,391	26,200	26,200
Capital	0	0	0	0	0
Total Expenditures	16,145,483	15,701,411	15,976,953	15,498,369	15,720,019

Figure 54 depicts the historical expenses for LFR from 2008 through 2012 by percentage for each expense category.

Figure 54: LFR Fire Operations Expenditures Percent by Category, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Actual	2012 Budget
Salaries	69.42%	68.88%	70.96%	69.83%	69.02%
Taxes & Benefits	20.69%	21.59%	20.20%	21.73%	21.45%
Supplies & Materials	9.17%	8.77%	8.11%	7.67%	7.97%
Debt	0.58%	0.60%	0.59%	0.61%	1.39%
Intergovernmental Transfers	0.14%	0.16%	0.15%	0.17%	0.17%
Capital	0.00%	0.00%	0.00%	0.00%	0.00%
Total Expenditures	100.00%	100.00%	100.00%	100.00%	100.00%

Personnel service costs (including taxes and benefits) have consistently remained in the range of approximately 90 percent of the total department budget over the five years.

LFR Historical Summary

The table below summarizes the historical fund activity of LFR fire operations from 2008 through 2012.

Figure 55: LFR Fire Operations Fund Balance, 2008 – 2012

Description	2008 Actual	2009 Actual	2010 Actual	2011 Estimated Actual	2012 Budget
Revenue	16,145,483	15,701,411	15,976,953	15,498,369	15,720,019
Expenditures					
Salaries	11,208,137	10,815,005	11,336,697	10,821,990	10,849,940
Taxes & Benefits	3,340,496	3,390,446	3,226,884	3,367,560	3,372,260
Supplies & Materials	1,480,862	1,377,057	1,295,022	1,188,660	1,252,640
Debt	93,959	93,959	93,959	93,959	218,979
Intergovernmental Transfers	22,029	24,944	24,391	26,200	26,200
Capital	0	0	0	0	0
Total Expenditures	16,145,483	15,701,411	15,976,953	15,498,369	15,720,019

LFR Capital Improvements

LFR uses the City of Littleton Capital Improvement Plan (CIP) to project future capital expenditures. The actual expenditures are recorded in the Special Projects Fund. Included in the City's CIP 2012 – 2016 are items for LFR (shown in the following table):

Figure 56: LFR Capital Projects in The City's CIP, 2012 – 2016

Project Description	Department	2012 Budget	2013	2014	2015	2016
TeleStaff Software Upgrade	Fire	0	210,000	0	0	0
MDT Front-line Replacement	Fire	44,000	44,000	44,000	44,000	44,000
MDT Chief Officer Vehicles	Fire	42,000	0	0	0	42,000
Replace HazMat Vehicle	Fire	0	426,600	0	0	0
SCBA Upgrade/Replacements	Fire	0	168,150	0	0	0
Medic 13 Replacement	Fire	250,000	0	0	0	0
Medic 15 Replacement	Fire	0	230,000	0	0	0
Medic 17 Replacement	Fire	0	230,000	0	0	0
Engine 11 Replacement	Fire	630,000	0	0	0	0
Station 16 HVAC Replacement	Fire	13,250	0	0	0	0
Station 16 Window Replacement	Fire	5,000	0	0	0	0
Station 16 Kitchen Remodel	Fire	25,000	0	0	0	0
Station 16 Parking Lot	Fire	5,000	0	0	0	0
Engine 15 Replacement	Fire	0	0	0	630,000	0
Engine 18 Replacement	Fire	0	0	0	630,000	0
Fire Optic Laryngoscopes (5)	Fire	0	80,000	0	0	0
Tabor Training Building	Fire	0	200,000	100,000	0	0
Mobile Toughbook Computers	EMT Enterprise	16,000	16,000	16,000	16,000	0
Total CIP		1,030,250	1,604,750	160,000	1,320,000	86,000

ESCI recommends that a reserve fund be used for the funding of a vehicle replacement plan. LFR does not have a vehicle replacement plan specific for the fire department. However, the City is projecting a December 31, 2012, fund balance in the Special Project Fund of \$5,054,750. To calculate the capital funding requirement for vehicle replacement, the anticipated life of vehicles and scheduled replacement date based on the remaining useful life is calculated. The following figure shows the useful life of each vehicle type used in the calculation.

Figure 57: LFR Expected Vehicle Useful Life

Vehicle Type	Frontline Useful Life	Reserve Status Useful Life	Total Vehicle Useful Life
Engine	12	8	20
Aerial	12	8	20
Medic	6	4	10
Staff Vehicle	6	6	12

The City of Littleton has agreements with Highland Ranch Metropolitan District and Littleton Fire Protection District for splitting the reimbursement costs for vehicle acquisitions. The segregation of the purchase price is shown below:

- COL and the LFPD share the replacement cost of fire apparatus equally. These purchases include all engine, aerial, and medic apparatus assigned to Fire Station Nos. 11, 12, 13, 14, and 15. COL and LFPD have agreed that all new purchases will be paid for upon delivery of the vehicle.
- COL, LFPD, and HRMD share the cost equally for Ladder No. 16.²⁸ This vehicle is under a lease purchase agreement.
- COL, LFPD, and HRMD share the cost of replacing administrative vehicles.

The next figure depicts a vehicle replacement plan utilizing the remaining life of the vehicles in-service. Figure 58 depicts a vehicle replacement plan utilizing the remaining life of the vehicles in-service. Costs are only for the City of Littleton.

Figure 58: LFR Vehicle Replacement Cost Projection²⁹

Vehicle No.	Purchase Date	Make	Useful Life	Years left as of 12/31/11	Replacement Cost	Reserve Required' @ 12/31/11	Annual Reserve Required
300	2009	Ford Explorer	12	9	12,312	3,078	1,026
301	2001	Chevy Tahoe	12	2	0	0	0
302	2002	GMC Safari	12	3	0	0	0
303	2002	GMC Safari	12	3	0	0	0
306	2009	Ford Explorer	12	9	12,312	3,078	1,026
307	2010	Ford F150	12	10	15,759	2,627	1,313
308	2001	Chevy Tahoe	12	2	15,267	12,722	1,272
309	2010	Ford Explorer	12	10	12,913	2,152	1,076
320	2001	Chevy Tahoe	12	2	15,267	12,722	1,272
330	2002	GMC Yukon	12	3	16,030	12,023	1,336
340	2008	Chevy Express	12	8	13,789	4,596	1,149
350	2009	Ford Explorer	12	9	12,312	3,078	1,026
360	2004	Chevy Express	12	5	10,804	6,302	900
380	2007	Chevy Express	12	7	11,167	4,653	931
321	2008	Chevy Suburban	12	8	16,974	5,658	1,415
361	2002	Chevy Suburban	12	3	14,741	11,056	1,228
316	2002	American LaFrance	20	10	300,000	150,000	15,000
336	2005	American LaFrance	20	13	382,869	134,004	19,143
346	2006	American LaFrance	20	14	402,029	120,609	20,101
356	2002	American LaFrance	20	10	330,750	165,375	16,538
376	2005	American LaFrance	20	13	694,575	243,101	34,729
386	2003	American LaFrance	20	11	765,738	344,582	38,287
315	1990	Pierce	20	0	To be sold	0	0
335	1992	Pierce	20	0	To be sold	0	0
345	1993	Pierce	20	0	To be sold	0	0
328	2004	American LaFrance	20	12	502,840	201,136	25,142
367	2006	Pierce	20	14	1,319,954	395,986	65,998
368	1993	Pierce	20	0	To be sold	0	0
313	2009	Ford/Braun	10	8	154,350	30,870	15,435

²⁸ Ladder No. 16 was moved to Fire Station No. 18 in a redeployment of apparatus.

²⁹ Vehicle replacement cost estimates provided by LFR.

Vehicle No.	Purchase Date	Make	Useful Life	Years left as of 12/31/11	Replacement Cost	Reserve Required'@ 12/31/11	Annual Reserve Required
333	2006	Ford/McCoy Miller	10	5	115,000	57,500	11,500
334	2012		10	10	154,350	0	15,435
353	2007	Ford/McCoy Miller	10	6	140,000	56,000	14,000
364	2010	Ford/McCoy Miller	10	9	357,358	35,736	35,736
373	2006	Ford/McCoy Miller	10	5	294,000	147,000	29,400
312	2003	Ford/McCoy Miller	10	0	To be sold	0	0
332	2000	Ford/McCoy Miller	10	0	To be sold	0	0
354	2002	Ford/McCoy Miller	10	0	To be sold	0	0
304	2006	TEMS	12	7	17,868	7,445	1,489
363	2007	Freightliner SuperVac	20	16	243,780	48,756	12,189
314	1988	Mack	20	0	250,000	250,000	12,500
372	2003	American LaFrance	12	4	177,294	118,196	14,775
381	2001	American LaFrance	12	2	169,907	141,589	14,159
390	2002	LDV	12	3	369,363	277,022	30,780
397	1992	Chevy SuperVac	20	1	325,000	308,750	16,250
399	1991	GMC Sierra	10	0	45,000	45,000	4,500
Total Annual Funding Requirement						3,362,403	478,056

Adequate fund balance is available in the Special Project Fund to cover LFR vehicle replacement needs.

LFR Unfunded Pension Liabilities

The City of Littleton has no pension fund actuarial liability related to LFR.

In November 2008, voters approved the City to move the fire employees' money purchase pension plan to a defined benefit plan. Fire employees became members of the Colorado Fire and Police Pension Association (FPPA) pension group effective April 1, 2009. Prior to that date, fire employees were included in the money purchase pension plan along with police employees.

The City provides pension benefits for paid fire fighters and commissioned fire personnel by contributing to the statewide, cost-sharing, multiple-employer defined benefit pension plan administered by the FPPA. The statewide defined benefit plan provides retirement benefits for its members and beneficiaries. Title 31, Article 30 of the Colorado Revised Statutes (CRS), as amended, assigns the authority to establish benefit provisions to the state legislature. FPPA issues a publicly available financial report that includes the statewide defined benefit plan.

LFR Status Quo Financial Forecast 2012 – 2017

Using the assumptions outlined in the section Economic Indicators, projections of financial stability were created for LFR. Financial forecasts use the 2012 budget as the beginning point for all calculations. Any changes made to the base data, are identified in the section under review.

City of Littleton Forecast Taxable Assessed Value (TAV)

The growth factors used for TAV are shown in the table below:

Figure 59: COL TAV Growth Rate by Year, 2012 – 2017

Year	Percent Increase
2012	
2013	0.00%
2014	0.25%
2015	0.50%
2016	1.00%
2017	1.25%

Figure 60 is the forecast changes in the TAV from 2012 through 2017 for the City of Littleton using the above growth factors.

Figure 60: COL Forecast TAV, 2012 – 2017

Description	2012	2013	2014	2015	2016	2017
TAV	610,285,533	610,285,533	611,811,247	614,870,303	621,019,006	628,781,744

LFR Forecasted Revenue

The City of Littleton’s subsidy to the revenue for LFR fire operations is a forced value to cover the Department’s costs for the year. A corresponding effective levy rate is shown to provide a comparative cost. All other revenue categories have been inflated at the ten-year average CPI-U of 2.873 percent.

Figure 61: LFR Fire Operations Revenue Forecast, 2012 – 2017

Description	2012 Budget	2013	2014	2015	2016	2017
Fire Service – Highland Ranch MD	5,695,210	5,858,663	6,026,806	6,199,775	6,377,709	6,560,749
Fire Services – Littleton FPD	5,238,980	5,389,339	5,544,013	5,703,126	5,866,806	6,035,183
Restitution City	610	628	646	664	683	703
Misc. Revenue	0	0	0	0	0	0
Admin Fee Littleton FPD	338,300	348,009	357,997	368,272	378,841	389,714
Admin Fee - Highland Ranch	364,330	374,786	385,543	396,608	407,990	419,700
Special Events	15,180	15,616	16,064	16,525	16,999	17,487
Bike Medics	6,000	6,172	6,349	6,532	6,719	6,912
City Subsidy	4,061,409	4,190,176	4,323,192	4,366,639	4,508,577	4,655,194
Total Revenue	15,720,019	16,183,388	16,660,610	17,058,140	17,564,324	18,085,642
Percent Change City Subsidy	13.27%	3.17%	3.17%	1.00%	3.25%	3.25%
Effective Levy Rate	6.65	6.87	7.07	7.10	7.26	7.40

LFR Forecast Expenditures

The following points identify the cost increase factors included in the expenditure forecast ().

- Salaries and wage were increased at 3.0 percent annually. This value was selected as it is slightly higher than the ten-year CPI-U of 2.873. Collective bargaining organizations may request an increase at or above the cost of living increases.
- All other expense categories were inflated at the ten-year average CPI-U of 2.873 percent except for debt.
- Debt payment was forecast using the current amortizations/payment schedule.

Figure 62: LFR Fire Operations Expenditure Forecast, 2012 – 2017

Description	2012 Budget	2013	2014	2015	2016	2017
Salaries	10,849,940	11,175,438	11,510,701	11,856,022	12,211,703	12,578,054
Taxes & Benefits	3,372,260	3,473,428	3,577,631	3,684,960	3,795,508	3,909,374
Supplies & Materials	1,252,640	1,288,591	1,325,573	1,363,617	1,402,753	1,443,012
Debt	218,979	218,979	218,979	125,020	125,020	125,020
Intergovernmental Transfers	26,200	26,952	27,725	28,521	29,340	30,182
Capital	0	0	0	0	0	0
Total Expenditures	15,720,019	16,183,388	16,660,610	17,058,140	17,564,324	18,085,642

LFR Forecast Summary

Figure 63 summarizes fund activity to provide a snapshot of what the fund balance would be in each year from 2012 through 2017.

Figure 63: LFR Fire Operations Forecast Summary, 2012 – 2017

Description	2012 Budget	2013	2014	2015	2016	2017
Revenue	15,720,019	16,183,388	16,660,610	17,058,140	17,564,324	18,085,642
Expenditures						
Salaries	10,849,940	11,175,438	11,510,701	11,856,022	12,211,703	12,578,054
Taxes & Benefits	3,372,260	3,473,428	3,577,631	3,684,960	3,795,508	3,909,374
Supplies & Materials	1,252,640	1,288,591	1,325,573	1,363,617	1,402,753	1,443,012
Debt	218,979	218,979	218,979	125,020	125,020	125,020
Intergovernmental Transfers	26,200	26,952	27,725	28,521	29,340	30,182
Capital	0	0	0	0	0	0
Total Expenditures	15,720,019	16,183,388	16,660,610	17,058,140	17,564,324	18,085,642

Changes in assumption for TAV, CPI-U, wage and benefit could alter the projection of these values. The assumptions and results above do not include any costs for the replacement of department vehicles or the funding of the unfunded liabilities for pension and medical insurance.

Capital Assets and Capital Improvement Programs

Three basic resources are required to successfully carry out the emergency mission of a fire department — trained personnel, firefighting equipment, and fire stations. Because firefighting is an extremely physical task, the training and capacity of personnel resources is a vital concern. However, no matter how competent or numerous the firefighters, fire departments will fail to execute their mission if they lack sufficient fire equipment deployed in an efficient and effective manner.

Facilities

Fire stations play an integral role in the delivery of emergency services for a number of reasons. A station's location will dictate, to a large degree, response times to emergencies. A poorly located station can mean the difference between confining a fire to a single room and losing the structure. The location of a station can even make the difference between saving and losing a life.

Fire stations need to be designed to adequately house equipment and apparatus, as well as meet the needs of the organization, its workers, and/or its members. It is essential to research need based on call volume, response time, types of emergencies, and projected growth prior to making a station placement commitment. Locating fire stations is also a matter of the greater community (region) need.

Consideration should be given to a fire station's ability to support the department's mission as it exists today and in the future. The activities that take place within the fire station should be closely examined to ensure the structure is adequate in both size and function. Examples of these functions may include:

- The housing and cleaning of apparatus and equipment
- Residential living space for on-duty crew members (male and female)
- Administrative or management office(s)
- Training, classroom, and library areas
- Firefighter fitness area

While this list may seem elementary, the lack of dedicated space compromises the ability of the facility to support all of these functions and can detract from its primary purpose.

Apparatus

Other than the firefighters assigned to stations, response vehicles are probably the next most important resource of the emergency response system. If emergency personnel cannot arrive quickly due to unreliable transport, or if the equipment does not function properly, then the delivery of emergency service is likely compromised.

Fire apparatus are unique and expensive pieces of equipment, customized to operate efficiently for a narrowly defined mission. An engine may be designed such that the compartments fit specific equipment and tools, with virtually every space on the vehicle designed for function. This same vehicle, with its specialized design, cannot be expected to operate in a completely different capacity, such as a hazardous materials unit or a rescue squad. For this reason, fire apparatus are very expensive and offer little flexibility in use and reassignment. As a result, communities across the country have sought to achieve the longest life span possible for these vehicles.

Unfortunately, no piece of mechanical equipment can be expected to last forever. As a vehicle ages, repairs tend to become more frequent, parts are more difficult to obtain, and downtime for repair increases. Given the emergency mission that is so critical to the community, downtime is one of the most frequently identified reasons for apparatus replacement.

Because of the expense of fire apparatus, most communities develop replacement plans. To enable such planning, communities often turn to the accepted practice of establishing a life cycle for the apparatus that results in an anticipated replacement date for each vehicle.

The reality is that it may be best to establish a life cycle for use in the development of replacement funding for various types of apparatus; yet, apply a different method (such as a maintenance and performance review) for actually determining the replacement date in real life, thereby achieving greater cost efficiency when possible.

As frontline units age, the fleet will experience higher costs, greater complexity and more down time associated with necessary repairs and even routine maintenance. An aging fleet, coupled with the absence of a current replacement schedule should raise concern for management.

Capital Equipment

Response operations for fires, emergency medical services, hazardous materials incidents, and technical rescue operations call for a reliable inventory of major equipment that typically carries

significant acquisition, maintenance and replacement costs. The following list offers primary examples of this type of equipment:

- Self-contained breathing apparatus (SCBA)
- Personal protective equipment (PPE)
- Rescue power tools
- Flame, heat and gas detectors
- Computers; including mobile computer/data terminals (MCT's or MDT's)
- Fire hose
- Generators; both station and portable units

The useful life of this type of equipment is influenced by frequency of use, wear and tear, capacity and obsolescence. As with apparatus, fire departments should establish a useful life for this equipment and craft a plan to address both maintenance and replacement. In addition to capital fund budgeting, fire departments may also consider either general obligation bond funding or grant funding for this type of equipment.

Survey Table 10: Capital Assets and Capital Improvement Programs

Survey Components	EFD	LFR
1. Fire Stations/Structures		
A. Plan maintained	Yes, City has a rolling five-year capital plan. "Projects in recent years have been limited to repair and replacement."	Yes, City is moving to a five-year capital plan – has been impacted some due to budget. Currently LFPD does annually (on an as need basis) for fire stations, HRMD annually (on as need basis)
i) period of plan (from – to)	2012 – 2017, rolling five-year	2012 – 2017, rolling five-year
ii) funding mechanism	None	Not for the City, LFPD has a reserve account
B. Construction or improvement plans	Limited	Limited

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Survey Components	EFD	LFR
i) 2012	None	Fire Rescue Special Projects Fire Station No. 16 HVAC Replacement, \$13,250 Fire Rescue Special Projects Fire Station No. 16 Window Replacement \$5,000 Fire Rescue Special Projects Fire Station No. 16 Kitchen Remodel \$25,000 Fire Rescue Special Projects Fire Station No. 16 Parking Lot Expansion \$5,000 (continuation of 2011 project)
ii) 2013	\$48,500, interior painting all fire stations and replace windows in woman's dormitory	None
iii) 2014	\$12,500, replace carpeting all fire stations and relocate door in battalion chief's bathroom	None
iv) 2015	None	None
v) 2016	None	None
2. Apparatus		
A. Plan maintained	Yes, internal	Yes, 2010 – 2018
i) period of plan (from – to)	CERF (Capital Equipment Replacement Fund) Apparatus taken out of CERF ~ 2002 Medic vehicles (9 years) Staff vehicles (7 years)	Engine, 12-year front line, 8-year reserve; Aerial 12 front line, 8 reserve; Medic Unit 6 front line, 4 reserve; HRMD, medic unit 8 front line, 4 reserve B/C 6 front line, 6 reserve; Special teams as determined by fleet manager, evaluation at 8 years; Staff vehicles as determined fleet manager evaluation at 8 years
ii) funding mechanism	Some grant money for medic units	City-Special Project Fund, annual review, district follows City schedule with annual deposits in a reserve fund
B. Purchase or refurbishment schedule	Under discussion, not developed	See below

Survey Components	EFD	LFR
i) 2012, recommended	N/A	<p>\$93,960 payment of annual lease for Ladder Truck No.16, \$43,250, Fire Station No. 16 HVAC and window replacements and kitchen remodel. (Anticipated energy cost savings.)</p> <p>\$86,000, MDT's scheduled to be installed in front line fire and medical apparatus as well as installation of MDT's in chief officer vehicles, (No operational cost impacts – replacement of existing equipment.)</p> <p>\$630,000, expenditure of lease proceeds for Engine 11 replacement, (No operational cost impacts – replacement of existing equipment.)</p> <p>250,000, expenditure of lease proceeds for Medic 13 Replacement, (No operational cost impacts – replacement of existing equipment.)</p> <p>\$5,000, additional monies needed for parking lot repairs at Station 16, (No operational cost impacts – improvement to existing parking lot.)</p> <p>\$16,000, Mobile Toughbook Computers</p>
ii) 2013, recommended	N/A	<ul style="list-style-type: none"> • \$16,000, Mobile Toughbook Computers • \$200,000, TABOR Fire Training burn building • \$210,000, TeleStaff (timesheet) Software Upgrade • \$44,000, MDT replacement – front-line • \$426,600, replace hazardous materials vehicle • \$168,500, SCBA upgrade/replacement • \$230,000, Medic Unit #15 replacement • \$230,000, Medic Unit #17 replacement • \$80,000, fire optic laryngoscopes (5)

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Survey Components	EFD	LFR
iii) 2014, recommended	N/A	<ul style="list-style-type: none"> • \$16,000, Mobile Toughbook Computers • \$100,000, TABOR Fire Training burn building • \$44,000, MDT replacement – front-line
iv) 2015, recommended	N/A	<ul style="list-style-type: none"> • \$16,000, Mobile Toughbook Computers • \$44,000, MDT replacement – front-line • \$630,000, Fire Engine 15 – (356) • \$630,000, Fire Engine 18
v) 2016, recommended	N/A	<ul style="list-style-type: none"> • \$44,000, MDT replacement – front-line • \$42,000, MDT replacement – chief officer vehicles • \$16,000, Mobile Toughbook Computers
3. Support Equipment		
A. Plan maintained	Generators (maintenance only) Potential replacement for Acoma Station subject to budget approval	No (bunker gear is starting in 2013, computers and MDCs)
i) period of plan (from – to)	N/A	N/A
ii) funding mechanism	N/A	City, Special Project Fund, HRMD and LFPD review requests
B. Purchase planned for:	None	As needed. LFR is going to begin to aggregate SCBAs, personal protective equipment and other equipment purchases in 2013
4. Methods of Financing		
A. General revenue	Yes, general fund	Yes, general fund
B. Reserve fund(s)	No	Yes, LFPD, HRMD on as requested basis
C. Revenue fund(s)	No	No
D. General obligation bond	No	No
E. Lease-Purchase	10-year lease purchase on two apparatus	Yes, ladder truck at Fire Station No. 18, fire engine and medic unit (December 2012 Braun) on a five year lease beginning in (December 2012 Pierce Dash CF)

Capital Facilities

The City of Englewood currently does not have a capital facilities upgrade or replacement plan in place.³⁰ Littleton Fire and Rescue uses the City of Littleton Capital Improvement Plan (CIP)

³⁰ EFD does not have a stand-alone capital improvement plan. However, EFD submits a multi-year project list each year for inclusion in the City's capital improvement plan.

for both facilities and apparatus in a five-year rolling plan but the effort is limited by funding restrictions (see Figure 56 in the Fiscal Analysis section of this report). Both Littleton Fire Protection District and Highlands Ranch Metro District annually review and plan for facility needs with dedicated funding and capital reserve accounts.

Apparatus

The City of Englewood maintains a Capital Equipment Replacement Fund (CERF) from which funding is available for certain replacement fleet vehicles. In 2002, the City removed fire apparatus from this fund and moved to a lease/purchase approach with funding coming from the general fund. Within the CERF, EFD has established a useful life of nine years for medic vehicles and seven years for staff vehicles. Additional detail can be found in Figure 35 of the Fiscal Analysis section of this report.

LFR includes some fire apparatus, medic vehicles, and related capital equipment in the City of Littleton CIP (see Figure 56 in the Fiscal Analysis section of this report). LFR has established a useful life for fire apparatus (engines and aerials) at 12 years front line and 8 years reserve and medic units at 8 years front line and 4 years reserve. Staff vehicles are generally listed at 8 years but are subject to regular review by the fleet manager.

Capital Equipment

EFD has no plan in place for the regular replacement of fire capital equipment; any repair and replacement must be funded from the general fund or by means of grant funding. LFR includes only SCBA equipment, MDT's and laryngoscopes in its CIP.

Figure 64: EFD Fire Administration



Survey Components	
1. Structure	
A. Construction type	Block
B. Date	1972
C. Seismic protection/energy audits	Yes, energy audit lead to a new boiler, lighting, window upgrades, insulation
D. Auxiliary power	Yes, diesel. New in 2011
E. Condition	Fair to poor
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	Partially ADA accessible on the main level
G. Apparatus access	N/A
H. Public access	To the main level of the building
I. Community facilities	No
2. Square Footage	4,000 of 20,000 gross facility
3. Facilities Available	
A. Exercise/workout	Available
B. Kitchen/dormitory	Break room
C. Lockers/showers	Yes, gender specific
D. Training/meetings	Yes
E. Washer/dryer	No
F. Decontamination area	No
4. Protection Systems	
A. Sprinkler system	No
B. Smoke detection	Yes, local
C. Security	Yes, pass card or keyed
D. Apparatus exhaust system	N/A

Figure 65: EFD Jefferson Fire Station No. 21



Survey Components	
1. Structure	
A. Construction type	Block
B. Date	1972
C. Seismic protection/energy audits	Yes, energy audit
D. Auxiliary power	Yes, diesel generator. New in 2011.
E. Condition	Poor
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	Not ADA compliant, gender specific
G. Apparatus access	Back in bays
H. Public access	Yes
I. Community facilities	No
2. Square Footage	8,200
3. Facilities Available	
A. Exercise/workout	No. Have access to the City recreation center
B. Kitchen/dormitory	Yes
C. Lockers/showers	Gender specific
D. Training/meetings	No
E. Washer/dryer	No (city uses local laundry for decontamination and all clothing)
F. Decontamination area	No
4. Protection Systems	
A. Sprinkler system	No
B. Smoke detection	Yes, local
C. Security	Yes, key card
D. Apparatus exhaust system	Yes
5. Assigned Apparatus	
A. Engine 21	B. Medic 21
C. Battalion 2	

Figure 66: EFD Tejon Fire Station No. 22



Survey Components	
1. Structure	
A. Construction type	Mixed block and ordinary construction
B. Date	1972
C. Seismic protection/energy audits	No
D. Auxiliary power	Yes, natural gas
E. Condition	Poor
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	Not ADA compliant
G. Apparatus access	Drive through bays
H. Public access	Yes
I. Community facilities	No
2. Square Footage	
5,400	
3. Facilities Available	
A. Exercise/workout	No. Have access to the City recreation center
B. Kitchen/dormitory	Yes
C. Lockers/showers	Gender specific
D. Training/meetings	No
E. Washer/dryer	No (city uses local laundry for decontamination and all clothing)
F. Decontamination area	No
4. Protection Systems	
A. Sprinkler system	No
B. Smoke detection	Yes, local
C. Security	Yes, key pad
D. Apparatus exhaust system	Yes
5. Assigned Apparatus	
A. Squad 22	B. Hammer 22

Figure 67: EFD Acoma Fire Station No. 23



Survey Components	
1. Structure	
A. Construction type	Ordinary construction
B. Date	1979
C. Seismic protection/energy audits	No
D. Auxiliary power	Yes, natural gas
E. Condition	Poor
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	Not ADA compliant
G. Apparatus access	Back in bays
H. Public access	Yes
I. Community facilities	No
2. Square Footage	5,400
3. Facilities Available	
A. Exercise/workout	No. Have access to the City recreation center
B. Kitchen/dormitory	Yes
C. Lockers/showers	Gender specific
D. Training/meetings	No
E. Washer/dryer	No (city uses local laundry for decontamination and all clothing)
F. Decontamination area	No
4. Protection Systems	
A. Sprinkler system	No
B. Smoke detection	Yes, local
C. Security	Yes, keypad
D. Apparatus exhaust system	Yes
5. Assigned Apparatus	
A. Squirt 23	B. Medic 23
C. Utility 23	D. Air 23

Figure 68: LFR Fire Station No. 11



Survey Components	
1. Structure	
A. Construction type	Type 3
B. Date	November 1981
C. Seismic protection/energy audits	Energy audit
D. Auxiliary power	Yes, new generator in 2011
E. Condition	Very good, minor addition in 2009 extended one bay, created six individual dorm rooms expansion, fitness room, and other tenant improvements
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	No eye wash, bunker gear stored by apparatus bay, no bio-hazard area, not ADA compliant
G. Apparatus access	Back in bays only
H. Public access	Two, one on the front and another on the side
I. Community facilities	No
2. Square Footage	
8,678 square feet	
3. Facilities Available	
A. Exercise/workout	Yes
B. Kitchen/dormitory	Yes, gender appropriate
C. Lockers/showers	Yes, individual lockers and gender specific shower facilities
D. Training/meetings	The Station is connected to City Hall which has available meeting rooms and a community room for some training
E. Washer/dryer	Both residential and commercial extractor
F. Decontamination area	No
4. Protection Systems	
A. Sprinkler system	No
B. Smoke detection	Yes, commercial
C. Security	Yes, card system
D. Apparatus exhaust system	Yes
5. Assigned Apparatus	
A. Engine 11	B. Medic 11
C. Medic (312)	D. Tactical EMS Unit TEMS 1

Figure 69: LFR Fire Station No. 12



Survey Components	
1. Structure	
A. Construction type	Type 3
B. Date	April 2004
C. Seismic protection/energy audits	Energy audit
D. Auxiliary power	Yes, natural gas
E. Condition	Excellent
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	No eye wash station, bunker gear in separate room but open to apparatus bay, bio-hazard area, and compressor
G. Apparatus access	Back in only
H. Public access	Two
I. Community facilities	Yes, training room is the alternate EOC for the City and can be used as a community room, ADA compliant
2. Square Footage	
12,378 square feet	
3. Facilities Available	
A. Exercise/workout	Yes
B. Kitchen/dormitory	Yes
C. Lockers/showers	yes, gender specific
D. Training/meetings	Yes
E. Washer/dryer	Both residential and commercial extractor
F. Decontamination area	No
4. Protection Systems	
A. Sprinkler system	Fully sprinklered
B. Smoke detection	Commercial and monitored
C. Security	Yes, card system
D. Apparatus exhaust system	Yes
5. Assigned Apparatus	
A. Squirt 12	B. Battalion 1
C. Squad 12	D. Reserve Medic (354)
E. Reserve Medic (332)	F. Reserve BC (361)
G. Reserve aerial (368)	H. Reserve Engine (345)
I. Reserve Engine (335)	

Figure 70: LFR (LFPD) Fire Station No. 13



Survey Components	
1. Structure	
A. Construction type	Type 5
B. Date	July 1967
C. Seismic protection/energy audits	Energy audit
D. Auxiliary power	Yes, natural gas generator
E. Condition	Good
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	No eye wash, bunker in apparatus bay, no bio-hazard area, ADA compliant
G. Apparatus access	Back in bays
H. Public access	Yes
I. Community facilities	No
2. Square Footage	5,055 square feet
3. Facilities Available	
A. Exercise/workout	Yes
B. Kitchen/dormitory	Yes, individual dorm rooms
C. Lockers/showers	Yes
D. Training/meetings	No
E. Washer/dryer	Both residential and commercial extractor
F. Decontamination area	No
4. Protection Systems	
A. Sprinkler system	No
B. Smoke detection	Yes, local
C. Security	Yes, card lock
D. Apparatus exhaust system	Yes
5. Assigned Apparatus	
A. Engine 13	B. Medic 13

Figure 71: LFR (LFPD) Fire Station No. 14



Survey Components	
1. Structure	
A. Construction type	Type 5
B. Date	September 1972
C. Seismic protection/energy audits	Energy audit
D. Auxiliary power	Yes, natural gas generator
E. Condition	Very good
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	No eyewash, no bio-hazard area, ADA compliant
G. Apparatus access	Back in bays
H. Public access	Yes
I. Community facilities	No
2. Square Footage	5,055 square feet
3. Facilities Available	
A. Exercise/workout	Yes
B. Kitchen/dormitory	Yes
C. Lockers/showers	Yes
D. Training/meetings	Small meeting room
E. Washer/dryer	Both residential and commercial extractor
F. Decontamination area	
4. Protection Systems	
A. Sprinkler system	No
B. Smoke detection	Yes
C. Security	Yes, card system
D. Apparatus exhaust system	Yes
5. Assigned Apparatus	
A. Engine 14	B. Reserve Engine (315)

Figure 72: LFR (LFPD) Fire Station No. 15



Survey Components	
1. Structure	
A. Construction type	Type 5
B. Date	February 1979
C. Seismic protection/energy audits	Energy audit
D. Auxiliary power	Yes, natural gas generator
E. Condition	Good
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	No eyewash, bunker gear in apparatus bay, no bio-hazard area, not ADA compliant
G. Apparatus access	Back in bays
H. Public access	Yes
I. Community facilities	No
2. Square Footage	3,149 square feet
3. Facilities Available	
A. Exercise/workout	Yes, in basement
B. Kitchen/dormitory	Yes
C. Lockers/showers	Yes, communal facilities
D. Training/meetings	No
E. Washer/dryer	Both residential and commercial extractor
F. Decontamination area	
4. Protection Systems	
A. Sprinkler system	No
B. Smoke detection	Yes, local
C. Security	Yes, card system
D. Apparatus exhaust system	Yes
5. Assigned Apparatus	
A. Engine 15	B. Medic 15

Figure 73: LFR (Shared LFR, LFPD, HRMD) Fire Station No. 16



Survey Components	
1. Structure	
A. Construction type	Type 3
B. Date	October 1994
C. Seismic protection/energy audits	Energy audit
D. Auxiliary power	Yes, natural gas generator
E. Condition	Good
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	No eyewash, bunker gear in apparatus bay, bio-hazard area, ADA compliant on the main level
G. Apparatus access	Drive through bays
H. Public access	Yes
I. Community facilities	Yes, community meeting room
2. Square Footage	9,502 square feet
3. Facilities Available	
A. Exercise/workout	Yes
B. Kitchen/dormitory	Yes, kitchen remodel in the bidding stage
C. Lockers/showers	Yes, gender specific
D. Training/meetings	Small meeting room
E. Washer/dryer	Both residential and commercial extractor
F. Decontamination area	No
4. Protection Systems	
A. Sprinkler system	Yes, basement only
B. Smoke detection	Yes, local
C. Security	Yes, card system
D. Apparatus exhaust system	Yes, and drive thru bays
5. Assigned Apparatus	
A. Engine 16	B. Medic 16
C. Dive 16 (363)	

Figure 74: LFR (HRMD) Fire Station No. 17



Survey Components	
1. Structure	
A. Construction type	Type 3
B. Date	January 1988
C. Seismic protection/energy audits	Energy audit
D. Auxiliary power	Yes, diesel generator
E. Condition	Very good
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	No eyewash, bunker gear in apparatus bay, no bio-hazard area, ADA compliant
G. Apparatus access	Drive through bays
H. Public access	Yes
I. Community facilities	No
2. Square Footage	10,469 square feet
3. Facilities Available	
A. Exercise/workout	Yes
B. Kitchen/dormitory	Yes, remodeled in 2010
C. Lockers/showers	Yes, gender specific
D. Training/meetings	Yes, meeting room
E. Washer/dryer	Both residential and commercial extractor
F. Decontamination area	No
4. Protection Systems	
A. Sprinkler system	No
B. Smoke detection	Yes, local
C. Security	Yes, card system
D. Apparatus exhaust system	Yes, and drive thru bays
5. Assigned Apparatus	
A. Engine 17	B. Medic 17 (373)
C. Reserve Engine (335)	D. Brush 17

Figure 75: LFR (HRMD) Fire Station No. 18



Survey Components	
1. Structure	
A. Construction type	Type 3
B. Date	July 1998
C. Seismic protection/energy audits	Energy audit
D. Auxiliary power	Yes, natural gas generator
E. Condition	Very good
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	No eyewash, bunker gear in apparatus bay, no bio-hazard area, ADA compliant, compressor
G. Apparatus access	Drive through bays
H. Public access	Yes
I. Community facilities	Yes
2. Square Footage	
9,700 square feet	
3. Facilities Available	
A. Exercise/workout	Yes
B. Kitchen/dormitory	Yes
C. Lockers/showers	Yes
D. Training/meetings	Yes, training and meeting rooms
E. Washer/dryer	Both residential and commercial extractor
F. Decontamination area	No
4. Protection Systems	
A. Sprinkler system	No
B. Smoke detection	Yes, local
C. Security	Yes, card system
D. Apparatus exhaust system	Yes, and drive thru bays
5. Assigned Apparatus	
A. Ladder 18	B. Brush 18
C. Hazardous Materials 18	D. Training and Safety (370)
E. Hazardous Material Trailer (397B)	

Figure 76: LFR Fire Administration



Survey Components	
1. Structure	
A. Construction type	Type 3
B. Date	November 1981
C. Seismic protection/energy audits	Energy Audit
D. Auxiliary power	Yes
E. Condition	Very good
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	ADA compliant
G. Apparatus access	N/A
H. Public access	Yes
I. Community facilities	Yes
2. Square Footage	
3. Facilities Available	
A. Exercise/workout	No
B. Kitchen/dormitory	Break room
C. Lockers/showers	No
D. Training/meetings	Yes, community and various meeting rooms
E. Washer/dryer	No
F. Decontamination area	N/A
4. Protection Systems	
A. Sprinkler system	No
B. Smoke detection	Yes, commercial
C. Security	Yes, card system
D. Apparatus exhaust system	N/A

Figure 77: LPD Communications Center



Survey Components	
1. Structure	
A. Construction type	Type 3
B. Date	November 1981
C. Seismic protection/energy audits	Energy audit
D. Auxiliary power	Yes, new generator
E. Condition	Very good
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	ADA compliant on the main level
G. Apparatus access	N/A
H. Public access	N/A
I. Community facilities	N/A
2. Square Footage	
467 square feet	
3. Facilities Available	
A. Exercise/workout	No, Fire Station No. 11 is available
B. Kitchen/dormitory	Break room
C. Lockers/showers	No
D. Training/meetings	Use space in city hall
E. Washer/dryer	No
F. Decontamination area	N/A
4. Protection Systems	
A. Sprinkler system	No
B. Smoke detection	Yes, commercial
C. Security	Yes, card system
D. Apparatus exhaust system	N/A

Figure 78: Shared Training Center



Survey Components	
1. Structure	
A. Construction type	N/A
B. Date	1984
C. Seismic protection/energy audits	Energy audit
D. Auxiliary power	No
E. Condition	Excellent
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	ADA compliant, gender specific locker and showers
G. Apparatus access	Driving grounds
H. Public access	Yes
I. Community facilities	Yes
2. Square Footage	4,200 office/classroom facility
3. Facilities Available	
A. Exercise/workout	Limited
B. Kitchen/dormitory	Limited to microwave, sink, and refrigerator
C. Lockers/showers	Gender specific locker and showers
D. Training/meetings	Yes, two classrooms on the main level and one in the basement
E. Washer/dryer	Residential washer and dryer
F. Decontamination area	No
4. Protection Systems	
A. Sprinkler system	No
B. Smoke detection	Yes, monitored system
C. Security	Yes, gate and door locks

Figure 79: LFR Fire Prevention Division



Survey Components	
1. Structure	
A. Construction type	Type 3
B. Date	2000
C. Seismic protection/energy audits	Energy audit
D. Auxiliary power	No
E. Condition	Excellent
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	ADA compliant
G. Apparatus access	N/A
H. Public access	Yes
I. Community facilities	No
2. Square Footage	4,636 square feet
3. Facilities Available	
A. Exercise/workout	Yes
B. Kitchen/dormitory	Break room
C. Lockers/showers	Yes, shower only
D. Training/meetings	Yes
E. Washer/dryer	No
F. Decontamination area	
4. Protection Systems	
A. Sprinkler system	No
B. Smoke detection	Yes, local
C. Security	Yes, card and key

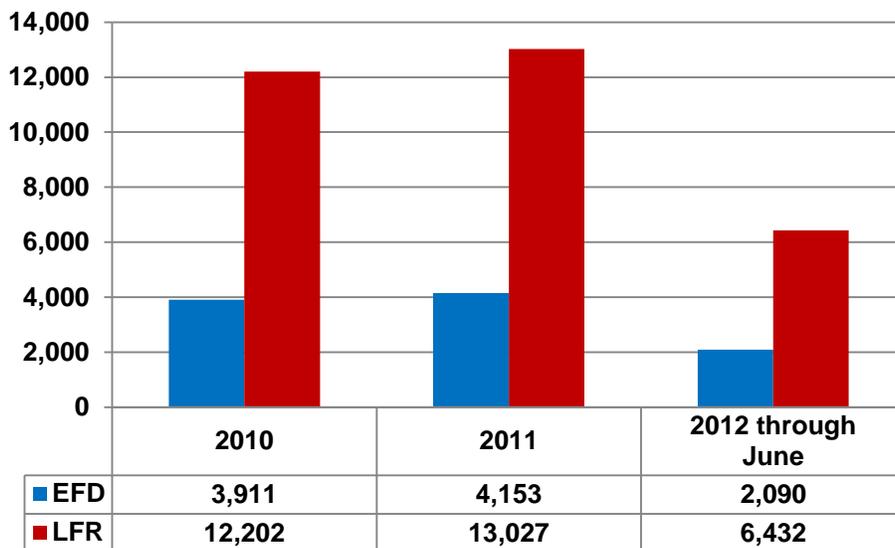
Service Delivery and Performance

In this section of the report, ESCI reviews and makes observations concerning current service delivery and response performance within the Englewood Fire Department (EFD) and Littleton Fire and Rescue (LFR) service areas. ESCI was provided incident data from EFD and LFR’s National Fire Incident Records System (NFIRS) records; and incident records from each agency’s dispatch center. This information was used to present a snapshot of current conditions in the study area.

Demand

For the demand study, ESCI reviewed current and historical service demand by incident type and temporal variation for EFD and LFR. Geographical Information Software (GIS) is used to provide a terrestrial display of demand in the overall study area. Figure 80 displays overall service demand for both EFD and LFR for 2010 through June 2012.

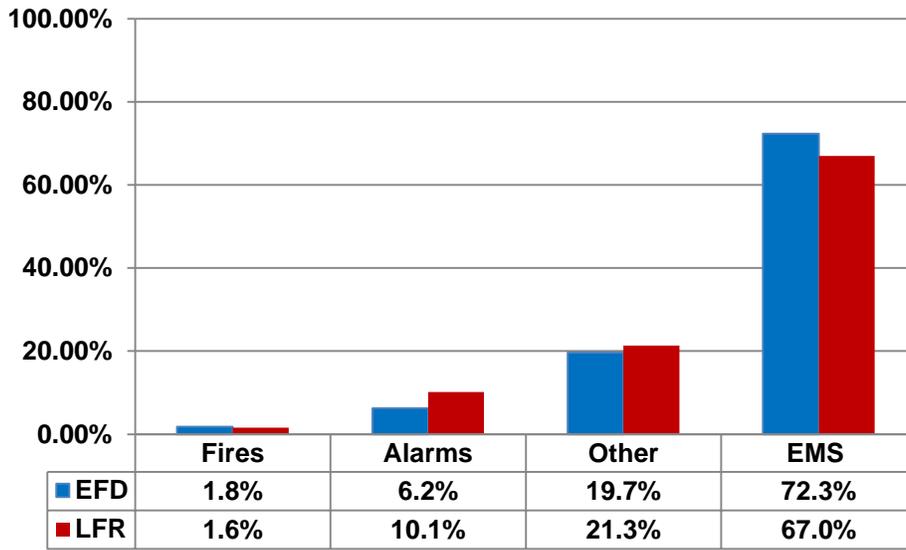
Figure 80: Study Area Service Demand, 2010 - June 2012



Overall service demand increased by approximately 6 percent for both agencies between 2010 and 2011. Service demand for the first half of 2012 appears similar to 2011.

Figure 81 categorizes service demand in the four major NFIRS incident categories for EFD and LFR.

Figure 81: Study Area Service Demand by Incident Category, 2010 - June 2012

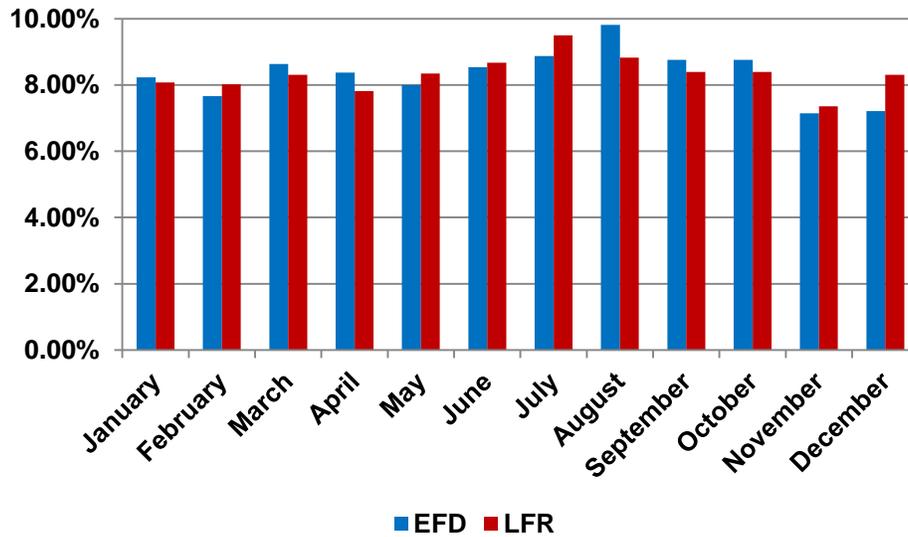


EMS incidents represent the majority of calls for service for both EFD and LFR. Fire incidents, which includes all fire types (structural, vehicular, natural cover, etc.) represents the smallest percentage of service demand for the study area. In ESCI's experience, the percentages displayed in the figure above, are typical for agencies that provide EMS first responder and transport services. The slightly higher percentage of EMS incidents for EFD has several possibilities but is most likely related to EFD transporting BLS patients while LFR does not.³¹

A temporal analysis of service demand reveals when the greatest response demand is occurring. The following figures display how demand changes based on various time measurements. The data used in the following figures is for the time period of July 2011 through June 2012. Figure 82 displays service demand by month of the year.

³¹ LFR is scheduled to begin transporting BLS patients January 1, 2013.

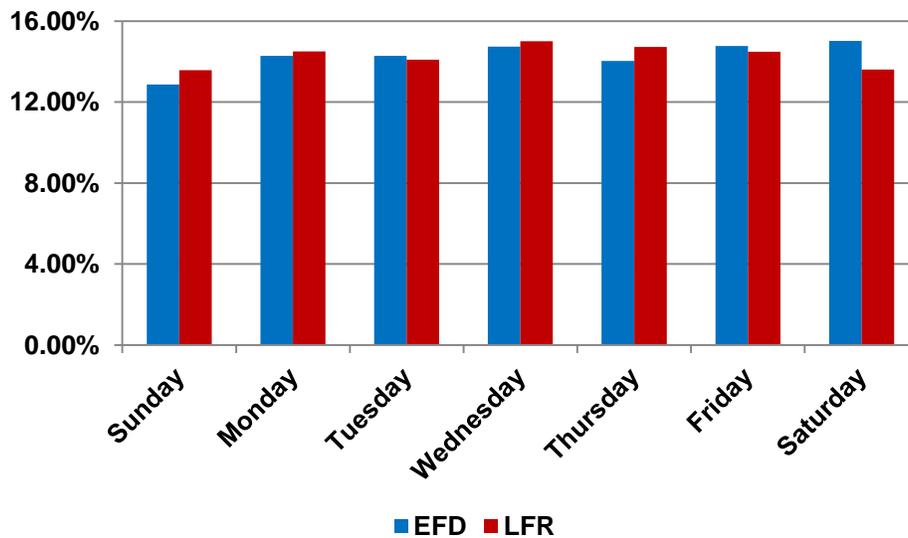
Figure 82: Service Demand by Month, July 2011 - June 2012



Service demand fluctuates only marginally throughout the year. The greatest service demand for EFD and LFR occurs in the summer months of July and August; with the lowest demand during November. The range from lowest to highest service demand is approximate 2.5 percent and does not represent a significant change in calls for service on a monthly basis.

Figure 83 demonstrates service demand by day of the week for the one-year study period.

Figure 83: Service Demand by Day of the Week, July 2011 - June 2012

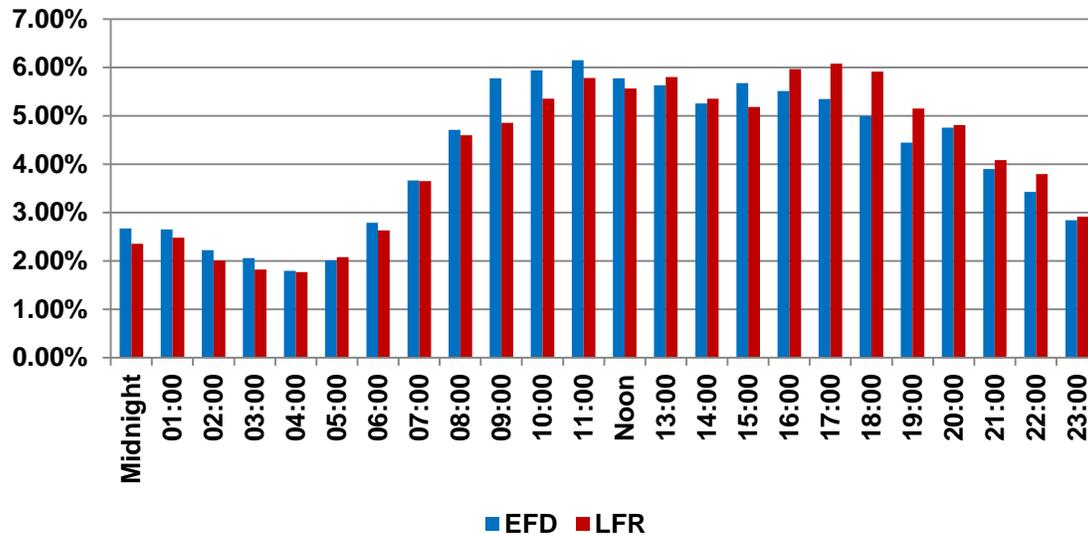


Service demand by day of the week also varies slightly throughout the week. The difference between the days with the lowest demand is approximately 2 percent for both EFD and LFR.

EFD had a low of 12.87 percent on Sunday and a high service demand of 15.02 percent on Saturdays. LFR's low service demand day was also Sundays at 13.57 percent with a high of 15.01 percent on Wednesdays.

The last temporal measure of workload is an examination service demand by hour of the day (Figure 84).

Figure 84: Service Demand by Hour of the Day, July 2011 - June 2012



A primary driver for service demand is population activity. Figure 84 demonstrates how increased activity during the day affects demand for emergency services. Approximately 65 percent of EFD service demand occurs from 8:00 AM to 8:00 PM with 66 percent of LFR's demand occurring during the same time period.

In addition to the temporal analysis of the current service demand, it is useful to examine geographic distribution of service demand. ESCI uses GIS software to plot the location of EFD and LFR incidents (July 2011 through June 2012) and display incident density in the study area.

Figure 85 geographically displays all incidents that occurred in the study year for EFD and LFR.

Figure 85: Study Area Incident Density (All Incident Types), July 2011 - June 2012

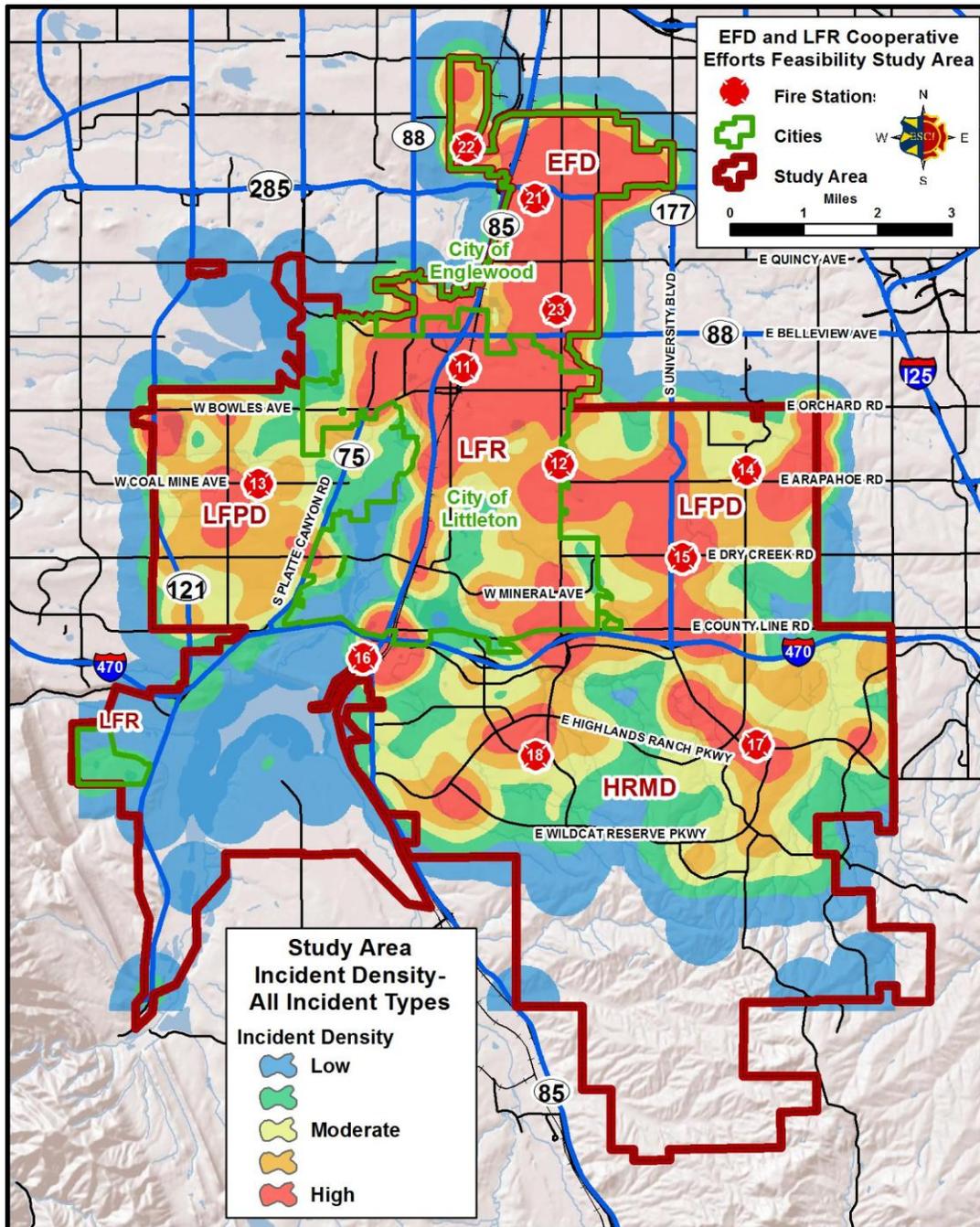
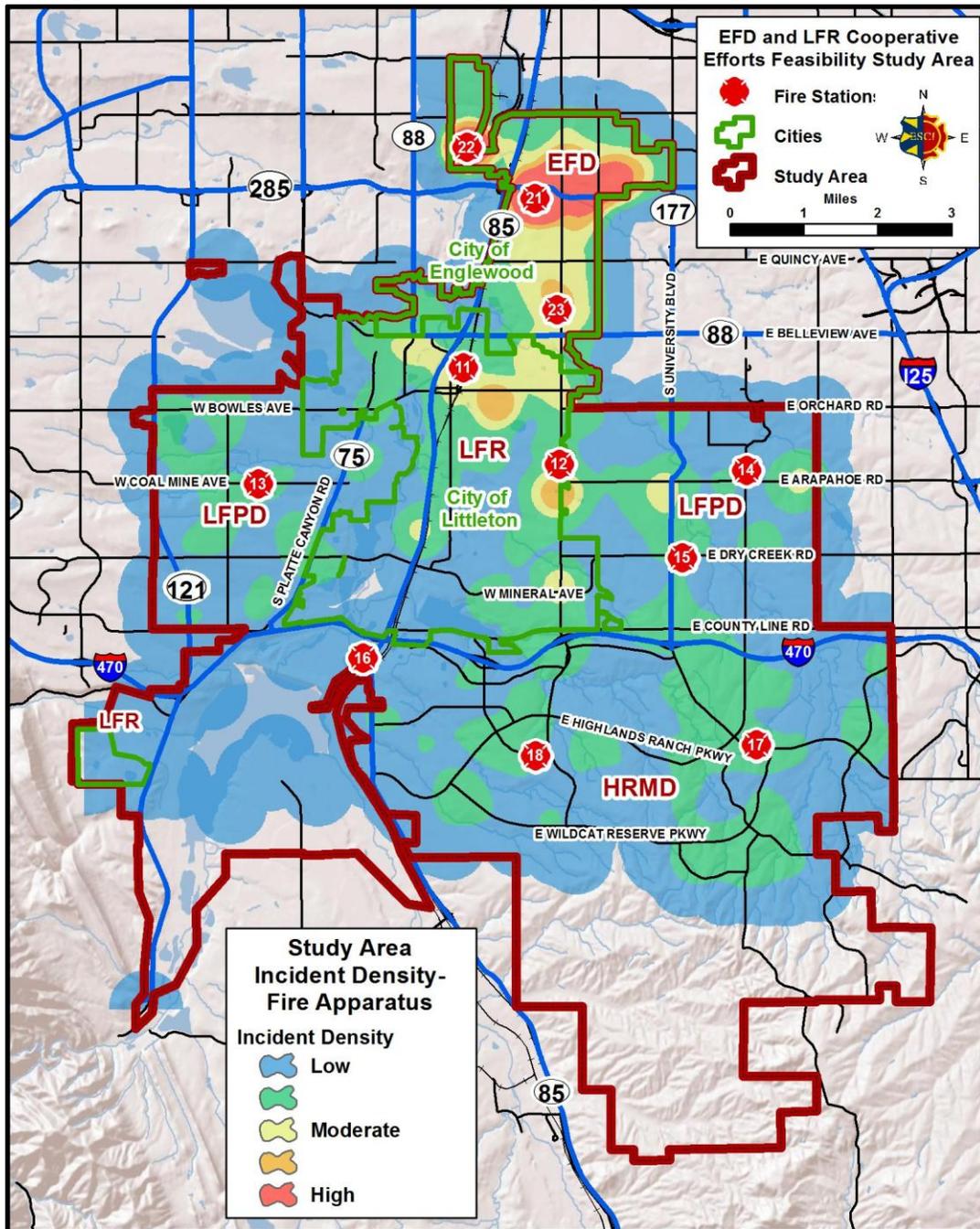


Figure 85 demonstrates that service demand is the most concentrated inside the cities of Englewood and Littleton. Transportation routes and urban development in Littleton Fire Protection District (LFPD) and the Highlands Ranch Metro District (HRMD) also display higher service demand. The high number of EMS responses for the study area may overshadow the distribution of other types of service demand. For this reason, the following figure (Figure 86) illustrates the density of calls for incidents coded as Fires, Alarms, or Other in the NFIRS data.

Figure 86: Study Area Incident Density (Fire Apparatus), July 2011 - June 2012

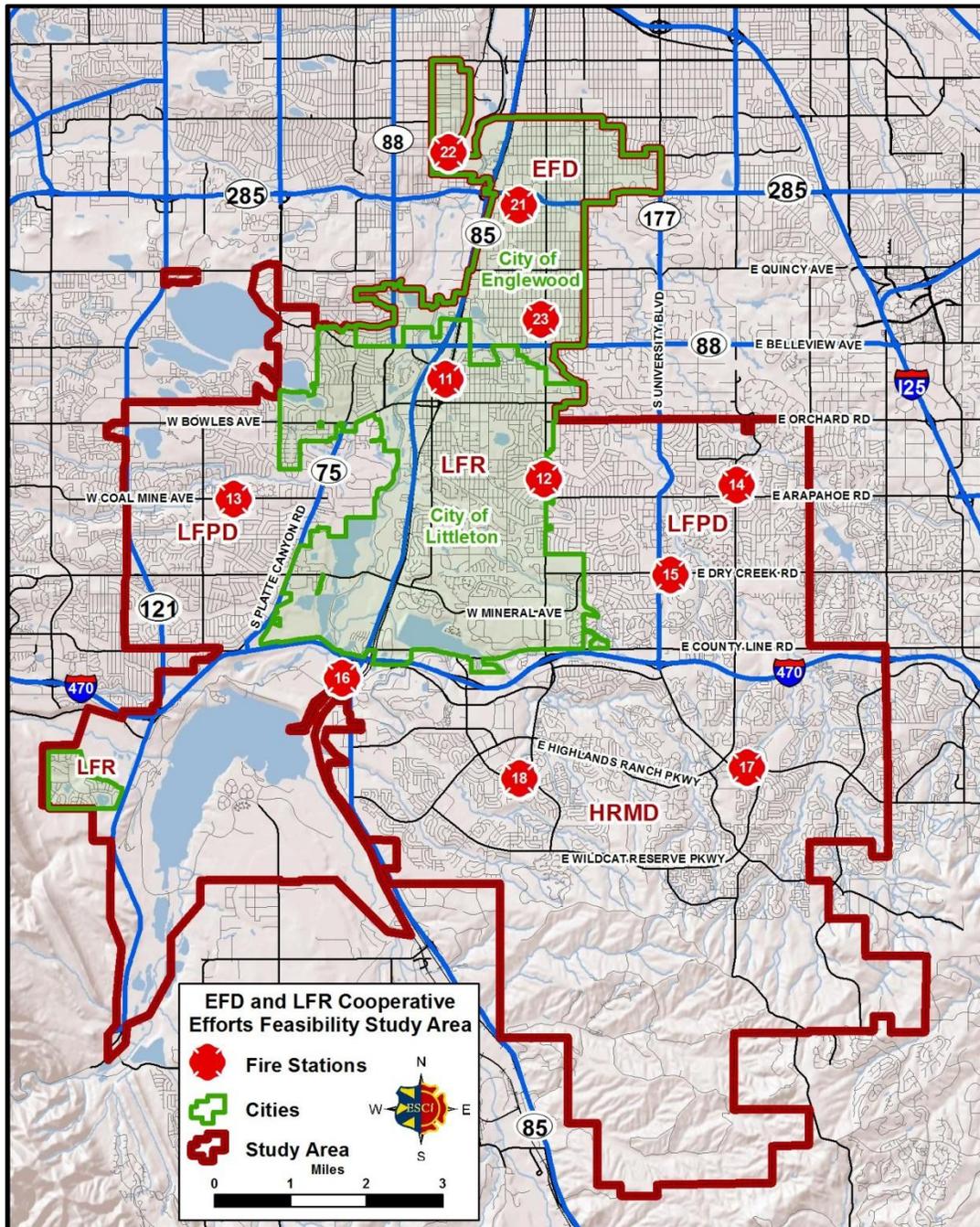


Although much less densely grouped, fire apparatus responses follow the same general pattern of distribution as does overall service demand. In the previous maps, low density is classified as less than 34 incidents per square mile and high density is greater than 240 incidents per square mile.

Distribution

The ESCI team examined current facility and apparatus distribution throughout the EFD – LFR study area (Figure 87).

Figure 87: EFD – LFR Cooperative Efforts Feasibility Study Area Service Area



The EFD-LFR study area encompasses slightly over 86 square miles.³² The area includes the following jurisdictions:

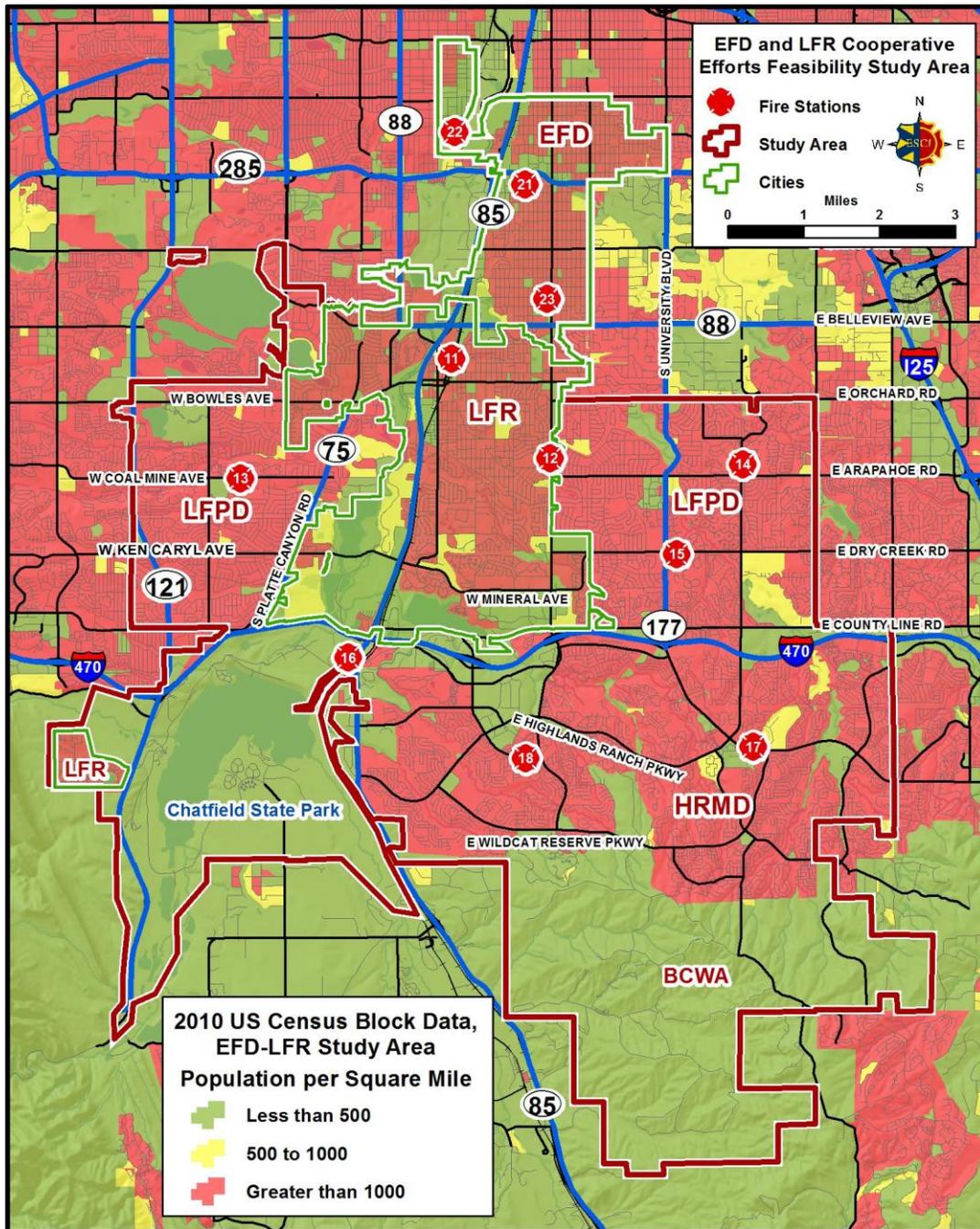
- City of Englewood (EFD)
- City of Littleton (LFR)
- Littleton Fire Protection District (LFPD)
- Highlands Ranch Metro District (HRMD) This includes an area south of East Wildcat Reserve Parkway that is undeveloped and designated a back country wild land area (BCWA).

EFD and LFR provide fire protection, emergency medical services, and rescue services from 11 fire stations.

In Figure 88, ESCI used 2010 US Census Bureau data and GIS software to display population density throughout the study area.

³² Calculated using GIS software. Does not include mutual aid or automatic aid response areas outside of the study area displayed.

Figure 88: Study Area Population Density, 2010 Census Data

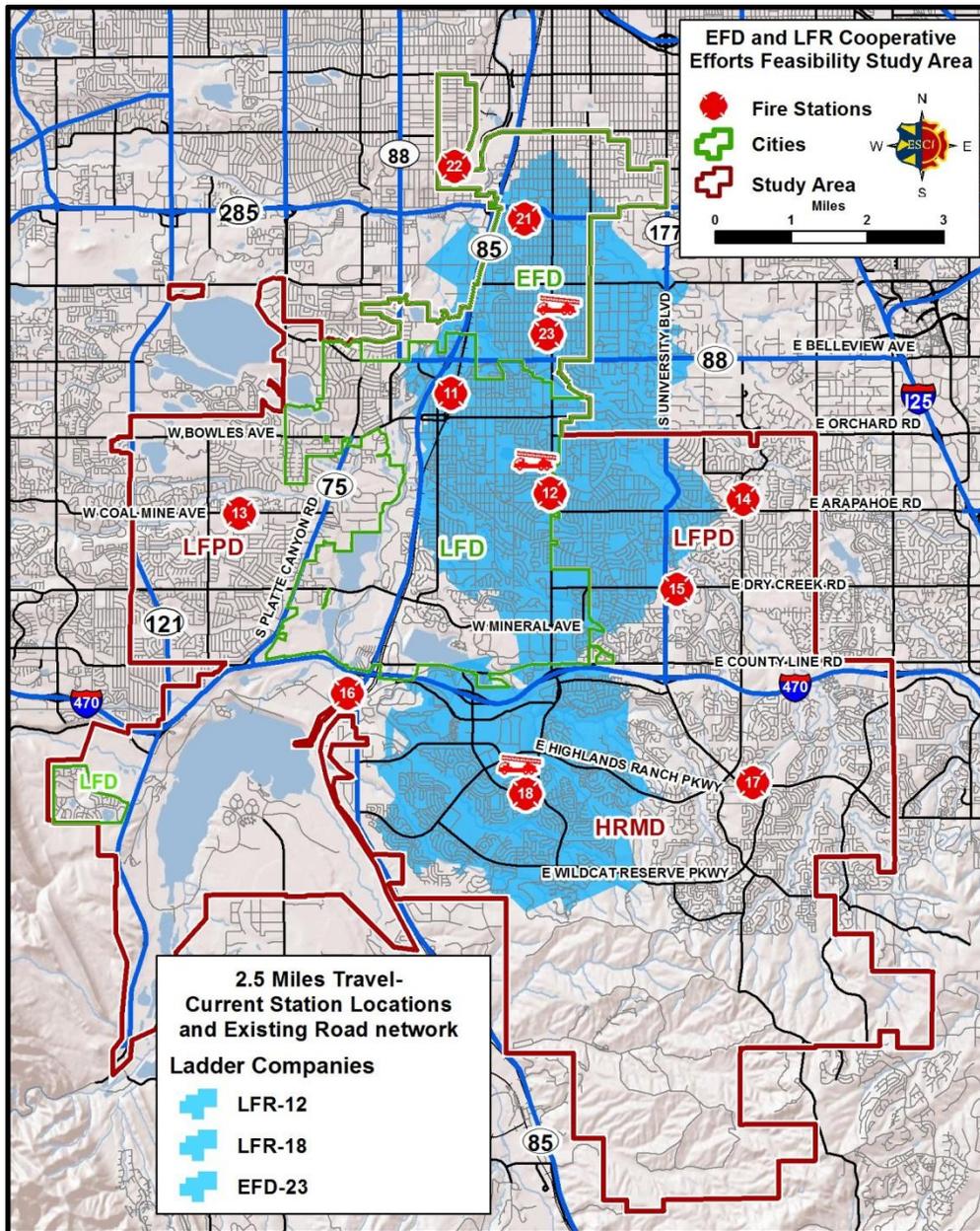


The majority of the study area, with the exception of Chatfield State Park and the area labeled BCWA; is classified as having an urban population density. ESCI used GIS analysis of the 2010 census data to estimate the population of the study area at approximately 240,000. The figure above demonstrates that EFD and LFR stations are appropriately distributed to serve the majority of the population within the study area.

The Insurance Services Organization (ISO) is a national insurance industry organization that evaluates fire protection for communities across the country. A jurisdiction's ISO rating is an important factor when considering fire station and apparatus distribution; since it can affect the cost of fire insurance for individuals and businesses.

For ISO purposes, engine company response areas are measured at 1.5 miles of travel distance for each engine company; and 2.5 miles for a ladder company on existing roadways. In order for a structure to be in a protected rating for insurance purposes, it should be within five miles of a fire station. An examination of current engine company and ladder company distribution is shown in the next two maps based on credentialing criteria for the Insurance Services Organization (ISO).

Figure 90: ISO 2.5 Miles Travel (Ladder Company), EFD and LFR Study Area



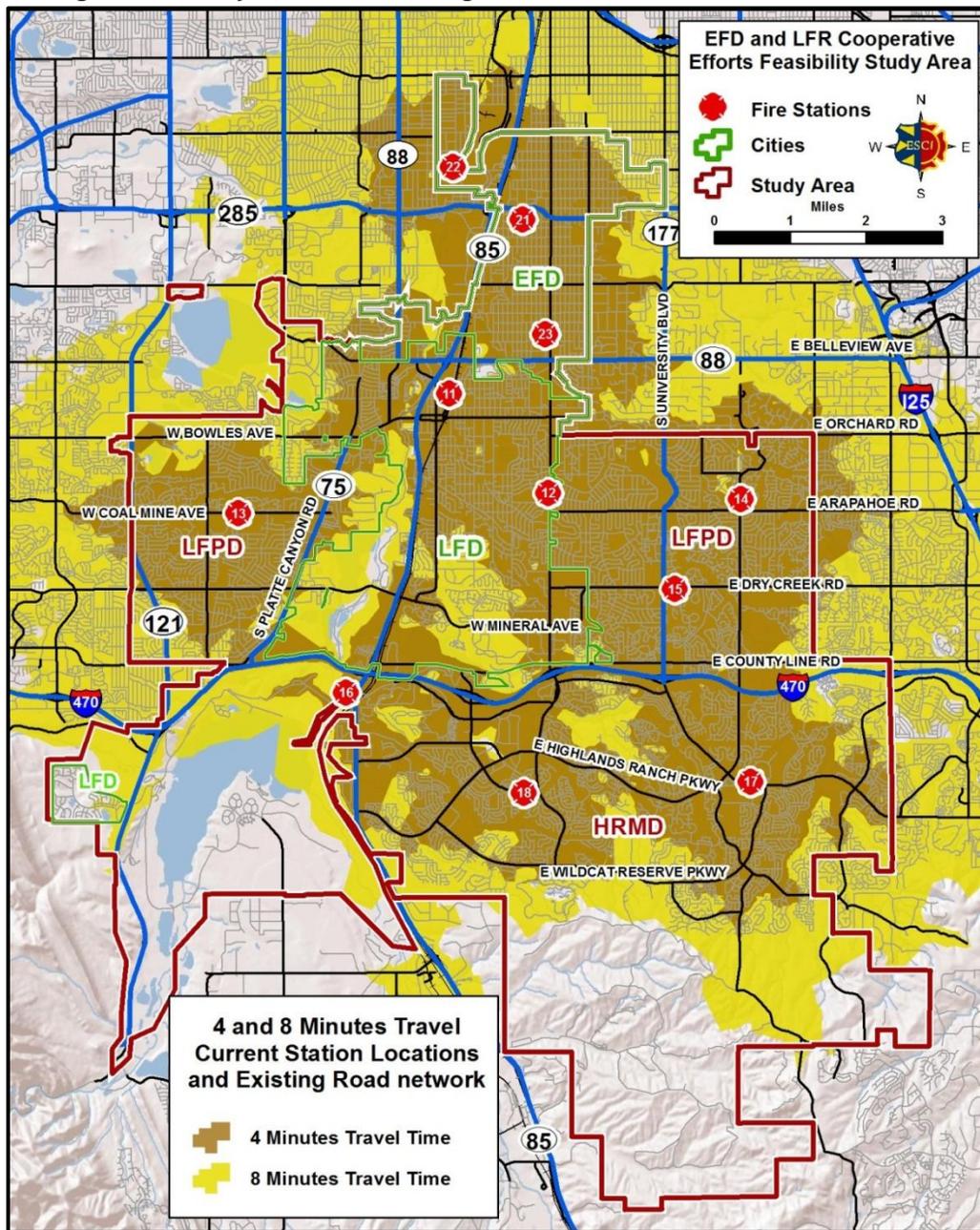
The ISO recently evaluated EFD and LFR. Both agencies received a Class 3 protection classification. According to ISO data only 5.6 percent of fire departments nationally are classified as Class 3 or better. Distribution of stations and apparatus inside EFD and LFR is adequate as it relates to ISO classification.

An exception to the ISO classification for LFR is the TrailMark area, which is a noncontiguous subdivision of the City of Littleton. Portions of TrailMark are more than five miles from the nearest LFR fire station (Fire Station No. 16) and therefore classified as a Class 10 or

unprotected by the ISO. ESCI recommends that LFR pursue an automatic aid or contract agreement for coverage with West Metro Fire District to mitigate this situation.³³

In the next figure, ESCI examined fire station and apparatus distribution based on travel time over the current transportation network.

Figure 91: Study Area Four and Eight-Minute Travel Time, All Fire Stations

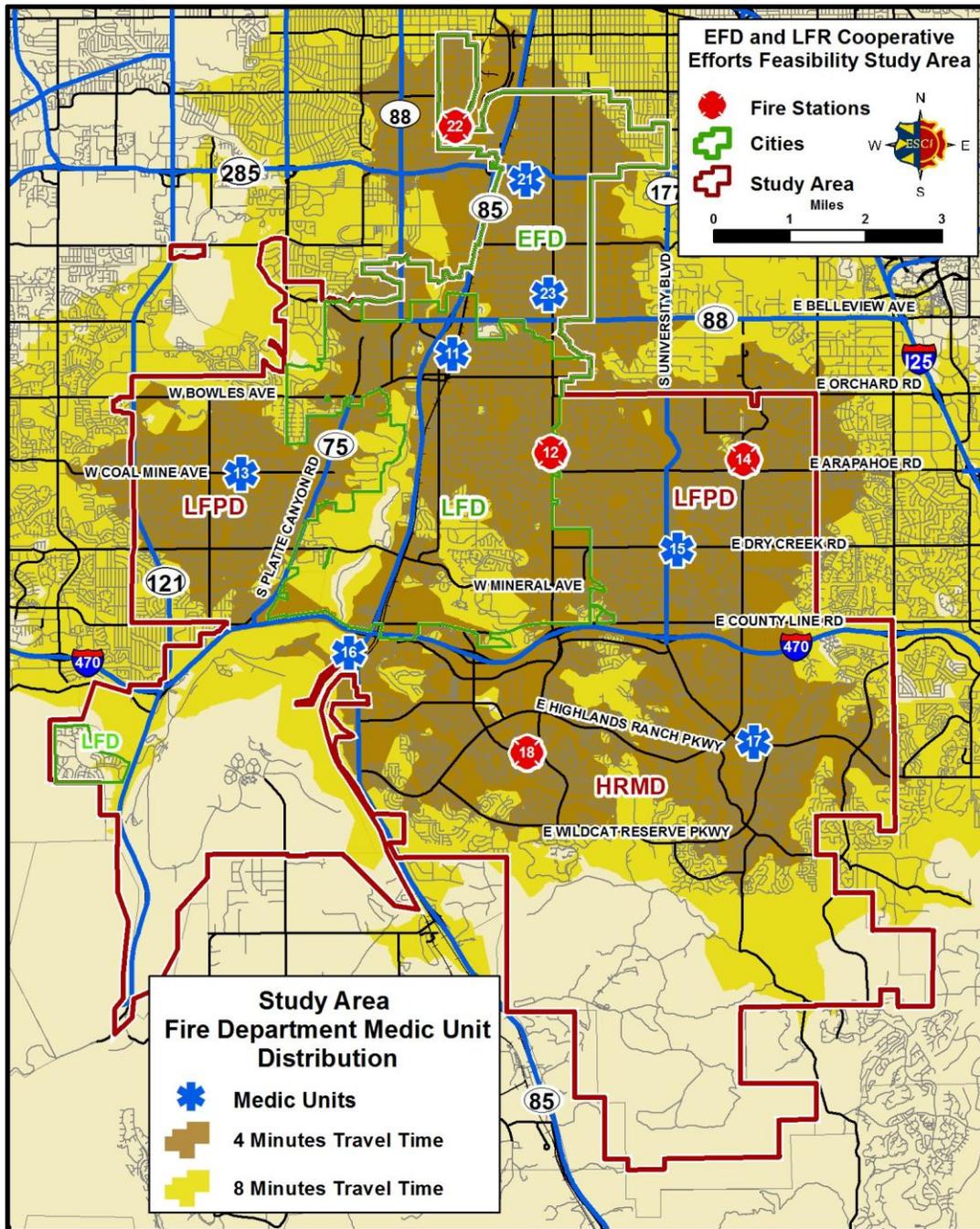


³³ Since initiation of this study LFR is considering a contract for service with West Metro. The agreement will designate West Metro as primary responder to the subdivisions of TrailMark and Lochmoor.

ESCI used GIS software to demonstrate actual travel time from individual fire stations in the study area. Reduction of speed (penalties) has been calculated to account for turning apparatus and negotiating intersections. Analysis shows that approximately 91 percent of the Englewood road network is within four minutes travel of a fire station. Slightly over 83 percent of the LFR response area is within four minutes of a fire station; excluding the TrailMark area, nearly all of the study area is served by EFD and LFR can be reached from a fire station in eight minutes or less. Roads in the BCWA area south of HRMD and in Chatfield State Park are not included in the analysis.

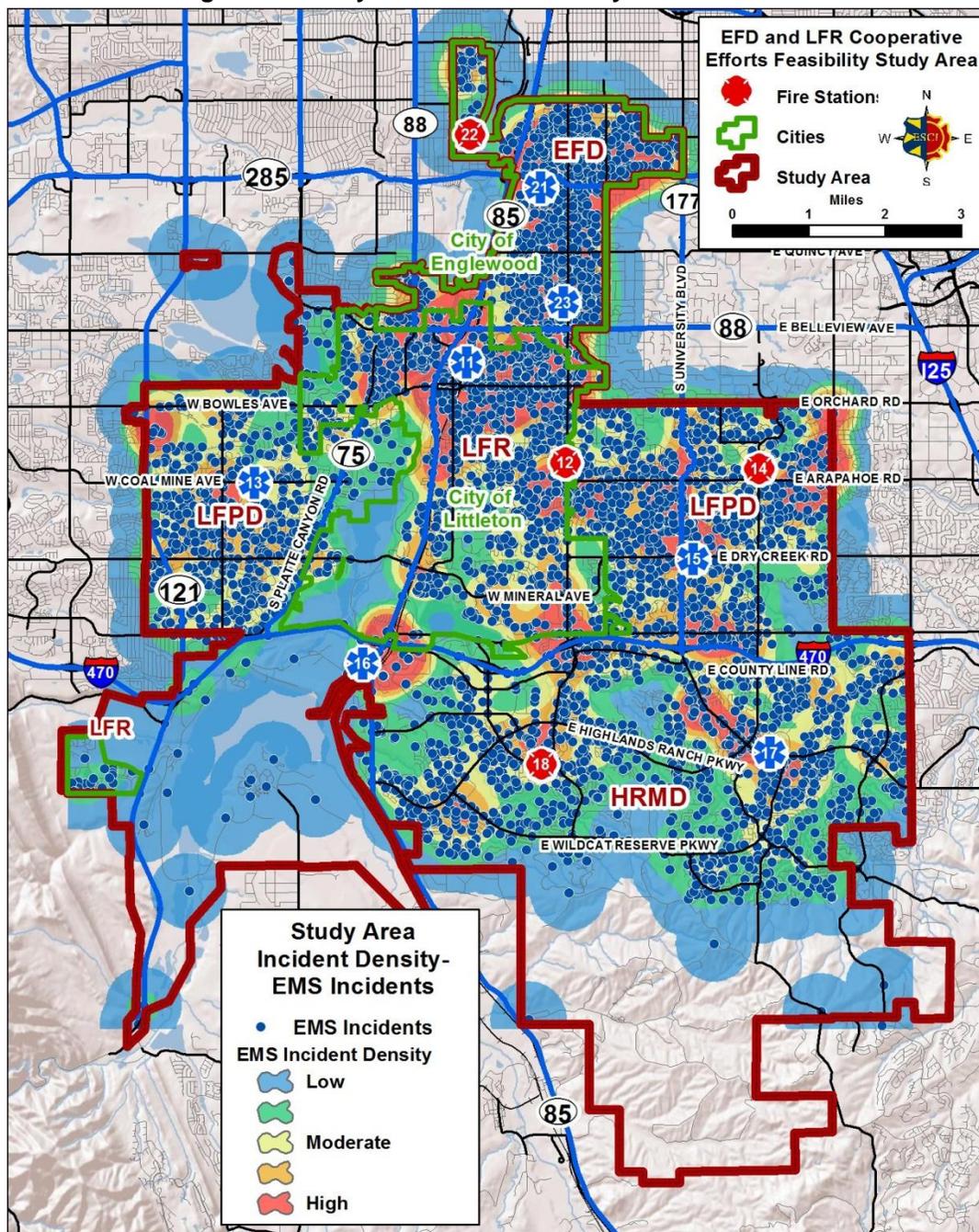
Figure 92 displays the distribution Advanced Life Support (ALS) medic units throughout the EFD and LFR study area.

Figure 92: Study Area Fire Department ALS Medic Unit Distribution



The following figure illustrates the incident density of EMS calls.

Figure 93: Study Area Incident Density – EMS Incidents

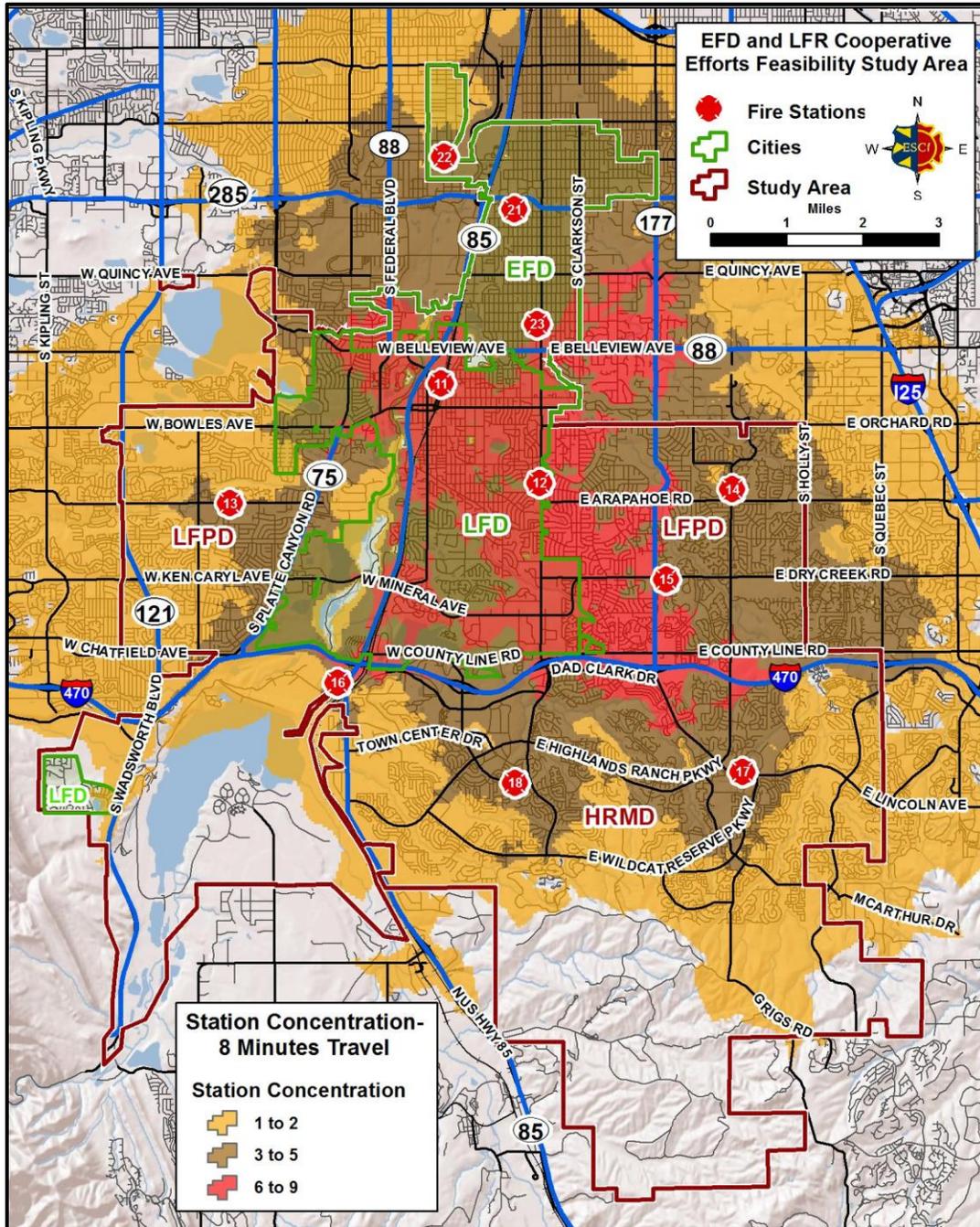


As previously noted, EMS responses constitute the majority of incidents for EFD and LFR. ALS medic units are distributed throughout the study area to answer these types of requests for service. Note: all LFR apparatus carry ALS medical supplies and are staffed with a minimum of one paramedic.

Concentration

Standard firefighting procedures call for the arrival of the entire initial assignment (sufficient apparatus and personnel to effectively mitigate an incident based on the level of risk) within a certain amount of time. The maps below examine the concentration of resources, both apparatus and personnel in the EFD and LFR study area. The eight minute travel time service areas are used for this analysis; since both EFD and LFR have adopted response goals that specify eight minutes travel time for the arrival of the full first alarm assignment. Figure 94 demonstrates the concentration of fire stations throughout the study area.

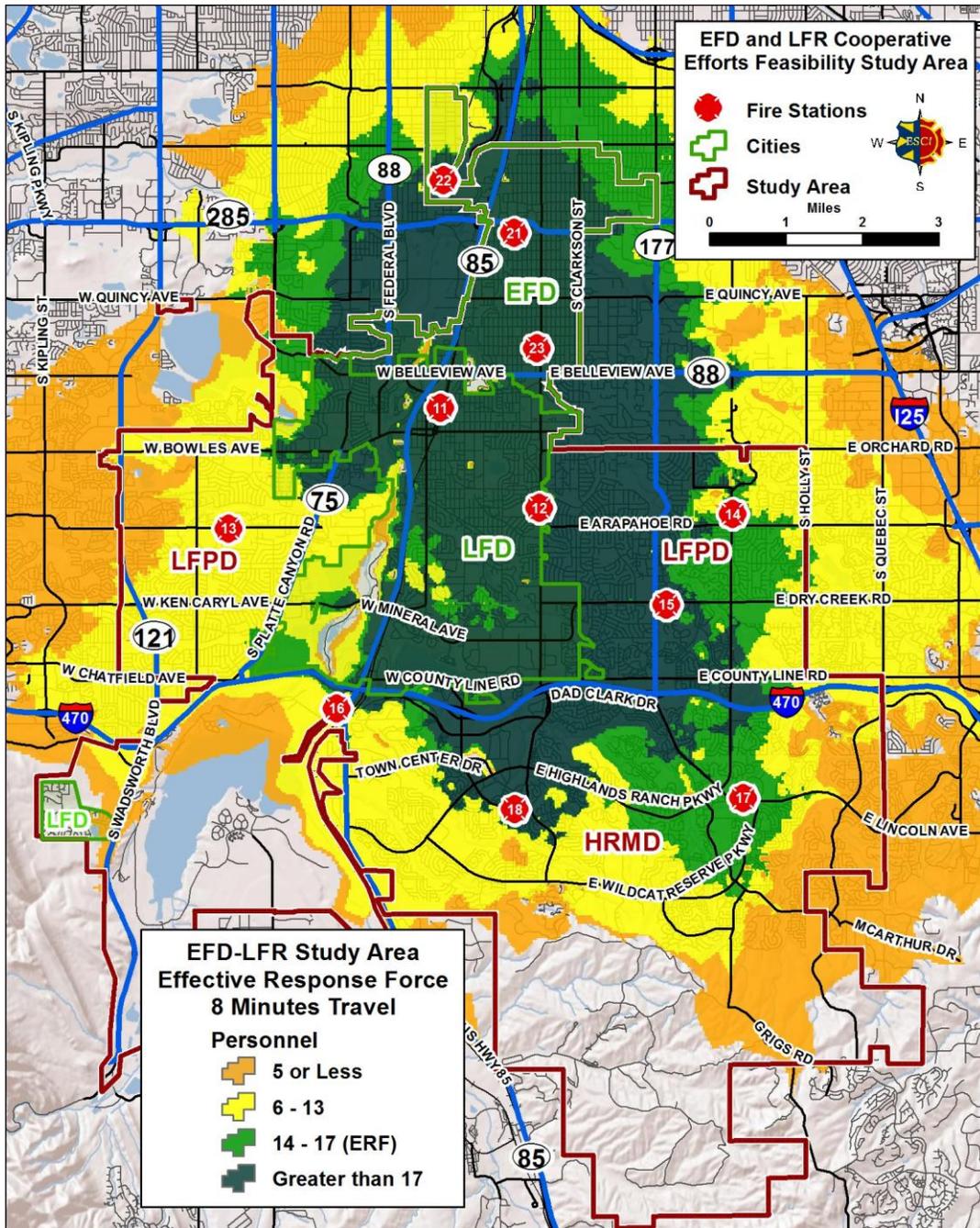
Figure 94: EFD and LFR Study Area Fire Station Concentration, Eight-Minute Travel Time



Approximately 75 percent of the developed portions of the study area are within eight minutes travel time of three or more fire stations. As many as nine fire stations can serve areas in the City of Littleton and just to the east within LFPD in eight minutes or less. Figure 95 illustrates

the number of personnel that are available in eight minutes to any given location in the study area.³⁴

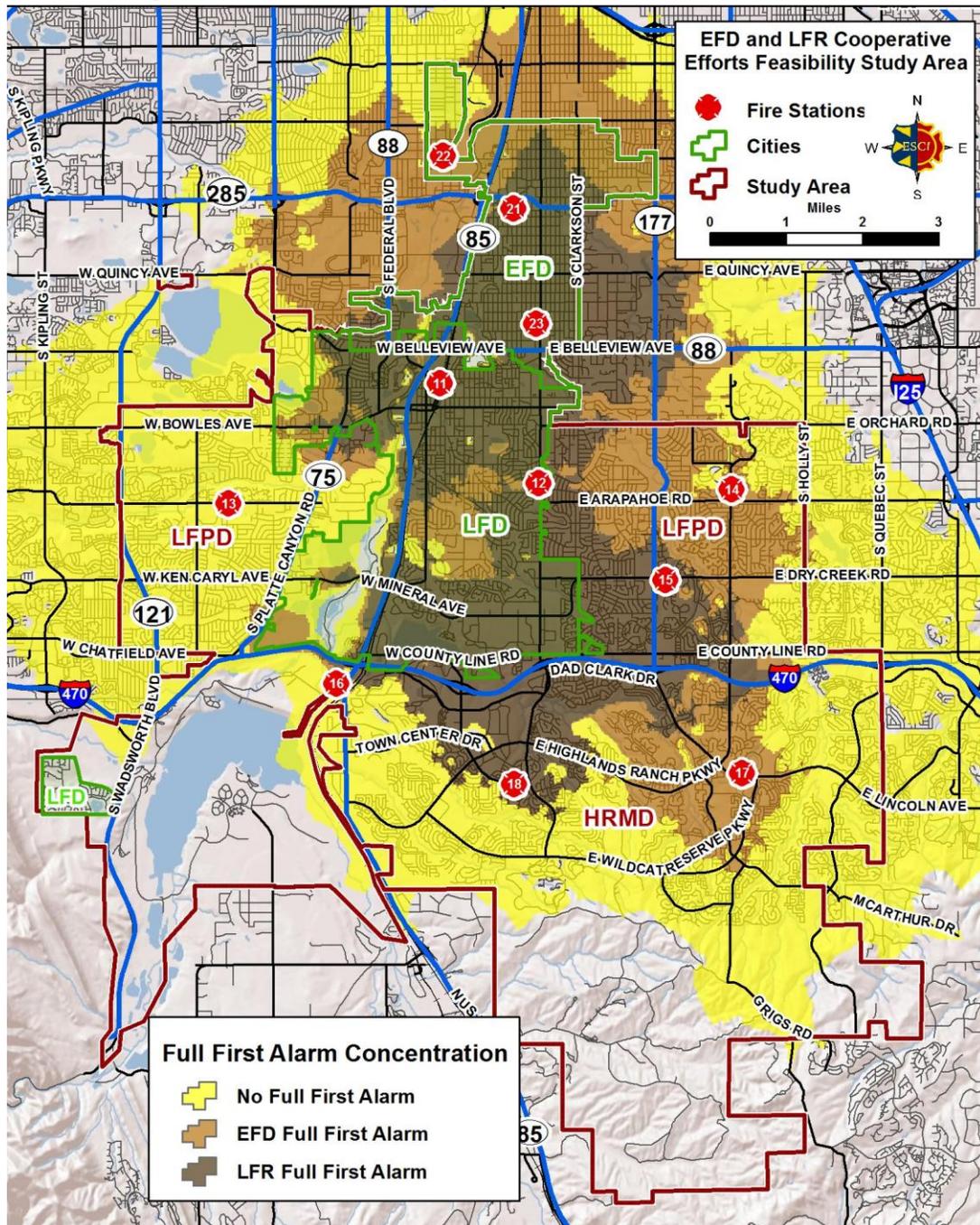
Figure 95: EFD and LFR Study Area Personnel Concentration, Eight-Minute Travel Time



³⁴ Based on a minimum daily staffing level of 14 for EFD and 36 for LFR.

Figure 95 demonstrates a high concentration of operational personnel are available in eight minutes of travel time or less in the cities of Littleton and Englewood and the area immediately east of the City of Littleton. With the exception of the TrailMark community, all of the developed areas in the study area can be reached by at least five personnel in eight minutes or less travel time. Figure 96 illustrates the first full alarm concentration capability of the two departments.

Figure 96: FD and LFR Study Area Full First Alarm Concentration



Reliability

The workload of emergency response units can be a factor in response time performance. Concurrent incidents or the amount of time individual units are committed to an incident can affect a jurisdiction's ability to muster sufficient resources to respond to additional emergencies.

Unit hour utilization (UHU) describes the amount of time that a unit is not available for response because it is already committed to another incident. The larger the number, the greater its utilization and the less available it is for assignment to subsequent calls for service. UHU rates are expressed as a percentage of the total hours in a year. Figure 97 displays UHU for EFD apparatus from July 2011 through June 2012.

Figure 97: EFD Unit Hour Utilization, July 2011 - June 2012

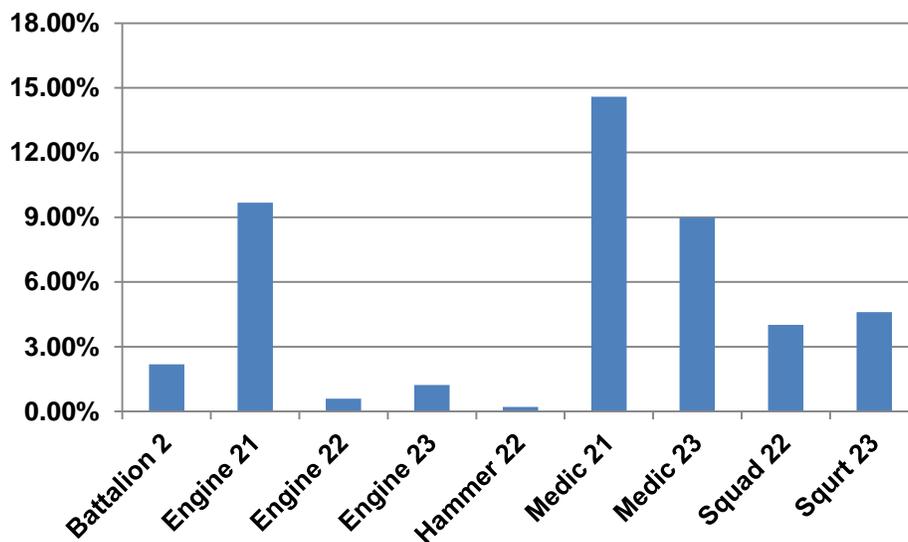
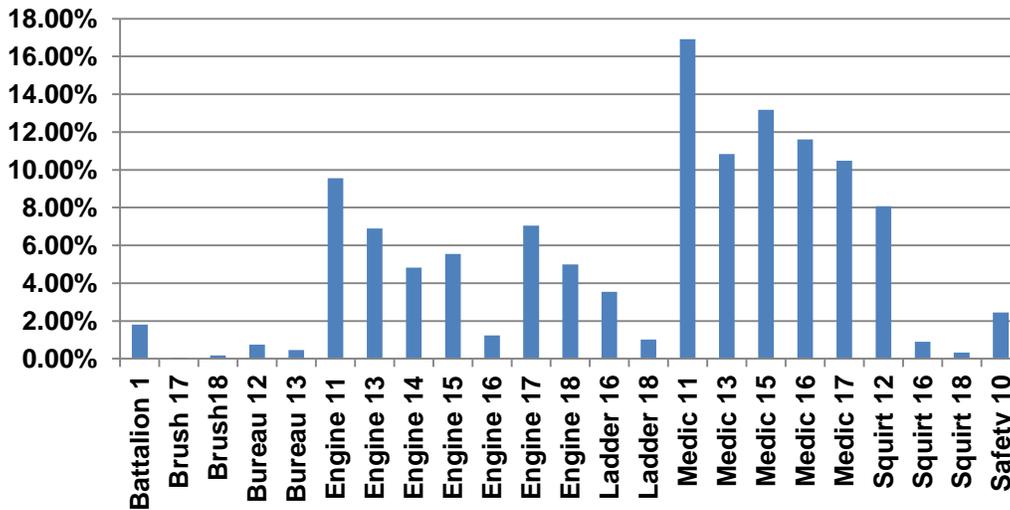


Figure 98 displays UHU for LFR's apparatus for the same one-year time period.

Figure 98: LFR Unit Hour Utilization, July 2011 - June 2012



In ESCI’s experience, UHU rates above 20 percent for any single apparatus can affect response performance. Some national studies suggest that UHU rates in the range of 25 to 30 percent for fire based EMS units can lead to employee burnout. EFD and LFR medic units display the highest UHU rates in the above figures. LFR and EFD UHU rates do not exceed the levels mentioned but are approaching a level that may be of concern.

Simultaneous or concurrent incidents and when they occur; can affect a fire department’s ability to muster sufficient resources to respond to additional emergencies. Figure 99 and Figure 100 display EFD’s and LFR’s percentage of concurrent incidents from July 2011 through June 2012.

Figure 99: EFD Concurrent Incidents, July 2011 - June 2012

Concurrent Incidents	Percentage
Single Incident	70.07%
2	23.82%
3	5.00%
4	0.97%
5	0.14%

Figure 100: LFR Concurrent Incidents, July 2011 - June 2012

Concurrent Incidents	Percentage
Single Incident	40.08%
2	34.78%
3	17.13%
4	5.93%
5	1.59%
6 or More	0.49%

Between July 2011 and June 2012, nearly 30 percent of the time there were two or more incidents occurring at the same time in EFD; the percentage of concurrent incidents in LFR was approximately 60 percent during the same period.

To measure the extent of resource drawdown, incidents were examined for the number of apparatus responding to individual incidents. The following two tables detail the percentage of incidents and number apparatus committed.

Figure 101: EFD Apparatus Resource Drawdown, July 2011 - June 2012

Apparatus per Incident	Percentage
Single Apparatus	18.78%
2	64.66%
3	8.53%
4	1.87%
5	5.31%
6 or More	0.84%

Figure 102: LFR Apparatus Resource Drawdown, July 2011 - June 2012

Apparatus per Incident	Percentage
Single Apparatus	21.08%
2	47.00%
3	24.95%
4	4.18%
5	1.65%
6 or More	1.14%

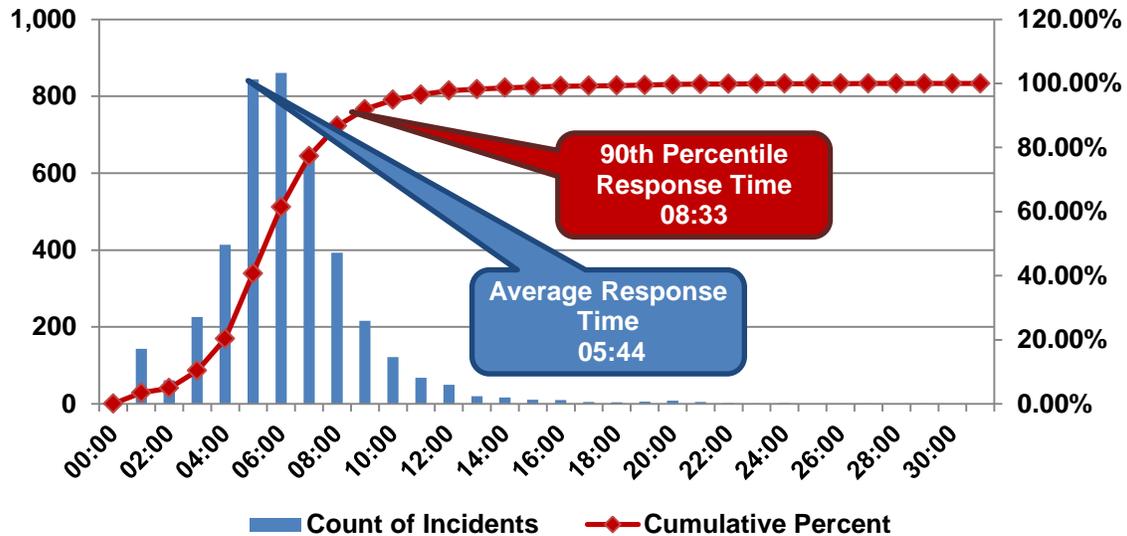
Both EFD and LFR experience a high percentage of multiple apparatus responses to single incidents. A high percentage of incidents with multiple apparatus committed may negatively affect reliability and response performance and should be scrutinized regularly by fire station and unit.

Performance Summary

In this section, ESCI examined emergency incident response time performance for EFD and LFR. ESCI used NFIRS response data for the same period of time; July 2011 through June 2012. Non-emergency and out-of-district responses were filtered from the data set. For this study, response time is defined as the time interval from when the call for assistance is received

at the dispatch center to when the first appropriate apparatus arrives on scene. The first figure illustrates response time frequency for all EFD emergency responses.

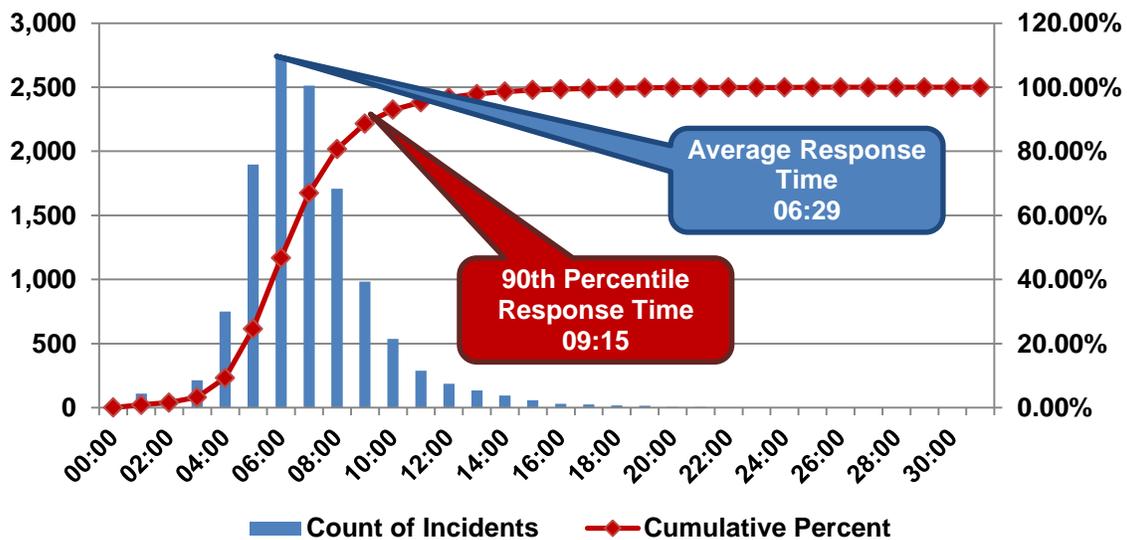
Figure 103: EFD Response Time Frequency, June 2011 - July 2012



EFD’s most frequently recorded response time in the service area is in the six minute range with an average response time of 5 minutes 44 seconds. For the emergency responses in the service area, 90 percent were answered in 8 minutes 33 seconds or less.

Figure 104 displays response frequency for LFR.

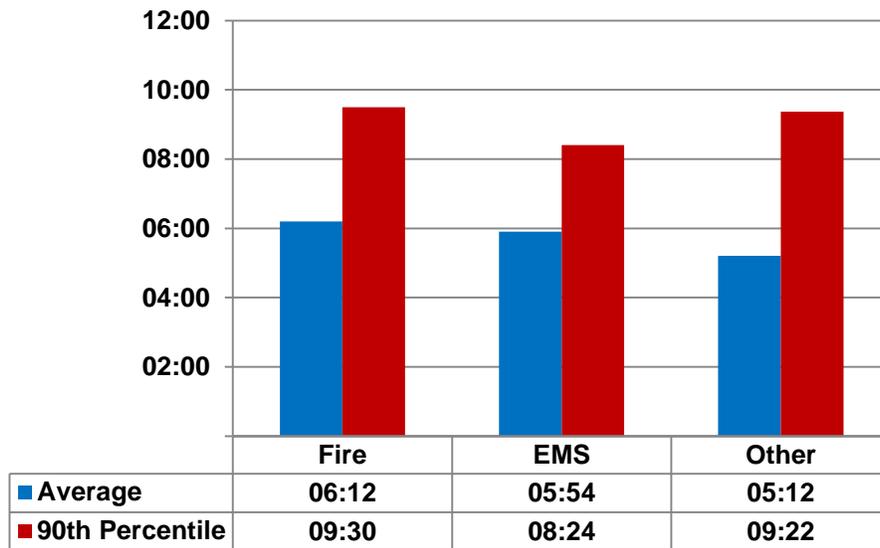
Figure 104: LFR Response Time Frequency, June 2011 - July 2012



LFR’s average response time to emergency incidents was 6 minutes 29 seconds. LFR units arrived at the scene of emergencies in 9 minutes 15 seconds or less, 90 percent of the time.

Figure 105 illustrates EFD’s average and 90th percentile response performance based on incident type. In the following two figures, *Fire* refers to incidents coded as a fire incident in the NFIRS data; *Other* refers to incidents such as smoke investigations, alarm sounding, hazardous materials, false alarm, etc; and *EMS* refers to any incident coded as an EMS event (including motor vehicle accidents).

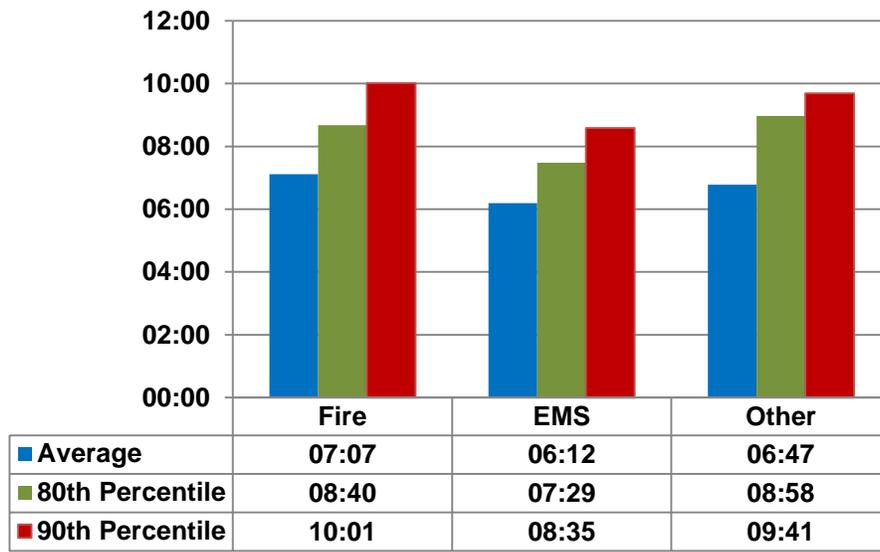
Figure 105: EFD Response Performance by Incident Type, June 2011 - July 2012



Response performance by incident type for LFR is displayed in the following figure (Figure 106). The LFR table shows the average, 80th percentile, and 90th percentile response performance. LFR measures response performance at the 80th percentile, while EFD uses the 90th percentile.³⁵

³⁵ Percentile measurement is preferred for performance measurement since it shows that the large majority of the data set has achieved a particular level of performance.

Figure 106: LFR Response Performance by Incident Type, June 2011 - July 2012



Both agencies display comparable fluctuations in response performance based on incident type.

Response times can vary by time of day due to service demand workload, traffic congestion, or weather, to name but a few impediments. For the next figures, response performance is grouped into three time periods by time of day. Response performance groupings are: midnight to 8:00 AM, 8:00 AM to 4:00 PM, and 4:00 PM to midnight. Average and 90th percentile response times were calculated for each time period.

Figure 107: EFD Response Performance by Time Grouping, July 2011 - June 2012

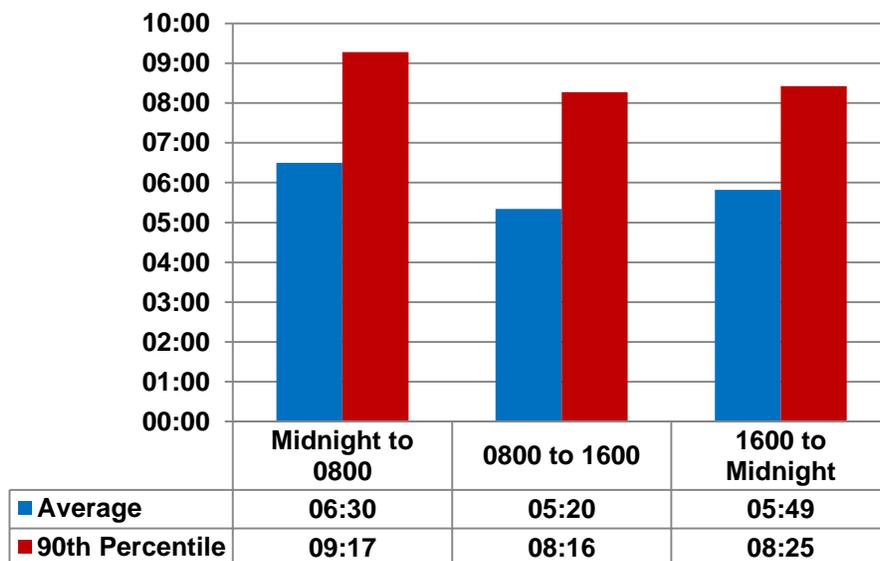
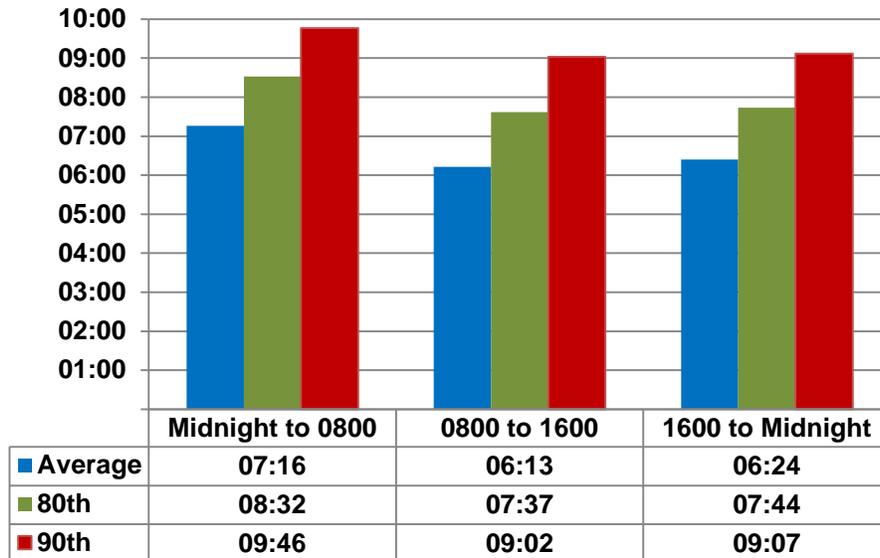


Figure 108: LFR Response Performance by Time Grouping, July 2011 - June 2012



Both EFD and LFR demonstrate approximately a one minute increase in response performance during the midnight to 8:00 AM time period. This increase can most likely be attributed to an increase in turnout time (time dispatched to time en route to an incident) for 24-hour duty crews that are awakened and must navigate to apparatus bays from sleeping quarters.

Incident Control and Management Methods

EFD and LFR have adopted and use the Incident Command System (ICS) for tactical incident management. The two agencies use ICS for emergency scene management when operating together, independently or with other fire and EMS jurisdictions during joint operations. ICS and the National Incident Management System (NIMS) are widely accepted industry standards and are incorporated appropriately into the operations of EFD and LFR.

Mutual and Automatic Aid Systems

There are numerous mutual aid agreements, both formal and informal, in place between fire, police, and emergency medical agencies in the EFD – LFR study area. Mutual aid is typically employed on an “as needed” basis where units are called for and specified one by one through an Incident Commander. Automatic aid agreements differ from mutual aid agreements in that under certain mutually agreed upon criteria; resources from the assisting agency are automatically dispatched as part of the initial response. These agreements facilitate closest unit dispatch to emergencies in boundary areas and allow for the dispatch of additional apparatus

and personnel to specific predefined emergencies. EFD and LFR maintain automatic aid agreements with each other; and also with other neighboring fire jurisdictions.

Future Opportunities for Cooperative Efforts

The potential efficiencies identified through this study are categorized using an escalating level of cooperation between the two fire departments. General partnering strategies (overarching) fall in a range from remaining autonomous to the creation of a new organization. Short of consolidating the departments, ESCI encourages further collaboration between EFD and LFR by means of any strategic initiative that manages costs and increases service level efficiencies.

ESCI's study of these two agencies repeatedly came to the reality that there are at least two key stakeholder agencies observing this process from the sidelines: Littleton Fire Protection District and the Highlands Ranch Metropolitan District. Both LFPD and HRMD have extensive experience – 20 plus years – and investment in the services and the future of LFR. HRMD represents 42 percent of LFR's population served and 43 percent of area served. LFPD represents 39 percent of both LFR's population and area served.

Because LFPD and HRMD were not part of this study, ESCI has found it difficult at several junctures to appropriately forecast outcomes and project financial ramifications. As a result, this report will, when appropriate, outline cooperative possibilities but note that considerable additional analysis must be undertaken before moving forward.

ESCI also notes the potential partnership that may exist with the City of Sheridan. Currently, the city contracts with the City of Denver for fire and EMS response. There is a historical foundation of collaborative efforts with Sheridan Fire Department and this potential should be fairly considered.

Processes for Collaboration

To evaluate the opportunities for cooperative efforts effectively, a basic understanding of the methods for collaboration available to the agencies is necessary. The information we provide here should be considered for what it is—a primer regarding the legal aspects of collaborating public agencies. At the point where policymakers have decided to pursue any of the cooperative efforts, the advice of legal counsel should be sought in order to ensure that the appropriate procedures are followed.

There exist various ways for public agencies to join in cooperation. A method used frequently in Colorado is for government units to legally partner through the use of an IGA (Intergovernmental Agreement). An example is the joint agreement that established a sewer utility enterprise for

operation of the Littleton/Englewood Wastewater Treatment Plant. Other methods of collaboration include consolidation, dissolution, merger, contract, or through the establishment of a subsidiary district. The movement toward more intergovernmental cooperation in the delivery of emergency service goes by many names, including unification, regionalization, consolidation, alliance, and merger. Our intent with this discussion is to offer a basic idea and not a scholastic analysis of each concept. The concepts are:

- **Collaboration** – When two or more agencies enter a collaborative relationship, no permanent organizational commitment is made and all decision-making power remains with individual organizations. Interagency collaboration may include participation in activities such as local fire management associations, mutual aid agreements, and interagency disaster planning exercises. As a rule, most modern fire agencies consistently operate in a very collaborative mode, having learned long ago the value of the practice. Many times, close collaboration between two or more organizations eventually leads to alliance and integration.
- **Alliance** – Typically, state law declares intergovernmental cooperation as a matter of statewide concern and grants cities and special districts broad power to contract with other governmental entities for any function or activity the agencies have authority to perform. A brief review of Colorado Revised Statutes (CRS) confirms that the State of Colorado grants fire districts the power to contract for a broad range of purposes relating to the control or prevention of fire.³⁶ Frequently, such contracts are referred to as intergovernmental agreements (IGAs). IGAs permit individual organizations to share resources, improve service, and to save money at the program level.
- **Joint Programming** – In many cases, joint programming is enough to achieve the cooperative goals of the agencies without considering administrative service agreements or organizational integration. The keys to the success of a joint programming strategy lie in a trusting relationship between partner agencies, the completeness of the agreement that sets up the program, and a cooperative approach to the management of the program.

Most commonly, fire districts enter partnering agreements for programs such as dispatching, firefighter training, fire prevention, public education, closest force response, administrative/support services, purchasing, apparatus maintenance, and command standby. Such programs usually carry the advantage of being low-cost and low-risk improvement strategies. As with the actions of LFR and EFD, these programs often serve as a foundation on which agencies build the experience and trust necessary to implement other programs or strategies.

- **Administrative Service Alliance** – An administrative service alliance includes the sharing, exchanging, or contracting of administrative service to increase the managerial efficiency of one or more of the organizations.³⁷ This strategy joins two or more agencies through the execution of an IGA. The resulting fire organization may feature a single operational structure and chain of command, or (depending on the IGA) it may

³⁶ State of Colorado, CRS 29-20-105, Intergovernmental Cooperation.

³⁷ Amelia Kohm, David La Piana, and Heather Gowdy, *Strategic Restructuring, Findings from a Study of Integrations and Alliances Among Nonprofit Social Service and Cultural Organizations in the United States*, Chapin Hall, June 2000, page 11.

result in one administrative structure charged with the management and oversight of more than one fire district/department. Depending on the form of the agreement(s) establishing the organization, employees may remain with the original employer, transfer to one of the other employers, or transfer to an entirely new entity.

- **Integration** – Integration includes organizational changes at the corporate or governance levels. The strategy may consist of the creation and/or dissolution of one or more organizations. Under certain circumstances in law, multiple fire agencies can join to form a single entity. This approach merges not only programs and organizations, but also the units of government.
- **Fire Authority** – Some states provide a process for the creation of regional fire protection units called fire authorities. The process allows existing governmental jurisdictions (cities, counties, fire districts) to create and govern a new entity (the fire authority). Generally, the participating governmental units continue to fund fire protection through traditional means (such as property tax, sales tax, and fees); although, in some cases the creation of a fire authority includes the power of taxation. In most cases though, each of the jurisdictions essentially contracts for fire protection and emergency medical service from the fire authority and each provides representative officials to serve as the authority's governing board.

Strategies

ESCI presents six strategies intended to offer options, primarily for the purpose of integrating the fire and emergency medical services of EFD and LFR. These strategies range from status quo – a do-nothing approach – to a consolidation of the agencies into a new emergency service provider. The following alternatives will be evaluated and discussed

- Strategy 1 – Status Quo
- Strategy 2 – Create a Fire Authority (FA)
- Strategy 3 – Link with an Existing Fire Authority (FA)
- Strategy 4 – Formation of a New Fire Protection District
- Strategy 5 – Annexation of Englewood, Littleton, and HRMD to LFPD
- Strategy 6 – IGA between EFD and LFR

ESCI notes again the challenge with fully evaluating Strategies B through E due to the interdependence between LFR, LFPD, and HRMD. As a result, the evaluations of those strategies will be abbreviated as appropriate, recognizing that continuing interest will require additional analysis that includes all stakeholders before moving forward. With that said, much of the analysis contained in Strategy B can be extrapolated to the other strategies to develop basic conclusions.

Strategy 1 – Status Quo

Level of Cooperation

- Functional

Timeline for Completion

- Short-term

Section

- Operations

Affected Stakeholders

- EFD and LFR

Objectives

- Keep fire departments independent for greatest local control.
- Capture efficiencies of selective strategic initiatives.

Summary

This is a strategy to continue the current structure and operations. While sometimes viewed negatively, there are circumstances where the best action is no action. In this case, maintaining status quo means that essentially nothing changes. EFD and LFR are neighboring fire departments who occasionally call upon each other for assistance but remain completely independent. However, status quo for the fire departments should involve the development and adoption of as many of the strategic initiatives as possible. During this study, the fire departments were encouraged to move forward with efficiencies while delaying any actions which may be viewed as an impediment to a more permanent arrangement.

Discussion

Advantages of this approach are that it is the easiest strategy to implement, creates the least amount of work or stress on the organizations, and does not necessitate any reorganization. An additional consideration is that it maintains local control; the currently elected city council members continue to have oversight, create policy, and fund their individual fire departments as their electorate desires without the complication of considering the views of a different constituency.

Disadvantages of this approach are that the current fiscal limitations facing the cities are not changed, opportunities for efficiency (either financial or service level) through greater collaboration are not realized, and some duplication and overlap will continue.

Because both cities fund the fire departments via a “city subsidy” – a mix of tax revenue streams – it is difficult to project fire department revenue based on either property tax revenue trends or sales tax revenue trends. The reality is that the trend lines for revenue and expenditures have already crossed and both agencies have enacted program and staffing reductions to remain in financial balance. The forecast, in the absence of new revenue, does not bode well for either city to maintain today’s services. Continuing flat revenue streams juxtaposed with increased expense will force both cities to face further reductions, including on-duty staffing, stations, and related emergency services.

In today’s environment, taxpayers typically hold their elected officials accountable for delivering a quality level of service at an affordable rate and expect creative thinking to solve problems or achieve those ends. While “maintaining the status quo” is easy and involves the least amount of impact to the departments, it may well be one of the riskier political decisions.

Conclusion

Keeping the status quo and developing individual or multiple strategic initiatives between the fire departments has limited merit and will produce some benefits. ESCI does not believe this is a viable strategy that best serves both communities. This strategy forces the cities to confront service reductions or revenue increases as an alternative.

As for the ongoing or potential initiatives noted above, with any relationship that lacks long-term commitment, it is inevitable that a change in governing bodies, fire department administration, financial situation, vision, or turning inward of focus will lead to a breakdown of cooperation. It is ESCI’s experience that, for mutual benefit of the departments, the development of an IGA with a vision of a single consolidated agency has a superior potential for mutual benefit and long-term sustainability.

Strategy 2 – Create a Fire Authority (FA)

Level of Cooperation

- Governance

Timeline for Completion

- Short to Mid-term

Section

- Administration

Affected Stakeholders

- EFD, LFR, HRMD, and LFPD. Detailed information for Highlands Ranch and Littleton Fire Protection District was not included in this study. Therefore, the complete impact on these districts is not calculated into the results.

Objectives

- Combine all administrative, operations, and support services of the four emergency service providers.
- Form a governing board (fire authority) with representation from each of the four agencies.
- Retain local control.

Summary

An alternative to a merger is the formation of a Fire Authority (FA). An FA can be established by creating a new entity whereby the agencies use a legal framework with a tax base, operational plan, and new governance. An FA may also be accomplished with an IGA (intergovernmental agreement) with each of the agencies retaining taxing authority, governance, and local control. If an IGA model is selected for aligning the agencies, the long-term goal should be to merge the agencies into a single regional fire and emergency service provider.

Discussion

In the State of Colorado there have been a number of FAs established for the purpose of eliminating redundancy and duplicated efforts and an emphasis on cost avoidance. Examples of FAs include Poudre Fire Authority in Fort Collins, Durango Fire Authority in Durango, the Clear Creek Fire Authority in Dumont, and the South Metro Fire Authority in Centennial. South Metro Fire Authority was formed when several fire districts merged. The two most recent fire authorities were formed in 2008 and 2012.

On May 1, 2008, the Parker Fire Protection District and South Metro Fire Rescue Authority began operating as a fire authority under an intergovernmental agreement. The long-term intent

of the agreement is to fully merge the two districts into one. Rifle Fire and Burning Mountain Fire Protection District signed an IGA on September 26, 2012, establishing Colorado River Fire Rescue. Two other partners are in negotiations to join the partnership in the near future.

With an IGA as a mechanism for creating an FA, the cities would retain taxing authority, governance, and local control with representation on an oversight (governance) board. IGAs commonly have a provision for the participants to extricate themselves from the agreement (escape clause). An escape clause in a contract allows a party to "withdraw" from the agreement without being liable for breach of contract. This happened when the City of Greeley and Western Hills Fire Protection District negotiated the dissolution of the Union Colony Fire Rescue Authority (UCFRA). An amicable termination of the intergovernmental agreement that created the FA was agreed upon and in a role reversal Western Hills now contracts with the City of Greeley for fire protection services. UCFRA officially ended services at midnight on December 31, 2010, and the Greeley Fire Department began providing emergency services at 12:01 a.m. January 1, 2011. There were no changes to service levels.

FA Fiscal Considerations

- An FA will create a financial benefit but will also have challenges in establishing a new organizational structure.

FA Administration and Support FTEs

Figure 109 lists the current budgeted administrative and support positions in the two agencies, followed by the conceptual configuration for administration and support of an FA and a summary of the net changes in overall staffing numbers.

Figure 109: Conceptual Staffing – FA Administrative and Support

Position	EFD Current	LFR Current	Combined FTEs	FA Conceptual	Net Change
Fire Chief	1.00	1.00	2.00	1.00	(1.00)
Operations Chief	0.00	1.00	1.00	1.00	0.00
Deputy Fire Chief	1.00	0.00	1.00	1.00	0.00
Support Services Chief	0.00	1.00	1.00	1.00	0.00
EMS Bureau Chief	0.00	1.00	1.00	1.00	0.00
EMS Coordinator	0.50	0.00	0.50	1.00	0.50
Emergency Management Coordinator	0.50	0.00	0.50	0.50	0.00
Training Bureau Chief	1.00	1.00	2.00	1.00	(1.00)
Training Officer	0.50	0.00	0.50	3.00	2.50
Safety and Training Officer	0.00	1.00	1.00	1.00	0.00
Fire Marshal	1.00	1.00	2.00	1.00	(1.00)
Deputy Fire Marshal	0.00	1.00	1.00	1.00	0.00
Assistant Fire Marshal	0.00	2.00	2.00	2.00	0.00
Life Safety Educator	0.00	1.00	1.00	1.00	0.00
Permit Coordinator	0.00	1.00	1.00	1.00	0.00
Executive Assistant	1.00	0.00	1.00	1.00	0.00
Administrative Assistant	0.00	1.00	1.00	1.00	0.00
Intern (grant funded)	0.50	0.00	0.50	0.50	0.00
Administration and Support Total	7.00	13.00	20.00	20.00	0.00

The conceptual illustration of administrative and support staffing for an FA provides for a single fire chief, fire marshal, and training chief positions; each reduced from two. Other position responsibilities are re-aligned and shared between the two departments where possible. Gains in the number of training officer FTEs is realized by reassigning the three shift trainers to 40 hour positions in the training division. The conceptual modifications to the administrative functions for an FA remains at the current 20 FTEs. In Figure 110, wage values by category are shown.

Figure 110: Conceptual Costs – FA Administrative and Support

Position	EFD Wages	EFD Wages Extended	LFR Wages	LFR Wages Extended	Wages Adjustments	Total Adjusted Wages
Fire Chief	113,506	113,506	132,168	132,168	(113,506)	132,168
Operations Chief	0	0	114,907	114,907	0	114,907
Deputy Fire Chief	98,534	98,534	0	0	0	98,534
Support Services Chief	0	0	114,907	114,907	0	114,907
EMS Bureau Chief	0	0	108,672	108,672	0	108,672
EMS Coordinator	84,218	42,109	0	0	42,109	84,218
Emergency Management Coordinator	84,218	42,109	0	0	0	42,109
Training Bureau Chief	95,584	95,584	108,672	108,672	(95,584)	108,672
Training Officer	83,738	41,869	0	0	209,344	251,213
Safety and Training Officer	0	0	96,954	96,954	0	96,954
Fire Marshal	85,056	85,056	108,672	108,672	(85,056)	108,672
Deputy Fire Marshal	0	0	84,768	84,768	0	84,768
Assistant Fire Marshal	0	0	75,732	151,464	0	151,464
Life Safety Educator	0	0	69,852	69,852	0	69,852
Permit Coordinator	0	0	50,304	50,304	0	50,304
Executive Assistant	52,622	52,622	0	0	0	52,622
Administrative Assistant	0	0	50,256	50,256	0	50,256
Intern (grant funded)	29,016	29,016	0	0	0	29,016
Administration and Support Total		600,403		1,191,597	(42,692)	1,749,308

This FA administrative and support staffing concept would result in a cost decrease of approximately \$42,692 plus applicable benefit expense decreases, primarily in medical insurance costs.

Figure 111 shows a concept organizational structure for the administration section of an FA.

Figure 111: Conceptual Organizational Chart – FA Administration

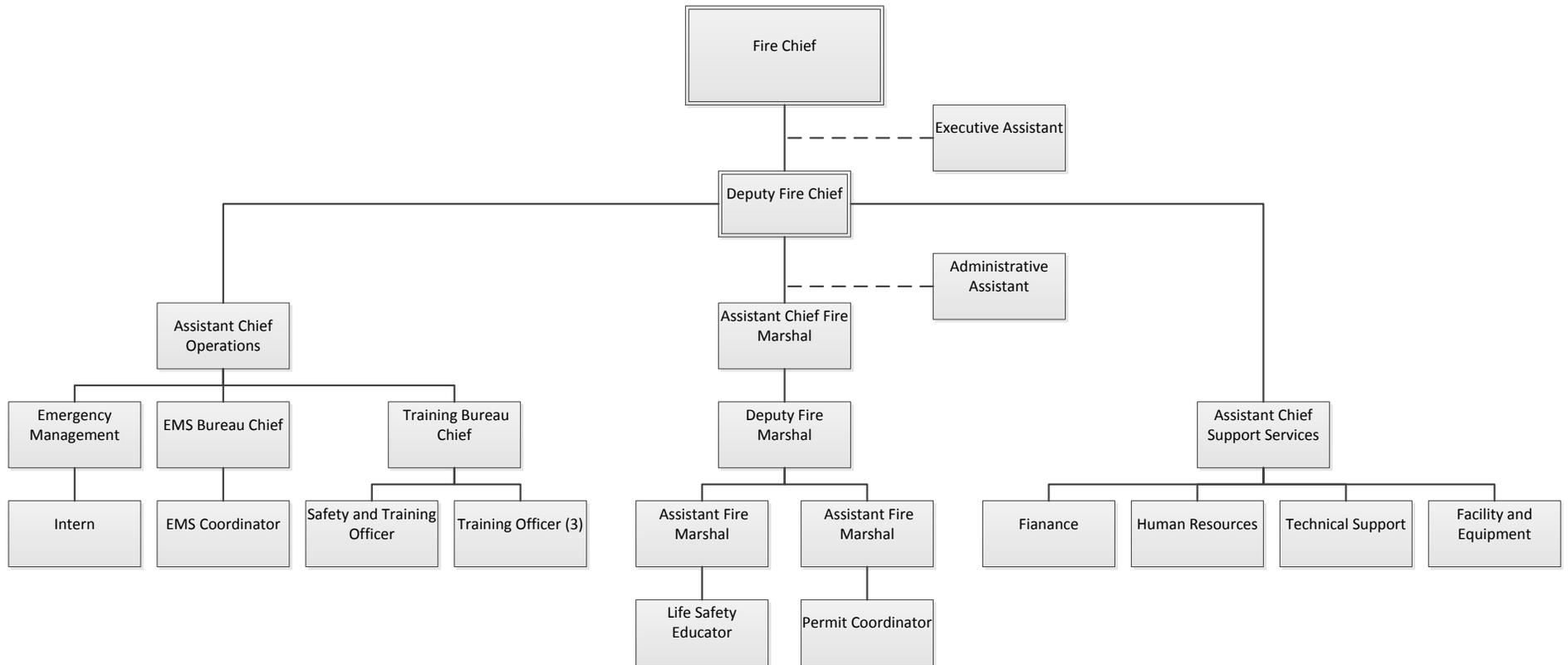


Figure 112 provides a comparison of current operational positions, adjusted for the changes in the conceptual staffing of a FA.

Figure 112: Conceptual Staffing – FA Operations

Position	EFD Current	LFR Current	Combined FTEs	FA Conceptual	Net Change
Battalion Chief	3.00	3.00	6.00	6.00	0.00
Safety and Training Officer	0.00	3.00	3.00	0.00	(3.00)
Captain	0.00	24.00	24.00	33.00	9.00
Paramedic Lieutenant	0.00	15.00	15.00	6.00	(9.00)
Lieutenant (some have paramedic certification)	9.00	0.00	9.00	9.00	0.00
Engineer	15.00	24.00	39.00	39.00	0.00
Paramedic Firefighter	14.00	21.00	35.00	35.00	0.00
Firefighter	10.00	39.00	49.00	49.00	0.00
Emergency Operations Total	51.00	129.00	180.00	177.00	(3.00)

Operational FTEs are maintained with the three shift trainers being assigned to 40-hour work weeks in the training division. Also included is an increased cost of \$93,618 by the promotion of nine Lieutenants to the rank of captain. Pay equalization between the departments will result in a net increase of personnel costs of \$161,585; wages by labor classification are different by department. The FA strategy makes the assumption that all pay levels will eventually move to the highest level. Figure 113 depicts the increases by pay category.

Figure 113: Conceptual Personnel Costs – FA Operations

Position	EFD Wages	EFD Wages Extended	LFR Wages	LFR Wages Extended	Wages Adjustments	Total Adjusted Wages
Battalion Chief	92,558	277,674	101,441	304,323	26,649	608,646
Safety and Training Officer	0	0	96,954	290,862	(290,862)	0
Captain	0	0	94,612	2,270,677	851,504	3,122,180
Paramedic Lieutenant	0	0	84,210	1,263,144	(757,886)	505,257
Lieutenant (some have paramedic certification)	83,738	753,639	0	0	0	753,639
Engineer	78,028	1,170,425	76,199	1,828,769	43,911	3,043,105
Paramedic Firefighter	72,570	1,015,975	74,176	1,557,689	11,242	2,584,906
Firefighter	59,880	598,797	57,834	2,255,526	79,783	2,934,106
Emergency Operations Total		3,816,511		9,770,990	(35,660)	13,551,841

Operations staffing costs will decrease by \$35,660 plus applicable benefit decreases; primarily in the medical insurance costs.

FA Fiscal Analysis

2012 budget data provided by the client was used to create a model budget for a FA of LFR and EFD. However, two financial issues need to be addressed prior to creating the new FA financials:

1. The newly created Fire Authority will operate as an independent organization from the City that currently provides support. In the current structure, the City absorbs the cost of many services that are not allocated back to the department which must be included as costs for the new organization. These cost are called in-kind costs and include services such as payroll processing, human resources, accounts payable, risk management, legal, IT support, budgeting and financial control/reporting.
2. The two agencies handle ambulance transport differently. EFD includes transport revenue and expense as part of the department's operating budget while LFR treats these transactions in an enterprise fund outside of the department budget. For the purposed of this analysis, LFR's Enterprise fund transactions have been merged into the fire departments budget.³⁸

FA In-kind Costs

ESCI has completed several studies for cities that have allocated in-kind costs to the fire department budget. The following figure summarizes several departments' cost as a percent of budget. The average of all departments included in the table has been used to calculate an estimate of the additional cost required by the new FA to perform these functions. An alternate would be to contract these services with one of the cities.

³⁸ ESCI doesn't endorse or recommend either method of handling transport activity. The newly organized fire authority will need to decide which method is works best for them.

Figure 114: FA In-kind Cost Estimate

Allocation Organization	In-kind Cost Allocated	Department Budget	Percent Allocation to Total per Budget Dollars ³⁹
Vancouver Washington	837,670	30,729,353	2.726%
SeaTac Washington	602,282	7,598,182	7.927%
Imperial Valley California	281,175	5,680,012	4.950%
Glenwood Springs Colorado	151,305	3,272,845	4.623%
Total/Average	1,872,432	47,280,392	3.960%
EFD Cost based on Average Allocated Amount	283,948	7,169,908	3.960%
LFR Cost based on Average Allocated Amount	702,411	17,736,439	3.960%
Total Estimated In-kind Cost	986,359	24,906,347	3.960%

The estimated in-kind cost for the new FA is \$986,359. These costs have not been included in the analysis but need to be considered in the decision making process.

LFR Transport Service Reclassification

The following figure is the reclassification model of the 2012 budget data for LFR and the enterprise fund for ambulance transport. The newly consolidated information will be used in the financial analysis of the FA.

Figure 115: LFR Fire and Ambulance Transport Fund Consolidation - Revenue

Description	2012 Budget Fire	2012 Budget EMS Transport	Total 2012 Budget
Fire Services - HRMD	5,695,210	0	5,695,210
Fire Services - LFPD	5,238,980	0	5,238,980
Restitution City	610	0	610
Misc. Revenue	0	0	0
Admin Fee - LFPD	338,300	0	338,300
Admin Fee - HRMD	364,330	0	364,330
Special Events	15,180	0	15,180
Bike Medics	6,000	0	6,000
Emergency Transport Services	0	4,990,000	4,990,000
Billing Adjustment	0	(2,800,000)	(2,800,000)
Contractor Fines	0	5,000	5,000
Collection Company Receipts	0	90,000	90,000
Fire Service Donations	0	0	0
City Subsidy	4,486,873	0	4,486,873
Total Revenue	16,145,483	2,285,000	18,430,483

³⁹ City projected allocation costs are from the time period of the original contract with the city. The values do not represent the current budget periods of the cities shown.

Figure 116: LFR Fire and Ambulance Transport Fund Consolidation – Expense

Description	2012 Budget Fire	2012 Budget EMS Transport	Total 2012 Budget
Salaries	10,849,940	1,082,460	11,932,400
Taxes & Benefits	3,372,260	323,640	3,695,900
Supplies & Materials	1,252,640	610,320	1,862,960
Debt	26,200	0	26,200
Intergov Transfers	218,979	0	218,979
Capital	0	0	0
Total Expenditures	15,720,019	2,016,420	17,736,439

FA Forecast Consolidated Taxable Assessed Value

Projected increases in new construction and TAV of existing property utilize the same assumptions contained in the current conditions section of this report. Figure 117 provides a view of the consolidated TAV for the FA.

Figure 117: FA Consolidated Taxable Assessed Valuation

TAV	2012 Budget	2013	2014	2015	2016	2017
Englewood	515,667,340	515,667,340	516,956,508	519,541,291	524,736,704	531,295,913
Littleton	610,285,533	610,285,533	611,811,247	614,870,303	621,019,006	628,781,744
Total	1,125,952,873	1,125,952,873	1,128,767,755	1,134,411,594	1,145,755,710	1,160,077,656

FA Forecast Revenue

Initial development of fire operations revenue was established to combine the 2012 budget data into a consolidated statement. This consolidation is detailed in Figure 118.

Figure 118: FA Budgeted Consolidated Revenue, 2012

Description	EFD 2012 Budget	LFR 2012 Budget	Total 2012 Budget
Fire Services- HRMD	0	5,695,210	5,695,210
Fire Services - LFPD	0	5,238,980	5,238,980
Restitution City	0	610	610
Misc. Revenue	4	0	4
Admin Fee - LFPD	0	338,300	338,300
Admin Fee - HRMD	0	364,330	364,330
Special Events	0	15,180	15,180
Bike Medics	0	6,000	6,000
Emergency Transport Services	725,000	4,990,000	5,715,000
Billing Adjustment	0	(2,800,000)	(2,800,000)
Contractor Fines	0	5,000	5,000
Collection Company Receipts	0	90,000	90,000
Federal Grant Pass-through	38,888	0	38,888
Property Tax	0	0	0
City Subsidy	6,406,016	4,486,873	10,892,889
Total Revenue	7,169,908	18,430,483	25,600,391
Effective Levy Rate	12.423	6.655	9.674

FA Forecast Expense

Fire operations expense calculations merge the 2012 budget data into a consolidated statement. The modification of personnel and the cost decreases associated with these modifications will decrease wage levels and benefit costs. This consolidated budget is depicted in Figure 119.

Figure 119: FA Budgeted Consolidated Expense, 2012

Description	EFD 2012 Budget	LFR 2012 Budget	Adjustments	Total 2012 Budget
Salaries	5,041,751	11,932,400	(78,352)	16,895,799
Taxes & Benefits	1,244,261	3,695,900	(22,793)	4,917,368
Supplies & Materials	711,305	1,862,960	0	2,574,265
Intergov Transfers	0	26,200	0	26,200
Debt	118,393	218,979	0	337,372
Capital	54,198	0	0	54,198
Total Expenditures	7,169,908	17,736,439	(101,144)	24,805,202

Taxes and benefit reductions are calculated at the average fringe rate for both organizations.

FA Forecast Revenue, 2013 – 2017

Figure 120 details the calculation of consolidated revenue for the new organization, projected to 2017. All line items have been increased by the ten-year average CPI-U of 2.873 percent.

Figure 120: FA Consolidated Revenue, 2013 – 2017

Description	Total 2012 Budget	2013	2014	2015	2016	2017
Fire Services - HRMD	5,695,210	5,858,833	6,027,158	6,200,318	6,378,453	6,561,706
Fire Services - LFPD	5,238,980	5,389,496	5,544,336	5,703,625	5,867,490	6,036,063
Restitution City	610	628	646	664	683	703
Misc. Revenue	4	4	4	4	4	5
Admin Fee - LFPD	338,300	348,019	358,018	368,304	378,885	389,771
Admin Fee - HRMD	364,330	374,797	385,565	396,642	408,038	419,761
Special Events	15,180	15,616	16,065	16,526	17,001	17,490
Bike Medics	6,000	6,172	6,350	6,532	6,720	6,913
Emergency Transport Services	5,715,000	5,879,192	6,048,101	6,221,863	6,400,617	6,584,507
Billing Adjustment	(2,800,000)	(2,880,444)	(2,963,199)	(3,048,332)	(3,135,910)	(3,226,005)
Contractor Fines	5,000	5,144	5,291	5,443	5,600	5,761
Collection Company Receipts	90,000	92,586	95,246	97,982	100,797	103,693
Federal Grant Pass-through	38,888	40,005	41,155	42,337	43,553	44,805
Property Tax	0	10,405,818	10,723,618	10,957,446	11,295,531	11,644,238
City Subsidy	10,892,889	0	0	0	0	0
Total Revenue	25,600,391	25,535,866	26,288,353	26,969,355	27,767,463	28,589,409
Effective Levy Rate	9.674	9.242	9.500	9.659	9.859	10.037

In the figure above the City subsidy amount has been replaced with property tax revenue.

Figure 121 is a conceptual model for capital apparatus under a FA.

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Figure 121: FA Capital Apparatus

Vehicle Number	Purchase Date	Make	Useful Life	Years left as of 12/31/11	Replacement Cost	Reserve Required* @ 12/31/11	Annual Reserve Requirement
300	2009	Ford Explorer	12	9	12,312	3,078	1,026
301	2001	Chevy Tahoe	12	2	0	-	-
302	2002	GMC Safari	12	3	0	-	-
303	2002	GMC Safari	12	3	0	-	-
306	2009	Ford Explorer	12	9	12,312	3,078	1,026
307	2010	Ford F150	12	10	15,759	2,627	1,313
308	2001	Chevy Tahoe	12	2	15,267	12,722	1,272
309	2010	Ford Explorer	12	10	12,913	2,152	1,076
320	2001	Chevy Tahoe	12	2	15,267	12,722	1,272
330	2002	GMC Yukon	12	3	16,030	12,023	1,336
340	2008	Chevy Express	12	8	13,789	4,596	1,149
350	2009	Ford Explorer	12	9	12,312	3,078	1,026
360	2004	Chevy Express	12	5	10,804	6,302	900
380	2007	Chevy Express	12	7	11,167	4,653	931
321	2008	Chevy Suburban	12	8	16,974	5,658	1,415
361	2002	Chevy Suburban	12	3	14,741	11,056	1,228
316	2002	American LaFrance	20	10	300,000	150,000	15,000
336	2005	American LaFrance	20	13	382,869	134,004	19,143
346	2006	American LaFrance	20	14	402,029	120,609	20,101
356	2002	American LaFrance	20	10	330,750	165,375	16,538
376	2005	American LaFrance	20	13	694,575	243,101	34,729
386	2003	American LaFrance	20	11	765,738	344,582	38,287
315	1990	Pierce	20	0	To be sold	-	-
335	1992	Pierce	20	0	To be sold	-	-
345	1993	Pierce	20	0	To be sold	-	-
328	2004	American LaFrance	20	12	502,840	201,136	25,142
367	2006	Pierce	20	14	1,319,954	395,986	65,998
368	1993	Pierce	20	0	To be sold	-	-
313	2009	Ford/Braun	10	8	154,350	30,870	15,435
333	2006	Ford/McCoy Miller	10	5	115,000	57,500	11,500
334	2012		10	10	154,350	-	15,435
353	2007	Ford/McCoy Miller	10	6	140,000	56,000	14,000
364	2010	Ford/McCoy Miller	10	9	357,358	35,736	35,736
373	2006	Ford/McCoy Miller	10	5	294,000	147,000	29,400
312	2003	Ford/McCoy Miller	10	0	To be sold	-	-
332	2000	Ford/McCoy Miller	10	0	To be sold	-	-
354	2002	Ford/McCoy Miller	10	0	To be sold	-	-
304	2006	TEMS	12	7	17,868	7,445	1,489
363	2007	Freightliner Supe Vac	20	16	243,780	48,756	12,189
314	1988	Mack	20	0	250,000	250,000	12,500
372	2003	American LaFrance	12	4	177,294	118,196	14,775
381	2001	American LaFrance	12	2	169,907	141,589	14,159
390	2002	LDV	12	3	369,363	277,022	30,780
397	1992	Chevy SuperVac	20	1	325,000	308,750	16,250
399	1991	GMC Sierra	10	0	45,000	45,000	4,500
6501	2007	Crimson Pumper	20	16	465,000	93,000	23,250
6502	2007	Crimson Rescue	20	16	375,000	75,000	18,750
6488	2000	ALF Pumper	20	9	525,000	288,750	26,250
6490	2001	ALF TeleSquirt	20	10	600,000	300,000	30,000
6493	2002	ALF Pumper	20	11	525,000	236,250	26,250
6354	2012	Dodge/Taylor Made Amb.	9	9	125,000	-	13,889
6353	2009	Chev/MedTec Amb	9	7	125,000	27,778	13,889
6351	2011	Ford Escape Hybrid	7	7	35,000	-	5,000
6474	1948	Chev Amb Antique	0	0	0	-	-
6475	1930	Ford Pumper Antique	0	0	0	-	-
6492	2002	GMC Yukon	7	0	35,000	35,000	5,000
9494	2003	Freightliner Pumper	20	12	275,000	110,000	13,750
6499	2005	Freightliner Pumper	20	14	275,000	82,500	13,750
6503	2008	Chev Silverado 2500	7	4	35,000	15,000	5,000
Total Annual Funding Requirement						4,625,681	672,834

The new FA would require an annual encumbrance of \$672,834 to fund future purchases of vehicles.

FA Forecast Expense

Figure 122 depicts the estimated consolidated fire expenses for the new organization. Personnel and fringe benefits are increased by 3.00 percent per year; all other line items have been increased by the ten-year average CPI-U of 2.873 percent. Debt is included at the current amortization schedule. In-kind costs and capital/vehicle replacement costs are not included.

Figure 122: FA Consolidated Expense, 2013 – 2017

Description	Total 2012 Budget	2013	2014	2015	2016	2017
Salaries	16,895,799	17,402,673	17,924,753	18,462,496	19,016,371	19,586,862
Taxes & Benefits	4,917,368	5,064,890	5,216,836	5,373,341	5,534,542	5,700,578
Supplies & Materials	2,574,265	2,648,224	2,724,307	2,802,576	2,883,094	2,965,926
Intergov Transfers	26,200	26,953	27,727	28,524	29,343	30,186
Debt	337,372	337,372	337,372	243,413	243,413	243,413
Capital	54,198	55,755	57,357	59,005	60,700	62,444
Total Expenditures	24,805,202	25,535,866	26,288,353	26,969,355	27,767,463	28,589,409

FA Summary of Operations

Summarized in Figure 123 is the revenue and expenditure activity for 2013 through 2017.

Figure 123: FA Consolidated Operations, 2012 – 2017

Description	Total 2012 Budget	2013	2014	2015	2016	2017
Revenue	25,600,391	25,535,866	26,288,353	26,969,355	27,767,463	28,589,409
Expenditures						
Salaries	16,895,799	17,402,673	17,924,753	18,462,496	19,016,371	19,586,862
Taxes & Benefits	4,917,368	5,064,890	5,216,836	5,373,341	5,534,542	5,700,578
Supplies & Materials	2,574,265	2,648,224	2,724,307	2,802,576	2,883,094	2,965,926
Intergov Transfers	26,200	26,953	27,727	28,524	29,343	30,186
Debt	337,372	337,372	337,372	243,413	243,413	243,413
Capital	54,198	55,755	57,357	59,005	60,700	62,444
Total Expenditures	24,805,202	25,535,866	26,288,353	26,969,355	27,767,463	28,589,409
Percent Change from Budget		2.95%	2.95%	2.59%	2.96%	2.96%

Conclusion

An FA allows the two fire departments to have input on services to be provided, levels of service, budgets, and governance decisions. This strategy can provide cost avoidance in

administrative, operational, and capital costs. It allows for long-term planning for facilities, apparatus, equipment, and staffing.

In the figure below, total cost to the taxpayers is shown for the status quo (city subsidy) compared to the total tax revenue required to operate the new FA.

Figure 124: Taxpayer Cost Comparison, 2013 – 2017

Year	EFD Status Quo	LFR Status Quo	Combined Status Quo	FA Cost to Taxpayers	Benefit/(Cost) to Taxpayers
2013	6,592,757	4,190,176	10,782,933	10,405,818	377,115
2014	6,785,079	4,323,192	11,108,271	10,723,618	384,653
2015	6,983,151	4,366,639	11,349,790	10,957,446	392,344
2016	7,187,143	4,508,577	11,695,720	11,295,531	400,189
2017	7,397,235	4,655,194	12,052,429	11,644,238	408,191
Accumulative Benefit					1,962,492

Strategy 3 – Link with an Existing Fire Authority (FA)

Level of Cooperation

- Governance

Timeline for Completion

- Short to Mid-term

Section

- Administration

Affected Stakeholders

- EFD, LFR, HRMD, and LFPD; South Metro Fire Rescue Authority.

Objectives

- Combine all administrative, operations, and support services of the three emergency service providers with South Metro Fire Rescue Authority.
- Participate in the governing board (fire authority) with representation from each of the four agencies.
- Retain local control.

Summary

On May 1, 2008, the Parker Fire Protection District and South Metro Fire Rescue District began operating as a fire authority under an intergovernmental agreement. The long term intent of this agreement is to fully merge the two districts into one. South Metro Fire Rescue Authority (a consolidation of South Metro Fire Rescue and the Parker Fire Protection District) serves an area of approximately 176 square miles in portions of Douglas and Arapahoe Counties.

Protection is provided to more than 198,000 citizens in Centennial, Greenwood Village, Foxfield, Lone Tree, Louviers, Parker, Castle Pines, Castle Pines Village, Centennial Airport, Cherry Hills Village, Denver Tech Center, Inverness, the Meridian Office Park and unincorporated portions of Arapahoe and Douglas counties. SMFRA operates 17 fire stations on 24-hour basis with three shifts working a rotational basis. A total of 284 line personnel and 89 uniformed and non-uniformed staff are employed by the Authority.

This strategy was not included in the scope of the study so there is insufficient data analysis to forecast fiscal impacts of linking EFD and LFR with SMFRA. Also, further analysis of the impacts to LFPD and HRMD are essential before entering into discussions about this strategy.

Strategy 4 – Formation of a New Fire Protection District

Level of Cooperation

- Governance

Timeline for Completion

- Long Term

Section

- Administration

Affected Stakeholders

- Cities of Englewood and Littleton, HRMD, and LFPD

Objective

- Provide a single fire and EMS agency (fire district) for the current service area of EFD, LFR, HRMD, and LFPD.

Summary

Formation of a new fire district would be used to provide all of the fire, EMS, and ancillary emergency services to EFD, LFR, HRMD, and LFPD. The fire district would be organized under the Special District Act. The Special District Act is contained within Title 32 article 1 of the Colorado Revised Statutes, which provides statutory authorization and limitations for the formation and operation of special districts. Special districts organized pursuant to Title 32 are quasi-municipal corporations and political subdivisions of the state of Colorado organized for specific functions.

The range and magnitude of fiscal impacts to EFD and LFR within this strategy are again interdependent upon the involvement of both LFPD and HRMD. The financial analysis presented in Strategy B could be similar for this strategy and could be used to make some basic cost assumptions.

Discussion

Title 32 of the Colorado Revised Statutes specifies what public services a special district can provide. The list of services a special district can provide are broad and varied and can include:

- Fire protection (may also provide ambulance and emergency medical and rescue services)
- Mosquito control
- Parks and recreation
- Safety protection

- Solid waste disposal facilities, or collection and transportation of solid waste
- Street improvements
- Television relay and translation
- Transportation
- Covenant enforcement
- Ambulance
- Health Service Districts
- Metropolitan districts
- Park and recreation

The first step in formation of a special district is submittal of a service plan to the jurisdiction in which the property is located. A service plan, like a city charter, sets forth the powers that the district as a government entity will have. The service plan review and approval process can take from six to nine months or even longer depending on the complexity of the district structure and the procedural requirements of the approving jurisdiction. Upon approval of the service plan by the approving jurisdiction, a Petition for Organization is filed with the District Court requesting the Court order an election on the issues of formation of the district and the incurrence of debt. Following a court hearing, the District Court orders an organizational election to be held at the next available election date (May and November in even-numbered years and November in odd-numbered years). Election results are then certified and the Court issues an Order and Decree declaring that the district has been duly organized. The district may then hold an organizational meeting.

Governance of a special district is by a five or seven-member board of directors (BOD), who are elected by the registered electors in the district to staggered four-year terms. Anyone registered to vote in the State of Colorado and residing in or owing taxable property in the special district is eligible to serve on the BOD. The BOD may hire a manager, employees, or consultants to carry out the purposes of the special district and to ensure compliance with all statutory requirements for the special district's operations.

Following organization, a special district as a quasi-municipal corporation and political subdivision of the State of Colorado must comply with open meeting laws, public bidding requirements, restrictions in its service plan, public budget law, and public audit requirements. Typically, the BODs of a special district meet on a regular basis to handle the business of the district. Many special districts will engage a professional management company, general

counsel, and an accountant experienced with governmental accounting to assist and advise in the district's functions.

Special districts are authorized to use a number of ways to raise revenues, including issuing debt, levying taxes, and imposing fees and charges. The issuance of debt or an increase in taxes first requires an election and approval by the qualified voters of the district, as required by TABOR (Section 20, Article 10 of the Colorado Constitution). Methods of raising revenues include:

- **General Obligation Bonds:** Special districts are authorized to issue general obligation bonds, secured by ad valorem property taxes, through the imposition of a mill levy. Property taxes are tax deductible as opposed to fees or assessments imposed by private entities (such as HOAs), which are not.
- **Revenue Bonds:** Revenue bonds are payable from any revenue source of the district. Payment for bonds is generated through fees, charges, or other non-tax revenues collected from district residents and customers, which are not tax deductible. These revenues may come from fees for service and include EMS, EMS transport, fire and life safety inspections, and permits.
- **Mill Levy:** A district may impose a mill levy which is based on the assessed value of real property as calculated by the county assessor's office. The mill levy is collected with other property taxes paid to the county.
- **Service Charges and Fees** A district may impose fees, rates, tolls and charges for programs, services and facilities provided by the district.
- **Grants and Loans:** Via the Colorado Division of Local Government, federal and state agencies, and programs, a special district can be eligible for infrastructure improvement grants and often very low interest loans under a variety of programs.

Special district fees and taxes are set by its BODs, subject to the limitations imposed by TABOR, Colorado statutes, and the special district's electors through the election process. Additionally, limitations may be placed upon the special district's debt issuance or its mill levy by its service plan.

Potential benefits of a special district include:

- A special district can raise funds for public infrastructure through municipal bonds (or other governmental grant or loan programs if applicable) with favorable rates and terms not available to private entities.
- Special districts are exempt from sales, use, and other taxes for equipment, supplies, and services, allowing lower overhead costs.
- A special district is not in the business of making a profit from the facilities and services provided. Specific statutes govern the expenditures and revenues of special districts.

- State-obligated budget, audit, and other financial filing and reporting requirements provide regulatory oversight of a special district's operations.
- A special district is governed by local control over the services that are provided on a community basis and are responsive and accountable for decisions through the election and public hearing processes. The business of the special district is conducted at public meetings.
- Special districts enjoy governmental immunity against certain legal actions thus avoiding expensive lawsuits and corresponding tax or fee increases.
- Because of its local nature, a special district is often better able to address issues of local concern to the community.

Conclusion

The formation of a new fire district to overlay Englewood, Littleton, HRMD, and LFPD is not feasible. A real or perceived loss of control, the time to accomplish, and a possible increase in levy rates to some citizens, doom the concept. During interviews and community meetings, internal and external stakeholders expressed to ESCI that the creation of a new fire district would lack public and political support of elected officials.

Strategy 5 – Annexation of Englewood, Littleton, and HRMD to LFPD

Level of Cooperation

- Governance

Timeline for Completion

- Mid-term

Section

- Administration

Affected Stakeholders

- Cities of Englewood, Littleton, and HRMD.

Objective

- Annex the Cities of Englewood and Littleton and HRMD into the LFPD.
- Combine all operational and administrative elements into a single operation under the jurisdiction of the Littleton Fire Protection District.

Summary

This strategy parallels the discussion and assessments contained in Strategy D – Form a New Fire District. The significant difference is moving three existing jurisdictions into a fourth jurisdiction rather than creating a new entity.

Strategy 6 – IGA between EFD and LFR

Level of Cooperation

- Governance

Timeline for Completion

- Short to Mid-term

Section

- Administration

Affected Stakeholders

- Cities of Englewood and Littleton, LFPD, and HRMD.

Objective

- Draft an IGA to formalize administrative and program efficiencies between the Cities of Englewood and Littleton.
- Combine all fire and EMS operational and administrative elements of EFD and LFR into a single operation.

Summary

This strategy represents a familiar and proven approach for all involved agencies. Much of the fiscal analysis contained in Strategy B – Create a Fire Authority can be overlaid on this strategy. This is the current stage for the SMFRA with the understanding it is moving toward a formal consolidation if its experience remains positive. ESCI cautions that, in the context of the current economic environment, this is an interim step and does not constitute a viable long-term strategy to bolster program support and maintain service levels.

The mechanism maintains local control but moves the process into more of a negotiation-based strategy with the potential for renegotiation and/or dissolution in the future.

This strategy fits better into a shorter time-frame and removes some of the challenging issues surrounding autonomy and local control. If chosen, the governing bodies must commit to further study and analysis regarding Strategies B through E as presented previously.

Findings, Recommendations, and Plan of Implementation

Any cooperative venture between the cities of Englewood and Littleton presents the organizational leaders with a series of challenges. Successful implementation of this proposal will require that significant matters be addressed regardless of which form or level of cooperative effort is chosen.

Findings

During this process, ESCI found that LFR and EFD had characteristics that are found in progressive emergency service agencies. However, the agencies' planning and service delivery are, for the most part, carried out autonomously. Decisions on service delivery, capital resource deployment, and staffing are made independently but with the best interest of the citizens served in each emergency service provider's area of responsibility. This results in varying levels of service and the departments not capturing opportunities for efficiencies. Opportunities exist for these two emergency service agencies to provide an improved level of service with no cost increase and the potential for cost avoidance.

Based on preceding work of reviewing organizational strengths, weaknesses, opportunities and challenges, current conditions, fiscal analysis, and based on our experience with other projects of similar character and scope, we draw certain conclusions regarding Littleton Fire Rescue, Englewood Fire Department, the region, and the opportunities for cooperative efforts. A summary of those findings follow:

- ***EFD and LFR are Interdependent*** – *These emergency service agencies have historically planned and generally functioned in an autonomous fashion. Collaboration between departments has been motivated primarily by unique opportunities to benefit both agencies. More recently, internal and external forces have encouraged a more widespread policy of mutual interdependence and cooperation between agencies. Chief among the pressures are monetary and political concerns. The trend is likely to continue as the cost of providing emergency service escalates and as the uncertain funding system persists.*
- ***EFD and LFR Value Customer Service*** – *During the work leading to this report, the fire departments consistently expressed and demonstrated a focus of serving those who live, work, and play in the area.*
- ***EFD and LFR Meet the Public's Service Expectation*** – *While not empirically verifiable, there is a general impression in the communities that the fire departments do a good job of satisfying the service expectations of the public within the limits of geography, transportation, and funding.*
- ***Existing Limited Partnerships Reduce Duplicated Effort*** – *LFR and EFD have eliminated some duplication through active interagency cooperation. Examples include*

automatic/mutual aid (albeit limited) and of great significance, this project. These successful programs hint at the high potential value of a policy encouraging greater intergovernmental collaboration.

- **Other Organizations Should be Included in Partnership Initiatives** – Organizations outside of EFD and LFR that participated in this work should be included when developing cooperative efforts. Both Littleton Fire District and Highlands Ranch Metro District have a large stake in any decisions that could affect or change the provision of fire and EMS services. Additionally, the City of Sheridan, West Metro and South Metro fire agencies are stakeholders in these efforts.
- **Internal and External Forces Act on EFD and LFR**– Internal pressure from increasing demands on the administration and support staff of the agencies, an overall increase in workload and community expectations, and uncertain funding tend to create a sense of urgency, leading to a general inclination to “do something.” While a merger or consolidation under an FA would ultimately provide increased efficiency, the initial intricacy of combining the organizations is complex and will require additional efforts from fire and EMS leadership.
- **Greater Collaboration between EFD and LFR has Local Political Interest** – The governing bodies of EFD and LFR appear to be genuinely interested in improving the efficiency and quality of fire protection and emergency medical service. Officials expressed openness to virtually any suggestion of intergovernmental collaboration that would maintain or improve service without increasing in the burden on taxpayers.
- **Opportunities Exist for Cost Avoidance** – An ability to reduce duplication and/or improve efficiency exists for LFR and EFD. Such opportunities include the development of standardized specifications for fire apparatus, the creation of a unified fire training division, fire prevention bureau, dispatch/communications, maintenance services, logistics, administrative services, a reduction in the number of reserve apparatus, adjusting jurisdictional boundaries, and sharing of unique resources (like specialty teams).
- **Formal Agency Restructure is Feasible** – EFD and LFR should consolidate under the provisions of an overarching strategy. While the goal of a single unified agency is attainable, in the near term an IGA provides the best opportunity for success. An IGA would result in reduced duplication and increased efficiency at the administrative and operational level. Long term, extending the agreement with a goal of a single service provider is forecast to save money, reduce the complexity of managing independent organizations, and enhance the ability of the agencies to plan and manage fire and emergency medical service in the region.

Recommendations

It is common for those in the fire service to tout themselves, or their department in terms such as “a pride-driven organization that is at their best every day,” and “the best by test,” or more simply, “the best.” The true mark of quality of the best fire departments however, is those that work continuously for measurable improvement in organizational performance. By undertaking this agency evaluation and feasibility study, the leadership of EFD and LFR have significantly amplified a historical dialog. The willingness and commitment of the agencies to an

organizational and system evaluation and a discussion on strategies to better serve the communities is to be applauded.

Success is peace of mind, a direct result of self-satisfaction in knowing that you did your best to become the best that you are capable of becoming. — John Wooden

We intend no suggestion that EFD and LFR are not already providing a valuable service. In fact, we are pleased to report that available evidence shows that these two emergency services agencies consistently provide quality service to the citizens of the protected communities. However, the underlying support systems and programs are seriously strained and are at risk to fail. In keeping with the notion of continuous improvement, wherein an unending loop of performance, measurement, and evaluation leads to system enhancements that would otherwise be impossible, we offer recommendations to assist the cities to implement the strategies that will best benefit the public.

The success of adopting and implementing opportunities depends on many things. However, in ESCI's experience with dozens of functional, operational, and legal collaborations, leadership is the single factor that most frequently determines success. Nearly always, a key staff, commissioner, councilor, or board member champions the concept garnering the support of the various affected groups (political, labor, volunteer, and community). Additionally, good leadership fosters an organizational culture receptive to planning, calculated risk taking, and flexibility. The manner in which leaders promote a trusting relationship between all groups and aid two-way communication between them is essential. From these issues, research by Kohm, Piana, and Gowdy identifies five factors that most often seem to contribute to the successful implementation of a partnership or consolidation.⁴⁰

- 1. A leadership that believes strongly in the partnership and demonstrates this belief, often by acting selflessly to maintain it.*
- 2. Multiple forms of communication to keep all persons (county commission, city council, town trustees, governing boards, staff, members, and community) up to date about plans, problems, and benefits concerning the partnership.*
- 3. Face-to-face communications with partner organizations in the forms of meetings, training, and other forums to build trust and understanding among staff.*

⁴⁰ Amelia Kohm, David La Piana, and Heather Gowdy, "Strategic Restructuring, Findings from a Study of Integrations and Alliances Among Nonprofit Social Service and Cultural Organizations in the United States," Chapin Hall, June 2000.

4. *Flexibility through an expectation that even in the best-planned partnership unforeseen issues will arise, mistakes will be made, and alternative paths will be identified.*
5. *Early evidence of benefit to assure everyone that they are on the right track, such as better or less expensive employee benefits or improved facilities.*

Kohm, Piana, and Gowdy term the establishment of an ongoing relationship between two or more independent organizations as *strategic restructuring*. The relationship is generally created to increase the administrative efficiency and/or further the programmatic mission of one or more of the participating agencies through shared, transferred, or combined services, resources, or programs. Restructuring may be thought of as a continuum that ranges from jointly managed programs (such as automatic aid agreements) to complete organizational merger.

Recommended Strategy

ESCI recommends that Strategy 6 – IGA between EFD and LFR be the first course of action pursued by the city councils. Due to the interdependence with LFPD and HRMD, this course of action enables LFR and EFD to create a framework for planning, organizing, operating and accountability that can be a foundation for future initiatives. As part of this process, ESCI recommends:

1. Reduction to one fire chief position. The combined service area has two fire chiefs that represent four different jurisdictions. With a combined workforce just over 200 personnel, the size of a unified fire agency is appropriately directed by a single fire chief dedicated to administration duties. Other program and position responsibilities are realigned and job functions modified to meet the needs of the IGA
2. The service area of the City of Englewood (6.7 square miles) and the City of Littleton (13.9 square miles) covers over 20 square miles. This combined area has five fire stations; three in the City of Englewood and two in the City of Littleton. However, the combined areas are actually served by eleven fire stations with three stations located in Littleton Fire District and three stations located in the Highlands Ranch District. An on-duty supervisory configuration of two battalion chiefs is appropriate to the number of fire stations supervised and generally to the distances traveled.
3. Establishing an IGA (intergovernmental agreement), with each of the agencies retaining taxing authority, governance, maintains a high degree of local control and should be considered an interim step to further alignment of the agencies. The long-term goal should to bring at least the four jurisdictions (City of Littleton, City of Englewood, Littleton Fire Protection District and Highlands Ranch Metro District) into a single regional fire and emergency service provider. ESCI also encourages consideration and discussions with the City of Sheridan regarding EMS and fire services.
4. The resulting administrative and support staffing concept will result in a cost avoidance of approximately \$78,352 plus applicable benefit decreases primarily in the medical insurance costs. The IGA strategy makes the assumption that overall operational staffing costs will be static, with a potential strengthening of support functions with the realignment of program duties and functions.

5. With an IGA, the agencies involved have input on services to be provided, level of service, budgets, governance, and policy level decisions. This strategy can provide cost avoidance in administrative, operational, and capital costs. It allows for extended planning for facilities, apparatus, equipment, and staffing.

Plan of Implementation

First steps are important. If the Littleton City Council and the Englewood City Council support the conclusions of this report, policy action by officials needs to focus the efforts of many persons toward a singular goal. Without clear direction from policymakers, indecisive or counter-productive work is likely to result. If all stakeholder groups actively participate in the process, the need for work plan revisions are more easily identified and made.

Therefore, ESCI recommends that the Littleton City Council and the Englewood City Council jointly adopt through resolution the development of an IGA with the potential outcome of a fire authority as the fire and EMS vision. The jurisdictions should resolve to work cooperatively toward carrying out the goal within a specific time; ESCI recommends that the goal be targeted far enough in the future to allow for systematic planning and implementation but not so far as to lose project momentum. From experience in such matters, six months to ten months is usually considered the minimum amount of time required for planning and implementing these sorts of system changes. We suggest that the agencies focus on reaching the goal by January 1, 2014; but first, careful consideration should be given to budgeting cycles to assure the proper timing of organizational startup.

With adoption of a vision, the agencies should appoint an oversight committee that includes representation from all stakeholder groups to plan, communicate, oversee, and direct progress toward the IGA. The committee should be charged to develop a schedule, meet regularly to discuss issues of mutual concern, and deliver progress reports to policymakers; at minimum of monthly. The group should work to provide cohesive policy direction to the fire chiefs and others regarding the details of reaching the vision. Activities of the committee might include consultation with staff, other policy makers, or professional experts.

Mission and vision statements, goals, and objectives provide key organizational management foundations. Development of such organizational underpinnings is important, but communication of them is paramount. Leaders and workers alike need to understand why the organization exists, where it is headed, and how to identify success. While the mission of the

new organization may seem obvious, if it is left to an individual's imagination, many individual missions may result; which in the end can cause agency members to work at cross-purposes.

A vision statement for the new organization should be an explanation of outcomes. It should inspire, energize, and help members to visualize a mental picture of the agency's goal. Vision statements ought to describe outcomes that are five to ten years away, though some may be further out in time.

If possible, try to summarize the vision using a single prophetic phrase or statement. Capturing the real meaning of a vision using a memorable phrase can increase the effectiveness of a vision statement. The phrase serves as the trigger to create an image of the vision. An example of a vision statement follows:

Our Vision: Our vision serves as the framework and guides every aspect of our actions by describing what we need to accomplish in order to provide exceptional emergency service to the citizens and visitors of the cities of Littleton, Englewood, Littleton Fire Protection District, and Highlands Ranch Metropolitan District.

Other Considerations

We offer comment on a few additional issues pertaining to the preferred option. The listing is in no particular order or priority.

The decision to consider implementation of the preferred option represents a partnership between the cities and affected districts. Well before the governing bodies ever adopt a joint resolution proposing an IGA, there must be a high degree of trust. Each governing body must understand that the other will act in the best interest of constituencies and that the business between the commission, boards, trustees, and city council will be open and honest. As with many human endeavors, communication is the key and reasonable negotiation is the vehicle. In the time before adopting a resolution, the agencies will need to come to agreement on a number of important details. Those matters should be committed to an implementation plan.

Creation of a new identity for the consolidated fire and EMS agency is important. The identity should be created with a global view and an eye on branding. A global name will signal a new birth and the creation of a unique culture while eliminating any appearance of empire building. Even if it is determined to be in the best interest of the cities and districts to continue with the existing taxing authorities, ESCI would recommend that creating a new persona is important; however, not selecting a new name should not be considered a "deal breaker." The option of

operating under terms of an IGA as a fire and EMS agency – “doing business as” – and retaining the taxing authority is possible.

Burning Mountains, Glenwood Springs, and Rifle FPDs, and the City of Glenwood Springs held a contest to name their new fire authority. The steering committee developed a short list of potential names and then advertised for public votes on the name, helping build a sense of organizational ownership throughout the communities. From the short list it was determined that the new entity would be Colorado River Fire & Rescue.

Framework for Action

- **Consult with other Emergency Service Partners:** The governing officials of the City of Englewood and the City of Littleton begin a dialog with all of the service partners (and legal counsel) regarding the proposed vision and the work plan. Establish which agencies are likely to participate in reaching the goal.
- **Joint Adoption of a Fire Protection Vision:** The governing officials formally adopt a fire and EMS vision. Such action includes the appointment, charge, and timeline goal of an oversight committee.
- **Organize the Oversight Committee:** The governing officials instruct the committee to formulate and report on all elements of a work plan. Establish leadership roles of the chair and other committee members. Create meeting guidelines and elect leadership. Develop a schedule with meeting dates and times. Review and adopt the work plan. Meetings are ongoing, as is the review and revision of the work plan. The committee performs as a clearinghouse for all information concerning the effort so that service partners speak with a unified voice.
- **Obtain Definitive Legal Advice:** The oversight committee obtains legal opinion concerning the statutory requirements for formation of an IGA between the City of Englewood and the City of Littleton; and also consider the role and involvement of LFPD and HRMD.
- **Establish a Process for a Potential Name:** Obtain consensus on a name, logo, mission, vision, values, and organizational structure of the new organization.
- **Cities Approve a Proposed IGA:** The Littleton City Council and Englewood City Council approve the IGA.
- **Deliver a Public Education/Information Campaign:** During the time that the oversight committee is carrying out its work, citizens must be provided with information regarding the proposed action and its benefit to the emergency service system. Entities should actively participate in the process. Volunteers can be used to conduct door-to-door visits throughout neighborhoods.
- **Inventory Assets:** Capital assets of the cities and districts need to be inventoried to ensure clear ownership.
- **Implement a Strategic Planning Process:** The governing bodies should oversee the development of a facilities plan, equipment replacement plan, and a staffing plan. Investigate and include in the strategic planning process, facilities and equipment needs, staffing, and long-term goals.

The City of Littleton and the City of Englewood have a proven track record of success in intergovernmental collaboration while maintaining the unique character and spirit of their individual communities. The same type of success can be achieved in these communities as it is increasingly being accomplished elsewhere in Colorado and across the nation. This is most certainly an expectation of today's citizens and taxpayers.

Hesitancy or failure to move forward in the face of today's imposing challenges to local government consigns communities to service erosion and disappointment. While the challenges of moving forward are formidable, with a clear vision and a clarion call to the work at hand the cities of Englewood and Littleton can set the foundation for effective and efficient public safety service in their own communities and in the region.

ESCI expresses our sincere appreciation for the support and cooperation of all involved and for the opportunity to work in your communities.

Appendices

Appendix A: Table of Figures

Figure 1: EFD Organization Chart.....	19
Figure 2: LFR Organization Chart	20
Figure 3: Organizational Strengths.....	22
Figure 4: Organizational Weaknesses.....	23
Figure 5: Organizational Opportunities.....	25
Figure 6: Critical Issues.....	27
Figure 7: Critical Issues and Challenges to Cooperative Efforts	28
Figure 8: Stakeholders Other Comments on Cooperative Efforts	30
Figure 9: EFD Annual Vacation Leave Accrual.....	39
Figure 10: LFR Annual Vacation Leave Accrual.....	40
Figure 11: Administrative and Support Staffing, FTEs.....	40
Figure 12: Communication Center Staffing, FTEs	41
Figure 13: Emergency Operations Staffing, FTEs	41
Figure 14: City of Englewood Median Value and Home Sales, 2007 – 2012	72
Figure 15: City of Littleton Median Value and Home Sales, 2007 – 2012	73
Figure 16: Unemployment Table, 2002– 7/31/2012.....	74
Figure 17: Unemployment Graphic, 2002 – 7/31/2012	74
Figure 18: Historical and Average CPI-U Table, 2002 – 6/30/2012	75
Figure 19: Historical and Average CPI-U Graphic, 2002 – 6/30/2012.....	75
Figure 20: CPI-U Forecast Budget Impact Graphic, 2013 – 2022.....	76
Figure 21: Forecast TAV Growth Rates, 2012 – 2017	76
Figure 22: EFD Debt Obligation	77
Figure 23: EFD Debt Amortization Schedule, 2012 – 2017	77
Figure 24: City of Englewood TAV and Tax Rate, 2008 – 2012.....	77
Figure 25: EFD Building and Safety Revenue, 2008 – 2012	78
Figure 26: EFD Building and Safety Expenditures by Cost Center, 2008 – 2012.....	78
Figure 27: EFD Building and Safety Expenditures Percent by Cost Center, 2008 – 2012	79
Figure 28: EFD Building and Safety Expenditures, 2008 – 2012	79
Figure 29: EFD Expenditures Percent by Category, 2008 – 2012	79
Figure 30: EFD Fire Operations Revenue, 2008 – 2012.....	80
Figure 31: EFD Fire Operations Expenditures, 2008 – 2012	81
Figure 32: EFD Fire Operations Expenditures Percent by Category, 2008 – 2012	81
Figure 33: EFD Fire Operations Fund Balance, 2008 – 2012.....	82
Figure 34: EFD Submitted Capital Projects to the City CIP, 2012 – 2016.....	82
Figure 35: EFD Expected Vehicle Useful Life.....	82
Figure 36: EFD Vehicle Replacement Cost Projection	83
Figure 37: Full-Time Employee Unfunded Pension Liability.....	84
Figure 38: Volunteer Employee Unfunded Pension Liability	84

Figure 39: COE Forecast TAV Growth Rate by Year, 2012 – 2017	84
Figure 40: COE Forecast TAV, 2012 – 2017	85
Figure 41: EFD Fire Operations Revenue Forecast, 2012 – 2017	85
Figure 42: EFD Fire Operations Expenditure Forecast, 2012 – 2017	86
Figure 43: EFD Fire Operations Forecast Summary, 2012 – 2017	86
Figure 44: LFR Debt	87
Figure 45: LFR Debt Amortization Schedule	87
Figure 46: City of Littleton TAV and Tax Rate, 2008 – 2012.....	88
Figure 47: LFR, Permits and Plan Review Historical Fire Revenue, 2008 – 2012	88
Figure 48: LFR, Permits and Plan Review Expenditures by Cost Center, 2008 – 2012	89
Figure 49: LFR, Permits and Plan Review Expenditures Percent by Cost Center, 2008 – 2012.....	89
Figure 50: LFR, Permits and Plan Historical Expenditures Percent by Category, 2008 – 2012	90
Figure 51: Medical Transport Enterprise Fund, 2008 – 2012.....	91
Figure 52: LFR Fire Operations Revenue, 2008 – 2012	92
Figure 53: LFR Fire Operations Expenditures, 2008 – 2012	92
Figure 54: LFR Fire Operations Expenditures Percent by Category, 2008 – 2012	93
Figure 55: LFR Fire Operations Fund Balance, 2008 – 2012	93
Figure 56: LFR Capital Projects in The City's CIP, 2012 – 2016	94
Figure 57: LFR Expected Vehicle Useful Life	94
Figure 58: LFR Vehicle Replacement Cost Projection.....	95
Figure 59: COL TAV Growth Rate by Year, 2012 – 2017	97
Figure 60: COL Forecast TAV, 2012 – 2017	97
Figure 61: LFR Fire Operations Revenue Forecast, 2012 – 2017	98
Figure 62: LFR Fire Operations Expenditure Forecast, 2012 – 2017.....	98
Figure 63: LFR Fire Operations Forecast Summary, 2012 – 2017	99
Figure 64: EFD Fire Administration	107
Figure 65: EFD Jefferson Fire Station No. 21.....	108
Figure 66: EFD Tejon Fire Station No. 22	109
Figure 67: EFD Acoma Fire Station No. 23	110
Figure 68: LFR Fire Station No. 11.....	111
Figure 69: LFR Fire Station No. 12.....	112
Figure 70: LFR (LFPD) Fire Station No. 13	113
Figure 71: LFR (LFPD) Fire Station No. 14	114
Figure 72: LFR (LFPD) Fire Station No. 15	115
Figure 73: LFR (Shared LFR, LFPD, HRMD) Fire Station No. 16.....	116
Figure 74: LFR (HRMD) Fire Station No. 17.....	117
Figure 75: LFR (HRMD) Fire Station No. 18.....	118
Figure 76: LFR Fire Administration.....	119
Figure 77: LPD Communications Center.....	120
Figure 78: Shared Training Center.....	121
Figure 79: LFR Fire Prevention Division.....	122

Figure 80: Study Area Service Demand, 2010 - June 2012.....	123
Figure 81: Study Area Service Demand by Incident Category, 2010 - June 2012	124
Figure 82: Service Demand by Month, July 2011 - June 2012	125
Figure 83: Service Demand by Day of the Week, July 2011 - June 2012	125
Figure 84: Service Demand by Hour of the Day, July 2011 - June 2012	126
Figure 85: Study Area Incident Density (All Incident Types), July 2011 - June 2012	127
Figure 86: Study Area Incident Density (Fire Apparatus), July 2011 - June 2012.....	128
Figure 87: EFD – LFR Cooperative Efforts Feasibility Study Area Service Area	129
Figure 88: Study Area Population Density, 2010 Census Data.....	131
Figure 89: ISO 1.5 Miles Travel (Engine Company), EFD and LFR Study Area	133
Figure 90: ISO 2.5 Miles Travel (Ladder Company), EFD and LFR Study Area	134
Figure 91: Study Area Four and Eight-Minute Travel Time, All Fire Stations	135
Figure 92: Study Area Fire Department ALS Medic Unit Distribution.....	137
Figure 93: Study Area Incident Density – EMS Incidents	138
Figure 94: EFD and LFR Study Area Fire Station Concentration, Eight-Minute Travel Time ...	140
Figure 95: EFD and LFR Study Area Personnel Concentration, Eight-Minute Travel Time	141
Figure 96: FD and LFR Study Area Full First Alarm Concentration	142
Figure 97: EFD Unit Hour Utilization, July 2011 - June 2012.....	143
Figure 98: LFR Unit Hour Utilization, July 2011 - June 2012	144
Figure 99: EFD Concurrent Incidents, July 2011 - June 2012	144
Figure 100: LFR Concurrent Incidents, July 2011 - June 2012.....	144
Figure 101: EFD Apparatus Resource Drawdown, July 2011 - June 2012	145
Figure 102: LFR Apparatus Resource Drawdown, July 2011 - June 2012.....	145
Figure 103: EFD Response Time Frequency, June 2011 - July 2012.....	146
Figure 104: LFR Response Time Frequency, June 2011 - July 2012.....	146
Figure 105: EFD Response Performance by Incident Type, June 2011 - July 2012	147
Figure 106: LFR Response Performance by Incident Type, June 2011 - July 2012	148
Figure 107: EFD Response Performance by Time Grouping, July 2011 - June 2012.....	148
Figure 108: LFR Response Performance by Time Grouping, July 2011 - June 2012	149
Figure 109: Conceptual Staffing – FA Administrative and Support	158
Figure 110: Conceptual Costs – FA Administrative and Support	159
Figure 111: Conceptual Organizational Chart – FA Administration.....	160
Figure 112: Conceptual Staffing – FA Operations	161
Figure 113: Conceptual Personnel Costs – FA Operations	161
Figure 114: FA In-kind Cost Estimate.....	163
Figure 115: LFR Fire and Ambulance Transport Fund Consolidation - Revenue.....	163
Figure 116: LFR Fire and Ambulance Transport Fund Consolidation – Expense	164
Figure 117: FA Consolidated Taxable Assessed Valuation	164
Figure 118: FA Budgeted Consolidated Revenue, 2012.....	165
Figure 119: FA Budgeted Consolidated Expense, 2012	165
Figure 120: FA Consolidated Revenue, 2013 – 2017	166

Figure 121: FA Capital Apparatus 167
Figure 122: FA Consolidated Expense, 2013 – 2017 168
Figure 123: FA Operations Consolidated, 2012 – 2017 168
Figure 124: Taxpayer Cost Comparison, 2013 – 2017 169

Appendix B: Community Forum Agenda and Surveys

Community Forum Agenda

- ✓ Introduction – Logistics
- ✓ Role/Purpose for Citizen Involvement
- ✓ Cooperative Efforts Feasibility Study Purpose
- ✓ Where we are in the process;
- ✓ What lies ahead
- ✓ Overview of Current Service and Operation:
 - ✓ Englewood Fire Department
 - ✓ Littleton Fire Rescue
- ✓ Questions and answer period
- ✓ Time for citizen input
 - Optional methods for contacting ESCI with input

City of Littleton Community Forum
Feasibility of Shared Services with Englewood Fire Department

Thank you for attending tonight's event. The facilitation team from Emergency Services Consulting International (ESCI) and the City of Littleton appreciate and value your input. Before we begin tonight's forum, please take a few moments to complete the survey below, sharing with us your experience with and knowledge of Littleton Fire Rescue. Unless otherwise instructed, circle only one response for each question. Please return completed surveys to one of the ESCI team members.

Q1. What is your overall impression of the service provided by Littleton Fire Rescue (LFR)?

Excellent

- A. Good
- B. Fair
- C. Neutral
- D. Poor
- E. Don't Know/No Opinion

Q2. In the last two years, have you or a member of your household had contact with a member of LFR?

- A. Yes (continue to Q3)
- B. No (skip to Q5)
- C. Don't Know (skip to Q5)

Q3. If you responded Yes to Q2, what prompted that contact? (Please circle all that apply.)

- A. Call to 9-1-1 Communications Center
- B. Emergency Medical Care
- C. Fire Suppression
- D. Emergency Response (e.g., Motor Vehicle Accident, Hazardous Materials)
- E. Non-Emergency Transport
- F. Technical Rescue (e.g., Water Rescue, Heavy Rescue, etc.)
- G. Fire Code enforcement (including Plan Review)/Fire Inspections
- H. Public Education/Community Programs (Blood Pressure Screening, Car Seat Check, Smoke Alarm Program, Bicycle Safety, etc.)
- I. Special Events
- J. Other _____

Q4. If you answered Yes to Q2, please indicate how satisfied you were with the contact(s):

Very Satisfied

- A. Somewhat Satisfied
- B. Neither Satisfied nor Dissatisfied
- C. Somewhat Dissatisfied
- D. Very Dissatisfied
- E. Don't Know/No Opinion

Q5. To the best of your knowledge, LFR is primarily funded by (circle all that apply):

- | | |
|---|------------------------------------|
| A. Property Taxes | F. Donations |
| B. Sales Taxes | G. Fees for Service |
| C. County Revenue | H. Community Program/Training Fees |
| D. Reimbursement from Insurance Companies/Medicare/Medicaid | I. Other _____ |
| E. Grants | J. Don't Know |

Q6. To the best of your knowledge, how many paid employees work for LFR?

- | | |
|-------------|-----------------|
| A. None | D. 41 to 60 |
| B. 1 to 20 | E. More than 60 |
| C. 21 to 40 | F. Don't Know |

Q7. To the best of your knowledge, how many volunteers serve LFR?

- | | |
|-------------|-----------------|
| A. None | D. 41 to 60 |
| B. 1 to 20 | E. More than 60 |
| C. 21 to 40 | F. Don't Know |

Q8. In addition to meeting the fire and emergency medical service needs of the City of Littleton, to which other communities does LFR provide services (for a fee)? (Circle all that apply.)

- A. Highlands Ranch Metropolitan District
- B. Cunningham Fire Protection District
- C. Littleton Fire Protection District
- D. City of Englewood
- E. Other _____
- F. None
- G. Don't Know

Q9. In your opinion, what is the single greatest factor to consider when evaluating the feasibility of shared or consolidated services between Littleton Fire Rescue and Englewood Fire Department?

- A. Maintain or Reduce Cost to the Community
- B. Maintain or Increase Levels of Service
- C. Maintain or Increase Firefighter/Paramedic Safety
- D. Maintain or Decrease Response Times
- E. Access to More Services
- F. Loss of Local Control/Local Identity
- G. Other _____

Please use the space below to address any comments you may have regarding tonight's forum.

City of Englewood Community Forum
Feasibility of Shared Services with Littleton Fire Rescue

Thank you for attending tonight's event. The facilitation team from Emergency Services Consulting International (ESCI) and the City of Englewood appreciate and value your input. Before we begin tonight's forum, please take a few moments to complete the survey below, sharing with us your experience with and knowledge of Englewood Fire Department. Unless otherwise instructed, circle only one response for each question. Please return completed surveys to one of the ESCI team members.

Q1. What is your overall impression of the service provided by Englewood Fire Department (EFD)?

- A. Excellent
- B. Good
- C. Fair
- D. Neutral
- E. Poor
- F. Don't Know/No Opinion

Q2. In the last two years, have you or a member of your household had contact with a member of EFD?

- A. Yes (continue to Q3)
- B. No (skip to Q5)
- C. Don't Know (skip to Q5)

Q3. If you responded Yes to Q2, what prompted that contact? (Please circle all that apply.)

- A. Emergency Medical Care
- B. Fire Suppression
- C. Emergency Response (e.g., Motor Vehicle Accident, Hazardous Materials)
- D. Non-Emergency Transport
- E. Technical Rescue (e.g., Water Rescue, Heavy Rescue, etc.)
- F. Fire Safety Inspection
- G. Public Education/Community Programs (First Aid Training, Car Seat Check, Community Emergency Response Team training)
- H. Special Events
- I. Other _____

Q4. If you answered Yes to Q2, please indicate how satisfied you were with the contact(s):

Very Satisfied

- A. Somewhat Satisfied
- B. Neither Satisfied nor Dissatisfied
- C. Somewhat Dissatisfied
- D. Very Dissatisfied
- E. Don't Know/No Opinion

Q5. To the best of your knowledge, EFD is primarily funded by (circle all that apply):

- A. Property Taxes
- B. Sales Taxes
- C. County Revenue
- D. Reimbursement from Insurance Companies/Medicare/Medicaid
- E. Grants
- F. Donations
- G. Fees for Service
- H. Community Program/Training Fees
- I. Other _____
- J. Don't Know

Q6. To the best of your knowledge, how many paid employees work for EFD?

- A. None
- B. 1 to 10
- C. 11 to 20
- D. 21 to 30
- E. More than 30
- F. Don't Know

Q7. To the best of your knowledge, how many volunteers serve EFD?

- A. None
- B. 1 to 10
- C. 11 to 20
- D. 21 to 30
- E. More than 30
- F. Don't Know

Q8. In your opinion, what is the single greatest factor to consider when evaluating the feasibility of shared or consolidated services between Littleton Fire Rescue and Englewood Fire Department?

- A. Maintain or Reduce Cost to the Community
- B. Maintain or Increase Levels of Service
- C. Maintain or Increase Firefighter/Paramedic Safety
- D. Maintain or Decrease Response Times
- E. Access to More Services
- F. Loss of Local Control/Local Identity
- G. Other _____

Please use the space below to address any comments you may have regarding tonight's forum.

Appendix C: Summary Table of Stakeholder Interviews

Person	Date	Affiliation or Group
1. John Mullin	September 10, 2012	Littleton Fire Rescue, Fire Chief
2. Mike Pattarozzi	September 10, 2012	Englewood Fire Department, Fire Chief
3. Doug Farnen	September 10, 2012	City of Littleton, Finance Director
4. Carolyn Schierholz	September 10, 2012	Highlands Ranch Metropolitan District, Board Member
5. Bruce Beckman	September 10, 2012	City of Littleton, City Council Member
6. Jim Taylor	September 10, 2012	City of Littleton, City Council Member
7. Jill Wilson	September 11, 2012	City of Englewood, City Council Member
8. Bob McCaslin	September 11, 2012	City of Englewood, City Council Member
9. Linda Olson	September 11, 2012	City of Englewood, City Council Member
10. Randy Penn	September 11, 2012	City of Englewood, Mayor
11. Jim Woodward	September 11, 2012	City of Englewood, Mayor Pro Tem
12. Sue Eaton	September 11, 2012	City of Englewood, Director of Human Resources
13. Frank Gryglewicz	September 11, 2012	City of Englewood, Director of Finance and Administrative Services
14. Gary Sears	September 11, 2012	City of Englewood, City Manager
15. Michael Flaherty	September 11, 2012	City of Englewood, Deputy City Manager
16. Joe Jefferson	September 11, 2012	City of Englewood, City Council Member
17. Rick Gillit	September 11, 2012	City of Englewood, City Council Member
18. Dr. Dylan Luyten	September 11, 2012	Englewood Fire Department, Medical Director, Health One EMS, Emergency Department Physician at Swedish Medical Center
19. Jeff Konishi	September 11, 2012	City of Englewood, Director of Information Technology
20. Madeline Norconk	September 11, 2012	Englewood Fire Department, Executive Assistant
21. Terry Nolan	September 12, 2012	Highlands Ranch Metropolitan District, General Manager
22. Dr. Eugene Eby	September 12, 2012	Littleton Fire Rescue, Medical Director, Littleton Adventist Hospital, Emergency Department Physician
23. Mike Grill	September 12, 2012	Littleton Adventist Hospital, Pre-hospital Emergency Medical Services
24. Doug Terry	September 12, 2012	Littleton Fire Rescue Communications Center, Communications Manager
25. Sandy Vail	September 12, 2012	Littleton Fire Rescue Communications Center, Deputy Communications Manager
26. Dan Qualman	September 12, 2012	South Metro Fire and Rescue, Fire Chief
27. Doug Ireland	September 10, 2012	Littleton Fire Rescue, Division Chief of Support Services
28. Jay Ruoff	September 10, 2012	Littleton Fire Rescue, Bureau Chief of Training
29. Roland Seno	September 10, 2012	Littleton Fire Rescue, Division Chief of Operations
30. Joel Heinemann	September 10, 2012	Littleton Fire Rescue, Local No. 2086, President

Englewood Fire Department and Littleton Fire Rescue, Colorado
Cooperative Efforts Feasibility Study

Person	Date	Affiliation or Group
31. Bob Bickerton	September 10, 2012	Littleton Fire Rescue, IAFF Local No. 2086, B Shift Steward
32. Monte Fleming	September 10, 2012	Littleton Fire Rescue, Local No. 2086, C Shift Steward
33. Dick Petau	September 25, 2012	Englewood Fire Department, Deputy Chief of Operations
34. Michael Penny	September 10, 2012	City of Littleton, City Manager
35. Cindy Hathaway	September 10, 2012	Littleton Fire Protection District, District Manager
36. Keith Gardner	September 10, 2012	Littleton Fire Protection District, Board Member
37. Peggy Cole	September 10, 2012	City of Littleton, City Council Member
38. Phil Cernanec	September 10, 2012	City of Littleton, City Council Member
39. Bruce Stahlman	September 10, 2012	City of Littleton, Mayor Pro Tem
40. Don Lombardi	September 12, 2012	West Metro Fire Rescue, Fire Chief
41. Executive Board	September 11, 2012	Englewood Fire Department, Englewood Firefighters IAFF Local No. 1736, Executive Board
42. Battalion Chiefs	September 11, 2012	Englewood Fire Department
43. Lieutenants	September 11, 2012	Englewood Fire Department
44. Driver/Operator/Engineers, Firefighters	September 11, 2012	Englewood Fire Department
45. Firefighter/Paramedics	September 11, 2012	Englewood Fire Department
46. John Collins	September 12, 2012	Police Chief
47. Jeff Sanchez	September 12, 2012	Deputy Chief
48. Tim Englert	September 12, 2012	Commander
49. Steve Green	October 11, 2012	City of Englewood, EMS/Emergency Management Coordinator



Corporate Offices
25200 SW Parkway Avenue, Suite 3
Wilsonville, Oregon 97070
800.757.3724

Eastern Region Office
111 Kilson Drive, Suite 208
Mooresville, North Carolina 28117
704.660.8027

National Capital Region Office
4025 Fair Ridge Drive
Fairfax, Virginia 22033
703.273.0911