

Estero Fire Rescue

Assessment and Five-Year Plan



October 2009



SYSTEM PLANNING CORPORATION

TriData Division



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ASSESSMENT AND FIVE-YEAR PLAN

Estero Fire Rescue

Submitted to:

The Board of Fire Commissioners
Estero Fire Rescue District
21500 Three Oaks Parkway
Estero, FL 33928

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EXECUTIVE SUMMARY

Estero Fire Rescue (EFR) is a career fire department that provides fire and advanced life support first responder emergency medical services (EMS) to an independent special taxing district located in southern Lee County, Florida. EFR is well managed and is providing high quality fire and EMS to the citizens of the district

Risk and Demand

EFR provides protection to a community of approximately 44,330 residents with a seasonal population reduction of up to 20 percent during the summer months. Although difficult to pinpoint, it appears that seasonality is decreasing and more residents call Estero their home year around. Since 2000, Estero's population has increased by 33 percent, but economic conditions are slowing this growth. Population increases have been led by senior citizens. The rate for fire deaths, injuries, and property loss is within the national average.

Between 2004 and 2008, demand for fire and emergency medical services has increased by 18.2 percent, with 72 percent of demand being for EMS. Peak demand occurs between January and March and October to December. Lower demand occurs during June, July, and August. Demand is expected to increase, especially for EMS, but at a slower rate.

Compared with other Florida independent fire districts, EFR has a service area, and number of personnel comparable to others. The costs per employee and cost per capita are slightly higher than other districts.

Response Times and Station Location Analysis

Overall, the average travel time for first arriving units was 3 minutes and 56 seconds, with a 90th percentile of time of 6 minutes and 38 seconds. EFR total response times for first arriving units includes a mean of 6 minutes and 31 seconds, with a 90th percentile of 9 minutes and 35 seconds. These times are generally good and meet the NFPA 1710 standards 59% of the time.

EFR assists Lee County EMS by providing first responder paramedic services approximately 2,000 times annually. Estero paramedics are first on the scene for over 73 percent of incidents and are on scene greater than 3 minutes in 38% of those incidents. These response times justify the need for paramedic-level first response.

EFR stations are well positioned with most of the district population centers covered in four to eight minutes. Coverage to the eastern rural areas is longer.

Administration and Management

EFR is overseen by a Board of Commissioners whose members are elected by popular vote residents. Five commissioners perform mostly fiduciary and stewardship functions, and also appoint a fire chief. The fire chief is the only employee of the board and serves at their pleasure (currently under contractual agreement).

The fire chief has an executive staff of an assistant fire chief, human resources director, finance director, fire marshal, and public relations. There are also uniformed and non-uniformed personnel assigned to divisions including field operations, EMS, special operations, and administration. Currently, there are 69 authorized positions with 51 assigned to field operations. This number is sufficient to maintain the current 24/48 work schedule and to staff each of three shifts with 17, requiring a minimum of 15 on duty. In 2008, the chief eliminated a chief office position, a maintenance technician, and contracted with Bonita Springs to perform plan review. This decision was financially and operationally sound and led to savings.

Uniformed employees below the rank of battalion chief are represented by IAFF Local 1824. Labor-management relations have recently improved, and two outstanding lawsuits have been settled. The current memorandum of understanding expires in October 2010, and a continued cooperative effort will be needed to navigate through critical financial times.

District finances appear to be well managed, despite the recent economic downturn. Even with a 1.5% decline in property value, the district's revenue outpaces its expenses. Human resources account for approximately 80% of expenditures which is acceptable. Contributions to the 175 pension plan are also a key expense and will continue to increase. EFR should continue its fiscally conservative philosophy because property values and ad valorem revenue are expected to decline this year.

Emergency Operations

Field operations is provided from four stations using a combination of engines, ladders/trucks, rescues, brush units, and other support vehicles. The units are appropriately placed, but there should be an option to staff a brush unit in the eastern part of the district during wildland fire season. Weight of response is mostly appropriate, except that a third engine should be added to the initial dispatch on structure fires. Also, the district should consider reducing the number of responding pieces on fire alarms with no confirmation of fire.

EFR participates in a closest vehicle response program with other districts in Lee County. Using automatic vehicle locator (AVL) technology, Lee Control can dispatch the closest

available unit, regardless of district, to an emergency. Estero has fully committed to this program. Lee Control's implementation has been slower but should continue to improve.

All first line vehicles are equipped to provide paramedic care and 33 paramedics provide good patient care in a timely manner. EFR rescue unit is available to transport patients and should be authorized to when LCEMS is on "condition red." Otherwise, the district should have a contingency plan to provide EMS transportation, but not immediately adopt the function.

Fire Prevention, Life Safety, and Investigative Services

The division, headed by a division chief (fire marshal) is responsible for fire inspection, public education and public information services. In 2008, the division performed 3,069 inspections, down from the previous year, likely due to decreased building starts. We recommend that some fire inspection duties be assigned to the company level and that all personnel be trained to inspect lower risk occupancies under 5,000 square feet. EFR has an operations battalion chief who is a qualified investigator and can handle the limited investigations that are needed.

Public education and information is a strong point for the district due to their aggressive effort at fire and injury management. EFR takes a holistic approach to prevention, by spreading their talent throughout the population. For example, school programs, public presentations, and Ember (department canine) target younger children, the explorer program targets teenagers, and public presentations target younger and older adults.

Support Services

Support services are provided by district and contract services and appear to be successful. The district is fortunate to have a new administrative complex and four stations in good condition. There should not be any major repair on the horizon. Apparatus maintenance is contracted to Lee County who provides good service for a reasonable price. EFR follows a planned vehicle replacement cycle that needs few changes. Some vehicles could be downsized and a few older vehicles should be disposed of.

A major recommendation under support services is the conversion of self-contained breathing apparatus to the MSA brand. These units are being used by surrounding jurisdictions and will help with fire ground safety.

The district has a good recruiting program and has dedicated resources to assuring that probationary firefighters are given every opportunity to succeed. They should continue to participate in the Lee County Fire Chiefs CPAT physical aptitude testing. The status of CPAT and EEOC rulings should be monitored.

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In summary, Estero Fire Rescue is well managed and continues to provide effective fire and EMS services to the community. There will be continued opportunities for growth and in developing greater cooperative efforts with adjacent districts.

ACKNOWLEDGEMENTS

TriData wishes to thank the following Esterio Fire Rescue (EFR) administrators, officers, and firefighters for their support during this phase of the study. A special thank you goes out to Fire Chief Scott Vanderbrook, who, despite his busy schedule, was able to coordinate our visits and activities.

Esterio Fire Rescue Participants

The following EFR personnel assisted the TriData team.

Dick Schweers	Fire Commissioner
Gayle Sassano	Fire Commissioner
Frank Messana	Fire Commissioner
Barbara Akins	Fire Commissioner
Sam Levy	Fire Commissioner
Scott Vanderbrook	Fire Chief
Mark Wahlig	Assistant Fire Chief
Todd Coulter	Division Chief
Ed Dwyer	Division Chief
Phillip Green	Fire Marshal
Dale Reisen	Battalion Chief
Jeannine Horton	Battalion Chief
April White	Finance Director
Kim Poli	Administrative Assistant to the Fire Chief
Linda Conway	Human Resources Director
LuAnn Delo	Information Technology Administrator
Susan Lindenmuth	Public Relations Manager/PIO

Citizens of the Esterio Fire District

EFR is fortunate to have a group of citizen advocates who are committed to quality fire and EMS service. These citizens spent two evenings meeting with the TriData team to provide advice and counsel as to the District's future.

Don Eslick	ECCL
Nick Batos	Brooks Concerned Citizens
Jack Lienesch	ECPP

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MaryAnn Weenen	Esteros Historical Society
David Davenport	Private Citizen
Harvey Youngquist	Private Citizen
Meg Judge	Esteros Chamber of Commerce
Jeff Maas	Esteros Chamber of Commerce
Jane McNew	Esteros Civic Association

TriData Team

The following TriData personnel served on the project team.

Philip Schaenman	Corporate Oversight
Dr. Harold C. Cohen	Project Manager
Markus Weisner	Risk and Demand
Lori Jacobson	GIS and Mapping
Joe Laun	Inter-jurisdictional Comparisons
Clara Kim	Inter-jurisdictional Comparisons
John O'Neill	Senior Consultant
Michael Ertz	Senior Consultant
Maria Argabright	Administrative Services

INTRODUCTION

TriData, a professional consulting firm from Arlington, VA, was contracted to assist the Southwest Florida fire districts of San Carlos Park, Estero, and Bonita Springs to determine the feasibility of consolidating into one fire district. Other possible outcomes include partial consolidation/merger, or continuing the cooperative efforts already in progress. We have performed over 170 studies for state and local fire and EMS services.

Prior to considering any consolidation efforts, TriData studied each fire district separately to produce a five-year plan for each district. The plan for Estero Fire and Rescue (EFR) will include an organizational overview, staffing issues, capital assets and capital improvement program overview, and an analysis of the fire and EMS delivery system. Based on our review of these variables, we have included a five-year operational plan to serve as either a roadmap for consolidation/merger or a standalone plan for the District.

EFR was created in 1976 pursuant to Chapter 76-408 of the Florida State Statutes and updated in July of 2000 by the Laws of Florida, Chapter 2000-437, as an independent special taxing district located in Southern Lee County, Florida. The concept of an independent special taxing district for fire protection is uncommon throughout the United States. A majority of fire departments are based on political subdivisions such as county, city, township, or similar locations. EFR is not part of a municipality and operates independently from any other government. As an independent fire district, EFR is responsible for all aspects of their administration and operation. There is no city or county administration, finance division, or human resources division to handle these specific matters.

Mission

“Dedicated And Driven For Those We Serve” Through Aggressive Life Safety, Proactive Fire Prevention, Public Education and Community Involvement.¹

Vision

EFR’s vision includes:

- Create a harmonious environment conducive to maintaining positive attitudes both internally with staff and externally with the public.
- Demonstrate excellence by achieving recognition for providing the highest level of service.

¹ EFD. (2009). 2008 Annual Report: Estero Fire Rescue, p. 1.

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- Develop a working relationship within the community to better meet its needs now and as the community grows.
- Effectively manage existing resources and ensure organized and systematic growth.
- Become an accredited organization through the Commission on Public Safety Excellence, by providing the highest quality of service and using the latest technologies.

Guiding Principles

EFR's guiding principles include:

- The path to excellence begins with self-initiative and high standards, creating a foundation for professionalism.
- Honesty and integrity build excellence at all levels and credibility throughout the community.
- Appreciation of originality and creativity
- Create an atmosphere that is conducive to a positive attitude.

Special District's History

In the 1960's, the closest fire station to Estero was in Ft. Myers, FL, over 20 miles away. In 1964, the Estero community, wishing quicker protection services organized the Estero Volunteer Fire Company #1. By 1976, the community realized that full-time fire protection was needed. The Florida legislature created the Estero Fire Protection and Rescue Service District that allowed the community to adequately fund the operation, hire personnel, and purchase equipment.

In 1997, the Florida legislature strengthened special fire districts by adopting Florida Statutes, Chapter 191, "Independent Special Fire Control Districts." The legislation covered several areas including:

- Setting standards, direction, and procedure for the operation and governance of special fire districts
- Provide greater uniformity in the authority of special districts
- Provide uniformity in the financial management of districts
- Improve coordination between special fire districts and local governments to enhance long-range and short-range planning

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- Provide uniform procedures for electing commissioners to assure greater public accountability.

1. RISK AND DEMAND

Risk Analysis

Fire departments were originally created by insurance companies attempting to reduce the risk of fire to their insured properties. Although the fire service has transitioned from insurance companies to local governments, the primary function is still to reduce risk. The term "risk" can encompass many things—for the purpose of this study we consider risk to be both general trends in the community and specific "risk areas" that affect the need for emergency services. The following subsections discuss population growth, historic fire loss, and specific risk areas.

Community Overview and Demographics – Estero is located in Lee County, just north of Bonita Springs. Estero also borders Estero Bay to the west, Collier County to the east, and San Carlos Park to the north. Historically and culturally, the heart of Estero is the spring-fed Estero River, which flows to Estero Bay. When compared to Florida state averages, the following can be said about Estero:²

- Unemployed percentage below state average.
- Hispanic race population percentage below state average.
- Median age significantly above state average.
- Renting percentage significantly below state average.
- Length of stay since moving in below state average.
- House age significantly below state average.

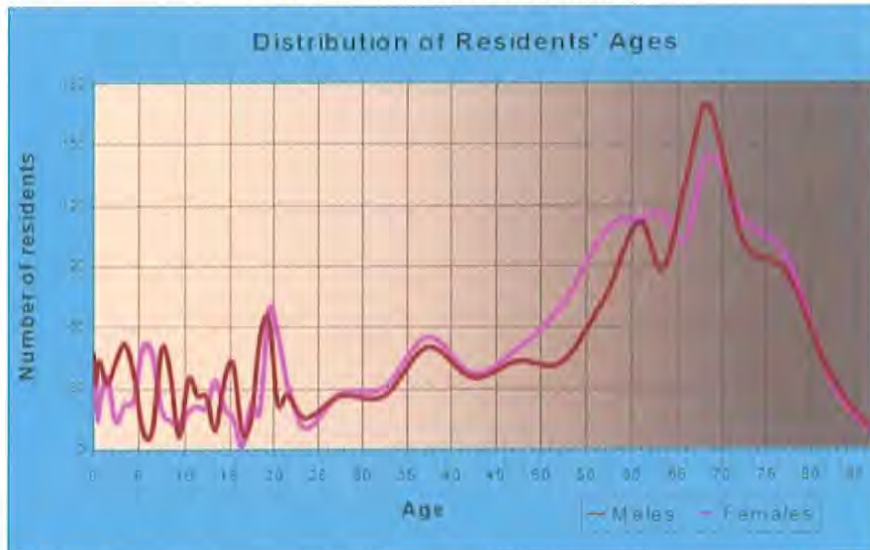
The residents of Estero are almost entirely white (95.4 percent). Hispanic (3.2 percent) and other races only account for a very smaller percentage of the population. Poverty levels in Estero are very low with only 3.2 percent of the population below the poverty level in 2007 (compared to 12.5 percent for the state of Florida).

Population Growth – Estero, much like neighboring Bonita Springs and San Carlos Park, is in the midst of a very rapid population growth, having increased over 30 percent since the 2000 census. This population boom is a result of both population sprawl from nearby Fort Myers and Naples, and the continuing population growth in Florida. The state of Florida is a

²source: www.city-data.com

popular place for senior citizens to retire and Estero is no exception. The following age distribution figure shows a very high number of residents over the age of 50 living in Estero.

Figure 1: Estero Age Distribution



The population in 2007 was 43,330 up 33 percent from people counted in the 2000 census. The overall population density was 600 people per square mile. During business hours, Estero loses 13.2 percent of its population due to commuting.

Population growth in Estero is expected to continue, but may be slowed by the current economic recession. The combination of a rapid population growth and a large senior citizen population may dramatically increase the demand for EMS service. As more people move into the area, EMS demand will continue to increase because the number of emergency medical incidents is closely tied to the size of the population. Fire demand may not increase significantly because many of the housing units are newly built. As Estero continues to grow, the fire department should plan for proportional growth in EMS incidents and a slight increase in all the other call types. EFR must continually monitor growth in rural areas because increases in residential or commercial construction increase the possibility of urban/wildland incidents.

Historical Fire Loss – One of the best indicators of fire risk is actual data collected from fires over the last five years. Table 1 shows total fire deaths, injuries, and property loss (defined as both the property and contents).

Table 1: Total Fire Loss, 2004-2008³

Year	Total Fires	Property Loss	Civilian Injuries	Civilian Deaths
2004	81	1,950	0	0
2005	76	352,250	1	0
2006	79	75,800	0	0
2007	97	51,050	1	0
2008	75	2,662,025	1	0
Average	82	628,615	1	0

This data reflects all fires, including vehicle fires and outside fires. It appears that, on average, there are about 80 fires per year, one fire injury, and no fire deaths. In small communities, even slight under- or over-reporting of deaths, injuries, or property loss could have a huge impact on the validity of the results. Table 2 compares Estero fire loss data to national averages.

Table 2: Comparison of Fire Loss, 2004-2008⁴

	Total Fires (per 1,000)	Property Loss (per capita)	Civilian Injuries (per million)	Civilian Deaths (per million)
United States	5.2	48.50	58.60	11.4
Region: south	5.7	39.80	55.80	15.9
Population: 10,000–24,999	4.6	41.40	55.70	12.3
Region and population	5.7	47.00	53.10	20.5
Estero: 2004	6.41	0.15	.00	.0
Estero: 2005	6.01	27.87	79.11	.0
Estero: 2006	6.25	6.00	0.00	.0
Estero: 2007	7.67	4.04	79.11	.0
Estero: 2008	5.93	210.59	79.11	.0
Average	6.46	49.73	47.46	.0

It appears that fire loss in Estero is in line with national averages. 6.46 fires per thousand population is slightly higher than the national average, but the \$49.73 annual property loss per capita and the annual rate of 47 fire injuries per million population is very close the national averages. The civilian death rate is not comparable because of Estero's small population size.

Additional Risks – Estero is home to Germain Arena, which hosts the home games for the Florida Everglades ECHL hockey team and the Florida Firecats arena football team. The arena brings up to 8,000 people to this location. I-75, a high-speed highway, runs north-south throughout the district increasing the likelihood of extrication incidents and severe trauma.

³ Data from NFIRS

⁴ Data from NFIRS

Esterio's diversity also includes high-rise buildings up to 22 stories tall, creating another risk. As mentioned earlier, the number of urban-wildland incidents is likely to increase. What may historically have been a brush fire may now include threats to homes and buildings.

Demand Analysis

Demand for emergency services can be measured in a number of different ways. In this report, we look at both incident type trends and the geo-spatial distribution of fire and EMS incidents.

Incident Trends – A statistical time series analysis was used to forecast future demand for emergency services. This type of analysis is commonly used for predicting everything from water levels in a lake to stock market prices. Time series forecasting makes use of many different statistical models, some more complex than others. The Holt-Winters model used for this demand forecast is relatively simple.

The first step in the process was to calculate historical demand for each of the incident categories, in this case the number of incident responses, for each year. These numbers were then used to plot the actual past demand (as can be seen in black on all the graphs in this section). Using a statistical software package, the Holt-Winters procedure was used to investigate three particular parameters of the time series: the level, the trend, and seasonal variation. The red line shows predicted demand from 2008 through 2012. The red line extends back into years where we have actual data, as a way of showing that the predictions tend to be fairly accurate. The blue lines above and below the predicted demand provide a 95th percentile confidence interval (meaning that statistically there is a 95 percent chance that the actual incident total will fall within that range). Remember that this is a statistical prediction and it is possible to add human judgment into the mix. A solid understanding of the underlying factors that drive demand for local emergency services combined with statistical forecasting like that provided in this section is a powerful combination for successful deployment planning.

The figures on the next page show the trends by incident type and projections for the next five years. The black line that stretches from 2004 to 2008 represents actual incident totals for those years. The red line that stretches from 2004 to 2013 represents a best-fit mathematical model built to emulate the incident trend and allow it to be projected. The values from 2009 to 2013 show the predicted incident totals for the next five years. The blue lines above and below the predicted values show the 95 percent confidence interval. The red line that overlaps the black line is included to show how well the mathematical model fits actual data.

Figure 2: Actual and Predicted Incident Type Totals, 2004–2008

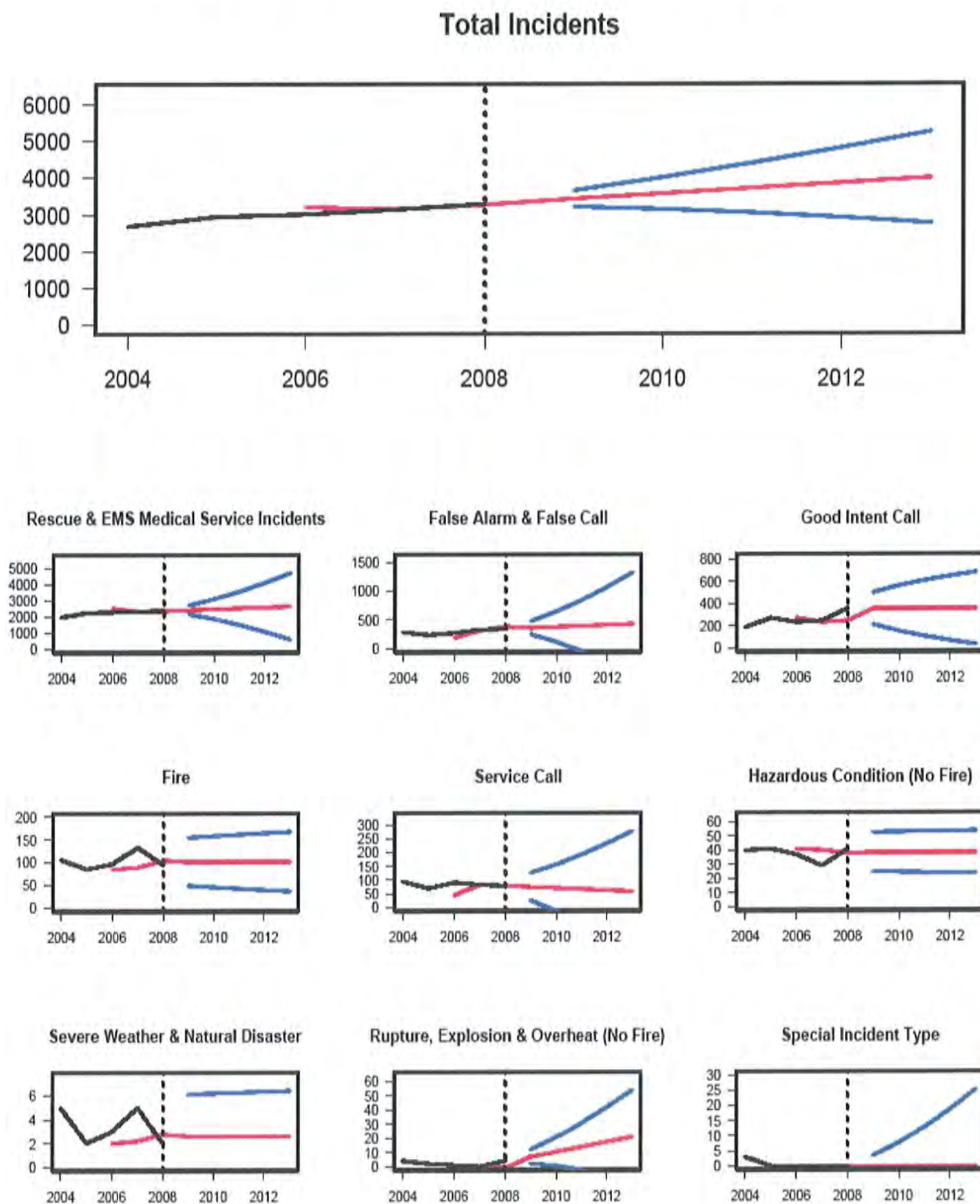


Table 3: Incident Type Counts, 2004–2008

Incident Type	2004	2005	2006	2007	2008
Rescue and EMS Medical Service Incidents	1,972	2,248	2,286	2,322	2,374
False Alarm & False Call	279	232	269	324	341
Good Intent Call	190	270	233	246	356
Fire	106	85	97	133	95
Service Call	93	69	90	82	78
Hazardous Condition (No Fire)	40	41	37	29	41
Severe Weather & Natural Disaster	5	2	3	5	2
Rupture, Explosion & Overheat (No Fire)	4	2	1	0	4
Special Incident Type	3	0	0	0	0
(All)	2,692	2,949	3,016	3,141	3,291

Figure 2 shows that between 2004 and 2008, the demand for emergency services increased by 18.2 percent. Our forecast shows that the total call volume will likely reach 3,500 within the next few years.

Nationally, reported fires are decreasing (as a result of aggressive prevention activities, improved construction methods, automatic suppression systems, and alarms), while emergency medical service incidents (EMS) are increasing. In Estero, all the incident types have increased over the last five years. For planning purposes, it would be reasonable to expect most of the incident type demand levels to increase, specifically in emergency medical incidents. With a high senior population and rapid population growth, EMS demand will eventually increase.

Seasonal Influence on Emergency Services Demand – Figure 3 and Table 4 show the number of emergency incidents by month of the year. Estero has a higher level of emergency services demand during the winter months, most likely the result of an increase in population during these months. Calls between June and September drop by up to 25 percent (Figure 4). In June and July, EMS responses drop up to 45% from the peak month of March.

Figure 3: Average Emergency Services Demand By Month, 2004–2008

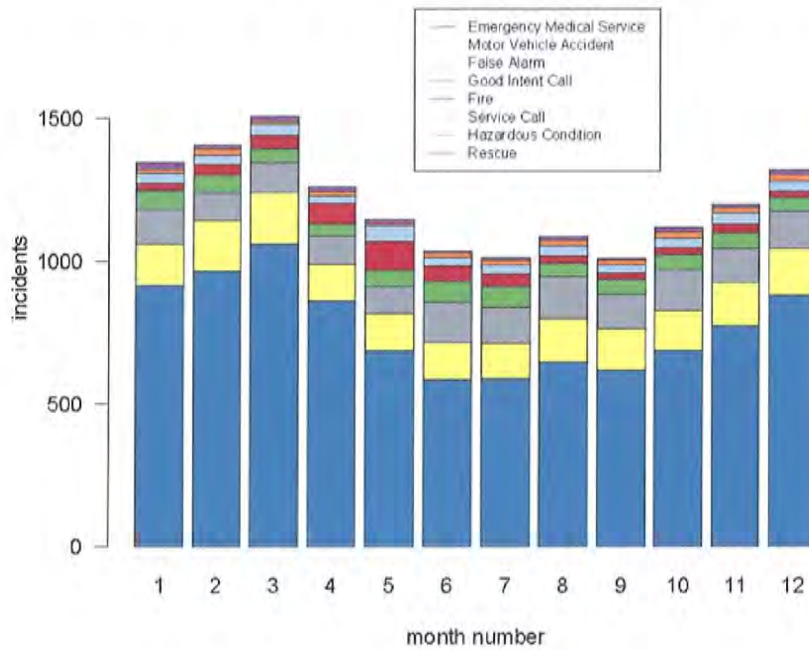
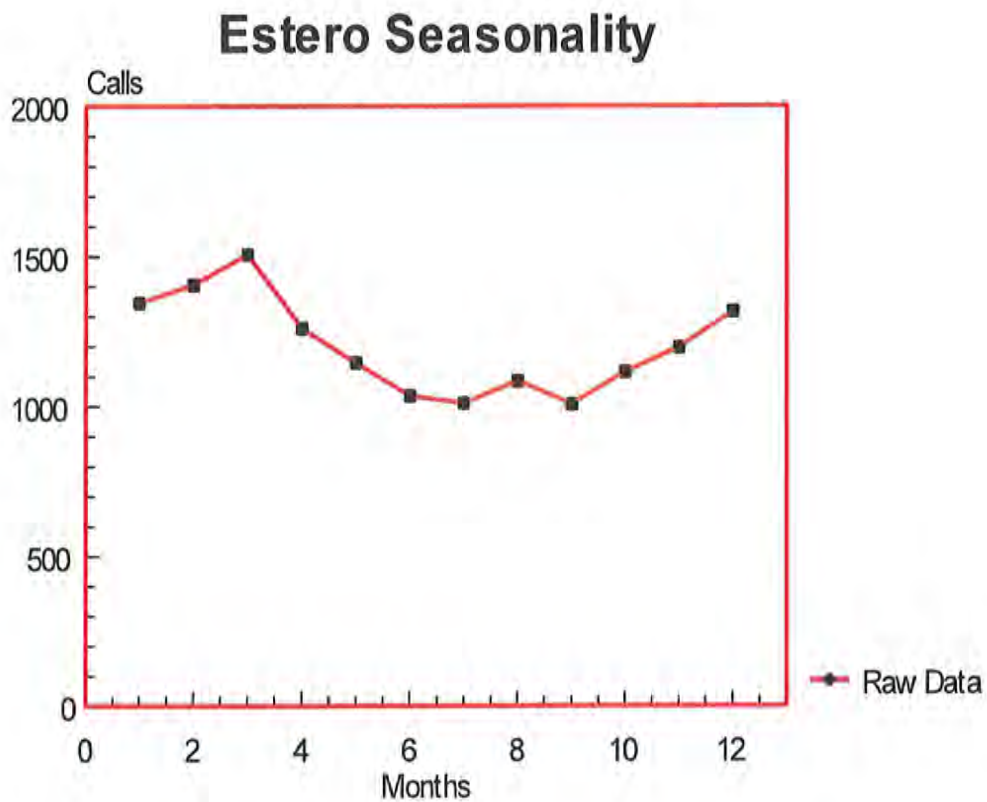


Table 4: Average Emergency Response Demand by Month, 2004–2008

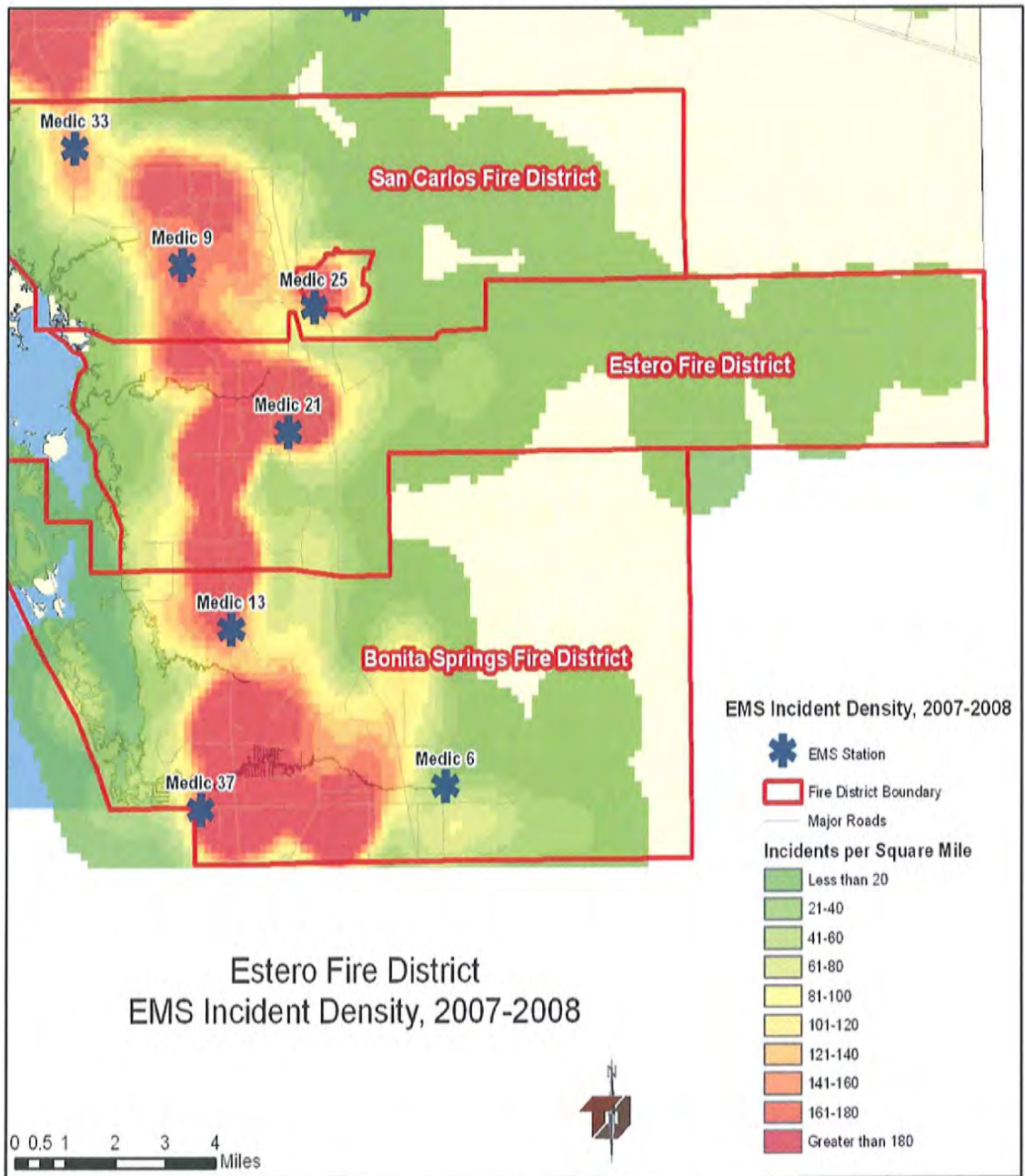
Type of Emergency Response	1	2	3	4	5	6	7	8	9	10	11	12	(All)
Emergency Medical Service	913	966	1058	861	685	586	587	646	616	685	771	878	9252
Motor Vehicle Accident	148	177	183	128	130	130	125	150	146	140	153	165	1775
False Alarm	123	96	102	98	97	140	126	151	119	144	120	129	1445
Good Intent Call	63	61	49	41	56	73	72	46	55	51	55	48	670
Fire	25	38	48	73	100	56	45	25	23	28	31	24	516
Service Call	34	32	38	27	55	28	33	35	29	30	38	33	412
Hazardous Condition	12	22	8	15	10	14	13	18	13	23	17	22	187
Rescue	27	13	20	17	12	8	10	14	7	14	12	17	171
(All)	1,345	1,405	1,506	1,260	1,145	1,035	1,011	1,085	1,008	1,115	1,197	1,316	14,428

Figure 4: Seasonality Graph



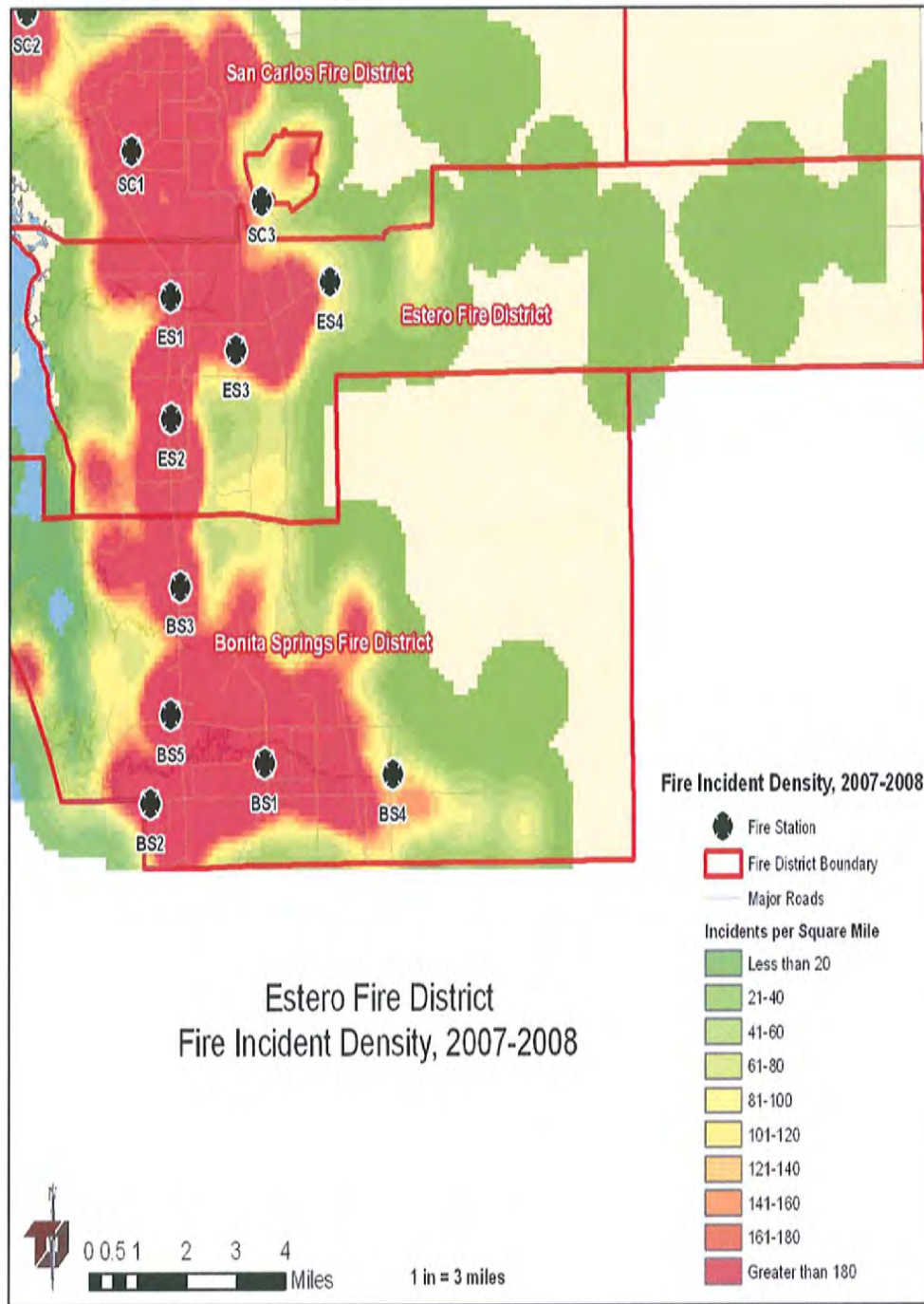
Incident Densities – Figure 5 and Figure 6 show the EMS and fire densities along with the location of fire and EMS units. It appears that the fire and EMS stations are appropriately located. They are typically located in the emergency demand hotspot areas. The fire units are well distributed through the fire incident density hotspots and the Lee County EMS unit is very centrally located to reach all of the EMS hotspots. During brush fire season when the population tends to be higher, the District could consider staffing a Brush unit in the eastern part of the county. There is not enough data to support a solid recommendation, but the shift battalion chief should be given leeway to make this occur.

Figure 5 : EMS Incident Density⁵



⁵ Based on Lee Control CAD Data

Figure 6: Fire Incident Density⁶



⁶ Based on Lee Control CAD Data

Inter-Jurisdictional Comparisons

The inter-jurisdictional comparison section compares EFR with others in Florida. Readers must understand that these comparisons are not always “apples-to-apples” because there are few fire districts that mirror another. Variables to be considered include whether EMS transportation is provided, whether code enforcement is a fire department function, and EMS first response as a fire department function. Where possible, our comparisons take these variables into account.

It is also important to remember that independent fire districts will be more expensive because they independently manage finances, payroll, human resources, building and vehicle maintenance and other resources typically shared by municipal governments. We initially compared population and service areas between EFR and 13 Florida fire districts. Based on the area served, the only significant difference between EFR and the other sampled jurisdictions is the lower population density (Table 5).

Table 5: Comparison of Service Areas

Jurisdiction	Population (2007)	Area Served (sq. miles)	Number of Stations	Density (population/sq. mile)	Population /Station	Square Miles per Station
Cedar Hammock	50,000	26	4	1,923	12,500	6.5
Destin	12,736	26	2	490	6,368	13.0
Englewood	49,000	82	6	598	8,167	13.7
Golden Gate	80,000	103	4	777	20,000	25.8
Indian River County	132,315	511	13	259	10,178	39.3
Iona McGregor	51,903	42	5	1,236	10,381	8.4
Lehigh Acres	87,000	143	5	608	17,400	28.6
Midway Fire	10,000	27	2	370	5,000	13.5
North Naples	91,119	70	7	1,302	13,017	10.0
Palm Harbor	62,000	20	4	3,100	15,500	5.0
South Trail	60,000	55	4	1,091	15,000	13.8
Southern Manatee	50,000	36	5	1,389	10,000	7.2
St. Lucie County	242,000	614	17	394	14,235	36.1
West Manatee	40,000	18	3	2,222	13,333	6.0
Average	72,720	127	6	1,126	12,220	16
Median	55,952	49	5	934	12,759	13
Estero	43,330	56	4	774	10,832	14

We also compared staffing between the sample departments and determined no significant differences were present (Table 6).

Table 6: Staffing Comparisons

Jurisdiction	Total Staffing	Uniformed Staffing	Minimum On-Duty Staffing	Staffing per 1,000 Population
Cedar Hammock	54	54	17	1.1
Destin	40	33	16	3.1
Englewood	63	60	15	1.3
Golden Gate	68	59	15	0.9
Indian River County	230	222	65	1.7
Iona McGregor	107			2.1
Lehigh Acres	130	122	31	1.5
Midway Fire	23			2.3
North Naples	159	141		1.7
Palm Harbor	65	60	19	1
South Trail	87	81	22	1.5
Southern Manatee	92			1.8
St. Lucie County	464	400		1.9
West Manatee	50	36	12	1.3
Average	117	115	24	1.7
Median	78	60	17	1.6
Estero	67	57	17	1.6

The cost for each employee varies for each jurisdiction. As mentioned earlier, the independent jurisdiction status elevates the cost of each employee. EFR has an annual average cost of \$162,868 per employee translating to \$259 annual cost per population capita. Table 7 shows EFR's cost per employee is slightly higher than other districts, but are not significantly higher on a cost per population capital basis.

Table 7: Human Resources Cost Comparison

Jurisdiction	Population	2009 Operating Budget	Cost Per Capita	Cost Per Employee
Cedar Hammock	50,000	\$9,300,000	\$186	172,222
Destin	12,736	\$6,900,000	\$542	172,500
Englewood	49,000	\$6,500,000	\$133	103,175
Golden Gate	80,000	\$8,300,000	\$104	122,059
Iona McGregor	51,903	\$17,206,208	\$332	160,806
Lehigh Acres	87,000	\$20,300,000	\$233	156,154
Midway Fire	10,000	\$2,400,000	\$240	104,348
North Naples	91,119	\$27,000,000	\$296	169,811
Palm Harbor	62,000	\$8,600,000	\$139	132,308
South Trail	60,000	\$14,300,000	\$238	164,368

Assessment and Five-Year PlanEstero Fire Rescue

Jurisdiction	Population	2009 Operating Budget	Cost Per Capita	Cost Per Employee
Southern Manatee	50,000	\$12,700,000	\$254	138,043
St. Lucie County	242,000	\$60,000,000	\$248	129,310
West Manatee	40,000	\$5,800,000	\$145	116,000
Average	68,135	\$15,331,247	\$238	141,643
Median	55,952	\$8,950,000	\$238	139,833
Estero	43,330	\$11,237,920	\$259	\$162,868

2. RESPONSE TIMES AND STATION LOCATION ANALYSIS

This chapter includes a complete analysis of response times and deployment of fire stations for Bonita Springs, Estero, and San Carlos fire districts. As discussed in previous chapters, there are several factors that should be taken into account when determining the appropriate number of stations and coverage areas, including demand for services, population density, size of the jurisdictions, and desired response times. This chapter considers these factors for the current and future deployment.

Fire Dispatch Systems

The Lee County Sheriff is the 911 primary service access point for all public safety emergencies. The primary emergency dispatch service point is provided by the Lee County Department of Public Safety (Lee Control). The analysis presented includes response time data for EFR, excluding the time segment between the Lee County PSAP and Lee Control. When accounting for the addition of Automatic Vehicle Locators (AVL)⁷ and each district's agreement to dispatch the closest unit, there is a small difference between resource demand (district based) and actual responses.

Data

Before the analysis took place, project team members gathered and reviewed information related to response times and fire station locations, including:

- Current station locations
- Current apparatus deployment
- Computer Aided Dispatch (CAD) data for January 1, 2007 through September 30, 2008
- National response time standards

Response data from the CAD system was provided by Lee County through each jurisdiction. The data included addresses for geocoding, coordinates for mapping, responding

⁷ Automatic Vehicle Locators (AVL) are devices placed in each vehicle that transmit signals to dispatch using Global Information System (GIS) technology. Dispatch is able to pinpoint the location of the emergency vehicle to select the closest unit for dispatch on emergency calls.

units, incident description, and response time segments.⁸ Geographic Information System (GIS) files were also provided by each jurisdiction for analysis using ArcGIS 9.3.

The data provided by the county was rather complete and detailed. However, there were three pieces of information lacking: incident type, apparatus type, and home station. To get around this problem, existing fields in the CAD data were used to identify the missing information. For incident type, whether the incident was an emergency and whether the incident was a fire, EMS, Hazmat or other type, a list of incident descriptions from the CAD data was sent to each jurisdiction which then provided the appropriate classifications. For apparatus type and home station, a list of the responding unit IDs was sent to each jurisdiction which then matched the unit IDs to an apparatus type and home station. The district did express that there were some discrepancies in the CAD's responding unit IDs as some units were not in use during the time period measured or were entered incorrectly. These units were excluded from the analysis.

Data Collection and Analysis

Total response time is the total elapsed time between an individual calling 911 and emergency service personnel arriving at the scene. Total response time can be broken down into multiple intervals for analysis: call processing, dispatch, turnout, and travel times.

The following response time analysis is based on responses for fire/EMS apparatus including engines, trucks, rescue units, and hazardous material units. Although most responses are emergency responses, EFR has started to respond non-emergency to low priority incidents. Lee Control is not able to control for this variable, therefore, times may be slightly high. Not included are command units, air units, and boats. Test incidents and other non-emergency responses were excluded as well.

In some cases, there were invalid entries in incident files (e.g. no time was recorded) or obvious errors (e.g. the unit arrived before the call came in). These were excluded from the dataset used in the analysis. Also eliminated were outliers that were more than three standard deviations from the mean. If response times have an approximately normal distribution, 99.7 percent of incidents are expected to fall within three standard deviations of the mean, and the 0.3 percent of incidents that were excluded from the response time analysis likely contains errors.

⁸ Geocoding is a GIS operation for converting street addresses into spatial data that can be displayed as features on a map, usually by referencing address information from a street segment layer. ESRI Support Center, "GIS Dictionary," ESRI, <http://support.esri.com>.

NFPA Standards

National standards, such as those established by the National Fire Protection Agency (NFPA), provide reasonable means for assessing performance with regard to response times. Different standards have been established for career and volunteer services. Since Bonita Springs, Estero, and San Carlos are career agencies, NFPA 1710 is the applicable standard for this analysis. Table 8 summarizes the response time goals established in NFPA 1710.

Table 8: NFPA 1710 Response Time Objectives

Time Segment	Response Time	Percentile
All Calls: Turnout	01:00	90
Fire Suppression		
First Arriving Engine Company	04:00	90
Full First Alarm	08:00	90
EMS		
First Responder	04:00	90
ALS Unit	08:00	90

Call Processing and Dispatch Time

Call processing time includes the time to get information from the caller and enter it into a new dispatch system record. This is measured from the time the call is received to the time the call is transferred to a dispatcher. Dispatch time begins when the call is transferred from the call-taker to a dispatcher and continues until units are alerted to respond. Estero, like many other districts, consider call processing and dispatch together as a single time segment.

Table 9 shows the call processing times for EFR averaged 1 minute with a 90th percentile time of 1 minute 55 seconds. Overall, the call processing and dispatch times are higher than the recommended one minute at the 90th percentile, but this goal is being met at approximately the 60th percentile.

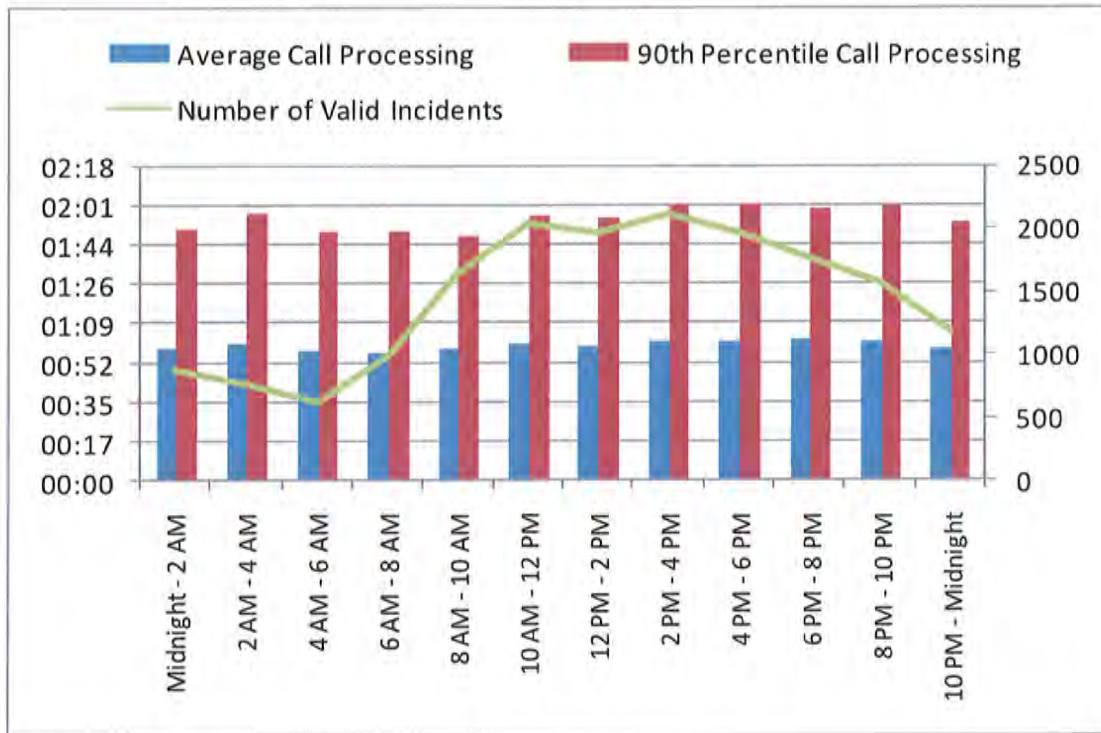
Table 9: Call Processing Times, 2007–2008⁹

	Estero
Average	01:00
90 th Percentile	≤01:55

⁹ Data from Lee Control CAD

Call processing times remained fairly consistent throughout the day as shown in Figure 7. Despite call volume variations, call processing times throughout the day varied by no more than six seconds on average and fourteen seconds at the 90th percentile.

Figure 7: Average & 90th Percentile Call Processing Times and Incident Volumes by Time of Day¹⁰



Turnout

Turnout is the time segment beginning when the units acknowledge notification of the emergency to the initial point of response time.¹¹ National standards for career agencies suggest a turnout time of one minute at the 90th percentile.

The average turnout time for EFR units responding to emergency incidents was 1 minute 30 seconds with a 90th percentile time of 2 minutes 33 seconds. Table 10 shows the average and 90th percentile turnout time.

¹⁰ Data from Lee Control CAD

¹¹ Russ Johnson and Mike Price, "GIS for Fire Station Locations and Response Protocols," in Fire Protection Handbook, ed. Arthur E. Cote, P.E., et al (Quincy: National Fire Protection Agency, 2008), 12.215-12.231.

Table 10: Average and 90th Percentile Turnout Times¹²

	Estero
Average	01:30
90 th Percentile	≤02:33

When examined by call type, the average and 90th percentile turnout times were much lower for EMS incidents than for Fire incidents. Table 11 shows the average and 90th percentile turnout times for each jurisdiction by call type. This type of variation can be expected as fire incidents are more likely to require the donning of protective equipment before leaving the station.

Table 11: Average and 90th Percentile Turnout Times by Call Type¹³

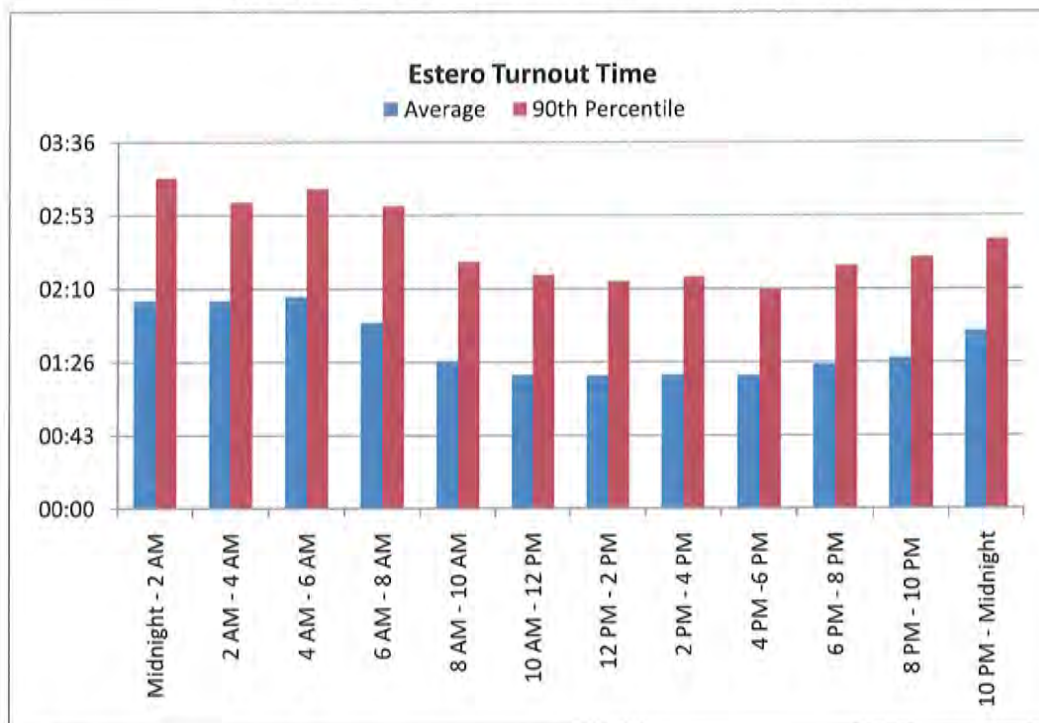
	Estero	
	Fire	EMS
Average	01:47	01:22
90 th Percentile	≤03:02	≤02:18

Unlike call processing, there were significant variations in turnout time when examined by time of day. Figure 8 shows that turnout times were less during the late morning through evening. Turnout times dramatically increased during the overnight hours of Midnight to 6 AM by approximately one minute in comparison to other times of day.

¹² Based on Lee Control CAD Data

¹³ Based on Lee Control CAD Data

Figure 8: 90th Percentile Turnout Times by Time of Day



Travel Time

Travel or drive time is the time beginning when units are en route to the incident and ending when units arrive on scene (wheel start to wheel stop).¹⁴ Station and apparatus placement geographically have the biggest impact on travel time, although apparatus are not always in the station when dispatched to an incident. Additional factors influencing travel time include traffic, weather, traffic limiting devices (stop lights, speed bumps, etc.), and driver familiarity with the area. Traffic congestion, weather, and traffic limiting devices are beyond a department’s control; however, driver knowledge is not.

Overall, for EFR, the average travel time for first arriving units was 3 minutes 56 seconds with a 90th percentile time of 6 minutes 38 seconds. Table 12 shows the average and 90th percentile travel times for first arriving units. The travel times are slightly high at the 90th percentile; however, the 4-minute goal is being met at the 59th percentile.

¹⁴ Russ Johnson and Mike Price, “GIS for Fire Station Location and Response Protocols,” in Fire Protection Handbook, ed. Arthur E. Cote, P.E., et al (Quincy: National Fire Protection Association, 2008), 12.251-12.231.

Table 12: Average and 90th Percentile Travel Times for First Arriving Units¹⁵

Fire District	Average Travel Time	90 th Percentile Travel Time	Percentile 4-minute travel time goal is met
Estero	03:56	≤06:38	59

Travel times were also analyzed by unit type for each fire district. Table 13 shows the average and 90th percentile travel time for first arriving units. The variations in travel time are expected and consistent.

Table 13: Average and 90th Percentile Travel Times by Unit Type¹⁶

Fire District	Unit Type	Average	90 th Percentile
Estero	Engine	04:16	≤07:23
	Rescue	03:34	≤07:07
	Truck	04:14	≤07:29

Total

Total response time is the time elapsing between receipt of the emergency call and arrival of the responding unit to the scene of the incident. From a citizen's point of view, this is the amount of time elapsing from their initial request for service until that request is fulfilled by the responding unit arriving at the incident location.

Table 14 shows the average and 90th percentile total response time for both first arriving units and overall. The variations among the three fire districts are expected given the previous time segment differences.

Table 14: Total Response Times by Fire District¹⁷

Fire District	First Arriving Units		All Units	
	Average	90 th Percentile	Average	90 th Percentile
Estero	06:31	09:35	07:05	10:40

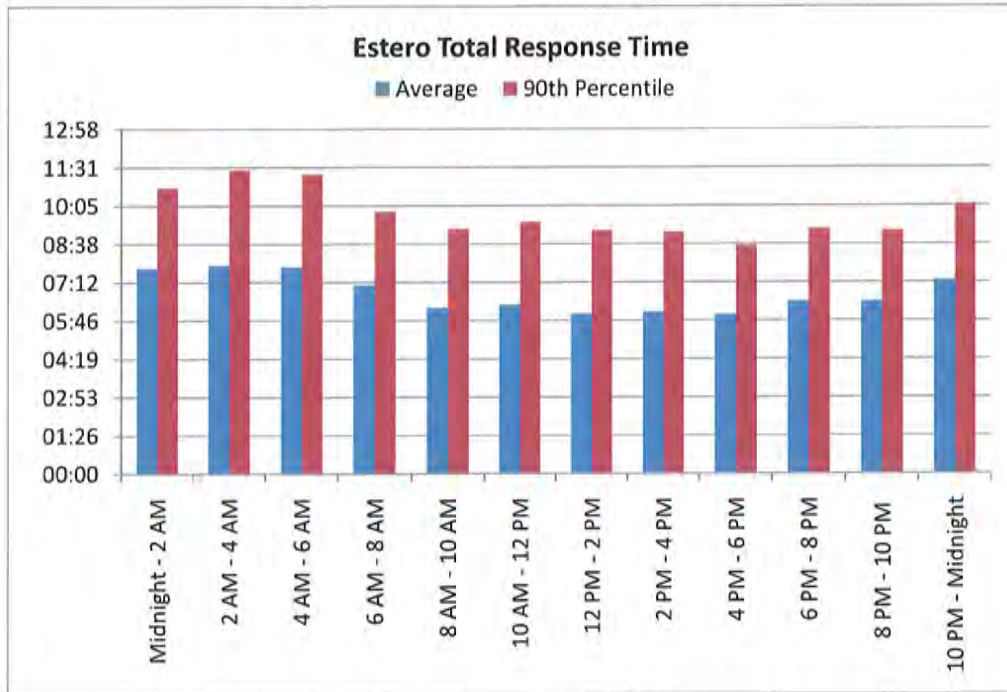
Variations also existed in total response time when examined by time of day. This is consistent with the analysis of other time segments with higher total response times occurring during the overnight hours of Midnight through 6 AM. Figure 9 shows the 90th percentile total response time of first arriving units for each fire district by time of day.

¹⁵ Data from Lee County Fire Control CAD

¹⁶ Data from Lee County Fire Control CAD

¹⁷ Data from Lee County Fire Control CAD

Figure 9: Total Response Time by Time of Day



In 2008, The Estero Fire Department responded to 3,291 incidents. However not all of them occurred within the District’s boundaries. LCEMS responded to 2,687 incidents within the Estero Fire District. As noted above, pairing the incidents is a difficult task and in this Fire District, 1,970 incidents matched up. The Estero Fire Department has an average response time of 5:39 and arrives on scene first 1,439 times out of 1,970 (73.05 percent) incidents where both agencies responded to the same incident. Lee County EMS arrived first 531 times out of 1,970, or 27 percent of the time. The average response time for LCEMS is 6:58. Observations of greater than 2 standard deviations beyond the mean were discarded. In Estero, it appeared there were EMS runs where the crews forgot to change their unit status to arrive on scene. These larger than usual incidents are spurious and could skew the numbers, so they are discarded for this analysis.

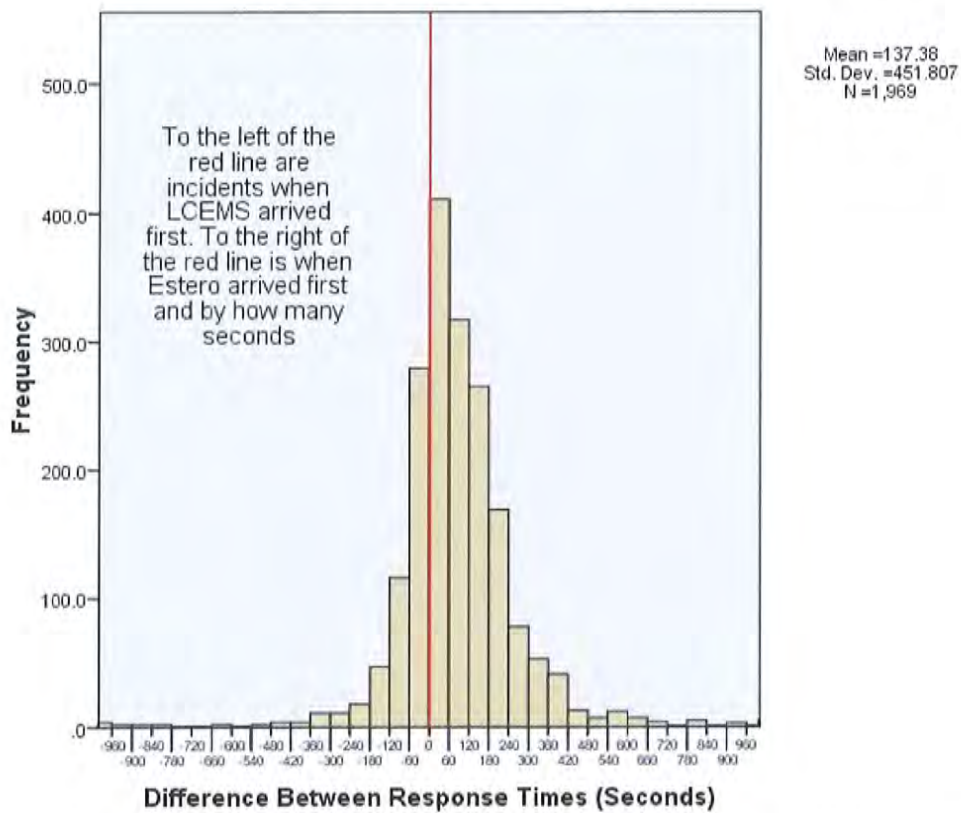
Table 15: Estero Fire Rescue and LCEMS Responses¹⁸

Total of Paired Incidents (EMS & Fire)	# of Incidents When Estero Fire Rescue Arrived First	Percent of Times EFR Arrived First
1,970	1,439	73.05%

¹⁸ Kulpanowski, D. (2009). LCEMS Response Compared to Bonita Springs Fire, Estero Fire, and San Carlos Park Fire Departments. Lee County Department of Public Safety, February 19, 2009. Any incident beyond the second standard deviation was not reported. These data should be considered as estimates.

The overall EMS response times are acceptable, provided that EFR continues their first responder ALS program. Those calls, where the difference in arrival time is greater than three minutes, reasonably indicated that the first responder will be able to start an ALS intervention earlier than a later arriving EMS unit (Table 15). Of the 1,970 EMS incidents where EFR arrives first, they are on scene by greater than 3 minutes in over 750 (38.07 percent) incidents. While lower than the adjacent districts, since EFR has an LCEMS medic unit assigned to each station, this rate could be considered high.

Figure 10: Estero and LCEMS First Arrival¹⁹



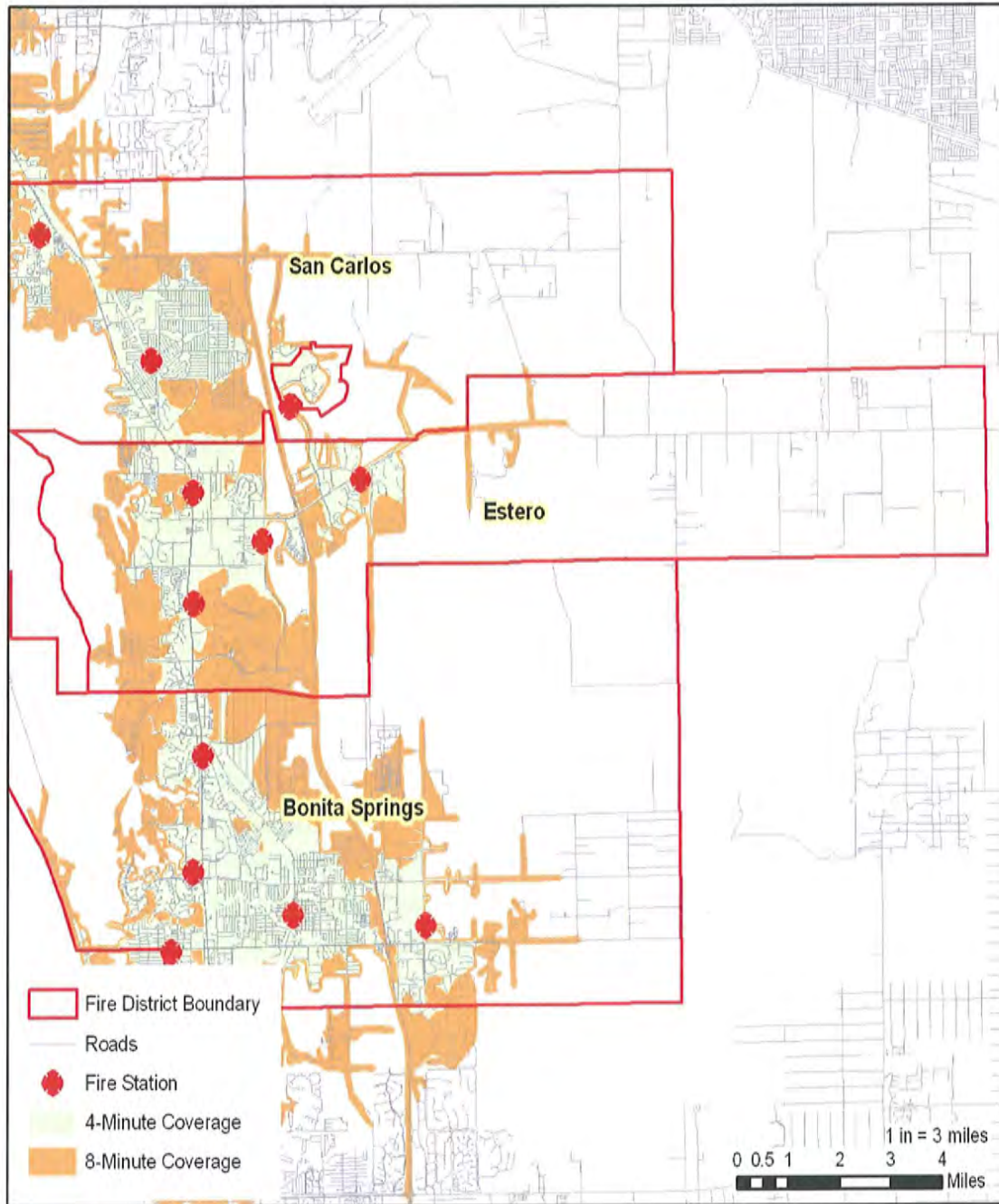
Recommendation 1: EFR should continue to provide first responder/paramedic care.

¹⁹ Kulpanowski, D. (2009). LCEMS Response Compared to Bonita Springs Fire, Estero Fire, and San Carlos Park Fire Departments. Lee County Department of Public Safety, February 19, 2009. Any incident beyond the second standard deviation was not reported. These data should be considered as estimates.

Response Time Models

Figure 11 shows 4- and 8-minute response times. The map is considered theoretical because it combines several GIS levels to include roadways, speed, time of day, terrain, and others. The high population density and high demand areas are served well by the current station locations. The sparsely populated eastern parts of the district are outside the 8-minute response times. With the advent of closest unit response, Bonita Spring's Station 3 will help reduce response times in the southern section of the district. Estero's Station 4 will help reduce response times in the eastern part of San Carlos Park.

Figure 11: Theoretical 4/8 Minute Map²⁰



²⁰ Based on data from Lee Control CAD and ARC GIS 9.3

In order to complete their administrative and fiduciary oversight, the board is authorized to produce and monitor policy. EFR has a strict code of ethics that clearly explains the district's ethical standards and what is expected of all elected and appointed members.²²

In our interview with a commissioner, we learned that the board is satisfied with the fire chief's performance. The cooperation between EFR and Bonita Springs districts is positive and the cooperation between EFR and San Carlos Park continues to emerge. From a political standpoint, the citizens of Southwest Florida view firefighters from a "tax and spend" perspective. The commissioner does believe that Estero's citizens are happy with their fire service.

Fire Chief – The fire chief is appointed by the Estero Board of Commissioners and serves at their pleasure. The current fire chief is under a three-year contractual agreement that describes conditions of work, remuneration, and other executive agreements. Prior to appointment in 2008, the fire chief served as EFR deputy chief of operations.

Prior to appointment of the fire chief, several high-ranking staff members left the department. Some executive level positions were filled from within and one was left vacant. The chief believes that the personnel changes benefited the department and may be responsible for reducing the number of grievances and improving employee relations. There were also two lawsuits pending from the previous administration that have been settled.

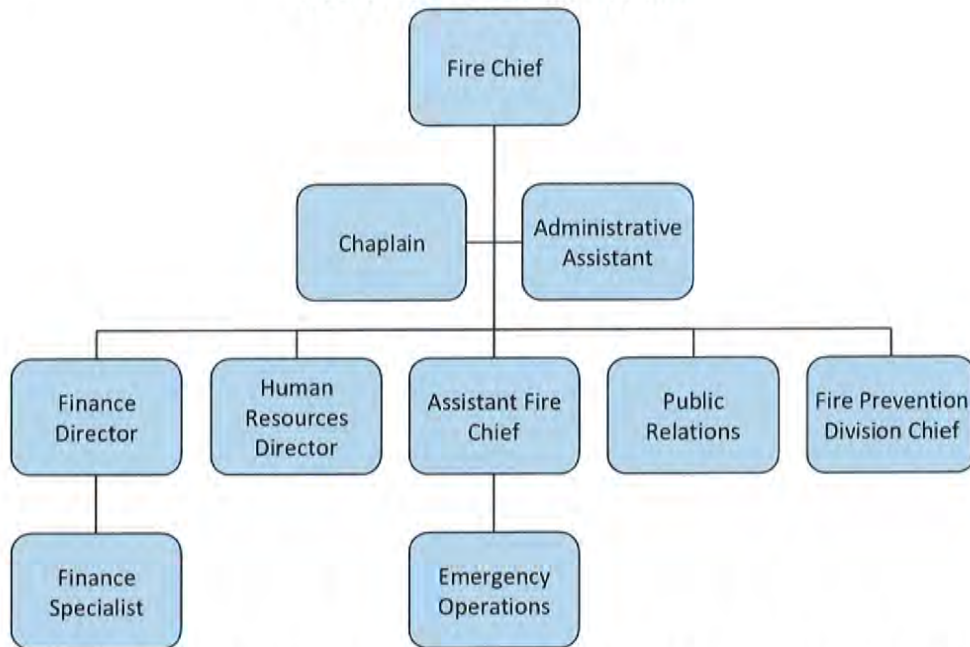
Many issues facing the district stemmed from an incident that occurred 12 years ago when the board hired a private company to staff a station. Not only was this a failure, but the incident and its outcomes scarred the district. Privatization did not last long and district employees were put back in place.

The fire chief feels that staffing is acceptable based on economic conditions. Several vacant positions were not filled. After the plans examiner retired, EFR contracted with Bonita Springs for plans review, leading to a considerable annual savings. Each division chief was also ordered to complete a multiple day study identifying all their activities, contacts, meetings, and emergency duties. The results were used to identify distribution of work and identification of needs.

Direct reports to the fire chief include an administrative assistant, finance director, human resources director, public relations/PIO, assistant fire chief and fire prevention division chief.

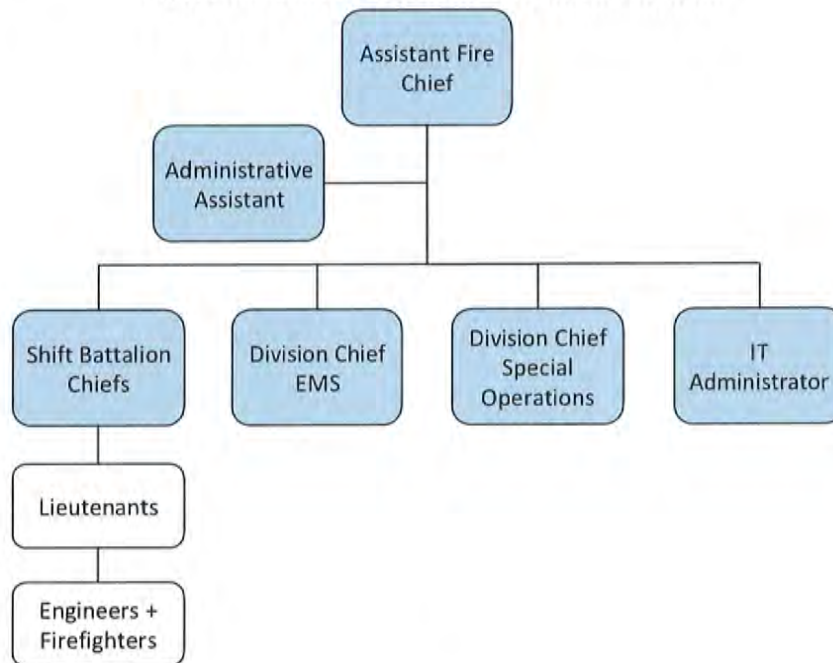
²² EFR: (2002). Standard Operating Guidelines #105: Code of Ethics. Effective April 30, 2002.

Figure 12: Estero Command Staff



Assistant Fire Chief – The assistant fire chief is in charge of day-to-day operations of the department. Direct reports include an administrative specialist, the shift battalion chiefs, EMS division chief, special operations division chief, and the information technology administrator. When needed, the assistant fire chief acts in the place of the fire chief.

Figure 13: Estero Operations and Administration



Division Fire Chiefs – There are three division chiefs, each in command of a major part of the department. The division chiefs of EMS and Special Operations report to the assistant fire chief, and the division chief of fire prevention reports to the fire chief. The division chief of EMS is responsible for all EMS activities including EMS training, quality management, and skills maintenance. The EMS DC is also responsible for district safety, including chairing the district safety committee. The DC for Special Operations is responsible for rescue, USAR team participation, training, equipment maintenance, building maintenance, and emergency management.

From an organizational perspective, it appears that the division chief responsibilities need a more efficient distribution. In a district where EMS is limited to first responder service, much of the EMS DC’s duties are dedicated to training and quality management. A logical move would be for the EMS DC to become responsible for all department training. Further details will be described in the Emergency Operations section of the report.

Recommendation 2: Move responsibility for training from special operations to emergency medical services.

Human Resources

The human resources director is a non-uniformed staff member who is responsible for hiring, promotional processes, overseeing insurance, medical, health, and vision care benefits. Included within these responsibilities are fair practices and employee orientation. Recently, a return to work policy and program was implemented to guide return to work following injury or illness. OSHA and other federal mandates are monitored by the HR director.

The human resources director would like to change the perception of how line personnel view human resources issues. There is a perception that the human resources rules and policies restrict instead of advocate for line personnel.

Authorized Positions – EFR has 68 authorized positions that are allocated as follows (Table 16):

Table 16: Estero Fire Rescue Authorized Positions

Positions	Number Authorized	Vacancies
Fire Chief	1	
Assistant Fire Chief	1	
Division Fire Chief	3	
Battalion Fire Chief	3	
Lieutenant	12	
Inspector (Uniformed)	2	1

Positions	Number Authorized	Vacancies
Firefighters	36	
Inspector (Non-Uniformed)	1	
Public Relations Manager	1	
Human Resources Director	1	
Finance Director	1	
Finance Specialist	1	
Information Technology Administrator	1	
Administrative Assistant-Prevention	1	
Administrative Assistant-Fire Chief	1	
Administrative Specialist-Assistant Fire Chief	1	

In 2008, EFR eliminated the Deputy Chief of Support Services (1) and Maintenance Technician (1) positions.

Recommendation 3: The positions eliminated in 2008 should remain vacant at this time.

Health and Safety – Responsibility for health and safety issues is divided between the assistant fire chief and the human resources director. The EMS division chief is responsible for operational issues, while the human resources director is responsible for employee health and wellness. These efforts are enhanced by a safety committee staffed by members represented throughout the ranks. Currently, the human resources director is not a member of the safety committee. EFR would benefit from including the human resources director because of her involvement with insurance and regulatory matters. Having this resource at hand would provide significant benefits to the committee.

Recommendation 4: Add the human resources director to the department safety committee.

IAFF Local 1826 – EFR’s uniformed members below battalion chief are represented by the Estero District of IAFF Local 1826, the same local that represents San Carlos Park. The previous district vice-president has recently been promoted to battalion chief, and a new district vice-president was just appointed.

Local 1826 Estero unit members believe that labor-management relations have significantly improved. The administration appears open to union suggestions. District history and hiring several command-level personnel from outside the agency were the likely causes of past problems. The unit membership believes that chief officers should have extensive street experience and knowledge of the district.

The union hopes that after the economic conditions improve, eliminated positions will be refilled. No details were provided describing negative effects from position elimination. There is a concern that SOGs and other policies are often in conflict. Another concern is the need for more coordinated training. State-certified training academies are available in Ft Myers or Naples, but a more centralized facility would be helpful.

Staffing Factor – There are 67 authorized positions, with 51 assigned to field operations. There are 17 field operations positions assigned to each of three shifts, including 1 battalion chief, 4 lieutenants, 4 driver engineers, and 8 firefighters. Field operations personnel staff 2 engine companies, 1 ladder company, 1 truck company, and 1 rescue company. EFR attempts to have a minimum staffing of 15 personnel per shift. Based on a minimum staffing of 15, a staffing factor of 1.13, and 3.39 personnel needed for 24/7 staffing, the 51 personnel assigned to field operations is sufficient (Table 17).

Table 17: Estero Fire Rescue Operations Staffing Factor

A	Number of Days in a Year	365
B	Number of Hours in a Day	24
C	Number of Hours in a Year	8,760
D	Number of Shifts	3
E	Number of Hours Employee is scheduled to work	2,912
F	Average Number of Hours Employee is away from assignment	332
G	Average Number of Productive Hours per Employee(A X B)	2,580
H	Staffing Factor (E / G)	1.13
I	Number of Employees Needed per Position for 24/7 Staffing (H X D)	3.39

Budget and Finance

The Finance Division has two employees, a finance director, who answers directly to the fire chief, and a finance specialist. Together, they prepare and manage the Districts FY 08-09 \$20.1 million annual budget. Primary functions for the Department include accounts receivable, accounts payable and payroll. The finance director currently has \$7.2 million invested certificates of deposit earning an approximate average of 2.0 percent with laddered maturity dates.

A major difference between a typical municipal fire department of this size and an independent fire district is the budget. Services that are normally financed as part of total municipal department budgets, i.e. human resources, finance, insurance, are parts of a fire district budget. Estero’s annual budget for FY 2008-2009 is \$20,146,879. This includes a projected fund balance of \$7,240,753.

According to the most recent amortization schedule, the District has an outstanding debt of \$8,404,715. The current annual payment toward the debt is \$1,156,110 with \$289,756 of that amount coming from interest. The District's total annual operating budget is \$11,237,920. This covers Personnel Services (\$8,993,677), Operating Expenses (\$2,122,461) and Capital Outlay (\$121,782). Typically a municipal fire department budget is based on operating expenses and annual debt service.

The District's principle source of revenue is ad valorem taxes. Proceeds received are based on the District's gross taxable value multiplied by the tax millage rate as set by the Commission. This year's millage rate is 1.9037 and is applied to a gross taxable value of \$6.54 billion, generating gross revenue of \$13,341,956. According to State Statute, the 1.9037 tax rate, which is 6.5 percent higher than last year's tax rate of 1.7868, is not considered a tax increase since it was the established roll back rate. One mil is equal to \$1.00 per \$1,000 of taxable value. The District's maximum allowable tax millage rate is 3.75. The current trend of declining property values will challenge the District in developing the 2009-2010 budget. A 2007 financial plan estimated that in 2009, the certified taxable value of Estero property would increase to \$6.31 to \$6.94 billion. Based on recent economic trends, the predicted value for 2009 should be \$6.21 billion. This would change the estimated EFR projected revenue from \$13.1 million to \$12.28 million. Fortunately, a better than estimated 2008 should reduce the gap between the estimated 2008 and 2009 revenues.²³

The District's budget projections are based on a 95 percent collection rate. Total revenue estimated for this year's budget was \$12,674,858 with expenditures of \$11,237,920 resulting in \$1,668,206 revenue in excess of expenses. The expected collection rate should be viewed with caution during a stressed economy. Real property values declined 1.5 percent in the District by \$98.6 million. According to a spokesperson at the Lee County Property Appraiser's Office, values are expected to decline again for the 2009-2010 budget year.

Personnel accounts for 80 percent of budgeted expenditures. There are many components to Personnel Services including wages, FICA taxes, workers' compensation insurance, holiday pay, overtime, and others. Then, there are the fringe benefits of insurance and retirement contributions.

This year's pension contribution to the Chapter 175 Plan is 19 percent of payroll. Next year's contribution will require an approximate 20 percent contribution. Two key factors affect the contribution percentage required, the longevity of the employees in the plan and the interest

²³ AHS. (2007). Fire Year Financial Master Plan – Estero Fire Rescue. Anaheim, CA: American Homeland Solutions, p. 22.

earned by the plan. Current interest rates are low and adversely affect the pension's fund balance. Estero is a young department with few employees vested.

Recommendation 5: Consider all options within the 175 plan for reducing pension costs. Consider mirroring FRS benefits for new high-risk employees hired after January 1, 2010.

One of the largest expenses, outside of wages, is for health and life Insurance. The District currently pays 100 percent for employee and dependent coverage for all employees hired prior to October 1, 1995. Those employees hired after this date pay 10 percent toward dependent coverage. The cost for health insurance for FY 08-09 is budgeted at \$1,452,616

Other areas that have long term effects on a budget are various articles agreed to between the District's governing body and the firefighter's labor union. An employee is provided PPL for their use either as vacation or sick leave. The amount of paid personal leave (PPL) accumulation allowed by contract is 600 hours for shift employees. An employee can easily accumulate this amount over the span of their career. This leave is paid at the employee's hourly rated of pay upon separation. An employee working three years for the district who used virtually no PPL and voluntarily terminates employment will collect approximately \$12,000.

Recommendation 6: Effective October 2010, lower the allowable accumulated hours that can be compensated to 480 hours.

The labor agreement requires the District to compensate an employee 66-2/3 pay for any illness or off-duty injury after seven consecutive calendar days. In essence, under this provision, an employee would only be required to use 48 hours of their PPL before they begin collecting short term disability. It is possible the employee's illness or injury may have occurred due to their "part time" employment.

Recommendation 7: Effective October 2010, restrict short term disability to off duty illness/injury that were not secondary to an incident that is covered by Workers' Compensation from another employer.

4. EMERGENCY OPERATIONS

The assistant fire chief is in charge of emergency operations and is assisted by two division chiefs, three shift battalion chiefs, and an IT administrator, and a special assistant. Fire, rescue, and first responder/ advanced life support emergency medical services is provided from four fire stations.

Definitions

The fire service is laden with different terms and jargon that can be baffling to even the most engaged members of the community. To guide the reader through this, we offer the following as guidelines:

- **Engine:** Main fire attack vehicle that contains hoses, nozzles, ground ladders, that can get water from a hydrant or other source. An engine has a hydraulic pump that pumps water under pressure to allow the firefighters to extinguish the fire.
- **Ladder:** A vehicle that contains an array of ladders, including an aerial device that can extend up to 75' but can be longer. The truck crew is responsible for extrication, rescue, and ventilation.
- **Truck:** Similar to a ladder but has an aerial device that can reach up to 100' and has a platform that firefighters can use to fight fire or effect rescue.
- **Rescue:** A two-person vehicle used for first responder EMS, and to assist with fire and rescue operations. Some rescue units have small hydraulic pumps to provide water for small fires. In Florida, this term is often used to describe basic life support ambulances. EFR's rescue unit is capable of patient transport.
- **Squad:** Sometimes called a *heavy rescue* unit, a larger vehicle equipped with devices that perform complex extrication including: automobile extrication, below-grade rescue, high and low angle rope rescue and similar operations.
- **Brush Unit:** A smaller vehicle that is used to fight field and woods fires. It is often used to access areas that are inaccessible by larger vehicles.
- **Medic Unit:** An ambulance that is equipped to provide advanced life support and can transport ill or injured patients.
- **Fire Suppression:** Fire suppression is provided from four stations that are strategically placed within the district.

Fire Response – Fire suppression and Emergency Medical Services are provided from four stations strategically located throughout the District. The Department primarily operates two engines, one ladder truck (75' ladder), one truck (platform aerial), one rescue unit, two brush units, and one battalion chief vehicle. Each engine and ladder is staffed with a minimum of three, maximum of four personnel. The ladder truck or aerial is staffed with three personnel, the rescue unit is staffed with two personnel, and one battalion chief is also on-duty. Each engine and ladder company has one lieutenant and each shift has one battalion chief.

Professional Standards and Guidelines – The National Fire Protection Association (NFPA) is an international non-profit organization dedicated to reducing the worldwide burden of fire and other hazards on the quality of life by developing and advocating scientifically based consensus codes and standards, research, training and education. NFPA standards and guidelines are developed by committees of chief officers, volunteer representatives, union officials and industry representatives. NFPA's standards are not legally binding but many fire departments do codify them into local ordinances. Even if not codified in law, these standards are the backbone of most fire departments' performance standards worldwide. NFPA 1221, Standard for Installation, Maintenance, and Use of Emergency Services Communications Systems recommends a 6 minute response time for the initial unit to arrive at an incident. This time reflects 1 minute for dispatch, 1 minute for turnout and 4 minutes for travel. EFR attempts to maintain a response travel time of 4 minutes or less on 90 percent of their responses. Their current compliance rate is 59 percent, with an overall 90 percent travel time of 6:38.

NFPA 1710, Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations and Special Operations to the Public by Career Fire Departments, recommends a minimum of 4 personnel staffing for all engine and truck companies. Due to economic conditions, it is not prudent to recommend NFPA 1710 level staffing. Our report provides actions that can be taken to move closer to this consensus standard.

The NFPA Handbook, 19th edition, also makes staffing recommendations in the section titled Typical Initial Attack Response Capability Assuming Interior Attack and Operations Response Capability which based its recommendations on the number of firefighters arriving on the scene of a fire depending upon the type of occupancy (low, medium, high hazard).

- **High Hazard Occupancies** are defined as hospitals, schools, nursing homes, refineries, high rise buildings and other high risk or large fire potential occupancies.
- **Medium Hazard Occupancies** are defined as apartments, offices, mercantile and industrial occupancies not normally requiring extensive rescue or firefighting forces.

- **Low Hazard Occupancies** are defined as one, two, or three family dwellings and scattered small businesses and industrial occupancies.

NFPA standards and guidelines should be taken seriously but they do not necessarily address other requirements set forth by agencies like the Occupational Safety and Health Administration (OSHA). The NFPA guidelines do not address staffing issues mandated in OSHA regulations as the “two in two out” rule. This rule requires a minimum of two men to enter the building to fight the fire only when two men are standing by at the entrance in case the firefighting team gets trapped or needs immediate assistance. The NFPA guidelines also do not address the OSHA requirement that a rapid intervention team/crew (RIT/RIC) be on the scene at a working fire. In the future, depending on local staffing levels, the number of firefighters responding to a working fire may need to be increased to meet the mandates of OSHA requirements.

NFPA guidelines require the following response for the three types of occupancies:

- **High Hazard:** 26–29 personnel, 4 engines, 2 trucks (4 men crews). Actual numbers: 24 firefighters, 2 chief officers, 1 safety officer, 1 RIT team.
- **Medium Hazard:** 17–20 personnel, 3 engines, 1 truck (4 men crews) Actual numbers: 16 firefighters, 1 chief officer, 1 safety officer, 1 RIT team.
- **Low Hazard:** 13–16 personnel, 2 engines, 1 truck (4 men crews) Actual numbers: 12 firefighters, 1 chief officer, 1 safety officer, 1 RIT tem.

EFR follows the OSHA” two in two out rule” and deploys RIT teams as needed at working fires. The District currently has high hazard occupancies, therefore staffing needs can only be met by mutual aid. There are numerous medium hazard occupancies in the District as well as low hazard occupancies.

As stated above 13-16 personnel are recommended for a low-hazard occupancy. Currently, a shift has 15 personnel on duty in four stations and if all personnel respond to low hazard occupancies fire, the recommended staffing can almost be met. 17-20 personnel are required for medium hazard occupancies and with the addition of additional chief officers who respond to working fires, the staffing requirements can also be met, leaving all stations open needing to be filled in by out of district equipment. High hazard manning requirements of 26-28 personnel need to be filled by requesting mutual aid on the initial response.

The district would like to meet the NFPA 1710 standards but usually cannot. Unfortunately, the present economic situation precludes any recommendation for calling for 100 percent compliance with NFPA 1710.

Weight of Response – Alarm assignments vary depending on the nature of the call and are as follows:

- **Structure Fire:** 2 engines, 1 ladder truck, battalion chief, and rescue unit. Minimum personnel 12.
- **Alarm Bells:** 2 engines, 1 ladder truck, and battalion chief. Minimum personnel 11.
- **High Hazard:** 3 engines, 1 ladder truck, battalion chief, and rescue unit. Minimum personnel 15.
- **Hazmat:** 2 engines, battalion chief, rescue unit and special operations division chief. Minimum personnel 10.

Note: The Department participates in closest unit response with Bonita Springs and San Carlos Park. Minimum personnel on an alarm may be reduced if Estero's truck is staffed with less than four personnel. Estero's labor agreement allows for their truck to be staffed with a minimum of two personnel for up to 12 hours. To be in-line with neighboring districts, EFR should increase their response to structure fires from 2 to 3 engines, increasing the minimum number of personnel to 15.

Recommendation 8: Increase the number of engine companies dispatched on structure fires from two to three.

The NFPA 1710 recommended staffing for ladder/truck companies is four. Allowing a staff of two is not appropriate. The district should maintain a minimum crew of 3 on the ladder company.

Recommendation 9: Maintain a minimum staff of three on the ladder/truck company.

The National Fire Protection Association (NFPA) has established consensus standards and guidelines regarding fire department activities. Some jurisdictions adopt them in part or whole, making them a legal document. There are several standards the District should consider when staffing and deploying personnel on structure fires.

NFPA 1710 states the first arriving company on a structure fire should arrive within 4 minutes and the complete alarm assignment in 8 minutes, 90 percent of the time. Estero's first arriving engine reaches the scene within 4 minutes 59 percent of the time.

(Note: There are numerous gated communities with limited access. The streets are narrow, winding with roundabouts, and posted speed limits of 25MPH. The eastern part of Estero's district is in a remote location, skewing their average response times.)

Fire Alarms – There is considerable controversy on whether units should respond emergency or non-emergency to fire alarms with no confirmation of fire. Currently, EFR responds 2 engine companies, 1 ladder company, and 1 battalion chief to these alarms. The first due unit responds emergency, while others respond non-emergency unless advised. The *middle-of-the-road* approach is acceptable, but may warrant reconsideration. Most fire alarm calls are not fires, and the chance of a vehicle crash occurring running emergency is likely greater than the chance of an actual fire. EFR should evaluate how many fire alarms without confirmation are actually fires and consider reducing its weight of response.

Recommendation 10: For fire alarms without confirmation of fire, consider reducing the initial response to one engine company, non-emergency.

Recommendation 11: Remove the battalion chief from the initial assignment for fire alarms.

If EFR elects to proceed with the above, the officer on the first due unit must be given the unquestioned right to convert the response to emergency or upgrade the weight of response.

Closest Unit Response – All first line EFR units are equipped with AVL devices allowing Lee Control to determine their exact location. For the past year, EFR and the BSFRD have responded to calls based on “closest unit,” regardless of district boundaries. Recently, the SCPFD has joined the program and their participation level is emerging. Once Lee Control gets used to dispatching by using AVL coordinates, the program should achieve great success.

Recommendation 12: Continue to foster cooperation between Lee County Fire Districts by encouraging participation in the AVL-guided closest unit response agreement.

ISO Rating – In January, 2008, the Insurance Services Office (ISO) reevaluated the Estero Fire District to determine if a better ISO rating was warranted. In 2007, the ISO rating was 4 (1 is best and 10 is worst). A better ISO rating helps businesses and homeowners achieve better insurance rates. The ratings include an evaluation of emergency communications and dispatch, the fire department, and the water supply. The ISO collects a large amount of data on each variable and assigns a score. The score is transformed into a rating. Communities can be assigned split ratings for urban/suburban/and rural areas.

After an in-depth evaluation, the ISO awarded the Estero Fire District an improved rating of 3 for the suburban district and 8b for the rural areas. Rural areas usually get lower ratings due to lack of water supply. To mitigate the situation, EFR purchased a 3,000 gallon Kenwood tanker that is housed at Station 4.^{24, 25}

²⁴ ISO. (2008). Public Protection Summary Report: Estero FD, Florida. Marlton, NJ: Insurance Services Office, Inc.

Figure 14: Tanker 44



This award will benefit all aspects of the Estero community in fire safety, insurance cost, and friendliness to business.

Emergency Medical Services (EMS)

EFR provides first responder advanced life support service from its suppression units and a rescue unit that is designed as a transport ambulance, but does not provide transportation services. EMS is overseen by a division chief whose main duties involve training and quality management. Currently, Estero has 33 licensed paramedics, with 30 of those serving in field operations positions. In 2008, EFR provided 3,208 hours of EMS training.²⁶

EMS Medical Direction – Dr. Michelle Nathan, a board-certified emergency physician who practices emergency medicine in a nearby community, serves as EFR medical director. She also serves as the EMS medical director for San Carlos Park and Bonita Springs. Dr. Nathan’s duties involve quality management, credentialing, training, and liaison with the medical community. The shared medical director agreement operates efficiently.

Skill Proficiency – The district’s quality management program includes recording of skills performed and where applicable, their success rates. The EMS staff is working on increasing data collection compliance through their quality management program.

During 2008, EFR paramedics performed the following skills. Most of these interventions were performed prior to the arrival of Lee County EMS. Endotracheal (ET) intubation, IO, and IV access skills were analyzed and compared with TriData’s EMS skills database. Endotracheal intubation (ET) was attempted in 7 patients, with 5 successful intubations

²⁵ EFR. (2008). EFR ISO Rating Improves. Available: [On-Line]. www.esterofire.org.

²⁶ EFR. (2009). 2008 Annual Report: Estero Fire Rescue, p. 10.

Assessment and Five-Year Plan

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(71.43 percent). These results, listed in Table 18 are in line with our database mean of 77.38 percent ($p = ns^{27}$).

There are variables to consider when comparing these figures. Providers from two EMS agencies are providing ET intubation skills. EFR paramedics usually only have time for one ET attempt prior to Lee County EMS' arrival. A second attempt at ET intubation is often successful.

Table 18: ET Intubation Comparisons

Source	Attempts	Success	Percent Success
Nova Scotia ²⁸	112	103	94.3%
Cady, C & Pirrallo, R. ²⁹	2,144	1,969	91.6%
Colwell, C.B., Et. al. ³⁰	124	120	96.7%
Garza, Et. al. ³¹	1,066	909	85.3%
Wang, Et al. ³²	783	680	86.8%
Deakin, Et. al. ³³	52	35	71.2%
Gerich, Et. al. ³⁴	383	373	97.4%
McGuire, Et. al. ³⁵	263	223	84.8%
El Dorado County EMS ³⁶	63	57	90.0%
Saint Paul ³⁷	103	89	86.4%

²⁷ ns = not-significant

²⁸ Nova Scotia Emergency Health Services. (2005). Medical Quality Performance Measure Report. Unavailable: [On-line].

²⁹ Cady, C.E. & Pirrallo, R.G. (2005). The effect of Combitube use on paramedic experience in orotracheal intubation. *American Journal of Emergency Medicine*, 23(7), 868-71.

³⁰ Colwell, C.B., McVaney, K.E., Haukoos, J.S., Wiebe, D.P., Gravitz, C.S., Dunn, W.W. & Bryan, T. (2005). An evaluation of out-of-hospital advanced airway management in an urban setting. *Academic Emergency Medicine* 12(5), 417-22.

³¹ Garza, A.G., Gratton, M.C., Coontz, D., Noble, E. & Ma, O.J. (2003). Effect of paramedic experience on orotracheal intubation success rates. *Journal of Emergency Medicine* 25(2), 251-6.

³² Wang, H.E., Kupas, D.F., Paris, P.M., Bates, R.R., & Yealy, D.M. (2003). *Resuscitation* 58(1), 49-58.

³³ Deakin, C.D., Peters, R., Tomlinson, P., & Cassidy, M. (2005). Securing the prehospital airway: A comparison of laryngeal mask insertion and endotracheal intubation by UK paramedics. *Emergency Medicine Journal* 22, 64-67.

³⁴ Gerich, T.G., Schmidt, U., Hubrich, V., Lobenhoffer, H.P., & Tscheme, H. (1998). Prehospital airway management in the acutely injured patient: The role of surgical cricothyrotomy revisited. *Journal of Trauma* 45(2), 312-314.

³⁵ McGuire, T. (2001, February). *EMS News: Alameda County Emergency Medical Services Agency Newsletter* 16(1). Available: [On-line.], p. 1.

³⁶ El Dorado County EMS (2004). *EMS quality management data*. Unpublished Data.

³⁷ SPC/TriData (2007). Comprehensive Management Study of the Saint Paul Fire & Safety Services Department. Arlington, VA: SPC/TriData Corporation.

Source	Attempts	Success	Percent Success
Ohio EMS ³⁸	3,686	2,531	68.67%
Portland, OR Fire ³⁹	370	336	90.8%
Overall	9,046	7,000	77.38%
Estero	7	5	71.43% (p = ns)

Table 19 indicates that Intraosseous (IO) access was attempted in 10 patients with 9 successes (90 percent). It is notable that during 2008 EFR switched to the EZ-IO device. All attempts were with the EZ-IO device. Overall, EFR success rate for IO access is comparable to our database (80.58 percent). The improvement after changing to the EZ-IO device has been seen nationwide.

Table 19: Intraosseous (IO) Success Rates

Study	Attempts	Success	Percent Success
Banargee, et al. ⁴⁰	30	30	100%
Glaeser, et. al. ⁴¹	152	116	76%
Macnab, et. al. ⁴²	50	41	84%
Nijssen-Jordan ⁴³	42	36	86%
Portland Fire Rescue ⁴⁴	4	1	25%
Total	278	224	80.58%
Estero	10	9	90.0% (p = ns)

³⁸ OEMS. (2003). The Run Report: Bringing you information from EMSIRS. Ohio Division of Public Safety. www.ohiopublicsafety.com

³⁹ SPC/TriData. (2006). Comprehensive Assessment of the Portland, OR Fire and Rescue. Arlington, VA: SPC/TriData Corporation.

⁴⁰ Banerjee, S., Singhi, S.C., Singh, S., & Singh, M. (1994). The intraosseous route is a suitable alternative to intravenous route for fluid resuscitation in severely dehydrated children. *Indian Pediatrics* 31(12), 1511-20.

⁴¹ Glaesner, P.W., Hellmich, T.R., Szewczuga, D., Losek, J.D., & Smith, D.S. (1993). Five-year experience in prehospital intraosseous infusion in children and adults. *Annals of Emergency Medicine* 22(7), 1119-24.

⁴² Macnab, A., Christenson, J., Findlay, J., Horwood, B., Johnson, D., Jones, L., Phillips, K., Pollack, C., Jr., Robinson, D.J., Rumball, C., Stair, T., Tiffany, B., & Whelan, M. (2000). A new system for sternal infusion in adults. *Prehospital Emergency Care* 4(2), 173-7.

⁴³ Nijssen-Jordan, C. (2000). Emergency department utilization and success rates for intraosseous infusion in pediatric resuscitation. *Canadian Journal of Emergency Medicine* 2(1) 1-7.

⁴⁴ SPC/TriData. (2006). Comprehensive Assessment of the Portland, OR Fire and Rescue. Arlington, VA: SPC/TriData Corporation

Table 20 indicates that IV access was attempted on 188 patients, with 141 (75.0 percent) successful attempts. This rate is equivalent to TriData’s database average of 76.04 percent.

Table 20: IV Access

Jurisdiction	Patient Attempts	Success	Success Percent
St. Paul, MN	5,521	4,257	77.1%
Delaware EMS ⁴⁵	2,584	2,142	83.0%
Ohio EMS ⁴⁶	137,554	102,703	74.66%
Contra Costa, CA ⁴⁷	28,000	22,960	82.0%
Overall	173,659	132,062	76.04%
Estero, FL	188	145	75.0% (p = ns)

Continuous Positive Airway Pressure – The citizens of Estero would benefit from the addition of Continuous Positive Airway Pressure (CPAP) for patients with trouble breathing. CPAP is gaining acceptance within EMS as an aggressive but relatively safe mechanism of providing care to patients exhibiting acute pulmonary edema or in some cases acute obstructive respiratory disorders. Many patients who receive this treatment early in the course of care may avoid both endotracheal intubation or extended hospital stays.^{48 49} This benefit may be especially true in Estero because of their quick response times. The cost for these devices is reasonable averaging \$1,500-\$2,000 per unit. Training can be done via the normal continuing education process.

Recommendation 13: The district should add CPAP to the paramedic scope of practice.

Transport Rescue Unit – EFR uses a transport-capable ambulance as a first response vehicle. It is equipped with advanced life support gear and is staffed by two personnel, at least one being a paramedic. The unit is not used for transportation. We feel that this is a waste of resources, especially when LCEMS response is delayed. Our anecdotal information reveals

⁴⁵ Cataldi, E. , McGinnis-Hainsworth, D. , Megargel, R. , Bollinger, M. and O'Connor, R. "A Comparison of Intraosseous and Intravenous Access in Adults and Children in the Prehospital Setting." Paper presented at the annual meeting of the National Association of EMS Physicians, Registry Resort, Naples, FL <Not Available>. 2008-12-12 from http://www.allacademic.com/meta/p64896_index.html

⁴⁶ OEMS. (2003). *The Run Report: Bringing you information from EMSIRS*. Ohio Division of Public Safety. www.ohiopublicsafety.com

⁴⁷ Frost, P. (2008, February). Contra Costa Emergency Medical Services Best Practices. Issue 2 [Corrected]. Contra Costa Health Services, CA.

⁴⁸ Kallio T, Kuisma M, Alaspaa A, Rosenberg PH: The use of prehospital continuous positive airway pressure treatment in presumed acute severe pulmonary edema. *Prehosp Emerg Care* 2003 Apr-Jun; 7(2): 209-13[Medline].

⁴⁹ Kosowsky JM, Stephanides SL, Branson RD, Sayre MR: Prehospital use of continuous positive airway pressure (CPAP) for presumed pulmonary edema: a preliminary case series. *Prehosp Emerg Care* 2001 Apr-Jun; 5(2): 190-6[Medline]

that the LCEMS is under “condition red” operations for some time everyday. “Condition red” means there are less than 50 percent of LCEMS units available for response. The LCEMS uses their dynamic redeployment model to move EMS units to more populous parts of the county. During “condition red” operations, Estero’s transport unit could become available for transportation.

We posed this idea to LCEMS who advised that the county would have to revise EFR designation from first-responder ALS to ALS transport. We did not appreciate feelings of support for the idea. Our discussion included identifying a similar situation that occurs in the City of Orlando, where the fire department runs transport capable rescues as first responders. Although they are transport-capable, they only transport during times of system stress.

Recommendation 14: The Lee County EMS should allow EFR rescue to transport patients during “condition red” operations.

EMS Transport Services

A controversy that waxes and wanes is whether EFR should provide EMS transport services. EMS transport is currently provided by the LCEMS and is efficient when combined with EFR’s first responder program. The fire chief, staff, and union have mixed emotions, but they believe that it will be necessary within the next 10 years. The fire chief is unsure whether the LCEMS will able to provide the service.

EMS Finances

Finances are a major controversy regarding the appropriateness of providing EMS transportation. Based on figures from Lee County we estimated the following collections from Estero.⁵⁰ From October 1, 2007 to September 30, 2008, LCEMS responded to 2,687 incidents in Estero, resulting in 2,018 transports (Table 21).

Table 21: LCEMS Cost Recovery from San Carlos Park

EMS Activity	Number/Dollars
EMS Transports	2018
Charge per Transport	\$483
Charges	\$975,875
Revenue Paid	\$745,530
Balance Due	\$230,345

⁵⁰ It is difficult to determine exact figures since Lee County does not keep figures by fire districts. We used a combination of estimated transports and revenue received.

The collection rate for EFR district is 76.4 percent, which is very commendable. These figures should be considered from a macro-economic perspective taking into account many variables. Table 22 describes several variables to be considered. These costs are based on placing in-service one staffed, ALS rescue (Table 22).

Table 22: Cost for EMS Transport Services

Variable	Cost
ALS Rescue Vehicles	Already own
Reserve Vehicle	\$203,895
Supplies and Equipment	\$148,134
Fuel	\$14,829
Maintenance	\$6,000
Insurance	\$3,000
Salary/Benefits	Already have personnel
Additional Medical Director Costs	\$10,000
Approximate Total	\$385,858

Since EFR already has a transport capable vehicle and trained personnel, the initial start-up cost would be less than for surrounding districts. The initial cost outlay of \$385,858 would be offset by an estimated collection rate of \$745,530 for a first-year surplus of \$359,672. The second year costs would be greater because salaries for 7 personnel must be considered. Also included is an estimated 3 percent cost increase (Table 23).

Table 23: Year Two EMS Costs

Variable	Cost
Fuel	\$15,274
Maintenance	\$6,180
Insurance	\$3,090
Salary/Benefits	\$1,140,076
Additional Medical Director Costs	\$10,300
Approximate Total	\$1,172,220

The costs for the second year are approximately \$1,172,220 which should be offset by collections of \$745,530, leaving a deficit of \$426,690. The predicted collection rate was not increased because in recent history, the Medicare/Medicaid reimbursement rate has decreased. After the second year, the District should realize a decreased deficit until a new vehicle is needed. Once used for EMS transportation, the vehicle first line expectancy is five years.

Before making any decision concerning EMS transport, the District must also realize several cautions and traps the above figures may present.

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- EFR can serve their community with one, full-time ALS transport unit. Unfortunately, simultaneous calls often occur, necessitating a need for automatic/mutual aid that may involve a cost.
- An automatic/mutual aid agreement would be needed and will likely come with a cost.

The overriding question is whether the addition of EMS transport would create a *false economy*. Variables to consider include:

- The current EMS transportation provider is providing acceptable service
- Economic factors are challenging the ability to add additional services
- Adding EMS transportation increases legal and regulatory risks for the District and individual leaders
- EMS transportation services may be a financial liability to EFR for several years
- The cultural changes caused by adding EMS transportation services are significant and often overlooked
- Patient off-load times at emergency departments continue to increase. This factor may confound our ability to predict the number of units needed

Recommendation 15: Based on financial risk, EFR should not consider adding EMS transportation services. A plan should be adopted to be prepared for service disruption. If future consolidation or merger is considered, the idea should be revisited.

Special Operations

EFR special operations function is commanded by a division chief and includes all specialty rescue and Urban Search and Rescue (USAR) activities.

Specialty Rescue – Often known as technical rescue, specialty rescue included below grade rescue, high and low angle rescue, confined space rescue, collapse rescue, and hazardous materials. EFR has several members trained in each specialty. Bonita Springs has a heavy rescue unit that is available to serve Estero. There is a future for even greater cooperative efforts between the districts.

Urban Search and Rescue – A significant part of EFR special operations program involves working with the Southwest Florida Urban Search and Rescue Team, Florida Task Force-6. The USAR team is inter-jurisdictional and is available to respond to regional emergencies and local emergencies. Region 6 covers a 10-county area and has 80 members from

10 fire departments in Lee County. Staffing by members from multiple districts offers talent, experience, and additional personnel to fire districts within the area.

EFR USAR members and peers from other agencies perform a monthly apparatus and equipment maintenance drill and leadership meeting to ensure their ability to respond. During 2008 FL-TF6 conducted an operational readiness exercise and was requested to aid in the response and recovery during Hurricane Gustav in Louisiana.⁵¹

Recommendation 16: EFR should continue support and participation with the regional USAR team.

Emergency Management

Emergency management has four primary functions:

1. **Mitigation:** Is prevention oriented to eliminate or reduce the degree of long term risk to life and property from natural or manmade hazards. EFR is involved in mitigation through its public education programs, and building plans and safety code review of plans submitted through Lee County Plans Review section.
2. **Preparedness:** Being prepared before the disaster occurs. EFR has developed pre-fire plans of district hazards including malls, the university site and special hazards like schools and nursing homes. They have also created mutual aid agreements with surrounding jurisdictions, fire districts, the county and the state to assist in various disaster scenarios. Hurricane preparedness is an area that all Floridians are encouraged to plan for and the fire district uses its headquarters building as a hurricane shelter for its employees' families and even their pets.
3. **Response:** These are actions taken before, during and after an emergency occurs to save lives, minimize damage to property and enhance the effectiveness of recovery. Depending on the size and scale of the emergency, headquarters becomes the Emergency Operations Center (EOC) for the fire district. From the EOC, search and rescue operations, food and water distribution, command and control structure are established and continue as long as necessary. This EOC has a separate emergency generation, ample phone lines, and specialized equipment with communication abilities to enable the fire district to provide emergency services to its residents. It also has a backup communications system.

⁵¹ EFR. (2009). 2008 Annual Report: Estero Fire Rescue, p. 13.

4. **Recovery:** Activities to return life to normal. In this mission, EFR provides personnel to assess damage and survey the overall effects of the disaster. More emphasis is being placed on recovery, with the goal of a quick return of the District to normal operations.

The District has a departmental emergency plan regarding hurricanes or other natural disasters as it pertains to personnel and deployment. The special operations DC performs the emergency management duties. Emergency management is under the direction of the Lee County Emergency Manager. Lee County is divided into regions, with Bonita Springs, Estero and San Carlos Park Districts grouped together in the South Region. When the County EOC is activated, Bonita Springs Fire Station 4 becomes the command center for the South Region. All coordination from this area is through Bonita's command center. Once the South Region Command Center is activated, the position of incident commander is shared by the three districts' fire chiefs and their assistants. Representatives of the Sheriff's Department, power company, City of Bonita Springs and other liaison personnel report to the Center to assume their responsibilities.

Recommendation 17: Continue the current emergency management agreement with Lee County and the surrounding districts.

5. FIRE PREVENTION, LIFE SAFETY, AND INVESTIGATIVE SERVICES

Fire Prevention, Life Safety, and Investigative Services are under the command of a division chief who serves as the fire marshal for the district. There are two fire safety inspectors and one administrative assistant who staff the division. A battalion chief assigned to emergency operations is responsible for investigative services.

In 2008, the district plans examiner retired and a decision was made to contract with the BSFRD for plans review services. This decision reflected a forward thinking approach by the Fire Chief, saving the citizens money without sacrificing efficiency.

Inspection Services

The division enforces the fire code by performing inspections of new construction, routine inspection of commercial and multi-family residences, and voluntary safety inspections of private homes. Other community prevention and lifesaving activities include a nighttime exit check program, nuisance alarm control, and fire extinguisher training. Fire prevention works closely with public relations personnel in providing community education.

During 2008, EFR performed 3,069 total inspections, down from 3,433 in 2007. The decrease in inspections was predictable, since signs of economic challenges were already present. The decision to reduce inspectors through attrition and enter a cooperative agreement for plans review was supported by data.

Company Inspection Program – EFR has taken the lead among fire districts by beginning a company inspection program. TriData believes that the program should continue with some specific goals in mind. EFR should use first due companies to conduct mercantile and commercial inspections. This practice is widely used across the country and benefits those jurisdictions that use it. Prevention efforts through inspections provide the suppression personnel direct contact with the business owners and the general public, increase familiarity with the district, increase firefighter understanding of fire prevention principles, and allow fire prevention specialists to focus on high-risk activities. Since economic conditions have prevented the filling of vacant inspector positions, a company inspection program can fill the void.

In order to move in this direction at least one member of each fire crew must be trained to the Fire Inspector I level or be approved by the authority having jurisdiction as an In-Service Fire Safety Inspector. Our evaluation indicates that many firefighters are certified or eligible for Fire Inspector I or In-Service Fire Safety Inspector. To become a Fire Inspector I, one must either complete a 200-hour state approved program and pass the Florida certification examination or

possess comparable training and pass the state exam. Inspector training is offered by the Florida Fire College, local community colleges, or a state-approved agency. Having line officers and firefighters certified as inspectors would be advantageous, but unrealistic. The Florida Fire Inspector program is rigorous, requiring initial training and certification and continuing education with recertification. Alternatively, local districts can train line personnel as in-service fire safety inspectors. This would require line fire officers and firefighters to attend 24 hours of local training and be approved by the local Fire Marshal. There is no state certification or examination. The training must be conducted by a state certified Fire Inspector/Instructor I, and companies would work under the Fire Marshal's license.⁵²

Training could be conducted on-duty as a continuing education program or off-duty in a formal setting. Current fire officers would be required to complete the in-service fire safety inspector training within one year. The transition can be made in several steps beginning with the inspection of mercantile buildings up to 5,000 square feet. A schedule should be developed that would inspect all commercial buildings within one year.

Inspections performed by first due engine companies have reduced fire loss by helping to eliminate the causes of fire before an incident occurs and reducing fire loss when they do occur.

Recommendation 18: EFR should train officers and firefighters as in-service safety inspectors. Fire companies should begin to conduct lower risk mercantile inspections (<5,000 square feet) and voluntary home inspections.

EFR has legally adopted the State Fire Prevention Code. The state code is considered a "mini/maxi" code, prohibiting local amendments. After interviewing local fire marshals, it is our understanding that the commissioners have limited authority to strengthen the state codes within the district. The fire inspectors have the authority to issue citations for fire code violations but rarely do. Apparently the process takes too long to have positive results. Fire lane parking violations are the most common type of enforcement effort. This is usually handled with a verbal correction to the offender. Business owners prefer this action due to the possibility of losing business. Even though local businesses prefer informal enforcement, stricter enforcement of serious infractions such as blocked exits, fire lane violations, and overcrowding is required. This is not meant to emphasize punishment, but to educate the citizens and the business owner. If an emergency occurs and access to the building is blocked, precious time is lost in reaching the incident or in rendering medical assistance to the patient.

⁵² State of Florida Administrative Code, Section 63A.

Recommendation 19: Fire inspectors should be required to issue citations for serious code violations including blocked exits, fire lane violations, and overcrowding violations.

Knox box locations, sprinkler valves and fire alarm control panels are marked on pre-fire plans and engine companies familiarize themselves with these locations. In NFPA 1, a Knox box is required on any building with a fire sprinkler system or fire alarm system.

Fire Investigation – EFR is fortunate to have a battalion chief who is a state-certified fire investigator. The investigator can handle cause and origin of most fires occurring in Estero. Any fire that results in a death or critical injury, or any fire whose loss is over \$1 million must be investigated by the Florida Fire Marshal. In addition to the State Fire Marshal, the Lee County Fire Investigation Task Force is available to assist the District. Estero’s investigator can adequately investigate almost all fires that occur within the District. Besides the mandated state investigations, the only other occasion where outside intervention is needed is when an arrest for arson must be made. In these instances, the State Fire Marshal or Lee County Sheriff must make the arrest. Budget cutbacks and increased needs outside Estero may limit the timely availability of the State Fire Marshal to serve the area. Therefore, the internal ability to investigate fire cause and origin may become more critical.

During 2009, EFR conducted 15 official fire investigations involving accidental or incendiary fires involving structures, wildlands or vehicles.

Table 24: Estero Fires Investigated, 2008⁵³

Condition	Type	Number
Accidental	Structure	4
Incendiary	Structure	2
Accidental	Wildland	2
Incendiary	Wildland	3
Accidental	Vehicle	3

On average, fire investigations in Estero lead to one adult arrest and 4-10 juvenile arrests each year. EFR has a juvenile firesetter prevention program that is aimed at reducing juvenile arson before a crime is committed.

Public Relations

Public Education, Injury Prevention, and Public Information are part of the Public Relations Division. The public relations manager is a non-uniformed position; however, the

⁵³ Data from EFR records

incumbent has completed firefighter training. The division is responsible for public education, public relations, injury prevention, communications, and department media services. The public relations manager also serves as the public information officer (PIO) and media relations specialist.

The Public Relations Division has extensive involvement with the Estero business and residential community and offers many services that are difficult for small departments to deliver. Even with the 2008 staffing reduction, the division is still making progress.

Public Education

Public Education provides an all-hazards approach to mitigation and life safety and helps Estero Fire Rescue provide information and training to Estero's diverse population. Many of these services are designed to reduce the need for emergency response. Some of these services include:

- Residential Fire Safety Surveys
- Community Event Assistance
- Child Car Seat Installation
- CERT Training (Community Emergency Response Team)
- Fire Extinguisher Training
- Fire Truck Demonstrations
- Life Safety and Prevention Lectures
- Free Smoke Alarm Program
- CPR, First Aid and AED Training
- DUI Safety Programs⁵⁴

It is essential that emergency operations continue to work closely with the public education program. New officers and firefighters should be assigned to work with specific programs as a condition of their probationary period. Developing an appreciation for the importance of public education and public relations helps assure a successful transition into and within the fire service.

⁵⁴ EFR, (2009), p. 14.

Recommendation 20: New officers and new firefighters should be assigned to specific public education projects as part of their probationary process.

Public Information

The public relations manager acts as the PIO for the District. The PIO develops relationships with the local media, citizen groups, and the business community to accomplish several objectives. These include the ability to represent the fire chief with the media, communicating emergency and non-emergency messages to the citizenry, and providing the business community with information concerning the advantages of following state and local fire codes.

The recent challenges posed by the economy have led to media challenges to public safety budgets, policies, and operations. A well-informed media and engaged citizenry is essential to continued progress. An important goal for the PIO is a commitment to releasing comprehensive and accurate information in a timely manner, coordinating media coverage on breaking news incidents and events and releasing details about EFR's mission, goals and accomplishments through prudent, persistent and precise release of information. By working closely with local and state media organizations, the PIO is able to inform the public of emergency events as well as any upcoming training classes and important public service announcements.⁵⁵

Ember – New to public relations this year is Ember, a female Dalmatian. Ember joined the department in November, 2008, and immediately made a big impact. She has visited schools, community events and has participated in the Coconut Point Mall Holiday Parade. Ember will be trained to perform acts that will help the fire department educate the public on fire and life safety issues such as checking the batteries in smoke alarms and crawling low under smoke. Additionally, she will act as an ambassador for Estero Fire Rescue and will bring a sense of tradition. This innovative program is an effective investment for the District and will allow for innovative educational programs for Estero residents of all ages.

⁵⁵ EFR. (2009). P. 15.

Figure 15: Ember



Estero Fire Rescue Explorer Post 1964

In addition to regular duties, the EMS Division Chief serves as the lead advisor for Estero Fire Rescue Explorer Program. The Explorer Program has had another successful year of training and competitions. The Post, also led by Associate Advisors Engineer Laura Occhipinti and Firefighter Clint Skelton, currently has 17 Explorers and is continually recruiting new members from Estero High School and surrounding high schools. 2008 highlights include:

Winterfest Competition in Gatlinburg, TN:

- 3rd Place out of 46 teams in Communications Competition
- 3rd Place out of 30 in the Advisor's Rapid Dress Drill

Hardee County Firematics Competition:

- 3rd Place in Running Hose Event

Broward County Firematics Competition

- 2nd Place in Rapid Dress competition
- 3rd Place in Hose Rolling Event

St. Petersburg Firematics Competition

Rendezvous Weekend at Camp Miles, Punta Gorda, FL

- Overnight camping with team building events

Texas Summer Trip

- Tour and ride-along program with Houston Fire Department
- Team building at Cortez Dude Ranch in Bandera, Texas
- Tour of San Antonio and history of Texas
- Tour of Disaster City training facility in Bryan, Texas
- Tour of Bush Presidential Library

The benefits of the program have become more apparent this year with the following accomplishments:

- 3 Estero Fire Rescue Explorers graduated from Fort Myers Fire Academy
- \$825.00 scholarship presented to Lt. Cory Heller for Fire Academy
- Assisted Bonita Springs Fire Rescue to develop their Explorer Program
- Competed with City of Fort Myers in several events and assisted them in developing a competition team
- Logged over 100 hours of EMS and fire training
- Staffed First Aid tents and participated in numerous community events, such as the 4th of July celebration at Miromar and Celebrate Estero⁵⁶

Estero Fire Rescue Explorer Program continues to grow and the success of the program is demonstrated by the accomplishments of the youth involved. EFR should continue to support the Explorer Program as a method for recruitment for future firefighters.

Recommendation 21: Continue to support the Explorer Program as a method for recruiting future firefighters. This should present an excellent opportunity to recruit more women into the District.

Estero Fire Rescue Stations and Equipment

Estero Fire Rescue has a newly dedicated headquarters building and four fire stations positioned throughout the district.

Headquarters/Administrative Complex (21500 Three Oaks Parkway) –

The Headquarters/Administrative Complex was opened in 2008 after a seven year construction that was originally plagued with delays (Figure 16). The building is able to house all EFR

⁵⁶ EFR. (2009),

administrative offices, provide space for commission meetings, and provide classroom space for firefighter and civilian training. All facilities are Wi-Fi capable and connected to cable TV services, allowing the District access to modern information services.

Figure 16: Headquarters/Administration Complex



Figure 17 is an example of a fire inspector vehicle that is similar to the non-emergency vehicles owned by the district.

Figure 17: Fire Inspector Vehicle



Estero Fire Station 1 – Built in 2002, this two bay, drive through station houses a 75' Quint (run as an engine/ladder company), an air compressor unit, and a pick-up truck to pull the air unit. The station also houses a skid portable brush pump and tank. If necessary, the station can accommodate a ladder or truck.

Figure 18: Estero Fire Rescue Station 1 – 8631 County Road



Three personnel are assigned to each shift to staff the Quint. The air unit and brush units are run by station personnel as needed. The lieutenant has a separate bunk room, and the main bunk room has eight bunks separated by side partitions. Nine personnel could be housed if needed.

Being a relatively new station, the building and grounds conditions are good. A response issue includes difficulty in accessing the main thoroughfare (US Highway 41) due to traffic. There are no traffic control devices at this location. Gear storage is a ½ size vented metal locker located in a room off of the apparatus bay. This room has an open entryway from the apparatus bay floor. Bays have ventilation exhaust fans that operate automatically for approximately 20 minutes when bay doors are initially opened.

Figure 19: Ladder 41



Figure 20: Air Unit 40



Estero Fire Rescue Station 2 – Built in 2005, the station is a two-bay, drive thru facility that houses a 95' tower truck, a 75' reserve quint, and a rescue unit that has patient transportation capabilities.

Six personnel are assigned to each shift, with a minimum crew of five including one lieutenant and four firefighters. The rescue is staffed with two firefighters (at least one paramedic), and the truck with one lieutenant and two firefighters. By contractual agreement, the truck may operate with two firefighters for up to 12 hours. The shift lieutenant has a separate bunk room. The main bunk room has eight bunks separated by side partitions. The station can house up to nine firefighters.

Figure 21: Estero Fire Rescue Station 2 – 8006 Sweetwater Ranch



One response issue includes difficulty in accessing the main thoroughfare (US Highway 41) due to traffic. There are no traffic control devices at this location. Gear storage is a vented metal locker in a room off of the apparatus bay. This room has an open entryway from the apparatus bay floor. Bays have ventilation exhaust fans. This room had a hole in this ceiling from previous leaking roof water damage. Parking is limited especially at shift exchange time.

Figure 22: Truck 42



Figure 23: Rescue 42



Figure 24: Battalion 40



Esterio Fire Rescue Station 3 – Station 3 is a two-bay, drive thru station that was built in 2002 that houses Engine 43, Brush 43, Battalion 40 and an LCEMS medic unit (Figure 25). The minimum shift crew is one battalion chief, one lieutenant, and two firefighters. The battalion chief serves as the shift commander for the district. The LCEMS staffs the medic unit with a minimum of one paramedic and one EMT-B.

Figure 25: Esterio Fire Rescue Station 3 – 21510 Three Oaks Parkway



The facility is relatively new and is in excellent condition. The battalion chief and the lieutenant each have separate bunkrooms and the main bunkroom has 6 partitioned bunks. Access from the station is via a divided highway with no traffic control devices.

Figure 26: Engine 43



Figure 27: Brush 43



Estero Fire Rescue Station 4 – Station 4, a two bay, drive thru station built in 2003, houses Engine 44, Brush 44, and Tanker 44 (Figure 28). Each shift is staffed by a lieutenant and two firefighters. When needed, the crew will respond with the brush units, with or without the engine.

Figure 28: Estero Fire Rescue Station 4 – 21300 Firehouse Lane



The station is in excellent condition, and has a bunkroom for the lieutenant and 8 partitioned bunks in a common area. Access from the station is via public highway with no traffic control devices. If needed, the station could support an aerial unit.

Overall, EFR fire stations are in excellent condition, can support additional units and personnel, and should not require any major structural maintenance in the near future. There is a safety concern, secondary to the inability to secure permission from Florida DOT, to place traffic control devices in front of the stations.

Recommendation 22: Prior to July 1, 2010, petition Florida Department of Transportation to authorized pre-emption traffic control devices.

Figure 29: Engine 44



Figure 30: Tanker 44



Figure 31: Brush 44



6. SUPPORT SERVICES

Most support services functions are overseen by the division chief of special operations, except for information technology that is overseen by the assistant chief. Support services functions include training, apparatus maintenance, building maintenance, and information technology.

Hiring

EFR hires fire-certified personnel based on a multi-district eligibility list established in cooperation with the Lee County Fire Chiefs Association. Part of the testing includes the IAFC/IAFF endorsed Comprehensive Physical Assessment Test (CPAT) to determine if the candidate has the basic physical aptitude necessary for a physically demanding profession. Applicants who pass the CPAT and other processing steps are eligible for hiring by Lee County Fire Districts.

While the CPAT process has been recognized by the IAFC and IAFF as valid, there are unresolved cases before the U.S. Equal Employment Opportunity Commission (EEOC) claiming that the testing has adverse impact on women applicants. The Lee County Fire Chiefs offer pre-test training to mitigate these issues. At this point, it appears that the EEOC accepts these mitigating efforts, but is continuing to monitor the situation.

Recommendation 23: EFR should continue to support the Lee County Fire Chiefs CPAT program, while continuing to monitor the issues surrounding adverse impact.

Training

While an important part of any fire department, training is especially critical for EFR because most firefighters have less than 10 years of experience. During 2008, EFR personnel participated in 16,851 hours of training, averaging 306 hours per uniformed employee. Due to the high percentage of early-careerists, the District is making an intense effort to emphasize procedural skills proficiency in all aspects of training.

Recruit Training – EFR requires new members to possess Florida Firefighter I and II certification, and Florida EMT-B certification prior to employment. There may also be a point of diminishing return where too many paramedics may lead to skill decay. The District's plan to limit the number of privileged paramedics to 30 is appropriate. Also, the practice of awarding additional compensation for EMT-B functional privileges is counterintuitive. EMT-B should be a minimal job skill.

Recommendation 24: Continue to require Florida Firefighter I and II, and EMT-B prior to being hired. When needed, continue the hiring preference for paramedics.

Recommendation 25: Limit the number of paramedics with medical director functional privileges to 30.

Recommendation 26: Eliminate any additional compensation for attaining EMT-B functional privileges.

EFR has an extensive recruit and probationary program that includes a four-week academy and an intense probationary year that has specific requirements that must be achieved to achieve permanent employment. Each probationary firefighter must demonstrate successful cognitive and psychomotor development in each area.

Continuing Education – EFR requires each uniformed employee to attend 20 hours of continuing education monthly. Education topics vary from basic fire skills development, EMS skills development, leadership and supervision, rescue, hazardous materials, and other topics determined to be important. Like most fire districts, the District would like to have more live fire training. The division chiefs of special operations and EMS each plan and teach 5-6 hours of the monthly programs. These programs concentrate on current topics such as safety, specialized rescue, ICS and EMS continuing education. The remaining hours are covered by the battalion chiefs and station lieutenants. All training is recorded on the Firehouse Software, and reports are submitted as requested. Holding the battalion and station officers accountable for continuing education is appropriate and should continue to produce quality training.

Officer Development – Some of the officer development program is done through the monthly training sessions. Personnel who wish to achieve Fire Officer I and II certification must attend on their own, because completion of these courses qualifies the employee for additional pay. There is one chief officer currently enrolled in the National Fire Academy Executive Fire Officer Program. The department should encourage chief officers to apply for this and other officer training programs offered throughout Florida.

Apparatus Management

Apparatus management is overseen by the special operations division chief who serves as the main liaison to the Lee County Fleet Maintenance Division. The District contracts with Lee County to maintain all department vehicles at a set rate. This arrangement seems to be technically and economically efficient. EFR is content with the service and turnaround times.

Most of the rolling stock is new, and no replacements are needed in the near future. The major investment in the near future is the upgrade of Self-Contained Breathing Apparatus (SCBA).

Preventive Maintenance – EFR follows an organized preventive maintenance schedule that assures that vehicles are safe and in good working order. The vehicles at each station are scheduled for quarterly service (Table 25). Maintenance is provided by Lee County for a contractually set, per hour price. The current system is economical and the quality of service is good.

Table 25: Preventive Maintenance Schedule

Apparatus and Vehicle Preventative Maintenance Schedule				
Month	Station	Apparatus	Support Vehicles	Staff Vehicles
JAN	41	Lad 41, Bru 41 (w/ skid)		02-015, 01-010, 03-002, 03-001
FEB	42	Res 42, Tk 42, Reserve 42	Air 40, Support 43, Explorers	05-001, 06-001, 06-002, 07-003
MAR	43	Eng 43, Bru 43		07-004, 07-007, 07-008, 08-002
APR	44	Eng 44, Bru 44, Tank 44		08-003, 02-020, 01-011
MAY	41	Lad 41, Bru 41		
JUN	42	Res 42, Tk 42, Reserve 42		
JUL	43	Eng 43, Bru 43		
AUG	44	Eng 44, Bru 44, Tank 44		
SEPT	41	Lad 41, Bru 41		
OCT	42	Res 42, Tk 42, Reserve 42		
NOV	43	Eng 43, Bru 43		
DEC	44	Eng 44, Bru 44, Tank 44		

The following is a vehicle replacement schedule for the district. Vehicles that are identified for replacement should be moved to reserve status for 3-5 years unless unusable or sold (Table 26). Eliminating one vehicle and downsizing another will save \$55-60K.

Table 26: Staff Vehicle Replacement Schedule

Vehicle	In-Service Date	Schedule for Replacement	Estimated Cost
2002 Ford Expedition	2002	2010	\$35,055
2001 Ford Expedition	2001	2009	\$41,605 Consider non-replacement
2003 Ford Expedition	2003	2011	\$29,493
2003 Ford Expedition	2003	2011	\$31,166
2001 Ford F-150	2001	2012	\$23,809
2005 Ford F-150	2005	2013	\$23,025
2005 Ford Crown Victoria	2005	2013	\$23,676 Downsize Vehicle

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Vehicle	In-Service Date	Schedule for Replacement	Estimated Cost
2006 Ford Explorer	2006	2012	\$24,152 Consider Downsizing
2007 Chevy Silverado	2007	2014	\$26,000
2008 Chevy Tahoe	2008	2014	
2008 Chevy 2500			
2008 Chevy Equinox	2007	2014	
2008 Chevy Equinox	2008	2015	
2008 Chevy Tahoe LS	2008		

EFR will have until 2013 before any major pieces of apparatus will need replacement. Changing E-41 from a Quint to an Engine will save up to \$300,000.

Table 27: Apparatus Replacement Schedule

Vehicle	In-Service Date	Scheduled for Replacement	Estimated Cost
1999 Ford F550	1998	2015	\$90,283
2000 Oshkosh MPT	2000	2017	\$311,197
2001 E-1 Quint	2001	2013	\$470,000 if replaced with an Engine
2002 E-1 Cyclone II	2002	2014	\$412,732
2002 E-1 Cyclone II	2002	2014	\$408,388
2002 E-1 Cyclone II	2002	2017	\$1,038,763
2005 E-1 Cyclone II	2005	2017	Consider replacing with an Engine \$437,495
2007 Ken Worth Fouts	2007	2020	\$213,330
2008 Chevy 4500	2008	2013	\$197,000

Self-Contained Breathing Apparatus – As working relationships between districts increase, it is important to assure interoperability. EFR currently uses the Survivair self-contained breathing apparatus (SCBA) system. The District is not satisfied with the performance of these units, and neighboring districts are using the MSA brand. The District is also concerned about legal actions involving Survivair and the St. Louis Fire Department.⁵⁷ Other reasons to switch SCBA vendors include:

- Interoperability between jurisdictions is necessary because theoretically, EFR will be operating on an incident with another district providing air refill. A lack of

⁵⁷ _____. (2008, November). St. Louis Switches SCBA after Lawsuits. Fire Chief [Electronic Version], http://firechief.com/technology/stlouis_scba_1105.

interoperability could affect fireground operations or delay units returning to full service.

- The MSA model SCBA now comes with the option of electronic monitoring capabilities, allowing the incident commander to monitor the location and air levels of firefighters performing interior operations. Theoretically, IC could be from a neighboring jurisdiction having these capabilities. If EFR personnel lack this equipment, the IC could not monitor vital activities during interior operations.
- The technology available with the MSA model SCBA will allow Estero's ICs to monitor the location and air level of personnel performing interior attack. If a firefighter has a breathing apparatus malfunction, runs out of air, or becomes lost, the electronic capabilities will allow RIT/RIC teams a better chance to quickly find the firefighter.

The investment into this technology has several safety and operational benefits for the District. It may provide increased short and long-term health and wellness benefits for firefighters.

Recommendation 27: Switch SCBA brands from Survivair to MSA.

Building Maintenance

Building maintenance is also the responsibility of the division chief of support services. Since most of EFR stations are relatively new, there is not much major work to be done. Minor repairs are usually handled by station personnel. Major repairs are handled thru the normal purchasing process.

In 2008, EFR placed in-service a new headquarters/administrative complex on the same property where Station 3 is located. Building maintenance issues are minimal, but close coordination is needed with information technology.

Information Technology

EFR has made a serious commitment to the application of modern information technology to their operations. Computer-based incident reporting and recordkeeping is done through Firehouse Software. The District has a full-time information technology administrator who coordinates all information management.

Access is available to video conferencing, but its full application has yet to be enacted. Video conferencing is an excellent way to maintain communications and present educational programs simultaneously throughout the department. Video conferencing along with computer-

based learning systems will allow EFR to streamline instructor needs, reduce units traveling out of their response area to attend didactic training, and reduce overtime costs for instructors.

Recommendation 28: Continue to develop the video conferencing system to enhance department-wide communications and training.

7. ESTERO FIRE RESCUE FIVE-YEAR PLAN

The following represents our recommendation for EFR during the next five years. The District is fortunate that its building and rolling stock are in good shape and major purchases or repairs will be limited. Very few employees are eligible for service retirement, thereby decreasing some strain on the pension system. These situations should be welcome during challenging economic times, and should also assist the District's ability to pay down some debt.

The five-year plan for EFR is based on the 28 recommendations made throughout the document. We have listed the recommendation, priority, and cost considerations. This plan does not consider further issues regarding consolidation. Priorities are classified as follows:

- **High:** The recommendation will improve the quality of service and the investment is reasonable even in difficult economic times.
- **Medium:** The recommendation may improve the quality of service or may require consideration of economic timeliness.
- **Low:** The recommendation may affect the quality of service but may need to be reserved for the availability of opportunity dollars.

Table 28: Five-Year Plan Recommendations

Recommendation	Priority	Year	Cost
1. EFR should continue to provide first responder/paramedic care.	High	1	Ongoing
2. Move responsibility for training from special operations to emergency medical services.	Medium	2	Improve efficiency
3. The positions eliminated in 2008 should remain vacant at this time.	High	1	\$977,208 Annually
4. Add the human resources director to the department safety committee.	Medium	2	Increased efficiency
5. Consider all options within the 175 plan for reducing pension costs. Consider mirroring FRS benefits for new high-risk employees hired after January 1, 2010.	Medium	2	Considerable Savings
6. Effective October 2010, lower the allowable accumulated hours that can be compensated to 480 hours.	Medium	2	Reduced payouts at retirement. Usually unfunded
7. Effective October 2010, restrict short term disability to off duty illness/injury that were not secondary to an incident that is covered by Workers' Compensation from another employer.	Medium	2	Reduction of insurance costs
8. Increase the number of engine companies dispatched on structure fires from two to three.	Medium	1	Alignment with neighboring districts
9. Maintain a minimum staff of three on the ladder/truck company.	Medium	2	Small overtime increase

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Recommendation	Priority	Year	Cost
10. For fire alarms without confirmation of fire, consider reducing the initial response to one engine company, non-emergency.	Low	2	Efficiency, safety, minor cost savings
11. Remove the battalion chief from the initial assignment for fire alarms.	Low	2	Efficiency, safety, minor cost savings
12. Continue to foster cooperation between Lee County Fire Districts by encouraging participation in the AVL-guided closest unit response agreement.	High	1	Increased efficiency, safety, and reduced response costs
13. The district should add CPAP to the paramedic scope of practice.	High	2	Better patient care
14. The Lee County EMS should allow EFR rescue to transport patients during "condition red" operations.	Medium	2 or 3	Better patient care, Cost offset by fee collections
15. Based on financial risk, EFR should not consider adding EMS transportation services. A plan should be adopted to be prepared for service disruption. If future consolidation or merger is considered, the idea should be revisited.	Medium	1	Continue to monitor the situation
16. EFR should continue support and participation with the regional USAR team.	High	1-5	Cost Effective
17. Continue the current emergency management agreement with Lee County and the surrounding districts.	High	1-5	Cost Effective
18. EFR should train officers and firefighters as in-service safety inspectors. Fire companies should begin to conduct lower risk mercantile inspections (<5,000 square feet) and voluntary home inspections.	High	1 and 2	Increase efficiency, save money by keeping permanent elimination of positions \$325,736
19. Fire inspectors should be required to issue citations for serious code violations including blocked exits, fire lane violations, and overcrowding violations.	High	2	Community Safety
20. New officers and new firefighters should be assigned to specific public education projects as part of their probationary process.	Medium	2 or 3	Increased program effectiveness without adding new positions
21. Continue to support the Explorer Program as a method for recruiting future firefighters. This should present an excellent opportunity to recruit more women into the District.	High	1	Excellent investment in the community
22. Prior to July 1, 2010, petition Florida Department of Transportation to authorized pre-emption traffic control devices.	High	1	Safety issue
23. EFR should continue to support the Lee County Fire Chiefs CPAT program, while continuing to monitor the issues surrounding adverse impact.	Medium	1-5	Efficient program
24. Continue to require Florida Firefighter I and II, and EMT-B prior to being hired. When needed, continue the hiring preference for paramedics.	High	1-5	Saves \$37,584 per recruit hired
25. Limit the number of paramedics with medical director functional privileges to 30.	High	2	Saves on training

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Recommendation	Priority	Year	Cost
26. Eliminate any additional compensation for attaining EMT-B functional privileges.	Medium	2	Saves 1 step pay reclassification for each firefighter
27. Switch SCBA brands from Survivair to MSA.	High	1	Safety, interoperability Will involve an initial investment
28. Continue to develop the video conferencing system to enhance department-wide communications and training.	Medium	2 or 3	Minor maintenance costs

No major changes are recommended to any buildings for the next five years. This report should comply with the districts obligation under the 2008 Florida Statutes, Title XIII, Chapter 189, Section 189.415 Special District Facilities Report, Subsection (1) (a) and (1) (b). The evaluation and appraisal report described in Sub-Section (1) (b) is current and should be on file with Lee County. At this time, there is no exact date of demolition for the current facility or construction of the new facility. The current capacity report is available from EFR Fire Marshal and will be updated as per Sub-Section 1 (e).