Lexington County Fire Service FY16'-17' Annual Report



"SERVICE EXCELLENCE"



Thank you for taking the time to learn more about the Lexington County Fire Service. It is our honor to serve the citizens of Lexington County. The Annual Report you are about to read depicts the services and accomplishments of our department during Fiscal Year 2016/2017. Our personnel, career and volunteer, work hard each day to accomplish our mission of "Service Excellence".

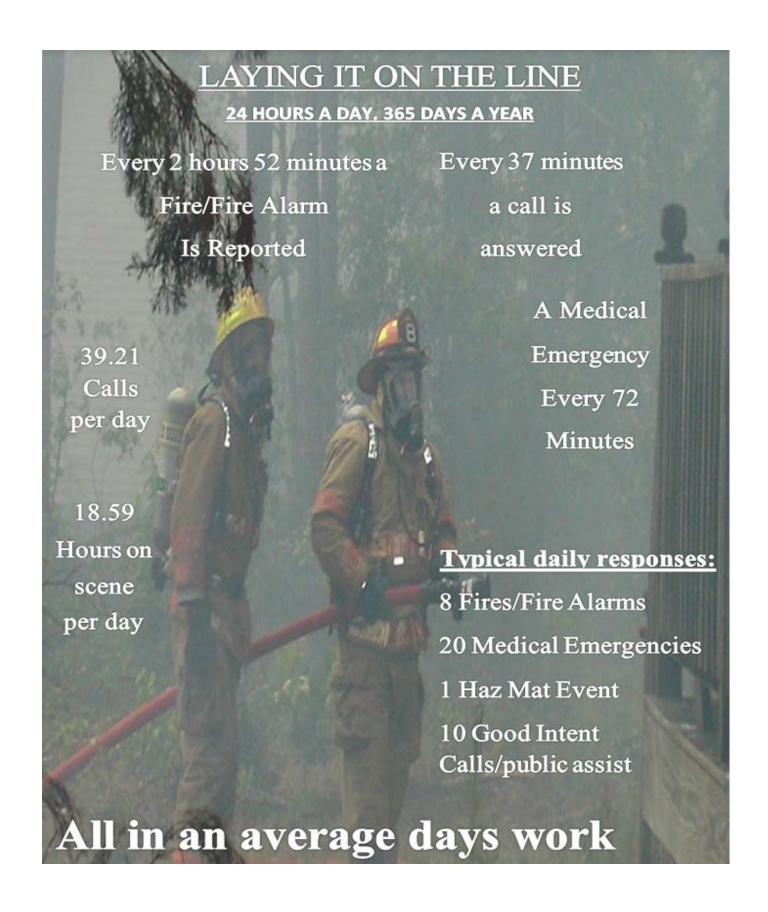
During my time with the department, I have clearly affirmed that this is a strong and progressive organization comprised of dedicated and professional individuals who are truly here to serve and protect the citizens of Lexington County. Since 2011 the department has improved its Insurance Services Office (ISO) rating from a Class 7 to a Class 5 in 2011 and to a Class 3 in 2015. Classification improvements such as these do not occur without the diligent effort of an entire organization.

The department utilizes a 5 year Strategic Plan to guide our operations towards the ultimate vision of an ISO Class 1 designation and International Accredited Agency status. Our Strategic Plan is updated each year based upon employee feedback and County Council priorities. Obtaining and maintaining an accredited agency status will insure that our department continuously assesses our performance and implements measures to address any deficiencies. In addition, the men and women of the department train conscientiously every day to improve their own skills so that they are prepared for any emergency they may face.

The Lexington County Fire Service has established a rich history of service and exemplary performance. This year is no exception. The residents of Lexington County can be very proud of their fire department and count on the men and women of the department to be there for them in their time of need. We sincerely appreciate the support that we have from County Administration, our elected officials and the community we serve.

Respectfully,

Bradley C. Cox Fire Chief









July 1st, 2016 – Mobile Data Terminals (38) Phase 2 started

July 2016 - Recruit Class 16-01 Graduated

January 2017 – Recruit Class 17-01 Hired

May 2017 – Recruit Class 17-01 Graduated

The Lexington County Fire Service demand for service includes:

14,312 total responses which includes mutual and automatic aid. (+22%)

24,652 individual unit responses (+11%)

1,834 fires; an increase of 31.8% from 2015-2016

A total incident loss of \$9,562,479; a 16% increase from 15'-16'. Total saved \$26,258,001

Where fires occur:

There were 1,834 fires in Lexington County Fire Service area.

15.59% were structure fire responses

27.48% were outside rubbish fire responses

29.72% were natural vegetation responses

27.21% were mobile property responses

Residential structure fires represented 39% of all fires and 76% of all structure fires

As a result of fire, there were:

9 Civilian injuries and 8 deaths

6 Firefighter injuries

There were 286 structure fires and 231 vehicle fires

The number of structure fires increased by 25%

Emergency Services Branch



The Emergency Services Branch includes the Emergency Operations Division, the Special Operations Division and the Training Division. These divisions are managed by a Deputy Chief who answers directly to the Fire Chief and is a member of the senior staff. This Branch head is responsible for managing and directing the emergency service delivery system, including all line activities involved with emergency response to fire, medical, rescue, technical rescue, hazardous materials, false alarms and good intent calls. The departmental training program also comes under the direction of this division to include, recruit training, in service training, testing, promotional processes and personnel development.

The Operations Division of the Lexington County Fire Service is divided into two geographic operational regions, each under the command of a Battalion Chief. The regions are divided into four response areas in the North and 3 response areas in the South, under the command of Captains. Within these 2 regions there are 24 fire stations that provide emergency response to all fires, medical calls, rescues, hazardous materials incidents and other miscellaneous emergencies.

Apparatus assigned to the Emergency Services Branch are designed to address a wide spectrum of emergency responses:

- 21 Engine companies charged with fire extinguishment and also designated as a primary Basic Life Support (BLS) units.
- 3 Quint/Ladder companies and 1 Tower/Platform are designated to preform search and rescue, forcible entry, victim rescue, and ventilation. Quint/Ladder companies also perform engine company duties.
- 2 Squad companies that support the functions of the ladder companies.
- 3 Hazardous Material companies mitigate material releases including decontamination of victims and responders at large and small incidents.
- 2 Special Operation companies that are charged with handling technical rescue (High Level, Structural Collapse, Trench Rescue) and Swift Water rescue.

Training Division

The Training Division comes under the direction of the Emergency Services Branch to include recruit training, in service training, testing, promotional processes, and personnel development. The Training Division is managed by an Assistant Chief and supported by a highly trained team of teaching professionals, including a Captain, and 2 part time fire instructors.

The Lexington County Fire Service continues to make training one of the top priorities throughout the year. Training consists of ongoing education to satisfy many licensure requirements, as well as new training to enhance the knowledge base of firefighters. These lead to higher certifications and better service to citizens and those who pass through the County. The 2016-2017 fiscal year resulted in a total of 57,024 training hours. Of the total hours 13,206 were company drills.









Administrative Services Branch



The Administrative Services Branch includes the Administrative Division, Planning and Research Division, and Logistics Division. The Administrative Services Branch provides support to all branches and divisions of the Lexington County Fire Service. The Administrative Services Branch is headed by a Deputy Chief that reports directly to the Fire Chief and is a member of senior staff. The Deputy Chief manages the Battalion Chief of Planning, the Logistics Officer, Breathing Air Technician, Administration Assistants and coordinates all facility maintenance, repairs, design and construction, human resources, payroll, fleet maintenance, budget preparation, and information requests from citizens and departmental personnel.

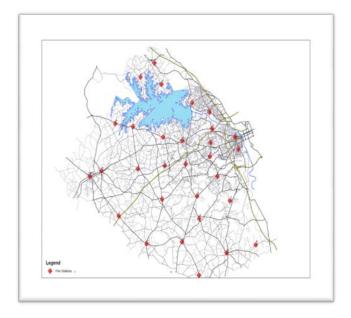


Planning and Research Division

The Planning and Research Division develops and implements strategies to advance the deployment of resources of the Lexington County Fire Service to the citizens in need. The key goals of this responsibility include analyzing fire service standard of coverage, conducting community risk analysis, and feasibility studies; preparing contracts; preparing automatic aid, mutual aid and initial action agreements with other fire agencies; gathering data and assuring quality control by developing standard and specialized report queries that are analyzed daily, weekly, and monthly by the division.

On a whole, these functions blend together so that the Division may continue to support the fire service in meeting the needs of the growing population of the County and provide the most skillful and cost-effective fire and first responder services in the communities served.

The Lexington County Fire Service is completing the process to apply for accreditation by the Commission on Fire Accreditation International (CFAI). Accreditation requires that the Department continually and objectively examine services, programs, and management functions. This self assessment provides the Department with the knowledge needed to design, deploy, and manage services in the best interest of the citizens and the Department, and in a manner consistent with that expected of a modern and creditable fire service organization. In 2017 the department will apply to the Commission for accreditation. The Planning Division also provides support in managing the department's Insurance Services Office (ISO) rating in discovering the needs and planning for the placement of additional fire stations, which would extend services, accommodate future growth, and strive for the highest rating of ISO (1). The current ISO rating for the County is Class 3. The ISO rating of an area is closely associated to the insurance premiums assessed within a specific area. The rating reflects the resources of the Lexington County Fire Service, Lexington Communications and the water districts in the County. The task of meeting ISO rating requirements involves GIS analysis to calculate travel distances for fire stations and response vehicles.





Logistics Division

The Logistics Division provides uniforms, turnout gear, nozzles, hose, and other mission critical equipment and is responsible for the systematic coordination of selection, acquisition, warehousing, procurement and distribution of supplies and services for the fire service. Its mission is to support and provide personnel with unmatched safety through purchasing the best materials, supplies, and equipment available at the greatest value.

In the FY 16'-17', The Logistics Division was tasked with pump testing 30 trucks, testing 88,965 feet of fire hose (16.9 miles), testing 1,984 feet of ladders and inspecting 257 fire extinguishers, washing and inspecting 282 individual pieces of personal protective equipment. The division oversaw the fitting of duty uniforms, PPE and dress uniforms for recruit classes 17-01 and completed the 3rd round of PM testing for our Hurst tool equipment (Jaws of Life).







Breathing Air Division

The Breathing Air Division is assigned to Administration. The breathing air tech's first and foremost responsibility is for the readiness and safe operations of our Self Contained Breathing Apparatus (SCBA) at an emergency scene. Inventory is constantly reviewed regarding the status of our SCBA's and air cylinders as they require repair, hydrostatic testing or retirement.

In 16'-17', quarterly air samples, semi-annual servicing of 5 breathing air compressors were completed; 8 DOT cylinders were hydro tested; 289 SCBA'S, 241 face pieces were tested and cleaned; 310 Lexington County Fire service personnel were face fitted along with our automatic aid company personnel. This includes Irmo Fire District, West Columbia Fire Department, and the Columbia Metropolitan Airport Fire Department. LCFS relocated the breathing air compressor from station 22 to station 11. The breathing air tech and SCBA maintenance facility located at fire services headquarters are SCBA certified thru Mine Safety Appliance (MSA).

Along with the breathing air responsibilities, support staff with the help of the County Radio Committee completed the preparation and programming of 800 MHZ radio's for the digital P25 cutover in August of 2017. Radio programming was performed for all of Lexington County Departments that included Administration, Solid Waste, Solicitors Office, Public Works, Sheriff's Department, EMS, Fire Service, Fleet Services, Building Services, and Coroner's office. Radio programming was performed for the following municipalities: South Congaree PD, Springdale PD, Gaston PD, Pineridge PD, Pelion PD, Swansea PD, Airport Public Safety, Irmo PD, Chapin PD and Lexington PD





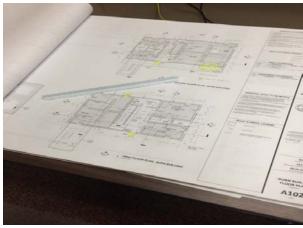
Fire Prevention and Life Safety Branch

Fire prevention is the number one goal of the fire service and the Fire Prevention and Life Safety Branch focuses on educating the community about the benefits of proper safety practices and identifying and eliminating all types of hazardous conditions which pose a threat to life, the environment and property. The Lexington County Fire Service offers several fire and life safety services ranging from Public Education to Plans Review to Code Enforcement to Fire Investigation.

This Division is under the command of an Assistant Fire Chief designated as the Department's Fire Marshal and reports directly to the Fire Chief. The Assistant Chief manages 3 Deputy Fire Marshals that are assigned to 3 geographic areas and a part time fire investigator. These personnel are charged with enforcing State and local laws; ensuring that the required safety systems are installed in all buildings and that installation complies with applicable standards; carrying out public education; and accurately and efficiently identifying the causes of all fires, whether they are accidental or incendiary. The Fire Service covers a diverse and unique area of responsibilities as related to Fire Prevention and education. The widespread and diverse activities of commercial and industrial development and operations are reviewed and inspected, citizens are educated and all this information entered into the records management system to update and improve the safety of the community and department personnel.

In 16'-17', 2,685 inspections were completed with March 2017 being the busiest month at 357 inspections. 294 plan reviews were completed with August of 2016 being the busiest with 35 reviews. 379 permits were issued ranging from construction, sprinkler, and fireworks permits to paint booth suppression and kitchen hood suppression systems. 399 public education activities were held with an estimated 13,884 children and 5,494 adults attending. 519 Smoke alarms, 257 smoke alarm batteries and 18 carbon monoxide alarms were also installed.











Lexington County Fire Service Community and Public Service Events

- Raised \$36,688.14 for the Muscular Dystrophy Association
- Raised \$41,272.32 for the Jeffery Vaden Chavis House at the Southeastern Burn Center.

Lexington County Fire Service participated in the following Community Events:

United Way, Jeff Chavis Memorial Golf Tournament, American Heart Association Heart Walk, Steven Stiller Tunnel to Tower Run, The American Lung Association Fight for Air Stair Climb, American Cancer Association Relay for Life, Make a Wish Foundation Battle of the Badges, Red Cross Blood Drive and the Memorial Day Murph Challenge.





Lexington County Fire Service Statistical Report

Vision Statement

BECOME AN INTERNATIONALLY ACCREDITED AGENCY AND OBTAIN A CLASS ONE FIRE DEPARTMENT DESIGNATION FROM THE INSURANCE SERVICES OFFICE.



Mission Statement

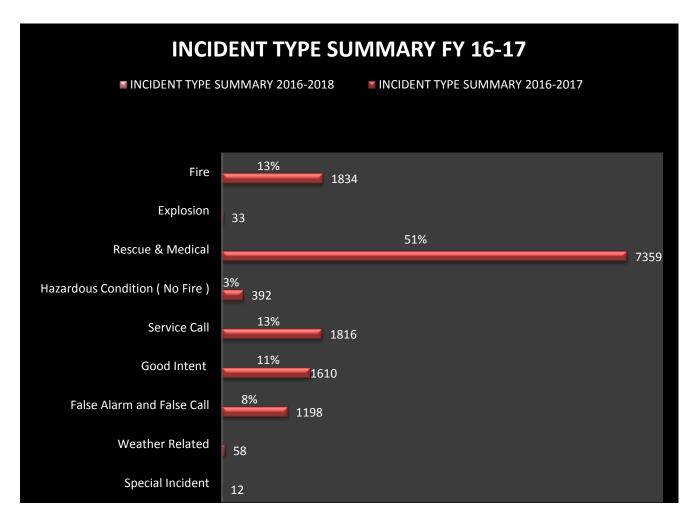
"SERVICE EXCELLENCE"

LEXINGTON COUNTY FIRE SERVICE

STATISTICAL SUMMARY

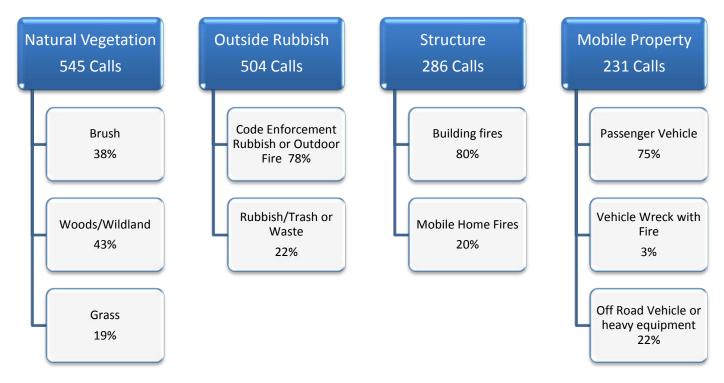
The Lexington County Fire Service responds to a variety of emergency and non-emergency situations. Often what is described to the dispatchers, does not reflect the actual incident; nevertheless, firefighters are trained and prepared to respond to a broad array of situations. To understand the full role the fire service plays in the community, this report profiles the fire service run activity as reflected in our Firehouse Reporting Data. The data collected through Firehouse Reporting is based on the National Fire Incident Reporting System (NFIRS) through the United States Fire Administration (USFA). The data is recorded in one of the following categories: (1) Fire, (2) Explosion, (3) Rescue & Medical, (4) Hazardous Condition, (5) Service Call, (6) Good Intent, (7) False Alarm, (8) Weather Related, (9) Special Incident.

While "fire" is part of the service name, less than 15% of total responses involved fire. Over 51% of all Lexington County Fire Service runs are categorized as Emergency Medical Services/First Responder and rescue responses.



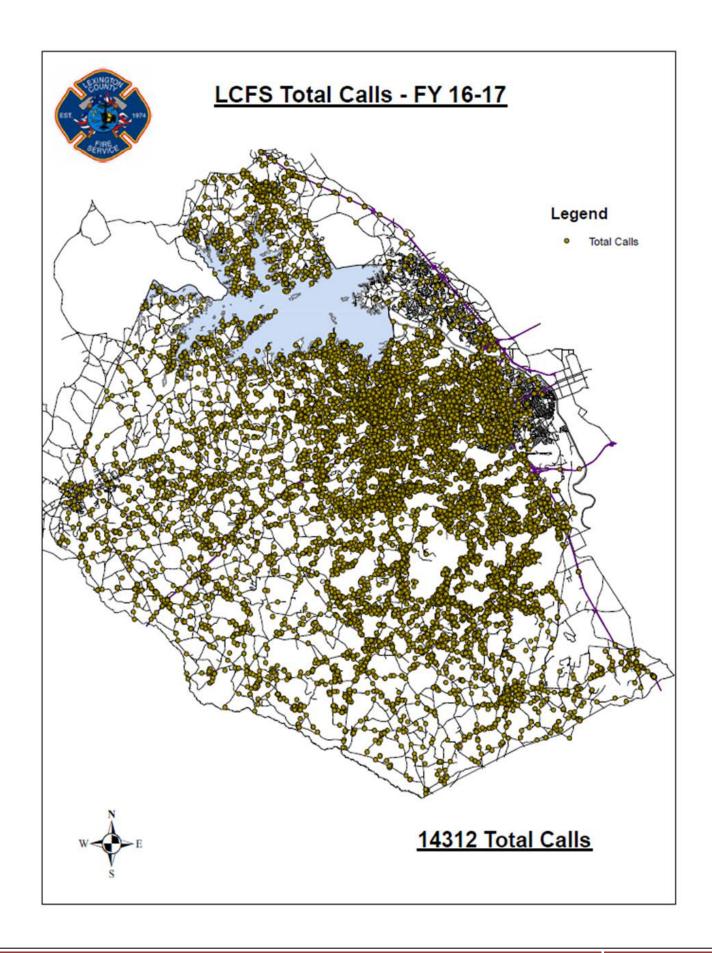
Total Calls – 14,312 (15'-16' – 11,746)

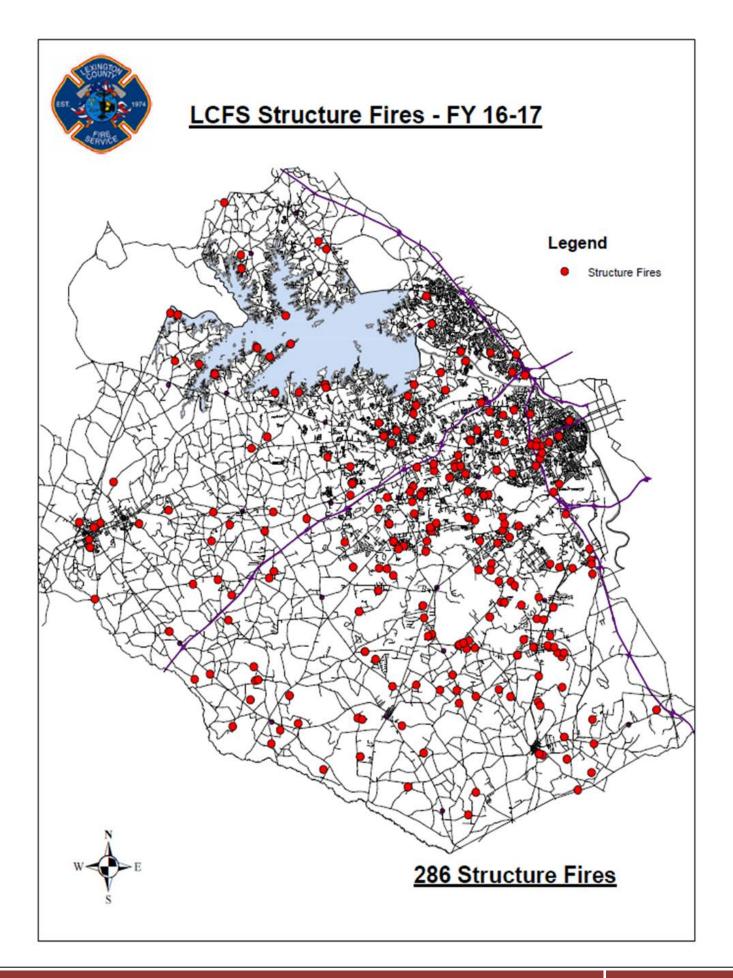
Most Common Fire Incident Types

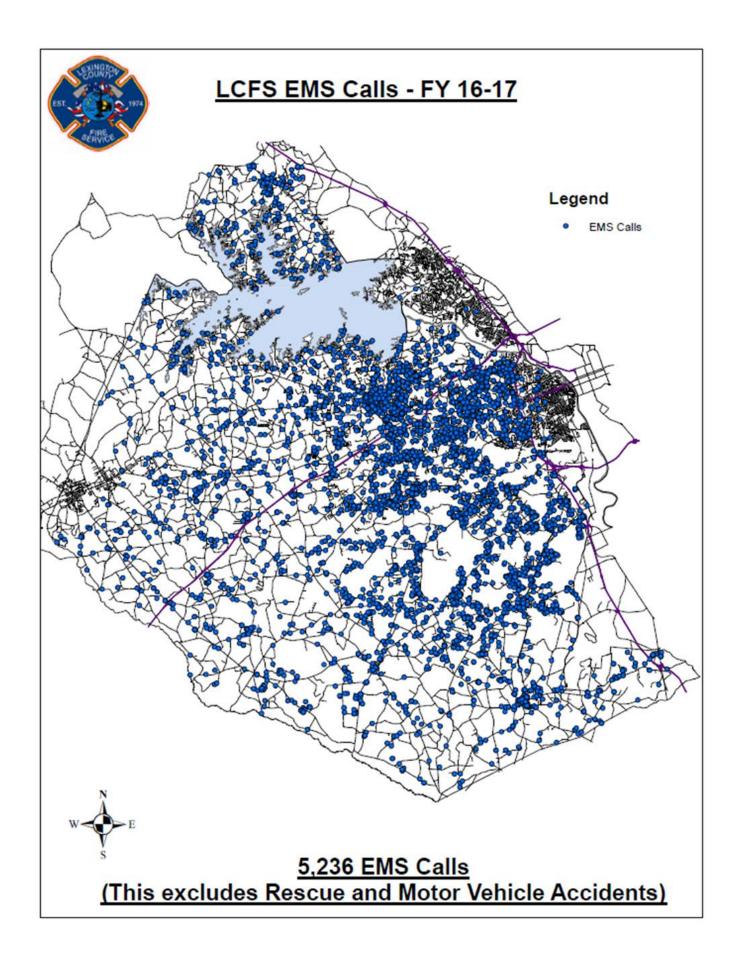


Rescue and EMS Incidents

EMS Call, excluding vehicle accident without injuries	5,236 Calls	71%
Motor Vehicle accident with injuries	1,205 Calls	16%
Medical Assist, Assist EMS	335 Calls	5%
Motor vehicle accident without injuries	330 Calls	5%
Overturned vehicle with or without injuries	183 Calls	2%
Special Rescue / ERT Response	70 Calls	1%
	7,359 Calls	100%







Staffing for Incident Responses

	16'-17'	15'-16'
AVERAGE # OF CAREER PERSONNEL RESPONDING PER CALL	3.73	3.81
AVERAGE # OF VOLUNTEER PERSONNEL RESPONDING PER CALL	.07	.20
AVERAGE # OF CAREER AND VOLUNTEER ON SCENE / AVERAGE # OF UNITS ON SCENE	3.8/1.83	4.01/1.89

54,243 Personnel responded to all incidents throughout Lexington County with an overall average of 3.8 personnel per incident.

NFPA 1720 Standard: 4407 Personnel responded to 286 Structure Fires throughout Lexington County with an overall average of <u>15.41 personnel responding on 9 units.</u>

LCFS averaged 20 minutes 29 seconds to obtain the average of 15 personnel on scene.

In FY 15'-16', LCFS averaged 19 minutes and 6 seconds to obtain 15 personnel on scene.

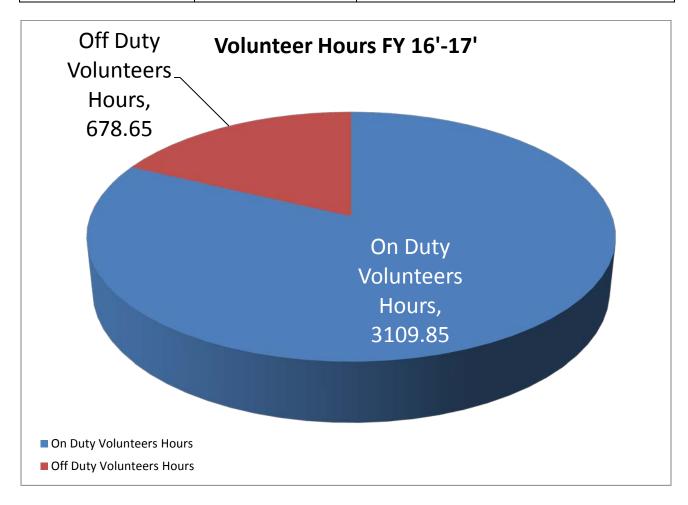
(Increase due to travel distance and call volume)

Busiest Companies

Engines	Responses	Ladders	Responses	Tankers	Responses
30	1385	9	1261	28	149
19	1199	5	972	13	139
12	1176	11	400	4	108
24	1030	10	272	16	106
10	1001			6	104
13	981			12	92
Brush	Responses	Squads	Responses	Battalions	Responses
Truck	_				
24	256	10	1392	1	838
5	238	5	1254	2	757
8	187				
16	103				
7	93				

Volunteer Response Hours

Number of Volunteers -	40	
	Hours	Equivalent to
On Duty Volunteers	3,109.85 Hours	1.07 Full Time Equivalent
Off Duty Volunteers	678.65 Hours	.23 Full Time Equivalent
Total	3,789.50 Hours	1.30 Full Time Equivalent



Compared to FY 15'-16': Number of Volunteers - 42

On Duty Volunteer – 5,185.69 hours – 1.78 Full Time Equivalent Off Duty Volunteer – 237.60 hours - .08 Full Time Equivalent Total Hours – 5,423.29 hours – 1.86 Full Time Equivalent

NFPA 1720 STAFFING AND RESPONSE TIMES COMPARISON

STRUCTURE FIRE RESPONSES

JULY 1, 2016 – JUNE 30, 2017

NFPA				
Standard				
Demand	Demographics	Min Staff	Response	Objective
Zone			Time	-
Urban	>1000	15	9	90%
Suburban	500-999	10	10	80%
Rural	<500	6	14	80%

LCFS	Calls Calculated for NFPA 1720	Average Personnel	Response Time	Monthly Objective Met
Urban	30	5.2	9 min	0%
Suburban	59	5.0	10 min	7%
Rural	85	6.8	14 min	62%
*Totals	174	5.7		

^{*} Total number based upon incidents requiring a full assignment after first unit arrival.

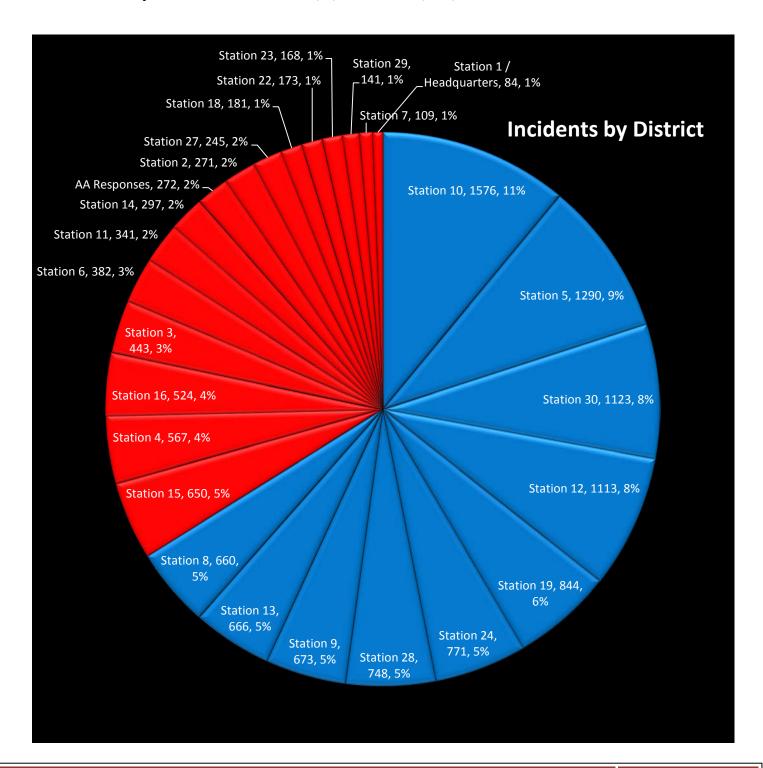
Average Response Time:

1st unit on scene-7 min. 06 sec. (Avg. Personnel = 2.1)

2nd unit on scene–8 min. 38 sec. (Avg. Personnel = 2.3)

Incidents by District

Lexington County consist of 758 square miles with an estimated population of 270,406. Approximately 99.7% of all property within Lexington County is within five miles of a fire station. There are 24 Fire Stations that provide protection for the citizens of Lexington County. Lexington County has a total area of 758 square miles of which 699 square miles is land and 59 square miles (7.74%) is water, primarily from Lake Murray. **Sixty-six** percent (66%) of all incidents and fifty-eight percent (58%) of all structure fires occur in the urban/suburban areas of the county within the districts of ten (10) fire stations (Blue).

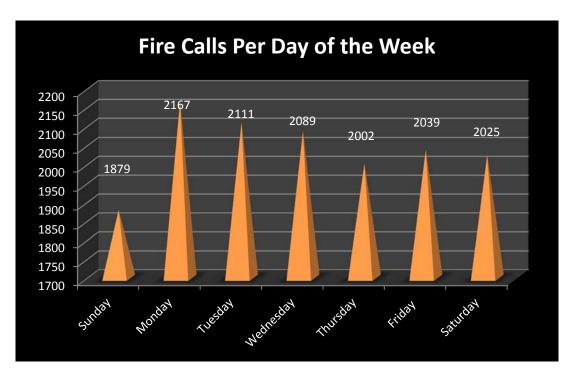


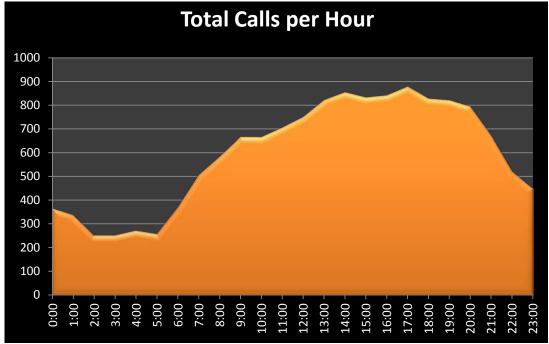
Automatic and Mutual Aid

Name of Department	<u>Automatic Aid –</u> <u>Given(4)</u>	<u>Automatic Aid –</u> <u>Received(2)</u>	<u>Mutual Aid –</u> <u>Given(3)</u>	<u>Mutual Aid –</u> <u>Received(1)</u>
Batesburg / Leesville FD	44	126	24	16
West Columbia FD	16	30	16	15
Irmo Fire District	14	10	10	15
Columbia / Richland County				
Sandy Run / Calhoun	0	0	18	8
County City Of Cayce	0	1	12	2
Columbia Airport	3	12	6	4
Fire Department	1	0	0	1
Little Mountain Fire Department	0	1	3	2
Newberry County Fire Department	0	1	1	1
Jumper Station / Calhoun County	0	0	4	0
North Fire Department	0	0	1	0
New Holland Fire Department	0	0	1	0
Fairview Fire Department	0	0	0	0
Wagner Fire Department	0	0	0	1
Totals	78	181	96	65
%	+8.3%	+79.2%	+18.5%	-35.4%

When are Incidents likely to occur?

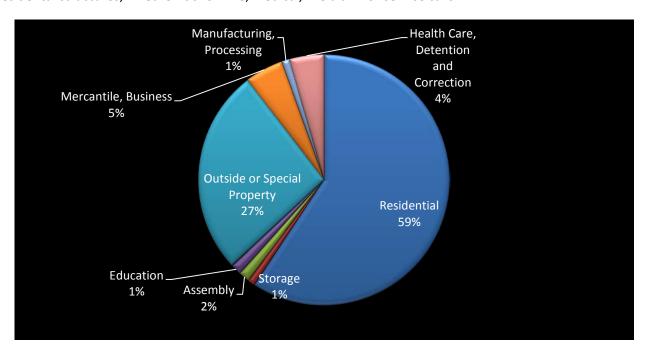
When is the most likely time for a call to occur? The top graph displays the Days of the Week, with Monday being the busiest day of the week. Friday is the second busiest day of the week. Although the day of the week which fires occur changes from year to year; the time of day stays around the mid-morning and evening hours of 9:00am-8:00pm.





Property Use Summary

The pie graph below indicates the property use where calls occur. As you can see our primary response is to residental structures, whether it's for fire, medical, fire alarm or service calls.



What is our Fire Problem?

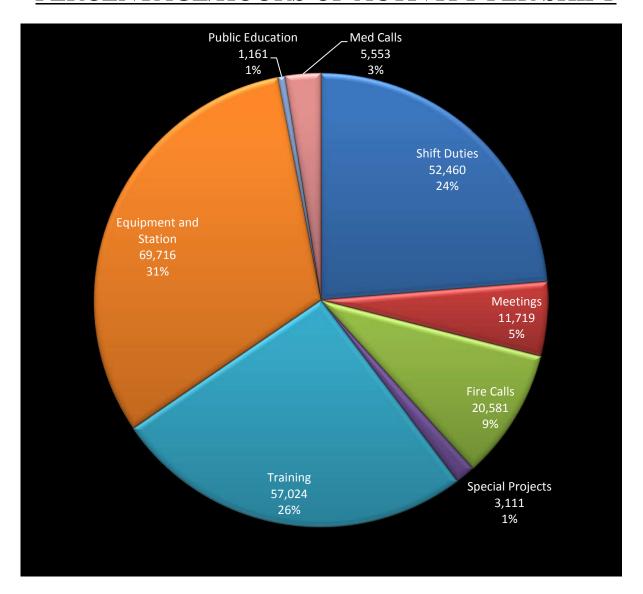
Property Use	Total Losses	Percentage of Total Loss
Other	\$15,000	0.16%
Assembly	\$2,700	0.03%
Education	\$200	0.00%
Health Care, Detention & Correction	\$5,500	0.06%
Residential	*\$5,556,847	68.11%
Mercantile, Business	\$1,131,550	11.84%
Manufacturing, Processing	\$486,000	5.08%
Industrial, Agriculture, Mining	\$5,100	0.05%
Storage	\$511,150	5.34%
Outside or Special	\$1,848,432	19.33%

Fire Cause Related to Fire Losses

Cause of Ignition	Total Number of Fire Related Incidents	% of all Fires	Total Est. Loss	% of All Fire Losses
Intentional / Deliberate	143	12.29%	\$207,600	2.25%
Unintentional	317	27.25%	\$2,383,882	25.83%
Failure of equipment or heat source	57	4.90%	\$649,300	7.03%
Act of Nature	32	2.75%	\$69,450	.75%
Cause under Investigation	54	4.64%	\$2,263,150	24.52%
Cause Undetermined after investigation	416	35.76%	\$3,104,197	33.63%
Cause Other	144	12.38%	\$553,200	5.99%
Total	1163	100%	\$9,230,779	100%

^{* 52.79%} of fire calls with a loss of \$5,920,547 had No Determination.

PERCENTAGE/HOURS OF ACTIVITY PER SHIFT



Average productivity per person per day 201 personnel – 9.1 hours per day

Equipment and Station Duties are defined as maintenance and readiness checks for equipment, vehicles and station resources.

Shift Duties are defined as all administrative duties and reports in firehouse.

Special Projects are defined as Accreditation, ISO required activities, and committees.

Goal

The LCFS shall ensure all members the healthiest and safest possible work environment.

(Comparison)

July 201!	5 -> June 2016	July 2016	<u>-> June 2017</u>	<u>Year +/-</u>
Lost Time Due To Sick Leave or Workers Comp.	Totals	Lost Time Due To Normal Sick or Work Related	Totals	
*Sick/FMLA Leave	13,738.63 hrs 1.57 FTE Loss / Day	Normal Sick Leave	13,738.63 hrs 2.46 FTE Loss / Day	(+) .89
*Workers Comp. Light Duty	7,316.18 .83 FTE Loss / Day	Workers Comp. Light Duty	2,545 .29 FTE Loss / Day	(-) .54
Average Hrs. Per Pay Period – Shift Personnel	112.00	Average Hrs. Per Pay Period – Shift Personnel	112.00	
180 Personnel @ 24 Hrs. per shift	4248.00	183 Personnel @ 24 Hrs. per shift	4392	(+) 3.4 %
% Lost Time SICK/FMLA	2.66%	% Lost Time SICK/FMLA	3.99%	(+) 33 %
% Lost Time – Work Related	1.42%	% Lost Time – Work Related	.57%	(-) 60 %
Total % of Lost Time	4.08%	Total % of Lost Time	4.56%	(-) 11%
	Total: 2.4 / Day Personnel Loss		Total: 2.82 / Day Personnel Loss	(+) .42

^{*}An average of 7.23 personnel were lost throughout the fiscal year due to injury and sick leave.

Safety Objectives

- 1. Track lost work related time and it shall not exceed 1% (Actual .57%) of the total available work hours for the department.
- 2. The percentage of total workforce accumulating lost work time shall not exceed 5% (Actual 4.56 %) of the total workforce for each fiscal year.

Daily Staffing Analysis

<u>Year to Date 2016 - 2017</u>



 Authorized Staff Per Day – 	67.00
• On Duty Per Day –	61.77**
• Staff Vacancies –	5.23
• Lost Time – Work Related –	0.29
• Normal Sick Time –	2.47
• Annual Leave –	2.63
• Military Leave -	0.92
• Other (Funeral, Jury, Voting) –	0.05
Total FTE's Out Per Day –	6.36
FTE's Replaced by Callback –	6.65
Net Difference – (+.29)	

^{**} Minimum Staffing is 62 personnel.

TRAINING DIVISION

- Manage the training program for all career and volunteer personnel.
- Coordinate with the fire academy to ensure that all personnel are meeting current standards and best practices.
- Provide skill based training to ensure individual and team competency in performing emergency operations.
- Provide firefighter safety and survival training.
- Career tracking and development committee.
- Develop and administer the hiring process for Firefighter Two certification as well as Recruit Firefighter.
- Oversee the Field Training Program.
- Update General Operating Guidelines for the Recruit Program.
- Develop and facilitate the promotional process for Apparatus Operator, Captain, and Battalion Chief's positions.
- Research continuing education opportunities of institutions of higher learning.
- Manage the training and increase involvement of the Emergency Response Team and as well as respond to Special Operations type calls.
- Coordinate Multi Company Drills for Fire Service Personnel to include EMS and Dispatch.

Training Summary:

Total Training for Lexington County Fire Service: 57,024 Hours.

Multi Company Drill Hours:

3,512 Hours of training across 3 multi company drills.

878 Fire Service Participants

4 Hours/ Drill/ Student

FF II Certification Project:

All career personnel (201) are now FFII certified.



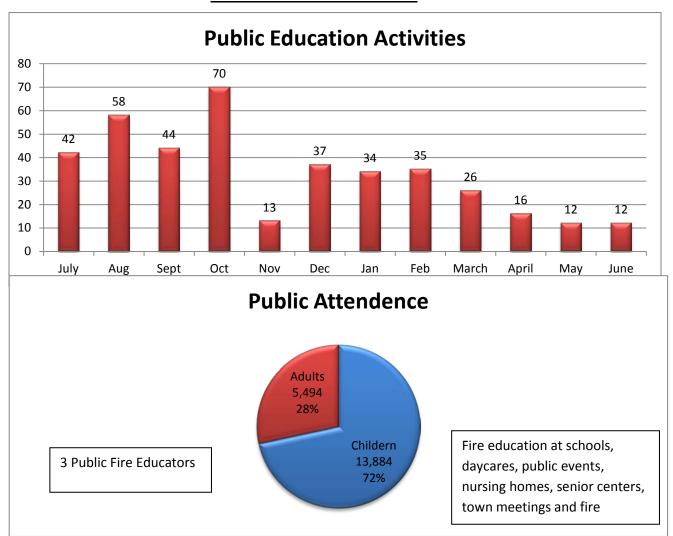
FIRE MARSHAL DIVISION

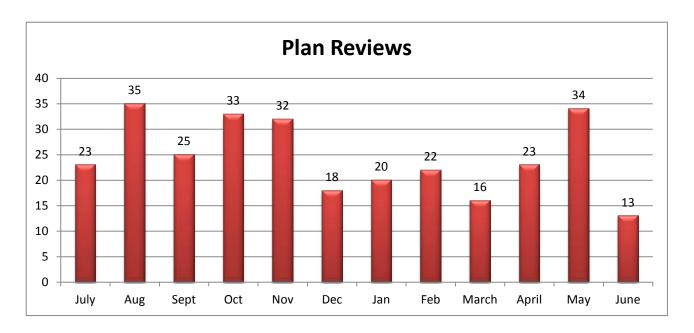
DUTIES:

- Firehouse Entries
- Burn Ordinance
- Code Enforcement
- Fire Alarm Ordinance
- Inspections
- Wildland Firefighter Operations
- Fire Prevention
- Operational Plans
- Public Education

- Fire Service Web Site
- Plan Review
- Liaison to State Fire Marshal
- County Wildland FF Team
- Liaison to SC Forestry Commission
- State Firefighter Mobilization
- Weather and Emergency Preparedness Notifications
- Wildland Fire Investigations

STATS: Total 399 Events

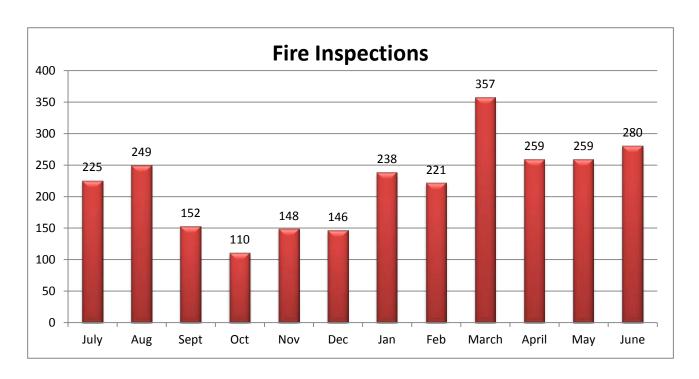




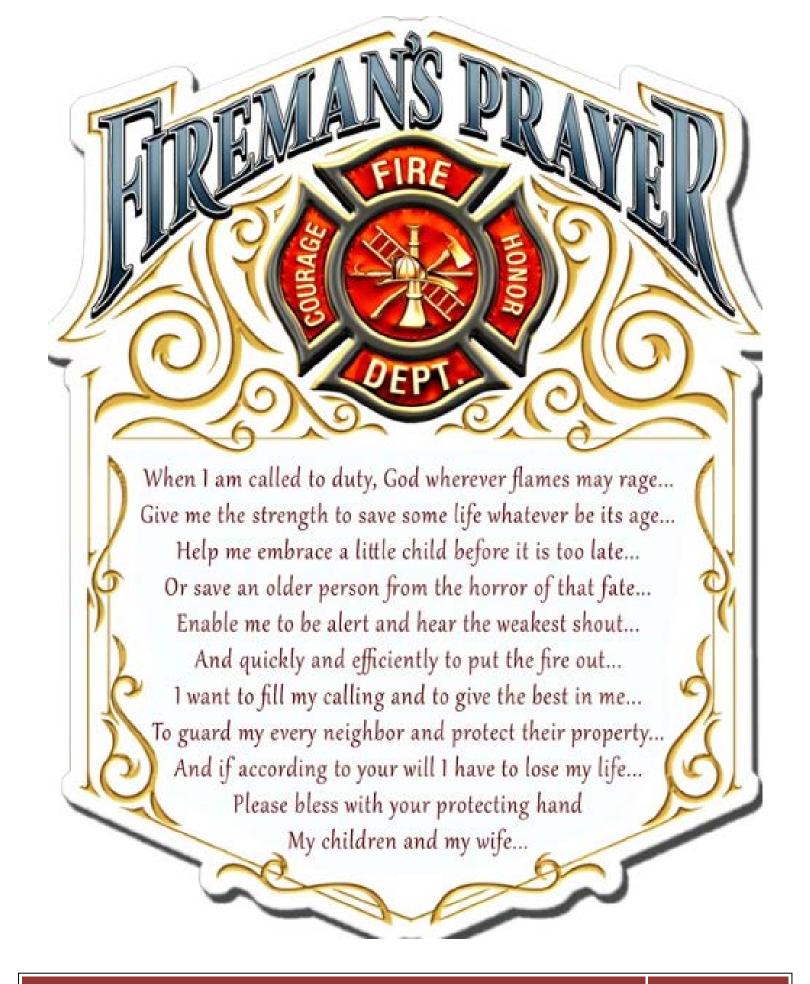
<u>Total Plan Reviews – 294</u>

Total Plan Review for FY15'-16' - 289

Total of 2,685 Inspections conducted by 3 Inspectors



Total Inspections for FY15'-16' - 2,814



HONOR, RESPECT, AND DEVOTION TO DUTY



"SERVICE EXCELLENCE"