

Lexington County Fire Service

FY15'-16' 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 2015/2016. The men and women, 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

LAYING IT ON THE LINE

24 HOURS A DAY, 365 DAYS A YEAR

Every 3 hours a
Fire/Fire Alarm
Is Reported

Every 44 minutes
a call is
answered

32.18
Calls
per day

A Medical
Emergency
Every 89
Minutes

15.54
Hours on
scene
per day

Typical daily responses:

7 Fires/Fire Alarms

16 Medical Emergencies

1 Haz Mat Event

8 Good Intent Calls/public
assist

All in an average days work



A Year In Review

July 1st, 2015 – Mobile Data Terminals (42) Phase 1 started

September 28th, 2015 – Recruit Class 15-02 hired

January 15th, 2016 – Recruit Class 15-02 Graduated

March 28th, 2016 – Recruit Class 16-01 hired

June 30th, 2016 – Mobile Data Terminal (42) Phase 1 completed

The Lexington County Fire Service demand for service includes:

11,746 total responses which includes mutual and automatic aid. (+6%)

22,236 individual unit responses (+3%)

1,391 fires; a decrease of 14.5% from 2014-2015

A total incident loss of \$8,222,584; a 14% increase from 14'-15'. Total saved \$22,711,260

Where fires occur:

There were 1391 fires in Lexington County Fire Service area.

31.78% were structure fire responses

27.82% were outside rubbish fire responses

22.93% were natural vegetation responses

Residential structure fires represented 22% of all fires and 78% of all structure fires

As a result of fire, there were:

11 Civilian injuries and 1 death

2 Firefighter injuries

There were 228 structure fires and 189 vehicle fires

The number of structure fires decreased by 19%

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 perform 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 Departmental 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 continued 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 2015-2016 fiscal year resulted in a total of 65,863 training hours. Of the total hours 10,073 were company drills.

The 15-02 Recruit Class was hired in September 2015. This class consisted of 18 recruits with 15 graduating in January 2016. The 16-01 Recruit Class was hired in March 2016. This class consists of 19 recruits



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, Administration Assistant and coordinates all facility maintenance, repairs, design and construction, human resources, payroll, fleet maintenance, budget preparation, and information requests from citizens and departmental personnel.

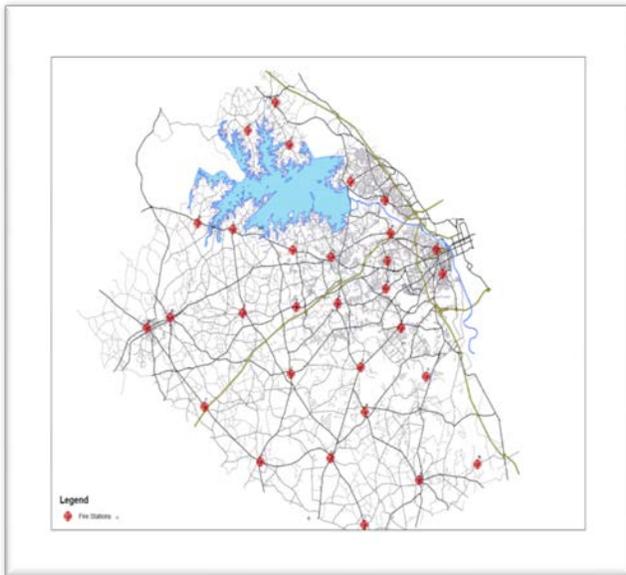


Planning and Research Division

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 15'-16', The Logistics Division was tasked with pump testing 33 trucks, testing 102,495 feet of fire hose (19.4 miles), testing 2,249 feet of ladders and inspecting 274 fire extinguishers, washing and inspecting 340 individual pieces of personal protective equipment. The division oversaw the fitting of duty uniforms, PPE and dress uniforms for recruit classes 15-02 & 16-01 and completed the 2nd round of PM testing for our Hurst tool equipment (Jaws of Life).



The Breathing Air Division is also assigned to Logistics. 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 15'-16', quarterly air samples, semi-annual servicing of 5 breathing air compressors were completed; 545 breathing air cylinders and 8 DOT cylinders were hydro tested; 264 SCBA'S, 300 face pieces were tested and cleaned; 252 Lexington County Fire service personnel were annual 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. A new breathing air compressor was installed at Station 16. The breathing air tech and SCBA maintenance facility located at fire services headquarters are SCBA certified thru Mine Safety Appliance (MSA).

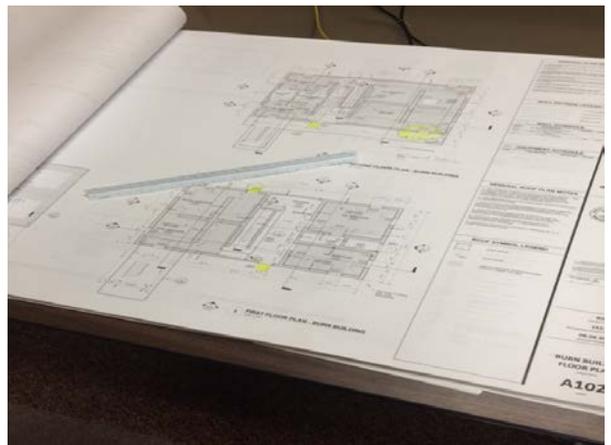


Fire Prevention and Life Safety Branch

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 15'-16', 2,814 inspections were completed with February 2016 being the busiest month at 275 inspections. 297 plan reviews were completed with August of 2015 being the busiest with 46 reviews. 285 permits were issued ranging from construction, sprinkler, and fireworks permits to paint booth suppression and kitchen hood suppression systems. 650 public education activities were held with an estimated 18,741 children and 6,536 adults attending. 298 Smoke alarms, 218 smoke alarm batteries and 36 carbon monoxide alarms were also installed.





Lexington County Fire Service

Community and Public Service Events

- Raised \$34,360.79 for the Muscular Dystrophy Association
- Raised \$43,546.02 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

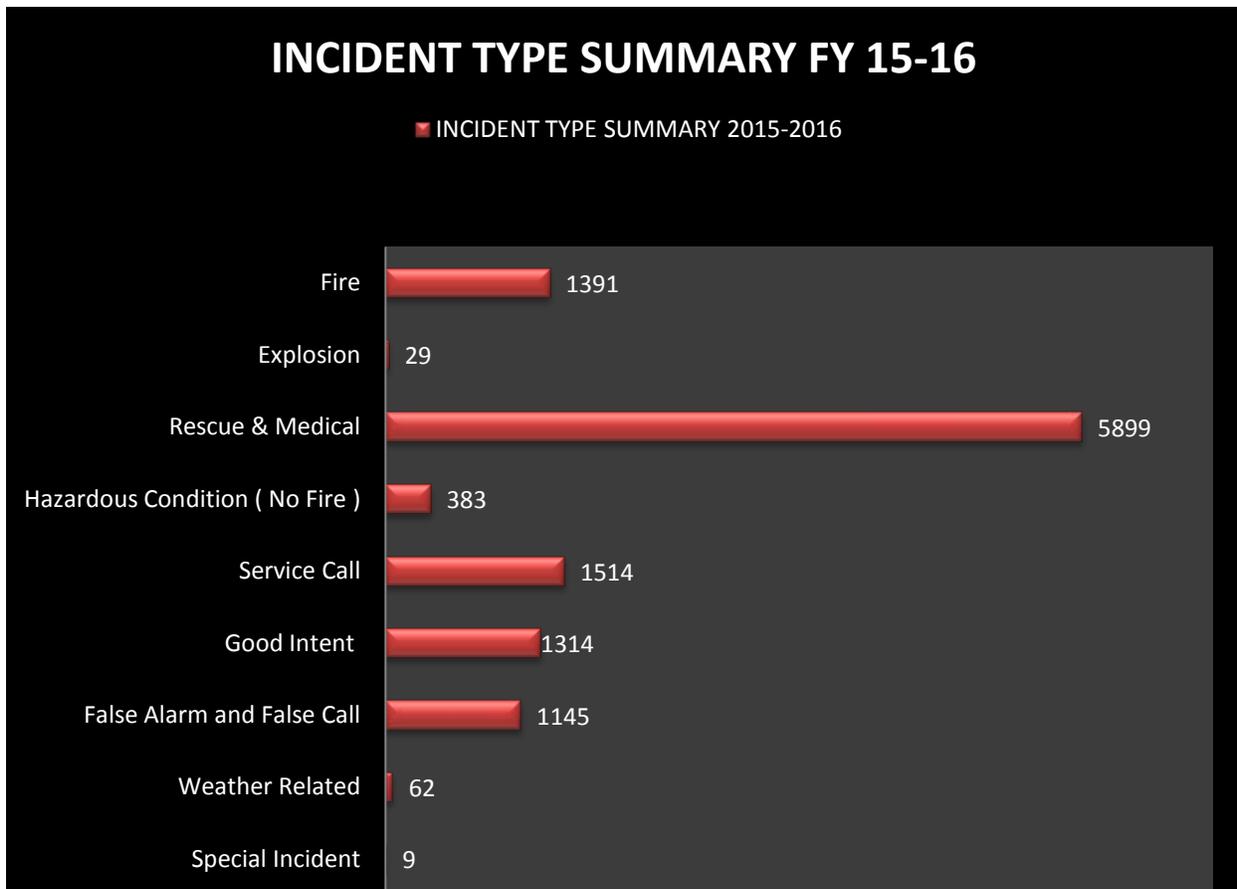
“SERVICE EXCELLENCE”

LEXINGTON COUNTY FIRE SERVICE

STATISTICAL SUMMARY

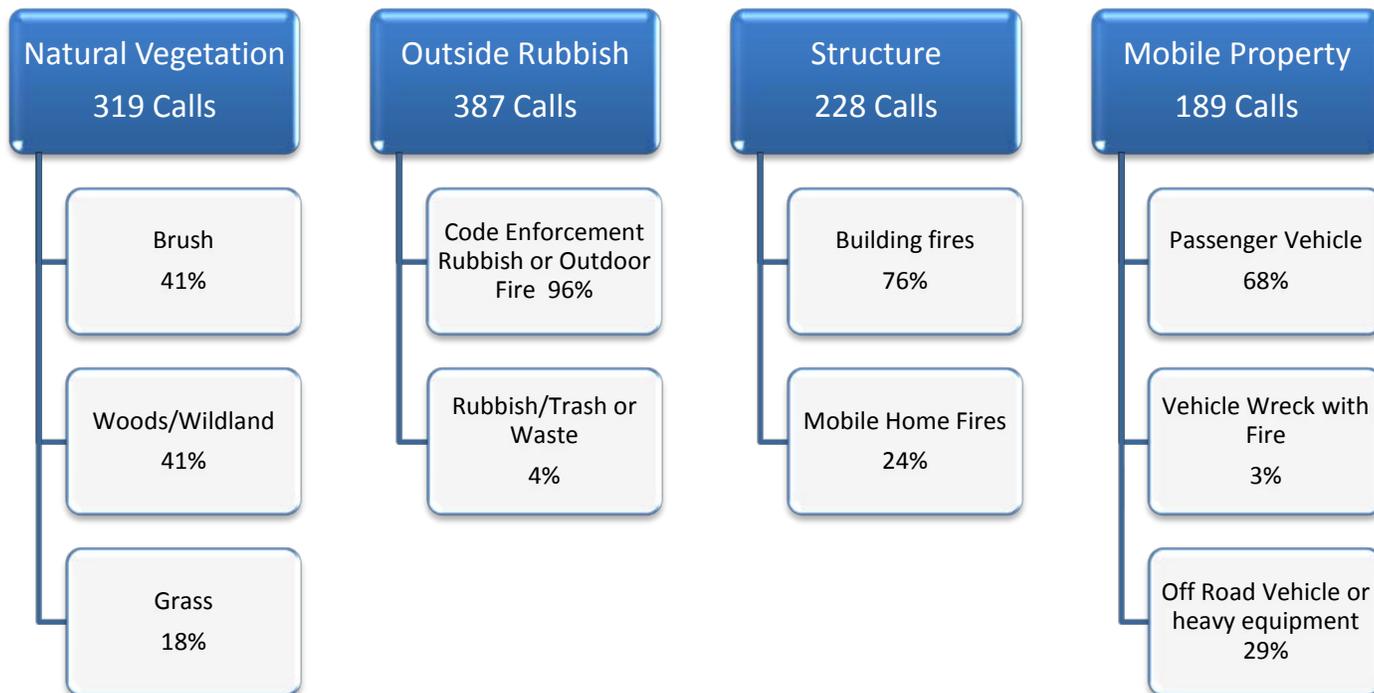
The Lexington County Fire Service responds to a variety of emergency and non-emergency situations. Often what is described to the dispatchers, does not reflect the actual incident; nevertheless, firefighters are trained and prepared to respond to a broad array of situations. To understand the full role 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 48% of all Lexington County Fire Service runs are categorized as Emergency Medical Services/First Responder and rescue responses.**



Total Calls – 11,746

Most Common Fire Incident Types

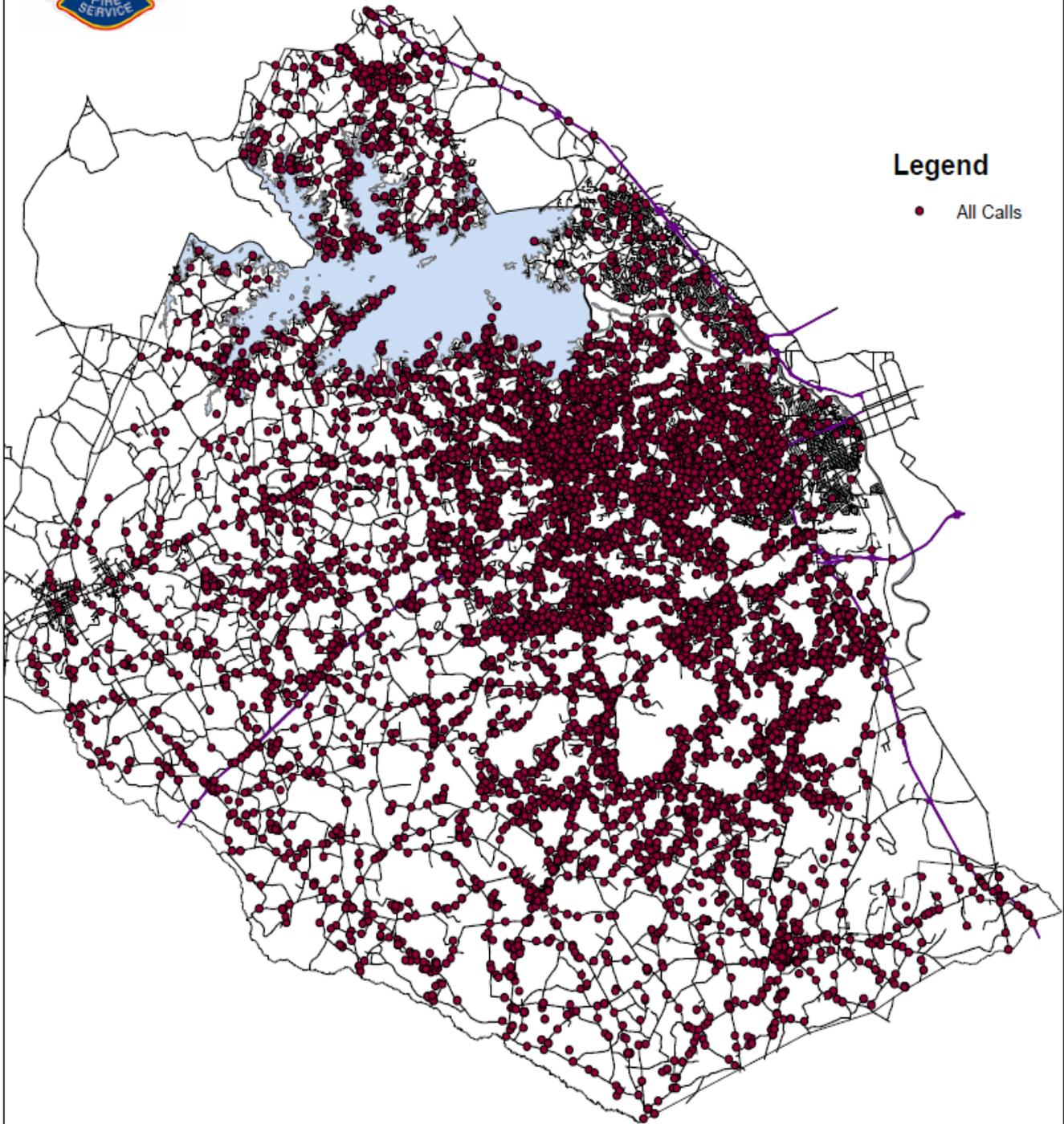


Rescue and EMS Incidents

EMS Call, excluding vehicle accident without injuries	3,639 Calls	62%
Motor Vehicle accident with injuries	1,271 Calls	22%
Medical Assist, Assist EMS	278 Calls	5%
Motor vehicle accident without injuries	392 Calls	7%
Overtured vehicle with or without injuries	185 Calls	3%
<u>Special Rescue / ERT Response</u>	134 Calls	2%
	5,899 Calls	100%



LCFS Total Calls - FY 15-16



Legend

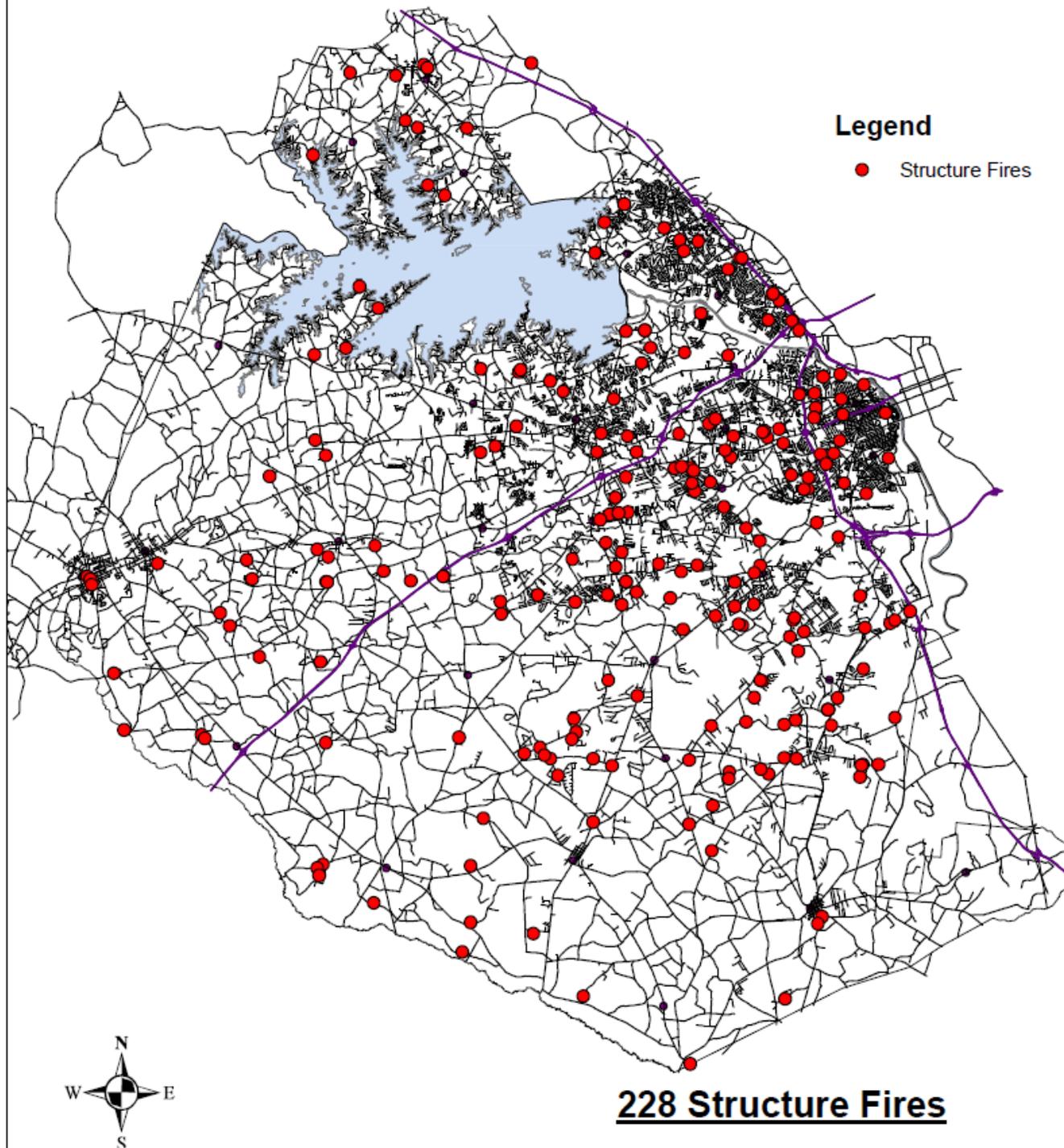
• All Calls



11746 Total Calls



LCFS Structure Fires - FY 15-16



Legend

● Structure Fires

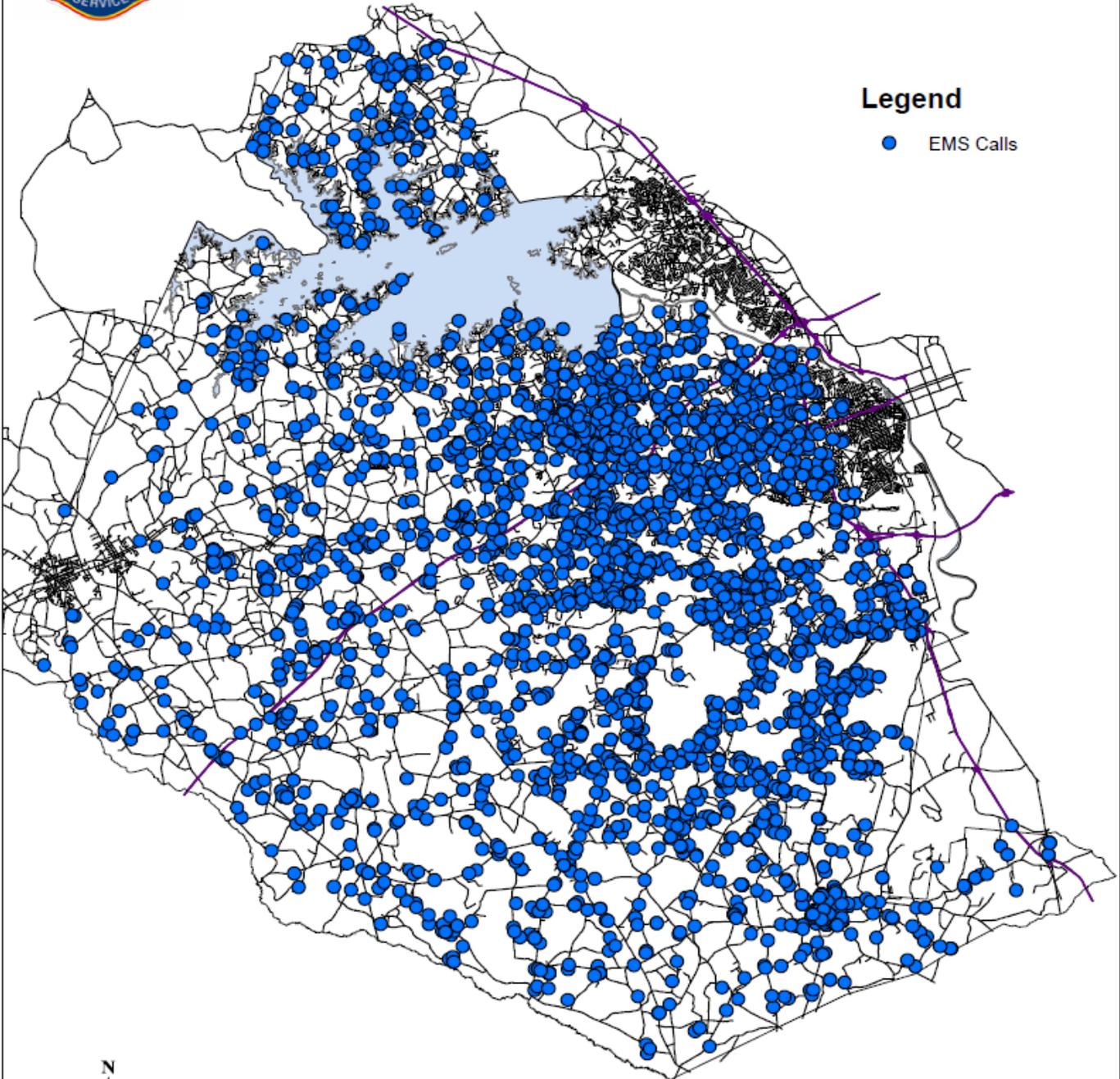
228 Structure Fires



LCFS EMS Calls - FY 15-16

Legend

● EMS Calls



3,957 EMS Calls

(This excludes Rescue and Motor Vehicle Accidents)

Staffing for Incident Responses

AVERAGE # OF CAREER PERSONNEL RESPONDING PER CALL	3.81
AVERAGE # OF VOLUNTEER PERSONNEL RESPONDING PER CALL	.20
AVERAGE # OF CAREER AND VOLUNTEER ON SCENE / AVERAGE # OF UNITS ON SCENE	4.01/1.89

47,027 Personnel responded to all incidents throughout Lexington County with an overall average of 4.01 personnel per incident.

NFPA 1720 Standard: 3,042 Personnel responded to 228 Structure Fires throughout Lexington County with an overall average of 13.34 personnel responding on 5.4 units.

LCFS averaged 19 minutes 6 seconds to obtain the average of 15 personnel on scene.

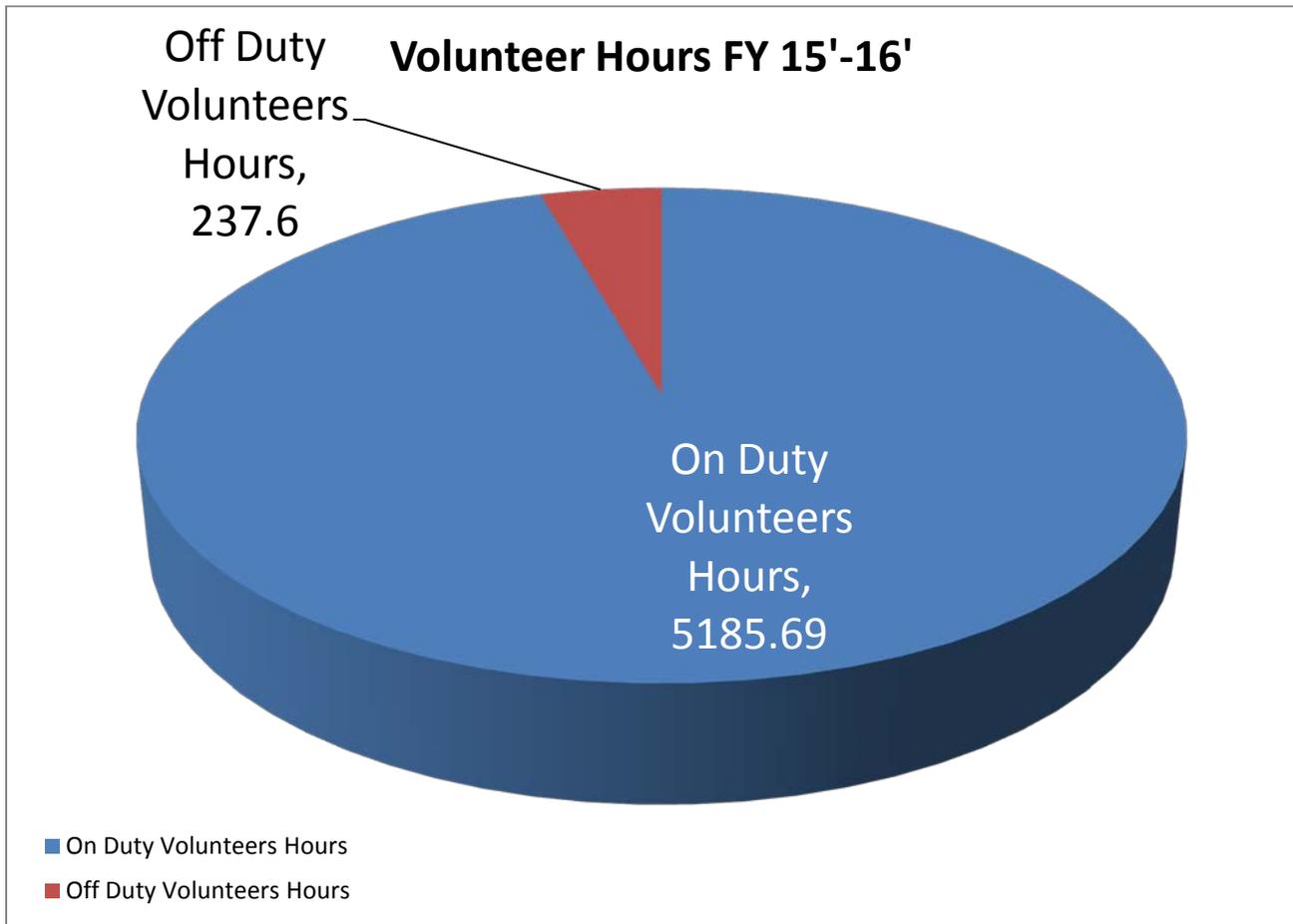
In FY 14'-15', LCFS averaged 28 minutes and 30 seconds to obtain 15 personnel on scene.

Busiest Companies

Engines	Responses	Ladders	Responses	Tankers	Responses
30	1278	9	1350	28	144
19	1085	5	1186	13	139
12	953	10	927	4	120
24	899	11	397	12	84
13	866			24	80
15	849			6	80
Brush Truck	Responses	Squads/ST	Responses	Battalions	Responses
5	250	Sq-10	582	2	934
24	176	Sq-5	499	1	911
4	150	ST-13	186		
8	114	ST-8	121		
16	105				
7	51				

Volunteer Response Hours

	Hours	Equivalent to
On Duty Volunteers	5,185.69 Hours	.59 Career personnel per day (+46%)
Off Duty Volunteers	237.60 Hours	.03 Career Personnel per day (-88.7%)
Total	5,423.29 Hours	.62 Career Personnel per day (-4.3%)



Compared to FY 14'-15':

On Duty Volunteer – 3,554.25 hours

Off Duty Volunteer – 2104.43 hours

Total Hours – 5,658.68 hours

NFPA 1720 STAFFING AND RESPONSE TIMES COMPARISON

STRUCTURE FIRE RESPONSES

JULY 1, 2015 – JUNE 30, 2016

NFPA Standard				
Demand Zone	Demographics	Min Staff	Response Time	Objective
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	41	5.8	9 min	0%
Suburban	70	5.6	10 min	11%
Rural	82	6.0	14 min	67%
*Totals	193	5.8		

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

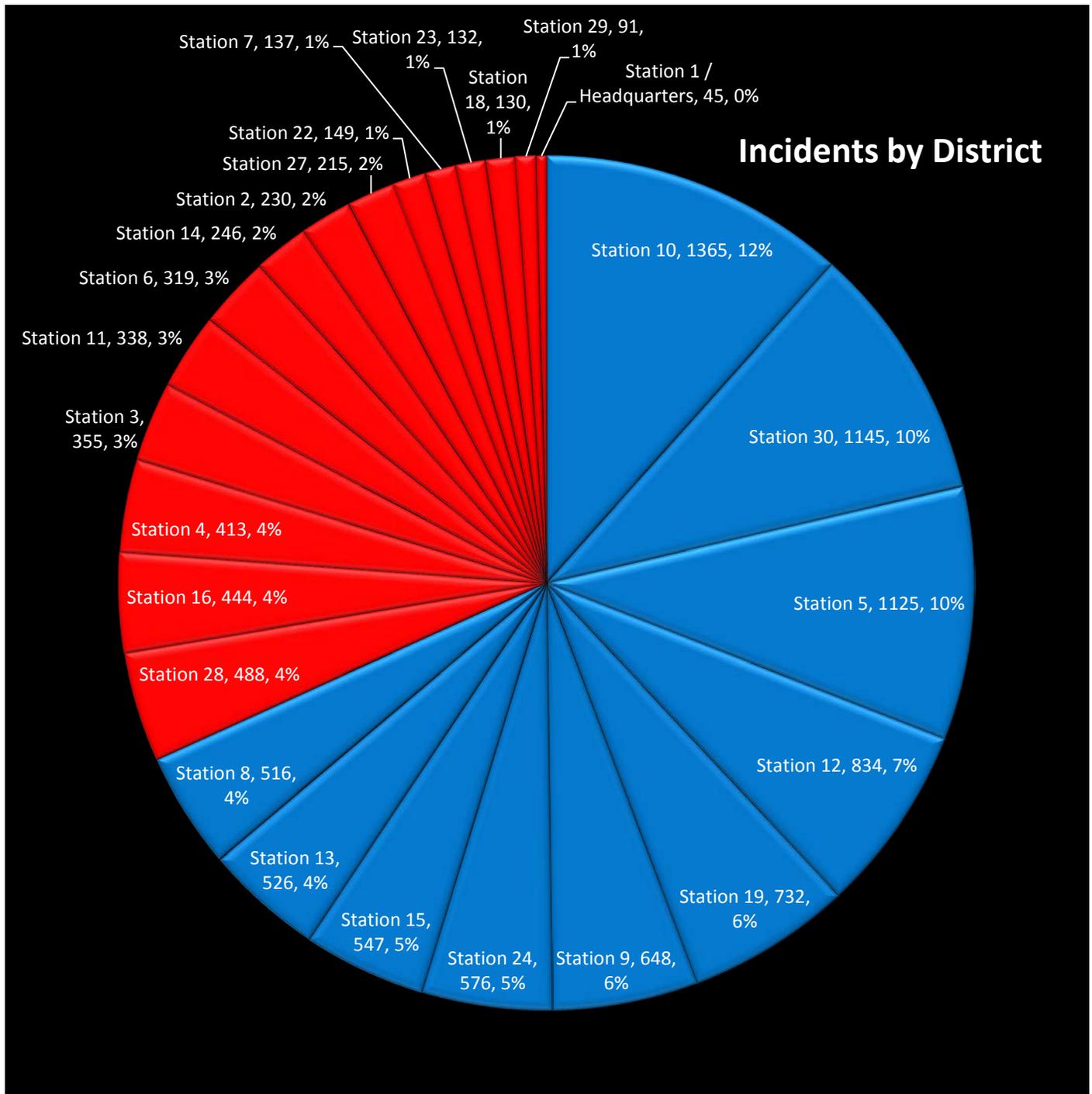
Average Response Time:

1st unit on scene–7 min. 03 sec. (Avg. Personnel = 2.21)

2nd unit on scene–8 min. 19 sec. (Avg. Personnel = 2.21)

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-nine percent (69%) 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).**

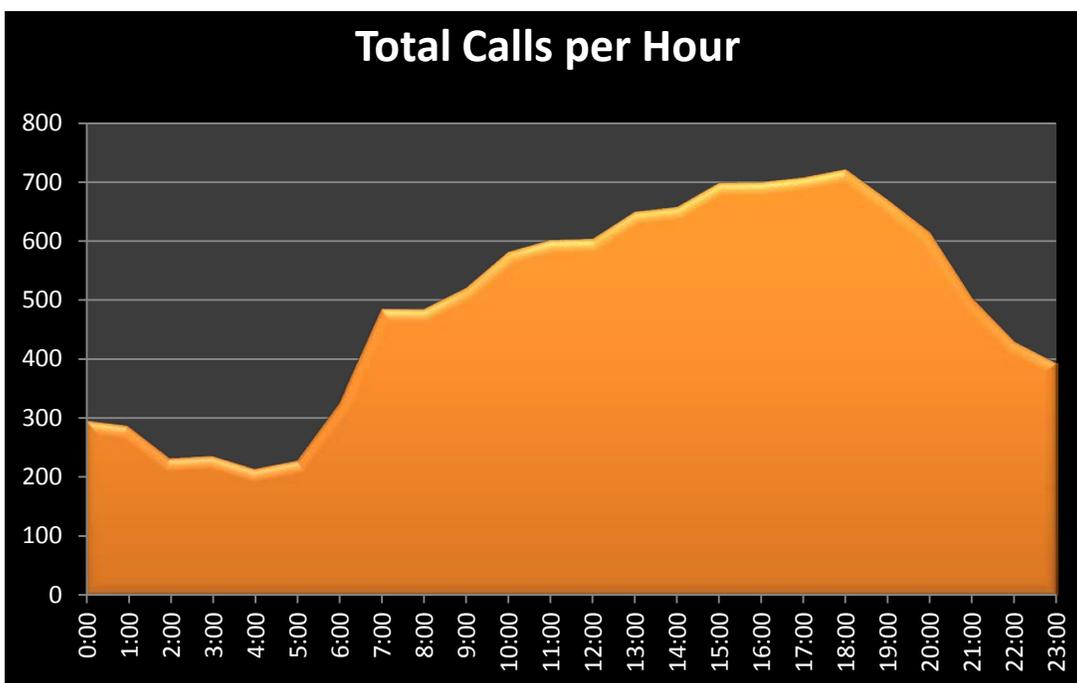
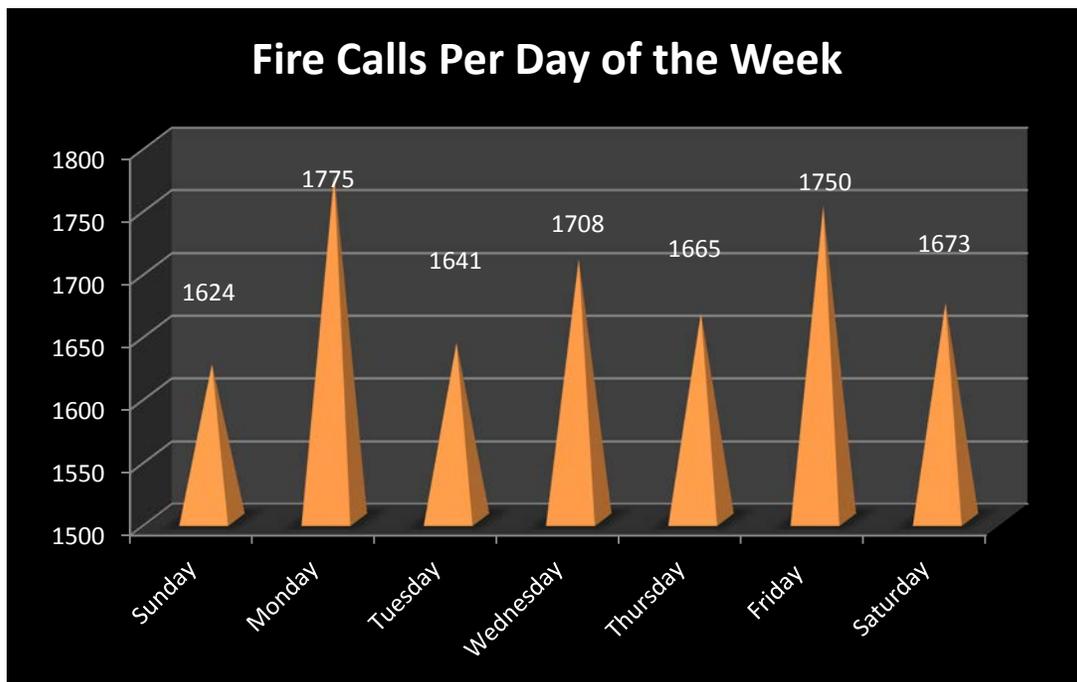


Automatic and Mutual Aid

Name of Department	Automatic Aid – Given(4)	Automatic Aid – Received(2)	Mutual Aid – Given(3)	Mutual Aid – Received(1)
Batesburg / Leesville FD	20	55	9	30
West Columbia FD	11	24	13	15
Irmo Fire District	35	18	9	17
Columbia / Richland County	1	0	30	10
Sandy Run / Calhoun County	1	3	7	1
City Of Cayce	3	0	6	6
Columbia Airport Fire Department	1	1	1	1
Little Mountain Fire Department	0	0	3	3
Newberry County Fire Department	0	0	1	1
Jumper Station / Calhoun County	0	0	1	0
North Fire Department	0	0	1	1
New Holland Fire Department	0	0	0	1
Fairview Fire Department	0	0	0	1
Wagner Fire Department	0	0	0	1
Totals	72	101	81	88

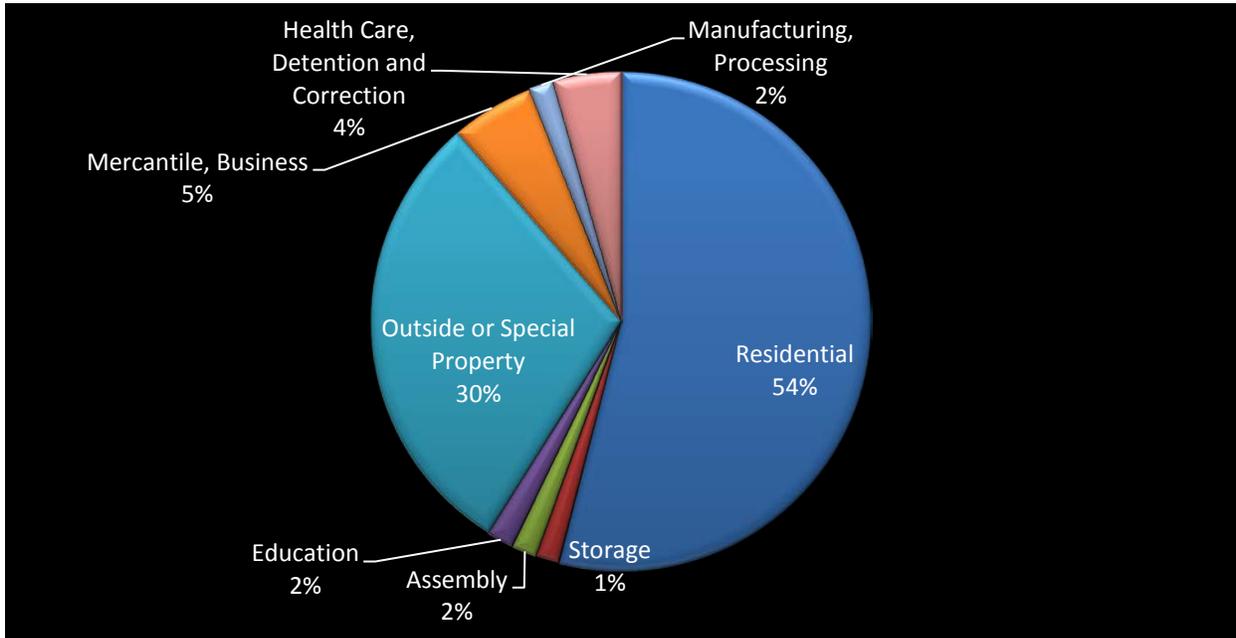
When are Incidents likely to occur?

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 10:00am-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 residential structures, whether it's for fire, medical, fire alarm or service calls.



What is our Fire Problem?

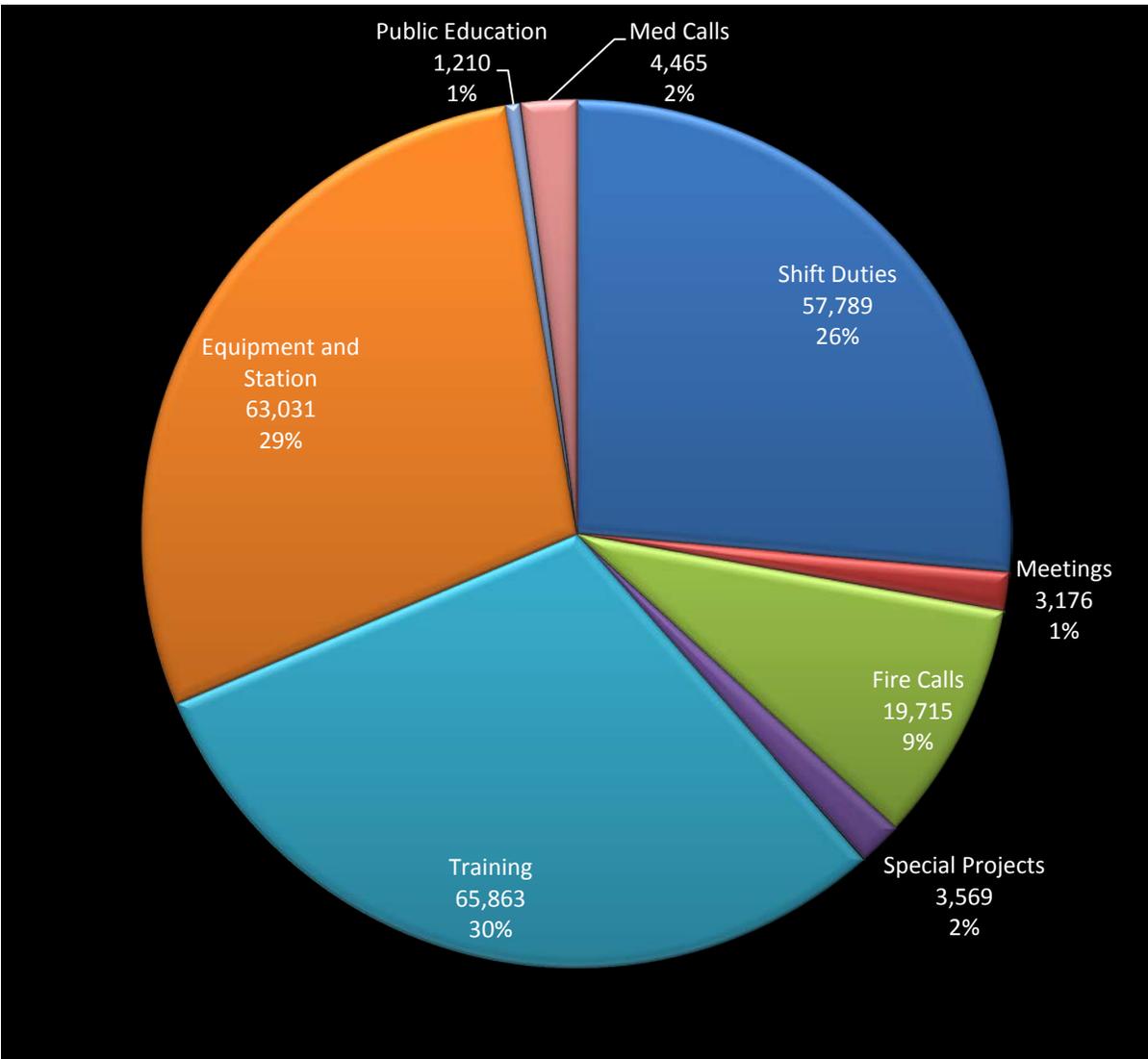
Property Use	Total Losses	Percentage of Total Loss
Other	\$147,000	1.72%
Assembly	\$36,000	0.42%
Education	\$2,400	0.02%
Health Care, Detention & Correction	\$100	0.00%
Residential	*\$5,541,589	64.89%
Mercantile, Business	\$190,230	2.24%
Manufacturing, Processing	\$226,000	2.65%
Industrial, Agriculture, Mining	\$85,000	1.00%
Storage	\$817,950	9.60%
Outside or Special	\$1,493,995	17.50%

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	100	11.06%	\$97,700	1.23%
Unintentional	257	28.42%	\$1,930,276	24.36%
Failure of equipment or heat source	56	6.19%	\$880,822	11.12%
Act of Nature	32	3.53%	\$299,190	3.78%
Cause under Investigation	58	6.41%	\$1,665,910	21.02%
Cause Undetermined after investigation	311	34.40%	\$2,732,106	34.48%
Cause Other	90	9.95%	\$317,680	4.01%
Total	904	100%	\$7,923,684	100%

*** 51% of fire calls with a loss of \$4,715,696 had No Determination.**

PERCENTAGE/HOURS OF ACTIVITY PER SHIFT



Average productivity per person per day

194 personnel – 9.2 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)

<u>July 2014 -> June 2015</u>		<u>July 2015 -> June 2016</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	14,056.87 1.60 FTE Loss / Day	Normal Sick Leave	13,738.63 hrs 1.57 FTE Loss / Day	(-) .03
*Workers Comp. Light Duty	12,053.76 1.38 FTE Loss / Day	Workers Comp. Light Duty	7,316.18 .83 FTE Loss / Day	(-) .51
Average Hrs. Per Pay Period – Shift Personnel	112.00	Average Hrs. Per Pay Period – Shift Personnel	112.00	
180 Personnel @ 24 Hrs. per shift	4320.00	177 Personnel @ 24 Hrs. per shift	4248.00	(-) 1.1 %
% Lost Time SICK/FMLA	2.86%	% Lost Time SICK/FMLA	2.66%	(-) 7 %
% Lost Time – Work Related	2.54%	% Lost Time – Work Related	1.42%	(-) 44.1 %
Total % of Lost Time	5.40%	Total % of Lost Time	4.08%	(-) 24%
	Total: 2.98 / Day Personnel Loss		Total: 2.4 / Day Personnel Loss	(-) .58

*An average of 8.97 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 2.54%) of the total available work hours for the department.
2. The percentage of total workforce accumulating lost work time shall not exceed 5% (Actual 5.40 %) of the total workforce for each fiscal year.

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: 65,863 Hours.

Multi Company Drill Hours:

2280 Hours of training across 3 multi company drills.

570 Fire Service Participants

4 Hours/ Drill/ Student

FF II Certification Project:

All career personnel (194) are now FFII certified.

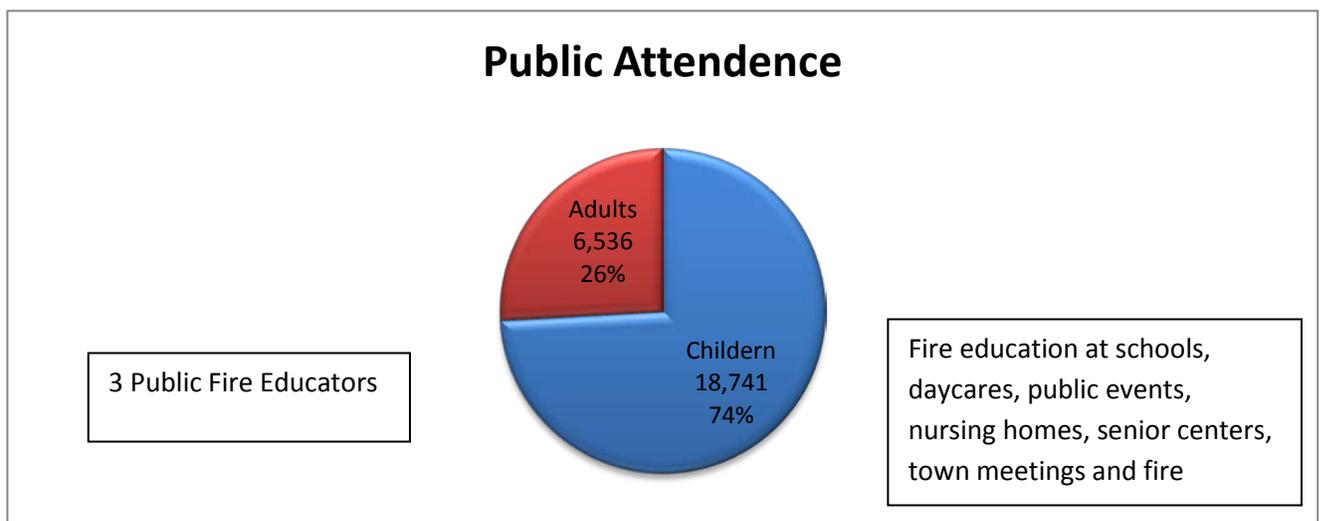
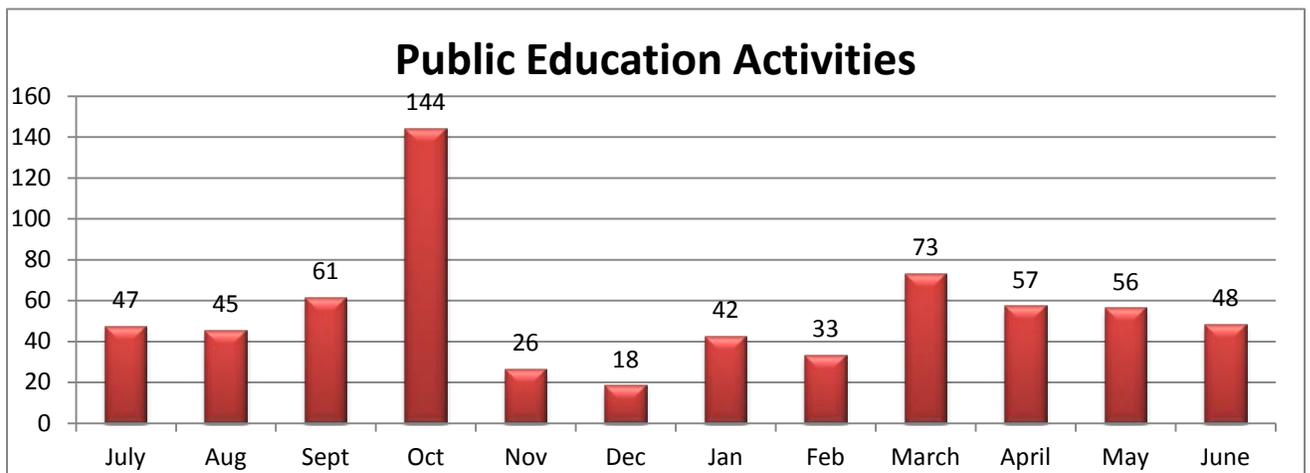


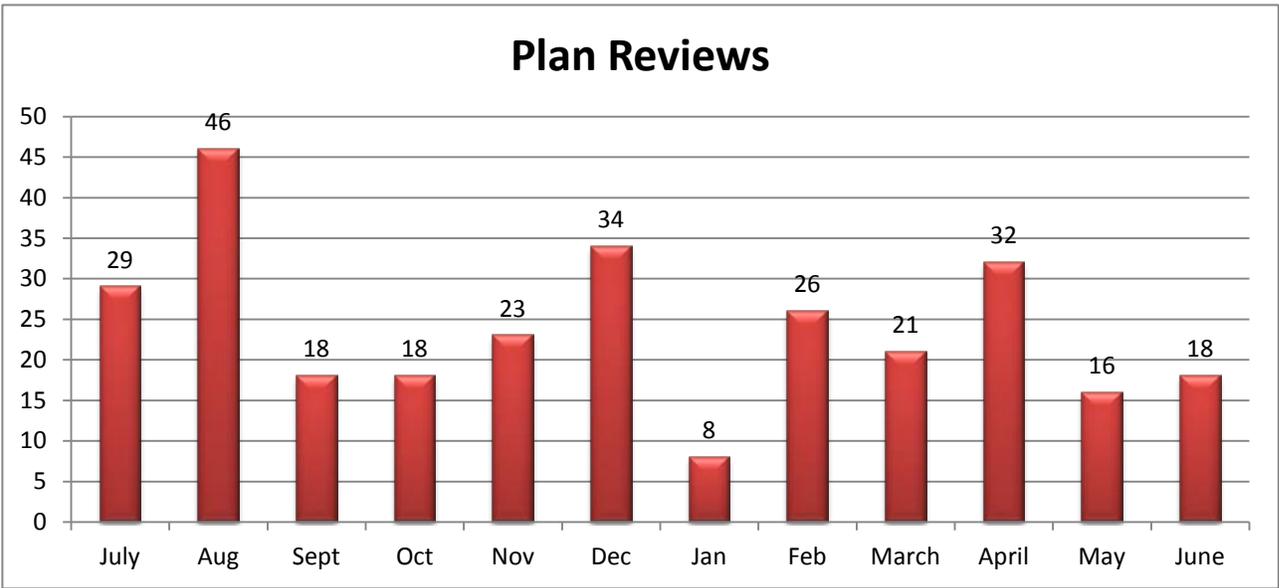
FIRE MARSHAL DIVISION

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 650 Events

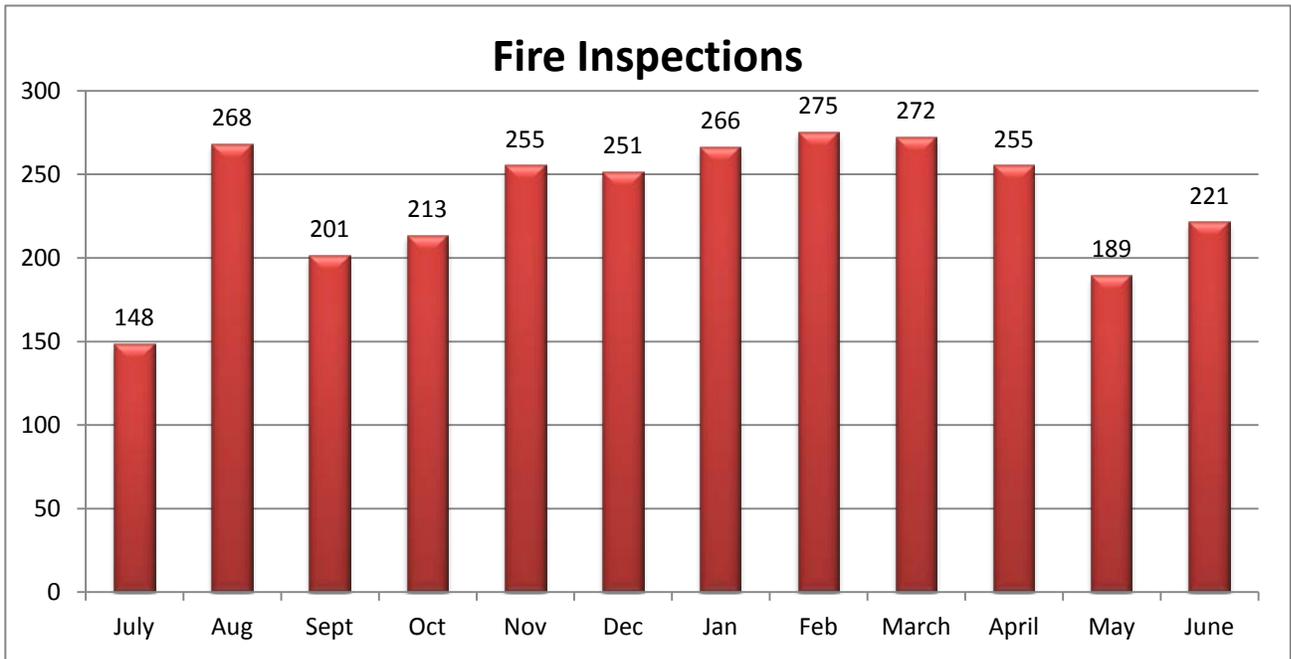




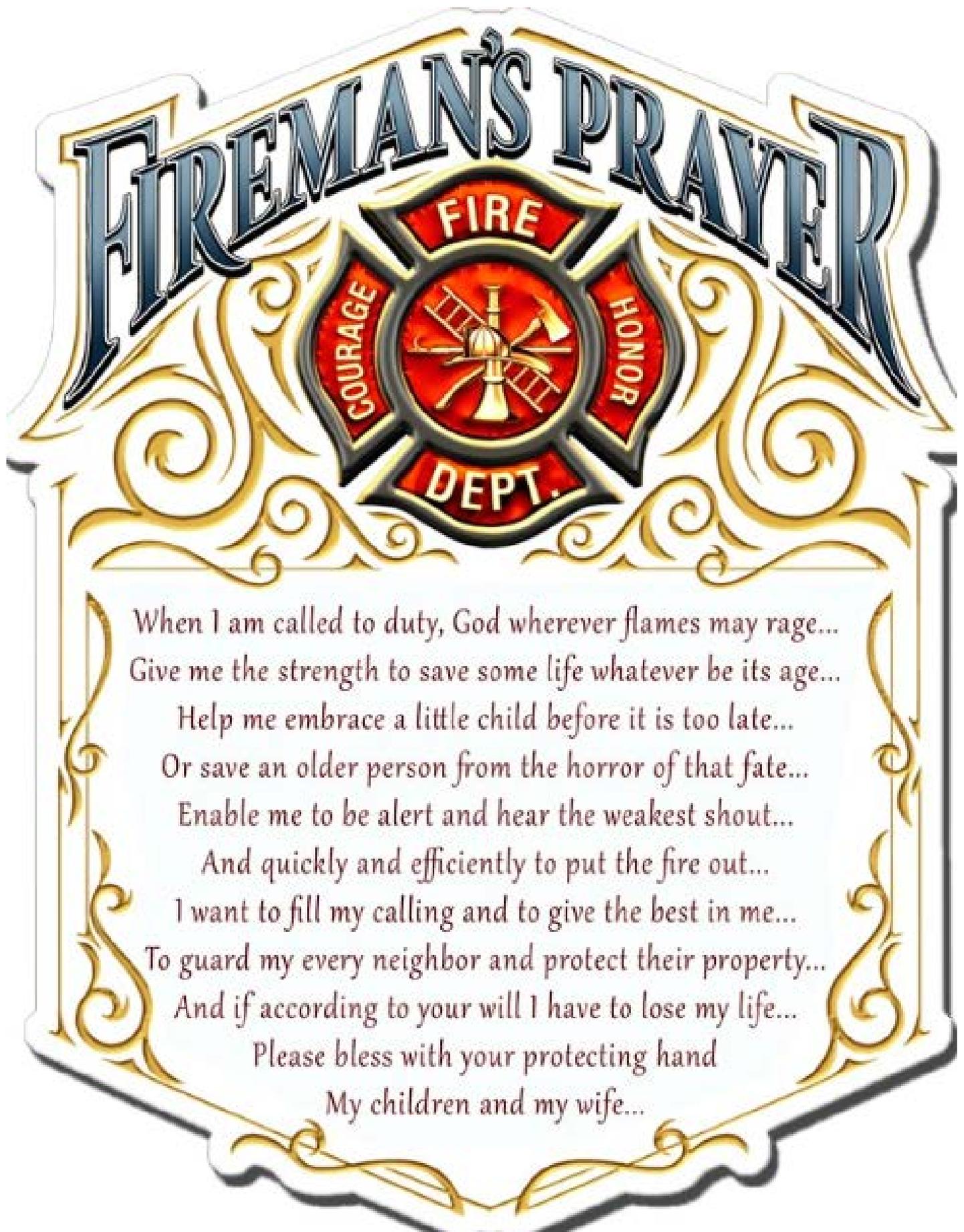
Total Plan Reviews – 289

Total Plan Review for FY14’-15’ – 279

Total of 2,814 Inspections conducted by 3 Inspectors



Total Inspections for FY14’-15’ – 3231



When I am called to duty, God wherever flames may rage...
Give me the strength to save some life whatever be its age...
 Help me embrace a little child before it is too late...
 Or save an older person from the horror of that fate...
 Enable me to be alert and hear the weakest shout...
 And quickly and efficiently to put the fire out...
I want to fill my calling and to give the best in me...
To guard my every neighbor and protect their property...
And if according to your will I have to lose my life...
 Please bless with your protecting hand
 My children and my wife...

***HONOR, RESPECT, AND
DEVOTION TO DUTY***



“SERVICE EXCELLENCE”