

Charlottesville Fire Department

2015 Annual Report



Bob Wood

Charlottesville Fire Department

Annual Report 2015

Prepared by:

Charlottesville Fire Department

Planning Section

March 2016

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Letter from the chief

Dear Citizens of Charlottesville,

I am proud to present to you the 2015 Annual Report for the Charlottesville Fire Department. I hope that the information contained in this report provides each of you with a clear picture of the Charlottesville Fire Department's role in supporting a safe, resilient, thriving community.

2015 was a year of transition for the Charlottesville Fire Department. Fire Chief Charles Werner retired after serving our community for over 37 years, the last 10 as Fire Chief. Chief Werner provided invaluable support to me after my appointment as Fire Chief on September 14, 2015 and for that I am profoundly grateful. I know that I speak for our entire community in wishing Chief Werner a happy and healthy retirement.



The final quarter of 2015 saw the completion and implementation of the Charlottesville Fire Department Strategic Plan. This plan was developed with input from the community and from within all ranks of our department. The 9 Strategic Goals identified in the plan will provide our organization a clear compass point and organizational mission clarity for many years to come and supports the City of Charlottesville's Strategic Plan.

The fall of 2015 also saw several promotions along with an organizational restructuring that lined up our talented workforce with our strategic goals. Our Strategic Planning Team will continue to monitor the progress of our implementation on an ongoing basis.

2016 promises to be another exciting year for the Charlottesville Fire Department. We recently welcomed two new pumpers to the fleet and planning is underway to design a replacement for our aging ladder truck. We will also continue to move forward with developing plans for addressing the needs of our two legacy fire stations. We have begun a hiring process and expect to bring aboard 6 to 8 new firefighters in 2016 to fill vacancies created due to retirements. Also, our newly formed Community Risk Reduction Section is working diligently to identify specific interventions tailored to support those in our City who are most vulnerable to the impact of fire, injury, illness, and natural disaster.

The Charlottesville Fire Department family takes immense pride in providing the best possible service to our community. We actively seek your input and feedback. If you have any questions or comments please feel free to contact me at

bax@charlottesville.org

Respectfully submitted,

Andrew M. Baxter

Fire Chief

The Charlottesville Fire Department

The Charlottesville fire department is tasked with providing fire and other emergency services to residents and visitors to the City of Charlottesville and the University of Virginia. The department also provides contractual fire and emergency services support to the County of Albemarle.



Daily, the Charlottesville fire department operates out of 3 city fire stations staffing a combination of 4 fire engines, two aerial devices, and a chief officer in a command vehicle. Each fire engine and aerial device is staffed daily with a minimum of 3 firefighters and the command vehicle is staffed with 1 chief officer.

In addition to traditional firefighting services, the department provides hazardous materials handling and containment and emergency medical services that include responses to sudden severe illnesses, accidents, and injuries. The department also provides emergency response and mitigation to incidents concerning collapsed structures, high-angle rope rescue, confined spaces, trench rescue situations and vehicle entrapments.

In the City the fire department is responsible for enforcement of the Fire Prevention Code, fire safety inspections, fire investigations, and fire and life safety education for the public. The department also reviews plans for new building construction to insure that fire code requirements and fire suppression systems (sprinklers, fire hydrants, etc.) and alarm systems are properly planned for and incorporated into the construction of new buildings.

The Charlottesville Fire Department has been twice accredited by the Commission on Fire Accreditation International (CFAI). The CFAI accrediting process is a rigorous critical analysis designed to determine if the fire department's programs and services are successfully meeting the needs of the community and if the fire department has achieved an appropriate level of safe and effective performance and a high level of efficiency as a service provider and as an organization.

In December 2014 the City received a superior Class 1 rating as a result of an Insurance Services Organization (ISO) analysis of the city's fire suppression services. Using a uniform set of criteria, incorporating nationally recognized standards, ISO conducted an evaluation of the city's emergency reporting, dispatching and telecommunications systems, an evaluation of the Charlottesville Fire Department's staffing, equipment, training, and strategic distribution of fire stations along with an evaluation of the amount of available water in the city's water supply system.

The Charlottesville Fire Department is one of only six fire departments in the Commonwealth of Virginia to currently hold a superior ISO Class 1 rating for its fire protection services. At the national level, ISO reports only 178 jurisdictions have achieved such distinction which places the City of Charlottesville in the top 0.37% of fire-safe communities nationally. In pursuit of its mission and in alignment with the city's Performance Measurement Management Program, the Charlottesville Fire Department is working to apply service performance metrics and a process of regular program review and evaluation in an effort to continually offer our public the highest levels of fire and other emergency protection services.

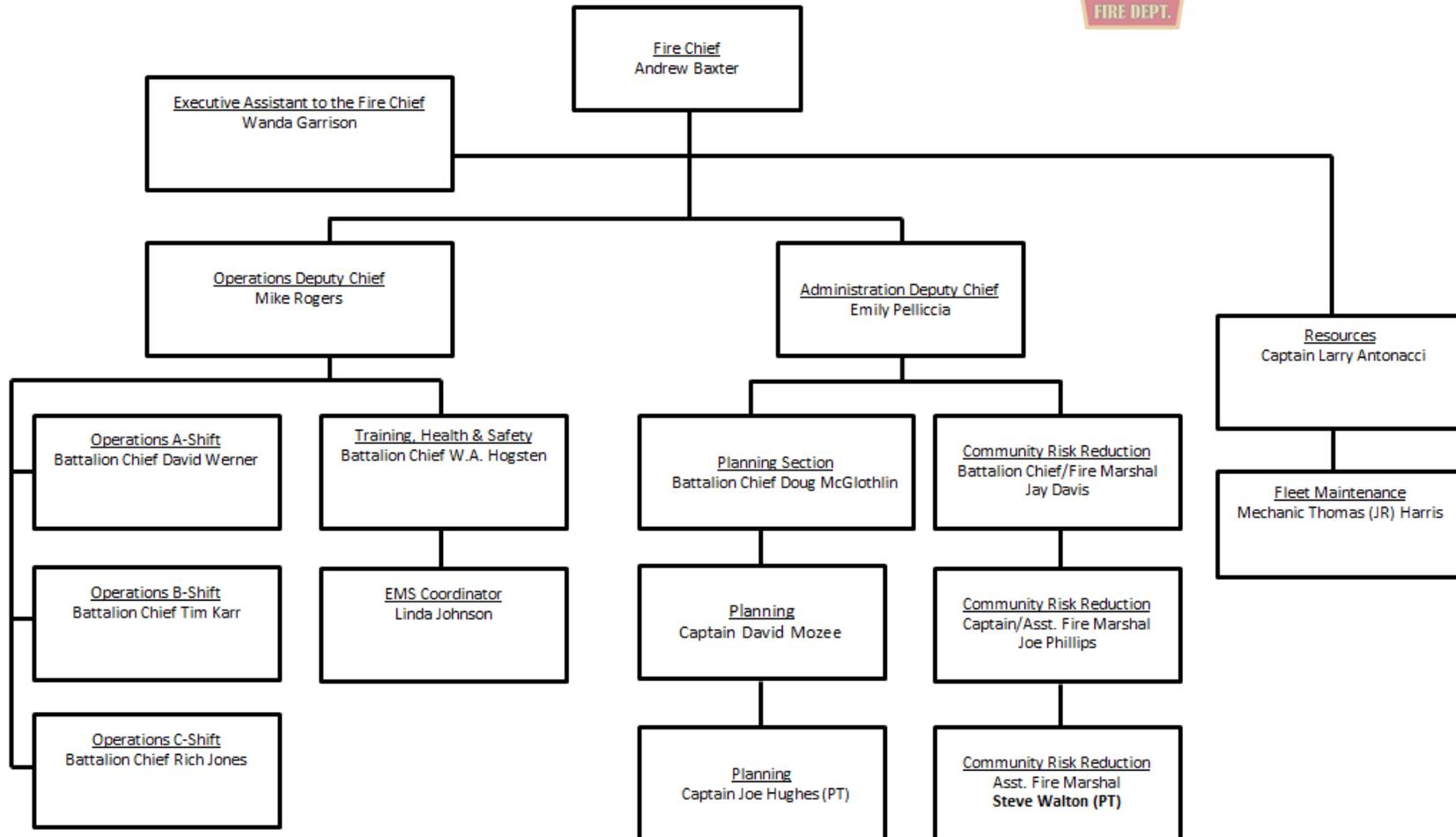


The Charlottesville Fire department (CFD) is staffed with 91 full time personnel and 2 part time personnel. Shift personnel working in the Operations Division are assigned to one of three shifts; A, B, or C, and will normally work a 56-hour workweek consisting of (3) 24-hour shifts. Shift personnel begin their shift at 7:00 o'clock AM and work until relieved the following morning at 7:00 o'clock AM. CFD maintains a minimum operational staffing requirement of 19 total shift positions on duty each day for each shift including four (4) officers.

The Ridge Street fire station's (Headquarters) daily minimum staffing consists of not less than nine (9) shift members including one (1) officer. The 250 bypass fire station's (Station #1) daily minimum staffing consists of not less than three (3) shift members including one (1) officer. The Fontaine Avenue fire station's (Station 10) daily minimum staffing consists of not less than six (6) shift members including one (1) officer. Daily shift minimum staffing includes the requirement for not less than one (1) shift Battalion Chief on duty each day for the 24 hour shift cycle. Monday through Friday from 7:00 o'clock AM until 6:00 o'clock PM minimum staffing is increased to twenty one (21) with the two additional shift personnel assigned to provide EMS support staffing for the jurisdiction's volunteer rescue squad agency.

Current Staffing Positions within the Charlottesville Fire Department	
Positions Classification	Budgeted Position
Fire Chief	1
Deputy Chief - Administration	1
Deputy Chief - Operations	1
Battalion Chiefs - Shift Operations	3
Battalion Chief - Fire Marshal	1
Battalion Chief - Planning	1
Battalion Chief - Training	1
Captains - Shift Operations	18
Captain - Planning/ Accreditation	1
Captain - Resources	1
Captain - Assistant Fire Marshal	1
Shift Fire Fighters	58
Civilian - Assistant to the Fire Chief	1
Civilian - EMS Administrator	1
Civilian - Fleet Mechanic	1
Total Full Time Staffing	91
Part time Assistant Fire Marshal	1
Part time Planning/Accreditation	1
Total Part time Staffing	2

Charlottesville Fire Department Organizational Chart



Family ~ Integrity ~ Respect ~ Excellence

Revised: 2 January 2016

Charlottesville Fire Department

MISSION

The mission of the Charlottesville Fire Department is to improve the quality of life in our community by consistently striving to provide superior fire and emergency services focused on prevention, preparedness, response, and recovery.

VISION

The vision of the Charlottesville Fire Department is to be recognized by our community and our peers as a premier organization. This vision will be accomplished through the development and cultivation of a culture designed to support a safe and self-sufficient community. We will realize this vision through:

- Proactive identification and analysis of both community and organizational risks and the development and implementation of effective strategies to address these risks.
- Modeling the qualities of physical, mental, and emotional resilience for our community.
- Steadfast leadership that is focused on developing a motivated, highly trained, and effective workforce by fostering a dynamic and fluid learning environment.

VALUES

The Charlottesville Fire Department values are driven by our commitment to strong leadership and community focus through:

F. I. R. E. **FAMILY** **INTEGRITY** **RESPECT** **EXCELLENCE**



Serving Since 1856

Our Plan

In September 2015 the Charlottesville Fire Department engaged the services of the Technical Advisory Program from the Center for Public Safety Excellence to facilitate the development of a 5-year community-driven strategic plan. The mission, vision, and values statements along with the nine strategic goals (see below) outlined in the *Strategic Plan* will provide the Charlottesville Fire Department with a roadmap for its continued pursuit of excellence and the accomplishment of specific organizational goals and objectives for the effective and efficient delivery of emergency services.

Moving forward, the Charlottesville Fire Department will utilize the *Strategic Plan* as a benchmark against which it will measure organizational progress. Some of the stated goals will be achieved in a relatively short time frame while others will take longer to achieve. Regularly, the department will analyze the plan and clarify and amend the organizational goals based on current and future conditions and challenges.

Strategic Plan Goals 2015 - 2020	
Goal 1	<i>Create organizational clarity by providing a framework for organizational purpose, direction, and administration.</i>
Goal 2	<i>Develop, support, and foster the overall health, wellness, and safety of our fire department family.</i>
Goal 3	<i>Invest in greater member performance through workforce development initiatives.</i>
Goal 4	<i>Develop a process for clear, timely, and accurate internal communication of information.</i>
Goal 5	<i>Establish policies and procedures for delivery of clear communications to our external customers.</i>
Goal 6	<i>Plan for and mitigate all emergencies within our community.</i>
Goal 7	<i>Develop and maintain a sustainable technology plan to support a data driven organization.</i>
Goal 8	<i>Develop a physical resource management plan that supports our mission.</i>
Goal 9	<i>Develop and maintain a proactive comprehensive Community Risk Reduction Plan and Program.</i>

What our Citizens Say

96%

of survey respondents rated fire services in the City as EXCELLENT or GOOD.

Charlottesville City residents highly value and have expressed a high degree of confidence in the programs, services, and protection provided by the Charlottesville Fire Department.

In 2014, the City of Charlottesville commissioned the National Research Center, Inc. (NRC) to conduct a survey (National Citizen Survey or NCS) of City residents and tabulate their opinions

about the city and about the services provided by city government. When city residents rated public safety services the survey report consistently showed that the public has high regards for the services of the Charlottesville Fire Department and feels well protected and unthreatened by fire and other related hazards.

In completing the 2014 survey, residents rated seven City public safety services. Of these, the fire department had the highest positive rating with 96% of respondents rating the fire department's service as either good or excellent. The 2014 survey results pertaining to the fire department were similar to the outcome of the 2012 NCS survey of City residents that also reflected a highly favorable view that City residents had of the Charlottesville Fire Department.

Fire prevention, a division of the Charlottesville Fire Department, received a 76% positive rating of survey respondents scoring fire prevention services as either good or excellent. Ambulance/EMS services along with Emergency Preparedness services, both areas that the Charlottesville does not have primary responsibility for in its jurisdiction, received lower ratings than the fire department overall with 89% and 58% good or excellent ratings respectively.

Governance by Facet					
	Percentage rating positively (e.g. excellence/good)*		2014 rating compared to 2012	Comparison to benchmark	
	2012	2014	2012	2012	2014
Fire	94%	96%	Similar	Higher	Similar
Fire Prevention	82%	76%	Similar	Higher	Similar
Ambulance/EMS	92%	89%	Similar	Higher	Similar
Emergency Preparedness	72%	58%	Lower	Higher	Similar

The National Citizen Survey™

*The 2014 NCS report provides the Opinions of a representative sample of 269 residents of the City of Charlottesville. The Margin of error around any reported percentage is 6% for the entire sample.



Our Budget

As a department within the City of Charlottesville, the fire department operates within the confines of the City's revenue stream and budgetary rules and regulations and competes for dollars with the other City Departments.

The City of Charlottesville's Governing Body has made significant investments in the Charlottesville Fire Department's capacity for mitigation of fires and other



hazards. A result of this investment was evident in December 2014 when the Insurance Services Office (ISO) gave a superior rating to the City's overall fire protection system and services.

ISO is an independent company that serves insurance companies, communities, fire departments, insurance regulators, and others by providing information about risk. ISO's expert staff collects information about municipal fire suppression efforts in communities throughout the United States. In each of those communities, ISO analyzes the relevant data and assigns a Public Protection Classification (PPC) – a number from 1 to 10. Class 1 represents an exemplary fire suppression program, and class 10 indicates that the area's fire suppression program does not meet ISO's minimum criteria. The City of Charlottesville has received a PPC rating of 1.

According to ISO, a community's investment in fire mitigation services is a proven and reliable predictor of future fire losses. Statistical data on insurance losses bears out the relationship between excellent fire protection – as measured by the PPC program – and low fire losses. In general, the price of fire insurance in a community with a good PPC is substantially lower than in a community with a poor PPC, assuming all other factors are equal.

The Charlottesville Fire Department is grateful for the continued support of the city's residents, the business community, and city government in the mission to reduce the risk of injury and death due to fire and related hazards.

FY 2015 Budget Summary

Expenditures –

The total operating budget for the Charlottesville Fire Department for fiscal year 2015 was \$9,524,264.

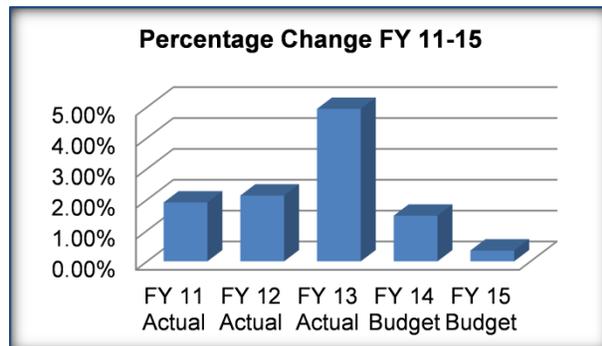
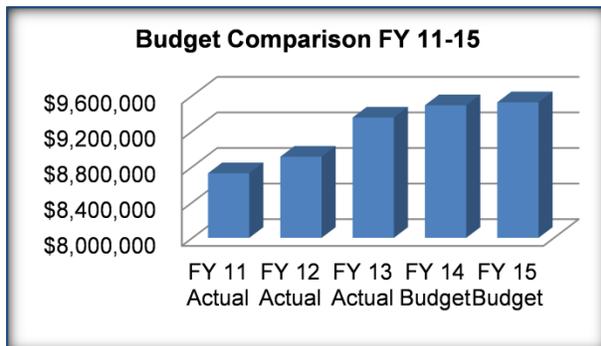
Personnel costs (salaries and benefits) accounted for 76%, or \$7,317,891, of the total budget.

The remaining 24%, or \$2,206,373, of the total budget was used to support the daily operations of our three stations (60,000 total square feet of facilities) and a fleet of thirty (30) heavy and light duty vehicles/equipment.

Funding Summary	FY 10-11 Actual	FY 11-12 Actual	FY 12-13 Actual	FY 13-14 Budget	FY 14-15 Budget	Increase/ (Decrease)	% Change
Salaries and Benefits	\$7,351,325	\$7,565,866	\$8,069,618	\$7,960,639	\$7,976,315	\$15,676	0.20%
Other Expenditures	1,374,895	1,346,381	1,283,039	1,530,372	1,547,949	17,577	1.15%
General Fund Total	\$8,726,220	\$8,912,247	\$9,352,657	\$9,491,011	\$9,524,264	\$33,253	0.35%

Staffing Summary (Full Time Equivalents)	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	Increase/ (Decrease)
General Fund FTEs	89.0	89.0	89.0	89.0	89.0	0.0

Explanation of Changes: The change in Salaries and Benefits reflects the 2% salary increase granted in FY 14. Other Expenditures includes funds to fully support operations for the new Fontaine Avenue Fire Station which was made fully operational in February 2014.



Capital Improvement –

In FY 2015, the Fire Department received \$1,768,000 in Capital Improvement Funding for the purchase of two (2) replacement fire engines.

Revenue –

Cost recovery for services was realized through three major revenue sources which combined to account for 4.7% of the total expenditures for the Fire Department. As the sole provider of fire services to the University of Virginia community, the contracted amount of revenue the University provides the Fire Department (\$261,193 in FY15) accounts for the largest percentage of the cost recovery annually.

Our City

The City of Charlottesville, settled in 1727, is located in western central Virginia along the Rivanna River and at the foothills of the Blue Ridge Mountains. A city deep in historic value, the area has raised three Presidents and is the home of the University of Virginia which is one of the most historically prominent universities in the United States. With the area's strategic location and healthy economy Charlottesville has earned the reputation as one of the best places to live in the country and is a popular destination for the nearly 2 million travelers who visit the area each year.



The Weldon Cooper Center for Public Service Demographics Research Group reported in July 2015 a population estimate for the City of Charlottesville at 48,210 people. Its average population density of 4,636 per square mile is nearly twice the national average. The University of Virginia has an enrollment of nearly 20,000 and is the area's largest employer.

The City of Charlottesville sits approximately 400 – 600 ft. above sea level and encompasses an area of some 10.4 square miles. The city's land area can be characterized as consisting primarily of Metropolitan, Urban, and Suburban spaces with 156 miles of streets and 987 acres of Parks and Playgrounds.

In land use, 75% of the City's land is zoned for exclusively residential development and following the creation of the City's first mixed-use zone in 2001, 13% of the City is now zoned for mixed-use development. The remaining 12% of the City's land zoning applies to commercial and industrial use.

The City's weather is influenced significantly by the Blue Ridge Mountains, approximately fifteen miles to the west, and the Chesapeake Bay and Atlantic Ocean to the east. Both act in concert to modify extremes, giving the area and a surrounding narrow strip along the western Piedmont of Virginia and North Carolina one of the most amenable climates in North America. Charlottesville's annual Mean temperature is 56.9 F, the average annual rainfall is 44.34 inches and the average annual snowfall is 24.20 inches.



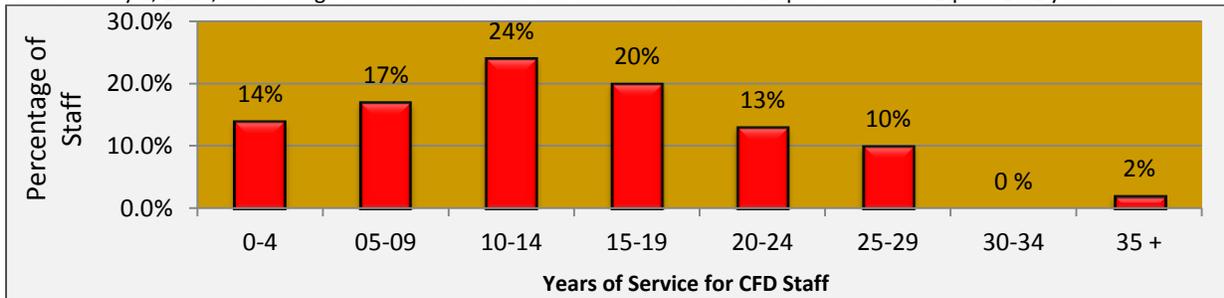
The City of Charlottesville continues to receive top rankings for livability. In 2015 the City was ranked the No. 2 Most Exciting City in Virginia. It ranked the No. 8 Best Place to retire in the U.S. and was ranked No. 21 in the Top 100 Best Places to live in the U.S.

Our People

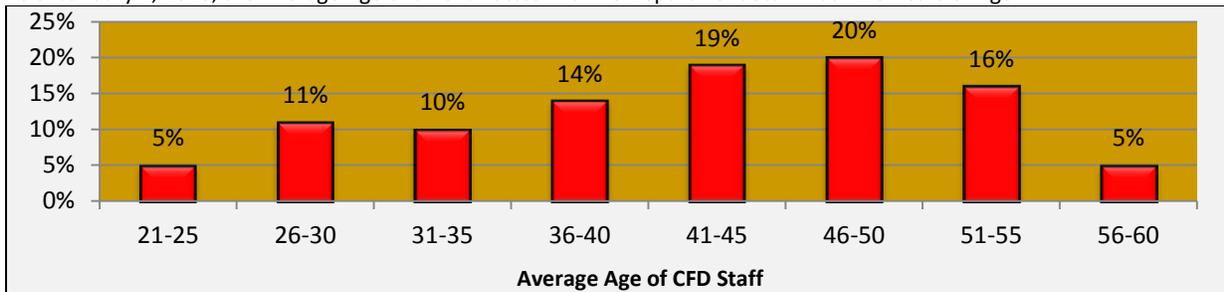


It takes the talent and energy of all our dedicated employees to produce the results City Council and Citizens of Charlottesville expect from the Charlottesville Fire Department. The graphs below show the department's staff breakdown by average member age and average years of service for department members.

As of January 1, 2016, the average Years of Service for the Charlottesville Fire Department Staff Equals 14.1 years.



As of January 1, 2016, the Average Age of all Charlottesville Fire Department Staff was 42.5 Years of Age.



2015 Retirees

Name	Date	Rank and Position	Years of Service
<i>Britt Grimm</i>	<i>01/01/2015</i>	<i>Deputy Chief - Administration</i>	<i>36</i>
<i>Gary Whiting</i>	<i>02/01/2015</i>	<i>Fire Marshal</i>	<i>31</i>
<i>Charles Werner</i>	<i>04/01/2015</i>	<i>Fire Chief</i>	<i>36</i>
<i>Joe Hughes</i>	<i>08/01/2015</i>	<i>Captain – Accreditation Manager</i>	<i>29</i>

2015 Promotions

Name	Date	Rank and Position
<i>Jay Davis</i>	<i>04/11/2015</i>	<i>Battalion Chief – Fire Marshal</i>
<i>Lee James</i>	<i>04/11/2015</i>	<i>Captain - Suppression</i>
<i>Nigel Mason</i>	<i>04/11/2015</i>	<i>Captain - Suppression</i>
<i>Chuck Fix</i>	<i>08/29/2015</i>	<i>Captain - Suppression</i>
<i>Mike Rogers</i>	<i>11/12/2015</i>	<i>Deputy Chief – Operation</i>

2015 New Employees

Name	Date	Rank and Position
<i>Erik Bailey</i>	<i>04/01/2015</i>	<i>Firefighter</i>
<i>Zachary Webb</i>	<i>04/01/2015</i>	<i>Firefighter</i>
<i>Jason Frazier</i>	<i>09/01/2015</i>	<i>Firefighter</i>
<i>Andrew Baxter</i>	<i>09/14/2015</i>	<i>Fire Chief</i>



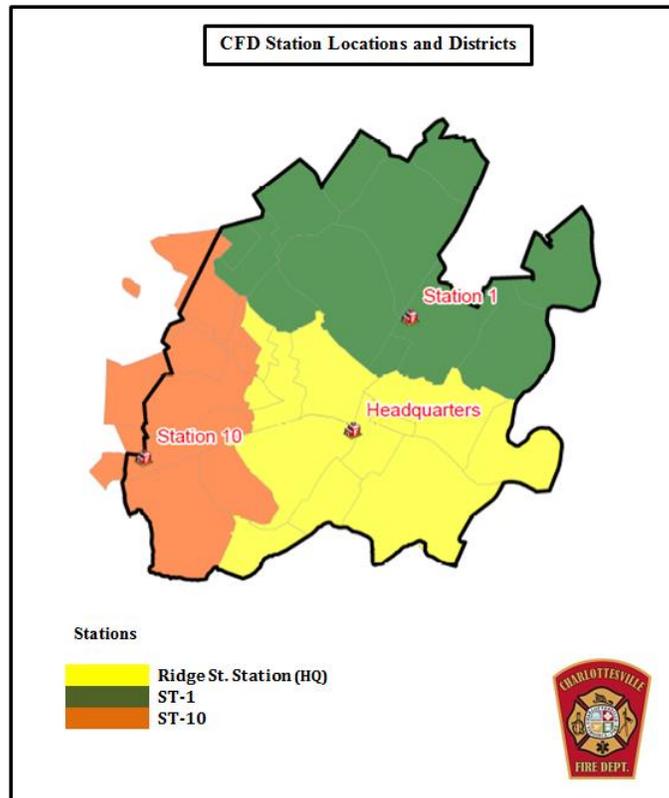
FF. Jason Frazier (Army) deployed September 11, 2015

Our Service Delivery System

In order to achieve quick access and rapid emergency responses for the city and University of Virginia, the Charlottesville Fire Department continually works to maintain and plan for strategically located fire stations across the city. The number and location of fire stations plays a significant role in determining emergency response times and, consequently, the quality of the department's fire, rescue and EMS services. The Charlottesville Fire Department currently maintains three fire stations.

For the provision of fire and rescue services the Charlottesville Fire Department has divided the City and the University of Virginia area into three geographic fire station response districts. Each fire station has primary first due responsibility for areas within its station district.

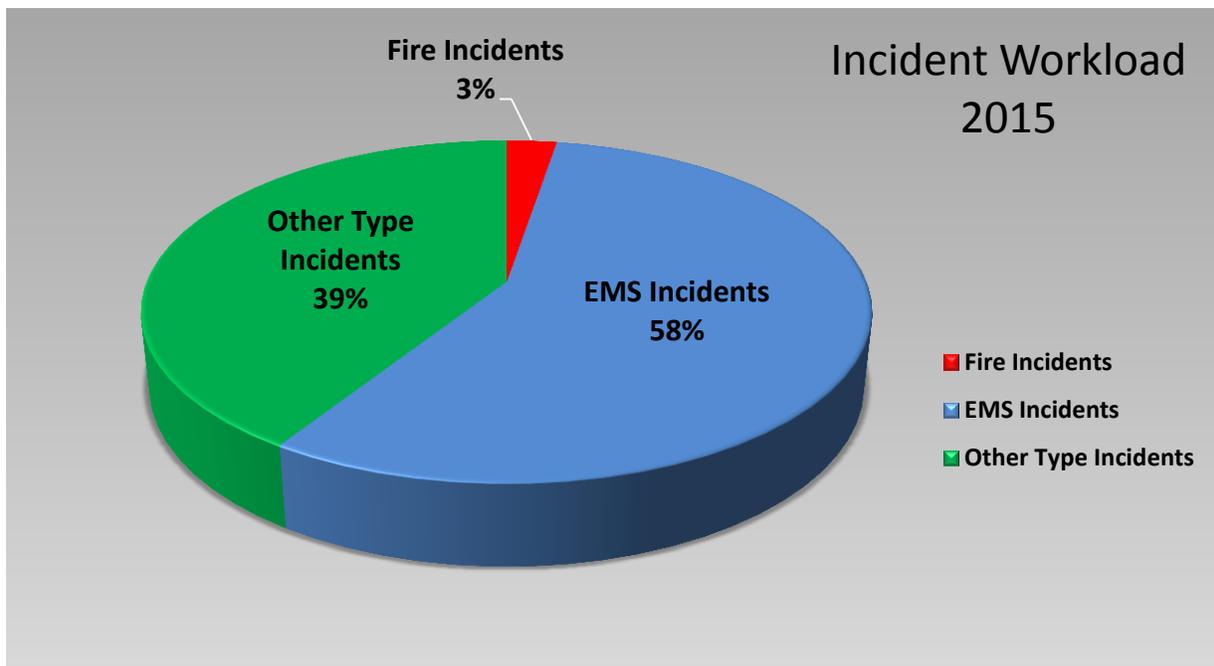
Downtown Ridge St. Station	RT 250 By Pass Station 1	Fontaine Ave. Station 10
		
1959	1962	2014



Our Programs and Services

Members of the Charlottesville Fire Department are equipped and trained to respond to a broad array of emergencies such as fires, explosions, special rescues, medical emergencies, hazardous material emergencies, gas leaks, severe weather incidents, natural disasters, and motor vehicle accidents. The department also responds to nonemergency incidents to assist the public with situations such as water leaks in the home, animal rescues, and citizens accidentally locked out of their homes or vehicles.

During the 2015 calendar year the Charlottesville Fire Department responded to some 5,884 calls for service. Fifty eight percent of these incidents were Emergency Medical Service (EMS) emergencies. Three percent of these incidents were fire emergencies, while thirty nine percent of these incidents were a mixture of responses to alarm activations, motor vehicle accidents, gas leaks, special rescues, weather-related incidents, and a variety of non-emergency public service type incidents.



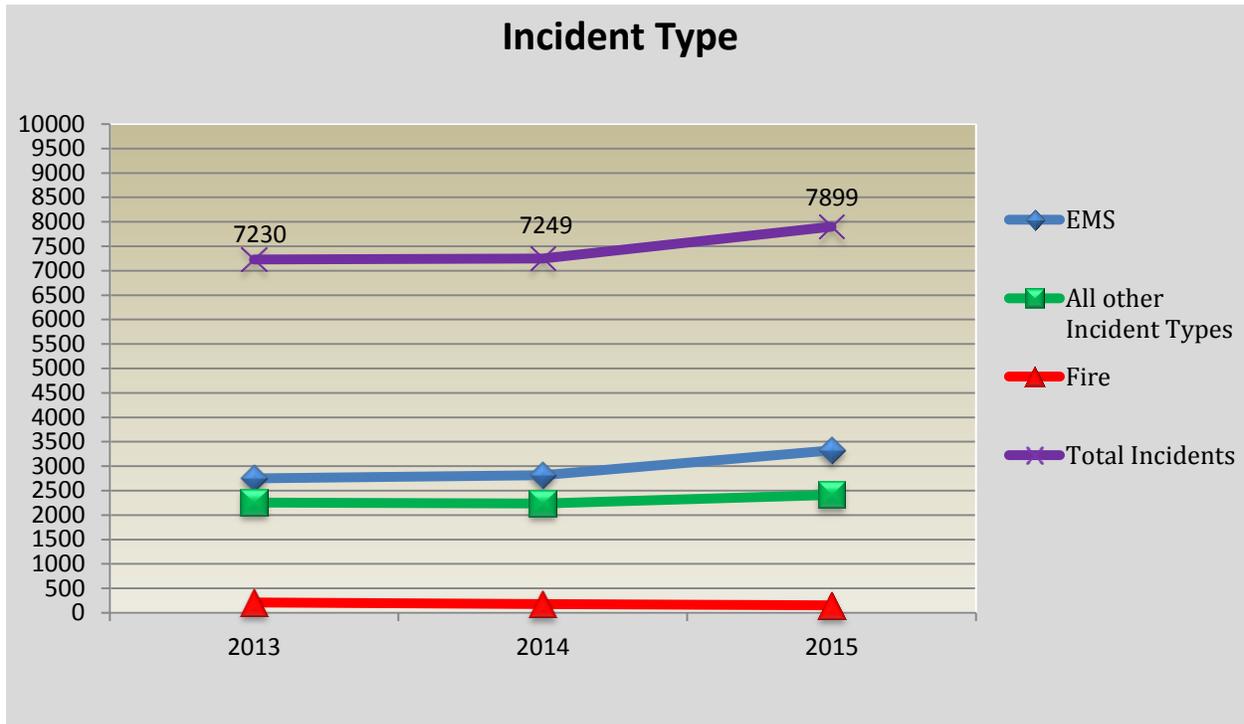
Incidents Summary 2015	
Fire Incidents	154
EMS Incidents	3,321
Other Type Incidents	2,409
Total	5,884

Incident Workload Analysis

2013 - 2015

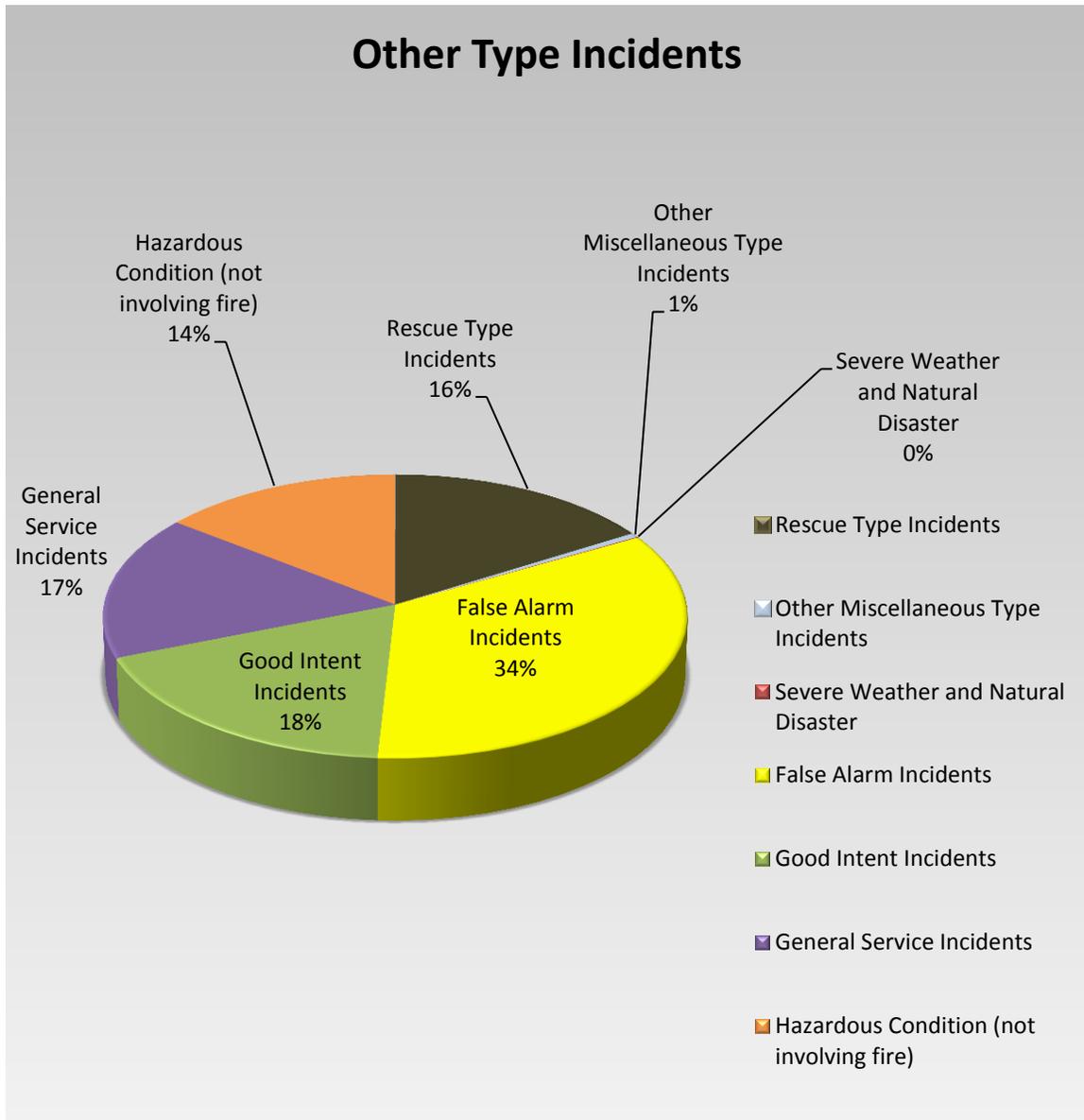
The below graph illustrates the changes in call volume for the Charlottesville Fire Department from 2013 - 2015. In 2015 the call volume was highest for the three year period. In 2015 the calls for service showed an increase over the 2014 level due largely to an increase in EMS service demand.

Between 2013 and 2015 the number of reported fire incidents showed a slight decline. Other Incident Types showed little changes from 2013 - 2014 followed by a slight increase for 2015 over the 2014 level.



Incident Types 2013 - 2014	2013		2014		2015	
Fire	213	4%	180	3%	154	3%
EMS	2749	53%	2818	54%	3321	58%
All other Incident Types (<i>alarm activations, motor vehicle accidents, gas leaks, special rescues, weather related incidents, and a variety of non-emergency public service type incidents</i>)	2,255	43%	2,237	43%	2,409	39%
Total	5,217	100%	5,235	100%	5,884	100%

A review of the department's emergency incident workload summary for the year 2015 (pg. 14) reveals that a significant percentage of the workload is attributed to the condensed incident summary category titled "Other Type Incidents". Over the 3 years covered in the analysis on page 15 it is revealed that "Other Type Incidents" accounted for between 39 and 43 percent of the department's total incidents workload.



To provide greater clarity on the composition of the “Other Type Incidents” category included in the analysis on page 15, the following breakdown and description of that category is provided:

Other Type Incidents	2013	2014	2015	2013-2015
Rescue Type Incidents <i>(Extrication of victim(s) from buildings, from vehicles involved in crashes, stalled elevators, trench/below grade or confined space incidents, and high-angle rope rescues. Also, rescues of persons from water and electrical hazards, and search and rescue of persons lost)</i>	464	436	389	1289
Other Miscellaneous Type Incidents <i>(citizen complaint includes reports of code or ordinance violation and special type incident)</i>	5	3	12	20
Severe Weather and Natural Disaster Incidents <i>(responses to incidents involving the assessment of conditions following or during severe weather and natural disaster events such as earthquakes, flooding, heavy wind storms, severe summer storms, large snow events, etc.)</i>	1	1	2	4
False Alarm Incidents <i>(responses to incidents involving malicious false alarms, bomb scare no bomb, sprinkler activation due to failure or malfunction, smoke detector activation due to malfunction, heat detector malfunction, alarm system activation due to malfunction, carbon monoxide detector activation malfunction, and unintentional system or detector activation with no fire)</i>	809	721	823	2353
Good Intent Incidents <i>(Fire department unit(s) dispatched and cancelled en route, unit(s) responds but finds an authorized control burning or a prescribed fire. Unit(s) responds for a smoke scare or odor of smoke, smoke from barbecue, or steam or other gas mistaken for smoke. Unit(s) responds for a reported hazardous materials release investigation with no hazardous condition found, and biological hazard investigation with no hazardous condition found)</i>	426	468	436	1330
General Service Incidents <i>(Fire department responses to incidents to assist the public and other government and service agencies involving lockouts, the need for water evacuation, water or steam leaks, smoke or odor removal, animal problem, animal rescue, assisting police or other governmental agency, and assisting physically disabled persons)</i>	251	337	398	986
Hazardous Conditions (not involving fire) <i>(responses to gasoline or other flammable liquid spill, natural gas leaks, chemical hazards, chemical spills or leaks, carbon monoxide emergencies, toxic chemical conditions, radioactive leaks, electrical wiring problems, biological hazards, and power lines and transformer hazards)</i>	299	271	349	919
Total	2,255	2,237	2,409	6,901

Fire Suppression



Fire suppression services provided by the department include a broad range of responses to structure fires involving single family and multi-family dwellings, mixed-use occupancies, high rise structures, and commercial, educational and industrial buildings. Other fire suppression services provided are responses to fires involving mobile property, to include passenger and other road transport vehicles and recreational vehicles. Fire suppression services for brush and other natural vegetation fires and dumpster (rubbish) fires are also provided.

The Charlottesville Fire Department's adopted effective response goal for incidents involving fire suppression is to provide for rapid response, staffing, water pumping capacity, ladder trucks, hoses and nozzles and other tools and equipment that is sufficient to meet the anticipated needs for rescue, halting the progression of the fire,

salvage and minimizing loss of property. Each fire engine carries a minimum of 500 gallons of water and all department fire engines have a minimum water pumping capacity of 1,500 gallons per minute (GPM), to ensure adequate fire flow will be available. For any building fire, the initial first alarm response provides for a minimum of 6,000 GPM capacities to meet the fire flow requirements for the initial attack on major fire incidents.

Automatic and mutual aid agreements with surrounding jurisdictions ensure that an adequate amount of resources are assigned to each incident in the event that CFD units are not immediately available. The Computer Aided Dispatch system (CAD) automatically recommends the next closest available unit. The City is a member of the Commonwealth of Virginia Statewide Mutual Aid Agreement that assists local governments with large-scale emergencies and disasters.



Fire Incident Types 2015	
<i>Structure Fires</i>	20
<i>Mobile Property and Vehicle Fires</i>	16
<i>Brush Fire, Grass and Forrest Fires</i>	22
<i>Outside Rubbish, Garbage and Dumpster Fires</i>	27
<i>Other Type Fires</i>	69
Total	154

Emergency Medical Services



Providing Emergency Medical Services (EMS) has become, almost universally, a principal component of the services provided by fire departments in the United States as more than 90 percent of the nation’s 31,000 fire departments deliver some form of EMS to the public. Nationally, the number of EMS incidents for fire departments has increased nearly 300 percent since 1980 and according to the National Fire Protection Association (NFPA), over half of all calls to fire departments require some form of EMS services. This increase in EMS incidents for fire departments has many causes, such as an aging population and longer life expectancies. Regardless of the cause, fire departments nationwide are stepping up to fill the medical emergency gaps in their communities.

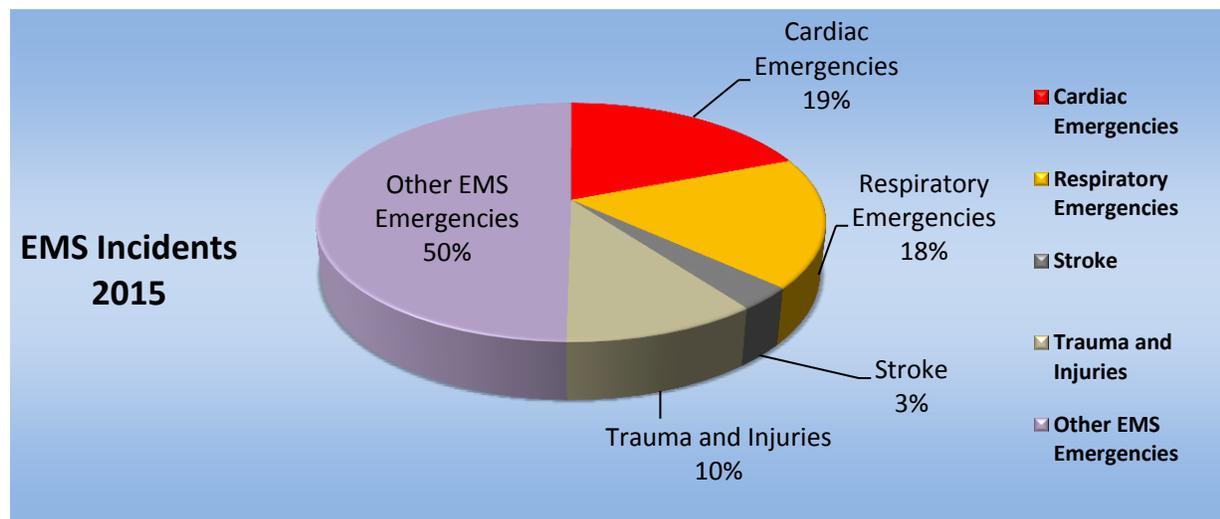
The Charlottesville Fire Department is licensed by the Virginia Department of Health – Office of Emergency Medical Services as an Advanced Life Support (ALS) agency and supplements the City’s EMS services system in a first-responder role. Serving in conjunction with the Charlottesville Albemarle Rescue Squad, the City’s primary EMS transport agency, the fire department responds on medical emergencies that are coded as trauma or incidents requiring advanced emergency medical training, incidents where the primary transporting agency is delayed, and all motor vehicle accidents occurring within the City limits or the University of Virginia Grounds.

In further support of the community EMS service system, the Charlottesville Fire Department provides supplemental ALS staffing for the CARS ambulance transport units Monday through Friday from 7:00 o’clock AM until 6:00 o’clock PM.

All fire department emergency response personnel are required to have a minimum EMS training certification level of Emergency Medical Technician – Basic (EMT-B). Many of the department’s response personnel are trained to the Advanced Life Support (ALS) level and practice as EMT Intermediates and EMT Paramedics.

In 2015 the Charlottesville Fire Department responded to over 3,000 calls for emergency medical service which accounted for more than half of the department’s total incidents count for the year.

As illustrated in the graph below, fire department responses to EMS emergencies ranged from cardiac emergencies, respiratory emergencies, strokes, to sudden illnesses and injuries of various types.



Special Operations

Hazardous Materials

The Charlottesville Fire Department is prepared to provide emergency response and mitigation to hazardous materials (Hazmat) incidents involving nuclear, biological, and/or chemical materials within the City of Charlottesville, the University of Virginia, and as mutual aid to the County of Albemarle.

The department's response objectives when responding to Hazmat incidents include; assessment and containment of the hazardous situation and environment, provision of decontamination services that may include the surrounding population, coordinating evacuation operations if necessary, and the monitoring of cleanup activities.



All of the department's daily staffed engine companies carry basic absorbent materials for responses to fuel spills and all department response personnel are trained to the National Fire Protection Association (NFPA) guidelines for hazardous materials awareness and hazmat operations.

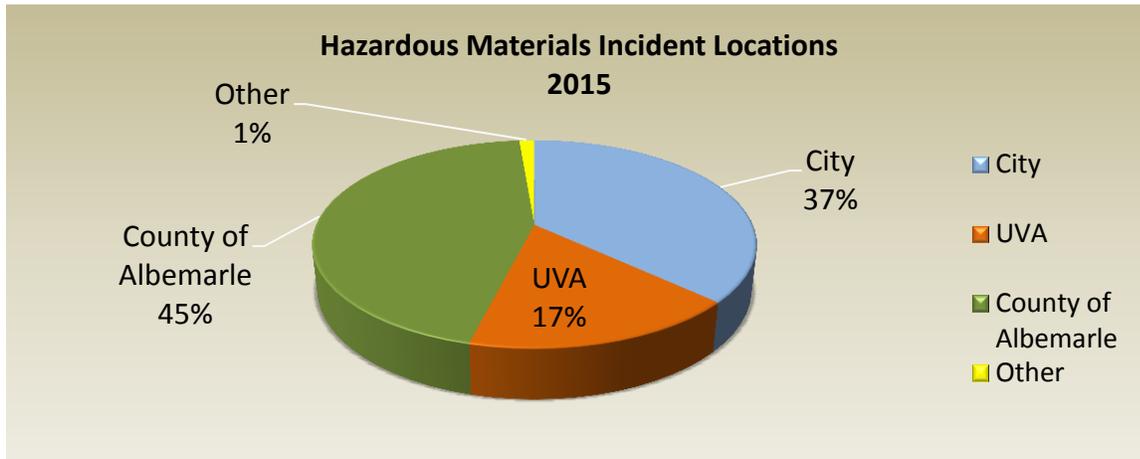


Specialized Hazmat response vehicles equipped with research, monitoring, detection, and entry and decontamination equipment are housed at Fontaine fire station #10. Specially trained response personnel who are trained to the Virginia Department of Emergency Management hazardous materials technician and specialist levels are also housed at the Fontaine fire station.

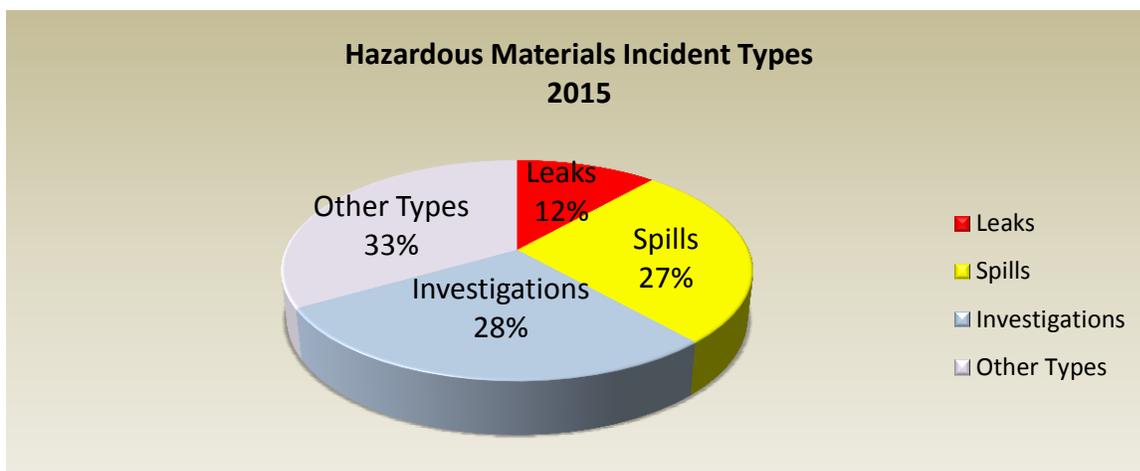
The department is also a member of the Local Emergency Planning Committee (LEPC) which is charged under the Emergency Planning and Community Right-to-Know Act (EPCRA) with the development of a local emergency response plan, a review of that plan annually, and providing information to citizens about chemicals in the community.



The Charlottesville Fire Department Hazardous Materials Team responded to 41 Hazardous Materials (HazMat) incidents in the City of Charlottesville and the University of Va. They also responded to 34 HazMat incidents in Albemarle County and 1 incident outside of Charlottesville and Albemarle County. The County of Albemarle accounted for 45% of the incidents the HazMat team responded to, followed by the City of Charlottesville with 37% for 2015.



The type of Hazardous Materials incidents the HazMat Team responded to in 2015 ranges from investigations (28%), leaks (12%), Spills (27%) and other type incidents (33%) depicted in the graph below.



Technical Rescue

The Charlottesville Fire Department is equipped and trained to provide emergency response and mitigation to incidents involving collapsed structures, entrapments in confined spaces, rope and high angle rescues, trench rescues, and vehicle or machinery entrapments/pins.

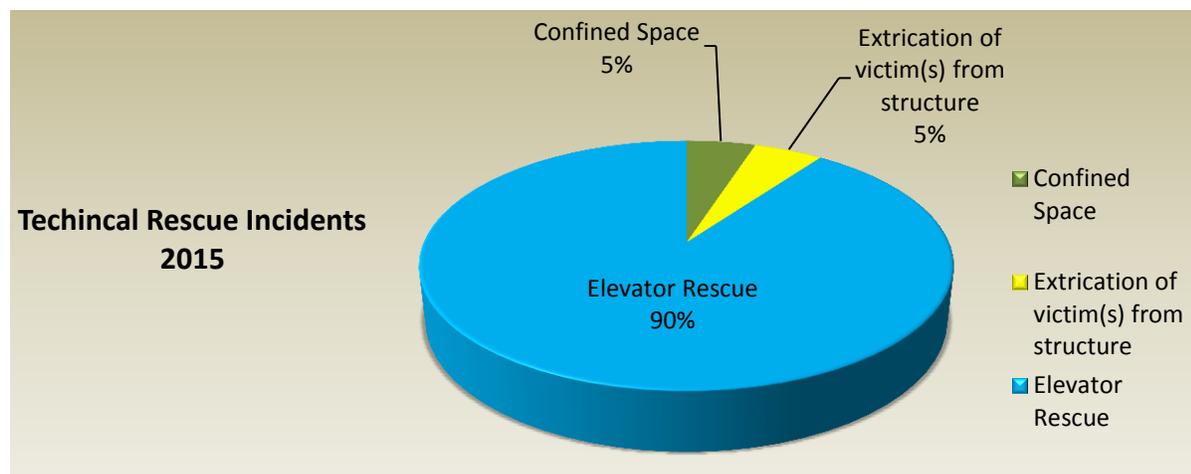
The department's response objectives when responding to a technical rescue emergency incident are to assess the nature of the emergency and the stabilization and securing of structural elements of buildings, machinery, vehicles, containers, etc., to provide for safe access to victims/patients. Response objectives also include the removal and/or recovery of victims entrapped in vehicles, elevated or below grade areas, confined spaces, building collapses, etc.

All department response personnel receive a minimum awareness level training in all technical rescue disciplines. Other department response personnel are trained for high angle rescue, confined space rescue, trench rescue, structural collapses, industrial rescue, and vehicle rescue according to the NFPA 1670 Technician Level guidelines.



In 2015 The Charlottesville Fire Department responded to 20 technical rescue related incidents in the City of Charlottesville. Technical Rescue incidents has been defined by CFD as; confined spaces, trench collapses, structural collapses, vehicle rescues, above/below ground rescues utilizing rope rescue systems and aerial ladders, and shore based water rescues.

The below graph illustrates a breakdown of the different types of technical rescue incidents during 2015. 90% percent of those incidents involve removing occupants from stalled elevators. Confined space incidents made up 5% of the technical rescue incidents and the remaining 5% involved the extrication of victims from a building/structure.



Performance Summary Report

In pursuit of its mission and in alignment with the City's Performance Measurement Management Program (P3), the Charlottesville Fire Department is working to apply service and program performance metrics and a process of regular program review and evaluation in an effort to continually offer our public the highest levels of fire and other emergency protection programs and services.

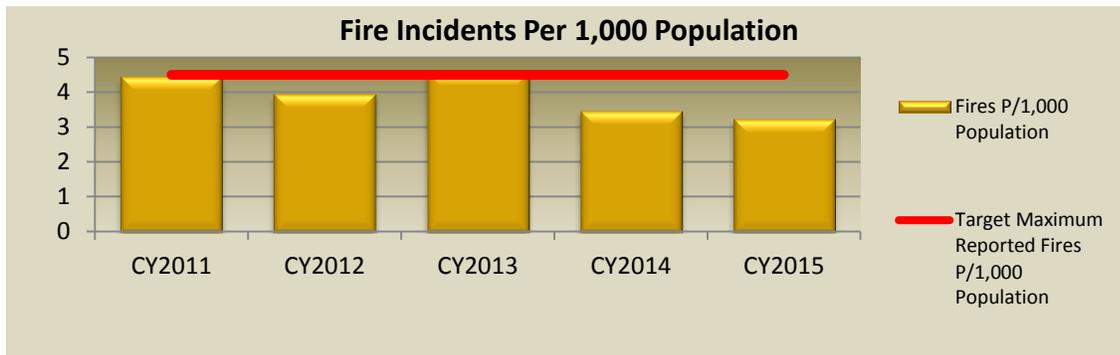
The table below contains department performance outcomes for years 2011 – 2015. These outcome measures have been carefully chosen as they represent measures that are the most commonly benchmarked against industry standards. The generation and reporting of these outcome measures allows for easier comparison of the Charlottesville Fire Department's outcomes with the outcomes of other fire departments in other localities and regions across the country.

Fire Department	2011	2012	2013	2014	2015
Minimize Fire Related Fatalities and Injuries					
<i>City Fatality Rate per 10,000 population (over 5 year average)</i>	0.09	0.04	0.04	0.00	0.00
<i>Fire-caused city civilian fatality rate per 1,000 population per year</i>	NA	NA	NA	NA	0.00
<i>Fire-caused city civilian injury rate per 1,000 city population per Year</i>	0.16	0.09	0.09	0.06	0.06
Minimize Economic Loss Due to Fire					
<i># of fire incidents occurring in the city per 1,000 population per Year</i>	4.43	3.94	4.56	3.45	3.22
<i>Direct fire loss per \$10,000 assessed value of protected property</i>	\$2.04	\$1.79	\$4.01	\$0.99	\$0.68
<i>City fire loss per capita</i>	\$28.94	\$24.73	\$54.36	\$13.92	\$9.54
<i># of structure fires per 1,000 population per year</i>	2.02	1.59	2.25	1.79	1.46
Providing Rapid, Efficient and Effective Response and Deployment to Fire Incidents					
<i>% of fire incidents with 1st unit arrival on scene within 6 minutes or less from time of dispatch</i>	79%	75%	81%	77%	84%
Providing Rapid, Efficient and Effective Response and Deployment to EMS Incidents					
<i>% of EMS incidents with 1st unit arrival on scene within 6 minutes or less from time of dispatch</i>	79%	78%	79%	76%	77%
Minimize The Occurrence of Incident-Related Firefighter Injury					
<i>Firefighter injury rate per incident</i>	0.01	0.005	0.01	0.005	0.00
Minimize the Occurrence of Incident-Related Firefighter Death					
<i>Firefighter death rate per incident</i>	0.00	0.00	0.00	0.00	0.00

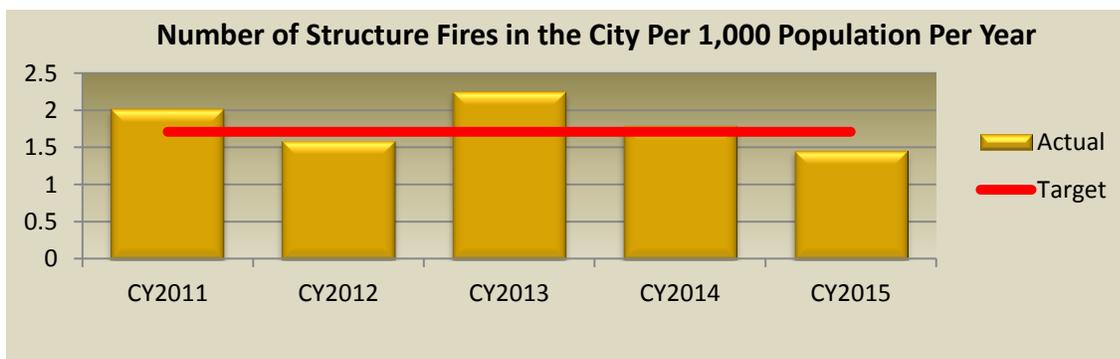
Fire Prevention

The number of fires in residential and commercial occupancies nationally has shown steady decline over the past 30 years. This is primarily a result of stronger and more effective building codes and new construction practices that incorporate fire resistive material and fire safe appliances in most new structures. In addition, there has been an increase awareness among occupants and rental property owner regarding fire prevention and fire safe practices.

From 2010 to 2014 the National Fire Protection Association (NFPA) reported that the rate of all types of fire incidents at the national level was 4.5 incidents per 1,000 population. In 2015 the Charlottesville Fire Department responded to a total of 154 City and UVA fire incidents at a rate of 3.22 fire incidents per 1,000 City population. The Charlottesville Fire Department has used the national fire incident rate of 4.5 as a gauge to assess the rate of fires occurring in the City of Charlottesville over the last 5 years. During those years, as illustrated in the accompanying graph, the City's rate of fire incidents has consistently been at or below the national incident rate of 4.5.



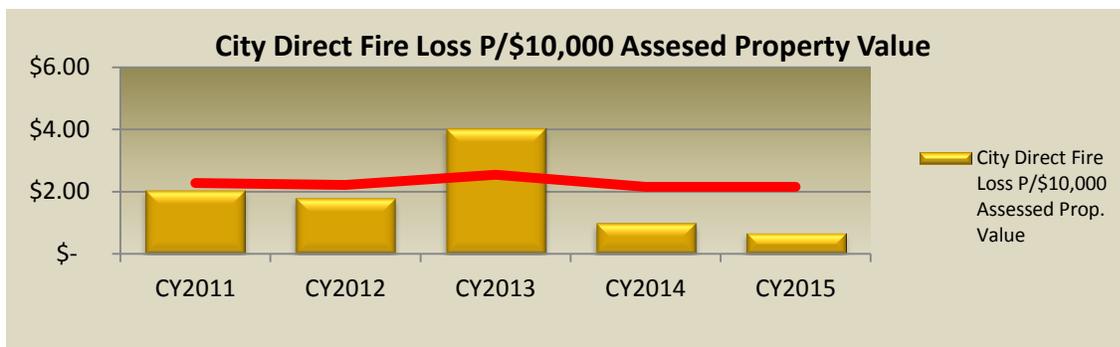
Data provided by the NFPA indicated that between 2010 and 2014 there were 1.71 structure fires reported for every 1,000 population nationally. Using 1.71 as a target figure to gauge the City's structure fire rate reveals for three out of the last five years the City's rate has been above the national average and for 2015 the city structure fire rate was below the national average.



Limiting property loss from fire contributes to the economic health and vitality of our community. The Charlottesville Fire Department uses Direct Fire Loss as the measure of property consumed or damaged by fire; it does not include the indirect costs; which can often dwarf direct costs.

Direct fire losses include damage to buildings and their contents. Indirect losses would include the cost of medical treatment resulting from fire-related injuries, the loss of personal income and business revenues, loss of property and sales taxes, opportunity costs of lost productivity, and other economic losses to a community. Because indirect losses are difficult to quantify and generally proportional to direct losses, the department uses measures of direct fire losses as performance standards for both direct and indirect losses.

As illustrated in the accompanying graph, the City of Charlottesville has experienced direct fire loss in four of the last five years in amounts well below the target figure used for comparison, which means that recent fire loss experience has shown a trend toward improvement over the history of loss averaged over 10 years prior.

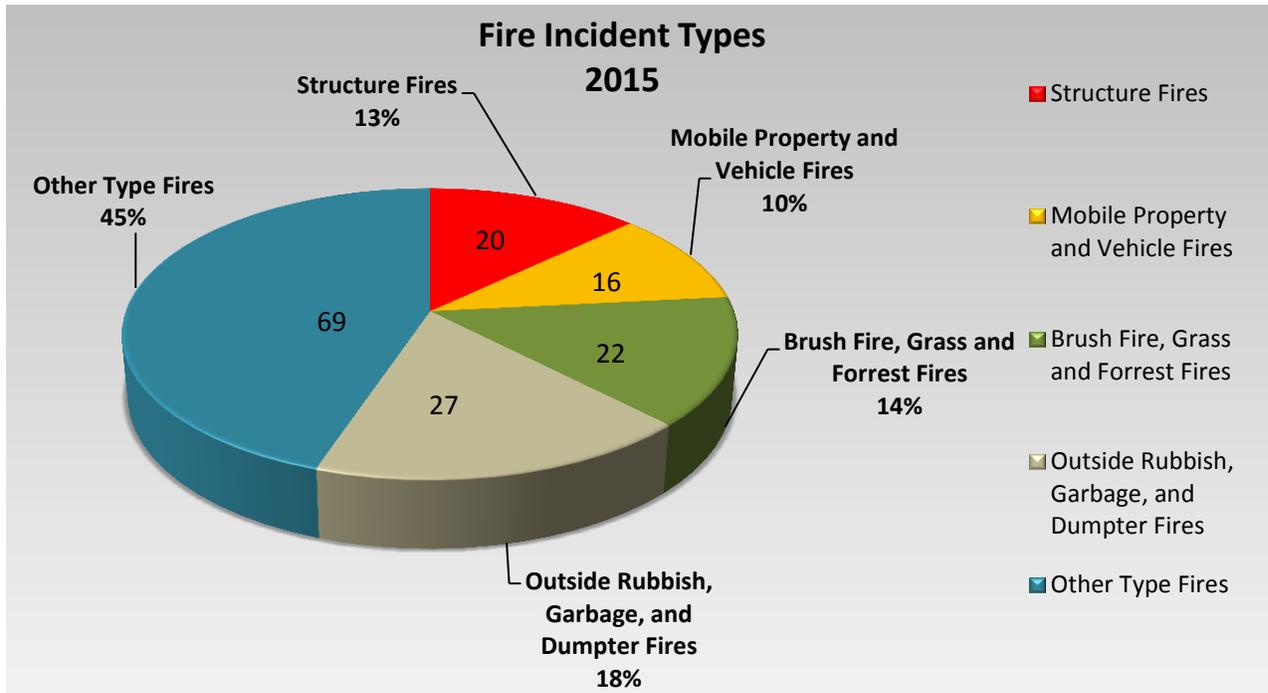


Fire loss per capita measures the city's direct fire loss per person or the cost of annual fire loss for each person. Direct fire loss is the measure of property consumed or damaged by fire; it does not include the indirect costs; which can dwarf direct costs. Fire loss per capita varies from year to year because one or two large fire losses will have a dramatic impact on the calculations.

The Department uses the data provided each year from the National Fire Protection Association (NFPA) as a target to gauge fire loss per capita in the City. Compared to these national per capita loss figures, the City of Charlottesville's per capita fire loss has been below the national figure for four out of the last five years. The national per capita fire loss figure for 2015 was \$36.40 compared to the City's loss per capita figure of \$9.54.



By working to minimize the number of fires occurring annually in the community the fire department is able to minimize fire-related economic loss, property loss, injury and death. Additionally, because firefighter injuries are closely tied to the number and severity of fires encountered in a given year, reducing the number and severity of fires helps to also lower the department's firefighter injury rate.

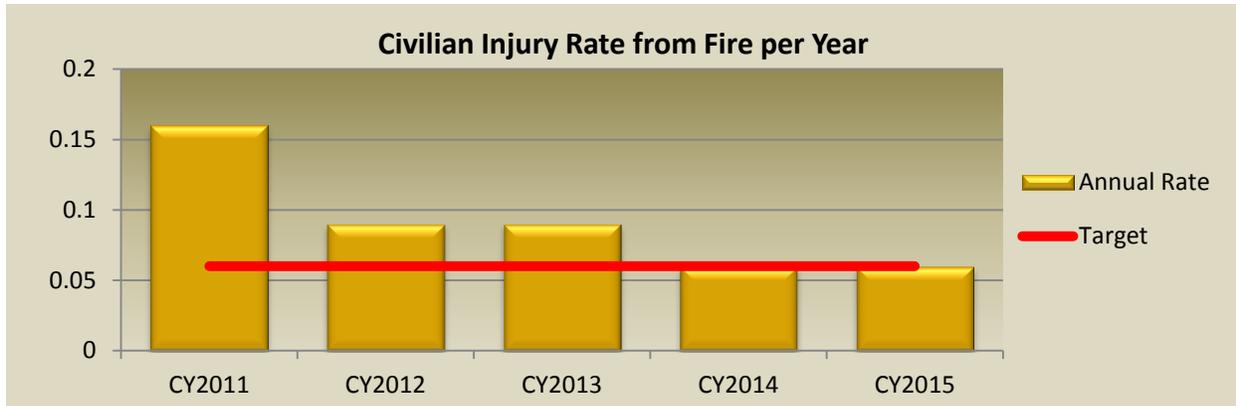


The most tragic consequences of uncontrolled fires are human casualties. Therefore, the department's top priority is to keep deaths and injuries from fires at the lowest level possible. Minimizing fire deaths and injuries is an essential ingredient in having a safe, healthy, and vibrant city.

Civilian fire injuries, by definition, involve civilians who are injured as a result of a fire. These injuries generally occur when civilians attempt to put out or control a fire, attempt to rescue a person or pet or property from fire, or they are injured attempting to escape from a fire. While the loss of one's possessions can be upsetting, the physical and psychological injuries fires inflict are often far more devastating.

Civilian Fire Injuries Since the Year 2005											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Civilian Fire Injuries	4	6	4	1	6	2	7	4	4	3	3

The rate of civilian injuries from fires in the City of Charlottesville has shown a trend downward over the last five years mirroring the national trend. The 0.06 civilian injury rate from fire per 1,000 populations experienced in the City in 2014 and 2015 represents a 62.5% decrease in the rate since the year 2011.



The Charlottesville Fire Department continues to work to achieve zero rates annually for fatalities caused by fires in the city; however, it is understood that despite prevention and emergency response efforts fatalities may still occur. The department will therefore strive to limit the rate of fire-related death from fires to as few as possible.

The City of Charlottesville only experienced 3 fire-related deaths since the year 2000 and zero fire-related deaths between the years 2011 and 2015. Two fatalities discovered during a residential fire suppression operation in December 2014 were determined to be the result of a criminal homicide and not the direct result of the residential fire.

Using data presented in the 2014 National Fire Protection Association (NFPA) report it is determined that during the time span 2010 to 2014 civilian fire deaths were experienced at the rate of 0.01 per 1,000 populations nationally. Using the national civilian fatality rate determined from the 2014 NFPA report as a gauge, the City of Charlottesville's fire fatality rate has been well below the national rate over the last five years.

Low fatality rate for the City of Charlottesville can be attributed to the fire department's successful free residential smoke alarm installation program, its fire and life safety public education program, and its proficiency in responding to and managing fire incidents.

Civilian Fire Deaths Since the Year 2000											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Civilian Fire Deaths	0	0	1	0	1	0	0	0	0	0	0

Smoke Alarm Program

It is estimated that seven people die each day in U.S. home fires according to the National Fire Protection Association (NFPA). Each year, three out of five home fire deaths result from fires in homes with no smoke alarms or no working smoke alarms. It is also reported that the risk of dying in a reported home fire is cut in half in homes with working smoke alarms.

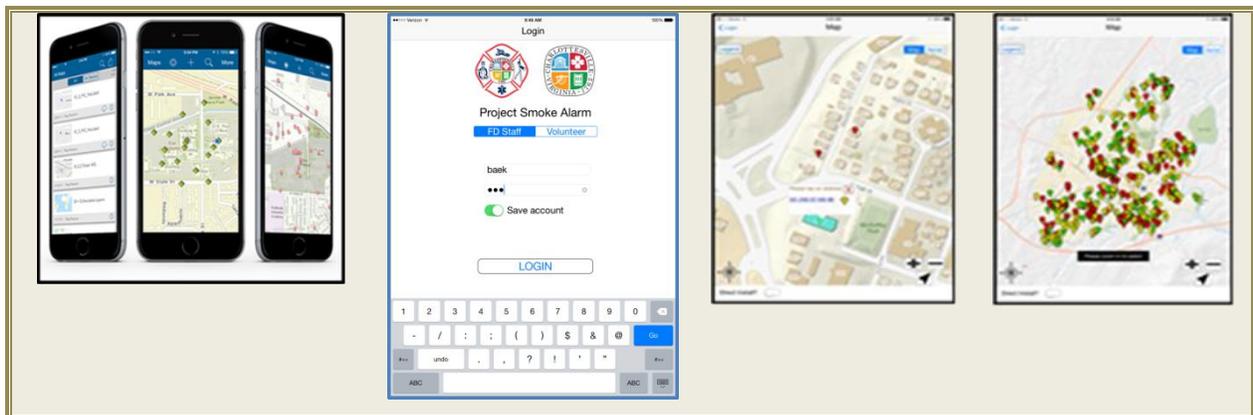
Smoke alarms, also known as “smoke detectors”, are often the first line of defense for residential homes and businesses. When working properly, they can alert occupants of a fire and allow enough time for people to evacuate to a safer location.

For more than 15 years the Charlottesville Fire Department has worked to increase community awareness about the life-saving benefits of working smoke alarms in city residences and as a part of this awareness campaign the department provides and installs smoke alarms, free of charge, in owner-occupied residences at the occupants’ request. In addition to its proficiency in responding to and managing fire incidents, the department attributes the City’s low fatality rate in recent years to its successful free residential smoke alarm installation program.



In 2015 the Charlottesville Fire Department installed over 70 free smoke alarm devices in City residences. The department teamed with the local Red Cross and canvassed various City neighborhoods to solicit information on which residences needed a smoke alarm installed, tested, or replaced.

Also in 2015, the department partnered with the City’s I.T. department in the development of a customized mobile software application that improved the department’s ability to document, track, and report the smoke alarm program’s activities and outcomes. Through the mobile application’s geospatial platform, the department now has enhanced capabilities for identifying and locating high risk populations that statistically are at higher risk for home fires.



Fleet

Maintaining a fleet of emergency response apparatus and support vehicles that provide safe, effective and reliable service delivery is critical to supporting the mission and emergency service obligations of the department. Fire department fleet apparatus must meet industry standards for



New Pierce Pumper order in 2015

the amount and types of equipment contained on each unit, mandated maintenance, life cycle replacement guidelines and industry standards for safety.

The average age of the Charlottesville Fire Department's emergency response apparatus fleet (January 1, 2016) was 11.0 years. 9% of the fleet was under 5 years old. 46% of the fleet was 5 to 10 years old. 9% of the fleet was 11 to 15 years old. 36% of the fleet was over 15 years old.

In order to upgrade its aging apparatus fleet, in 2015, the Charlottesville Fire Department placed an order for two new emergency response apparatus units. Each of the new units was ordered with a 1,750 g.p.m. pump capacity and both units were ordered with an onboard water tank capacity of 750 gallons. Designated as Engine 5 and Engine 7, both of the new units will be assigned to run out of the downtown Ridge Street fire station when they are placed in service.

Unit Designation	City ID#	In-service Date	Make	Years of Service (As of January 1, 2016)
E01	3054	2011	Pierce	5
E05	676	2003	Pierce	13
E07	2890	2008	Pierce	8
E10	3101	2012	Pierce	4
T10	3032	2011	Pierce	5
TRK01	685	2000	Am. LaFrance	16
Hazmat Truck	2770	2006	GMC	10
Attack 01	2894	2008	Ford F550	8
Engine 2 Reserve	679	1998	Pierce	18
Engine 4 Reserve	670	1998	Pierce	18
Engine 3 Reserve	1673	2000	Pierce	16

End of the 2015 Annual Report.

