

Fire Inspector and Investigators Career Path Exploration

Angela Gervais and Edward J. Lazaros

Ball State University

agervais@bsu.edu; ejlazaros@bsu.edu

Introduction

The motive of this article is to provide factual information to students interested in criminal justice and/or fire science who are debating whether or not to pursue the career path of fire inspector and investigator. It would be beneficial for students interested in criminal justice and/or fire science to examine the detailed information that will be described in this article to help the development of a deeper understanding of what it will be like to have a fire-related career as an investigator or an inspector. The details below for fire inspectors and investigators will be presented in the following order: responsibilities, how to become one, pay and benefits and job outlook.

Responsibilities of Fire Inspectors and Investigators

Fire inspectors and investigators work to ensure the public's safety from fire-related incidents. Inspectors examine structures such as buildings to determine if they meet the regulation of the fire codes and search to see if there are fire hazards present. They do this to ensure the safety of the public and reduce the likelihood of a fire occurring. Investigators are responsible for examining fires after they have occurred. They are responsible for searching for the origin and cause of fires (U.S. Department of Labor, 2015).

Fire inspectors work both in an office and out in the field. When working in the office, they are responsible for writing up detailed reports of buildings that they have examined for future use as a reference for the next inspection and/or for insurance companies. When the inspectors are out in the field, they must have an understanding of the fire codes and how to ensure that buildings meet these codes. This is done by the reviewing the blue prints and through examination of the fire alarms, sprinklers, and other equipment needed for protection against a fire (U.S. Department of Labor, 2015).

Like the inspectors, fire investigators also work in an office, usually a laboratory, and out in the field. Investigators are responsible for writing reports and protecting evidence of a fire for insurance companies or law enforcement. When they are not working in the office, investigators are out examining the damage that was created by fire. Investigators collect evidence and document it through photographs and through the collection of samples from the scene in which they are investigating. Through examination of the scene of the fire-related incident, they can determine the origin and cause of the fire (U.S. Department of Labor, 2015).

Fire inspectors consult developers of buildings, so that the building may proceed with construction with the plans that are up to code. Fire investigators work with law enforcement to help create a case against a suspect if a fire was caused by suspicious means. Both occupations are relied upon or rely on other career fields to properly examine the fire safety or cause of the

fire. Investigators also work with other specialists, such as chemists and engineers, to examine the evidence together and in more detail (Global Leaders in Fire Investigation, 2015). Both occupations work closely with insurance companies to either report neglect of the fire safety codes or to report the damage that has occurred due to a fire (U.S. Department of Labor, 2015).

Becoming a Fire Inspector or Investigator

Having at least a high school diploma is necessary in order to qualify for the job. Having job experience with law enforcement and the fire department is highly recommended. Some employers may look for a candidate with experience as well as some type of postsecondary school experience in chemistry, engineering or fire science (U.S. Department of Labor, 2015). Fire science would be the most related option when in postsecondary school for a fire-related career and one can receive a certificate, Associate's degree, or a Bachelor's degree depending how long one wishes to be in school (Fire Science Degree, 2016). Most employers require inspectors to be U.S. citizens and to have a driver's license that isn't expired. When hired by an employer, employees will receive training both in a classroom setting and on the job with an experienced professional (U.S. Department of Labor, 2015).

Training is required to be able to become a fire inspector or investigator. The training can vary in intensity and length depending by the state. Classroom training is mainly set at a police or fire academy and takes several months to complete. There are an assortment of subjects and concepts covered. Subject material can include legal codes, protocols for handling dangerous materials and explosives, and the proper use of onsite and laboratory equipment.

Even though there is no required educational achievement besides graduating from high school, there are licenses and certificates that are required in order for a fire inspector or investigator to be able to work. These licenses or certificates must be renewed once every year (U.S. Department of Labor, 2015). The National Fire Protection Association is responsible for creating the certification exams (Codes and Standards, 2016). There are other associations that offer more international or private certificates for fire investigators. One of these associations, the International Association of Arson Investigators (IAAI), is a more extensive certification program that further contributes to your resume as an investigator. Unlike the National Fire Association in which certification renewal occurs yearly, the International Association of Arson Investigators must renew their certification every five years (Global Leaders in Fire Investigation, 2015).

The work environment should be noted because there are some hazards in this particular career field. According to the U.S. Department of Labor (2015), "Fire inspectors and investigators have a higher rate of injury or illness than the national average" (Para. 4). It is dangerous for someone to walk along structures that were damaged from a fire and for someone to breathe in hazardous fumes in the air from a fire. As a result of the unsafe conditions in the field, protective clothing must be worn at all times. The one advantage of the working environment of fire inspectors is that they work during normal operating business hours. The downside of the working environment for an investigator is that you will have to wait for a fire to occur to be called into work (U.S. Department of Labor, 2015).

Pay and Benefits for Fire Inspectors and Investigators

Salary and wage information can be accessed through the U.S Department of Labor (2015). It was observed in 2012 that the median annual payment for employees in all occupations was \$34,750. However the observed median annual payment for fire inspectors and investigators in 2012 was \$53,990. The range of salary for employees in this particular occupation was as low as \$33,920 to as high as \$87,400. According to Salary.com (2016) the average annual salary is \$55,816. Salary.com (2016) also gives the range of the salary between \$45,892 and \$75,467. This source also gives information on the benefits and current job openings.

Job Outlook for Fire inspectors and investigators

Employment for fire inspectors and investigators is much lower than the average for all occupations, resulting in a highly competitive market for employment. There will be a projected increase of 11% of all occupations in the U.S Economy from 2012-2022, while the projected increase for fire inspectors and investigators is 6%. A census of employment in this field was taken in 2012 with 12,200 employees. The projected census of employment, considering the 6% increase, is estimated to be 13,000. That is only an outlook of 800 jobs becoming available within 10 years. However due to the nature of the occupations, there will always be a need for inspectors to examine buildings and investigators to determine the sources for fires and explosions. However, investigators may have a harder time finding employment because of the falling rate of fires in the United States due to technological advancements in fire safety (U.S Department of Labor, 2015).

Interview with Robert Mead at the Muncie Fire Department in Muncie, Indiana

Robert Mead is the chief fire investigator with the Muncie Fire Department in Muncie, Indiana. (See Figure 1). Robert Mead was interviewed by Dr. Edward J. Lazaros and Angela Gervais on January 19, 2016. To read more about the Muncie Fire Department, visit <http://www.cityofmuncie.com/fire-department-muncie.htm>. In the following section, you can read the questions that Robert was asked about his career and his responses:

Figure 1. Robert Mead by his work vehicle.



What do you like most about your job?

“I enjoy every aspect of my job, mostly the science behind it and trying to solve the puzzles of an investigation because there are no dull moments. The psychology of interviewing suspects is very interesting; you grasp a small understanding of a person’s body language. Working with outside industries and the public is another enjoyable aspect of my job.” (R. Mead, personal communication, January 19, 2016).

What is your daily routine like at this job?

“There is no daily routine, it depends on when an incident occurs and I check my MDT (mobile data terminal) which gives me an advantage of knowledge of the situation of an incident before I report to the scene. I am always on call; my shifts may start depending on when I am needed, many times I’m called in the middle of the night due to human error.” (R. Mead, personal communication, January 19, 2016).

What would you say to someone who was looking to get into this type of career?

“This line of work isn’t easy to get into, experience must be obtained into order to start. Every path towards this career isn’t the same; even having a college education may not be enough to have the opportunity to have this type of career. Having experience is key, and having a career in criminal investigation either through the fire department or police department is important. Studying the literature of fire incidents and talking with other investigators is also important. Someone who is interested in this career should have an up to date knowledge of these materials beyond the high school level: fire science, fire chemistry, thermodynamics, thermometry, fire dynamics, explosion dynamics, computer fire modeling, fire investigation, fire analysis, hazardous materials, failure analysis and analytical tools, fire protection systems, evidence documentation, collection and preservation, electricity and electrical systems”. (R. Mead, personal communication, January 19, 2016).

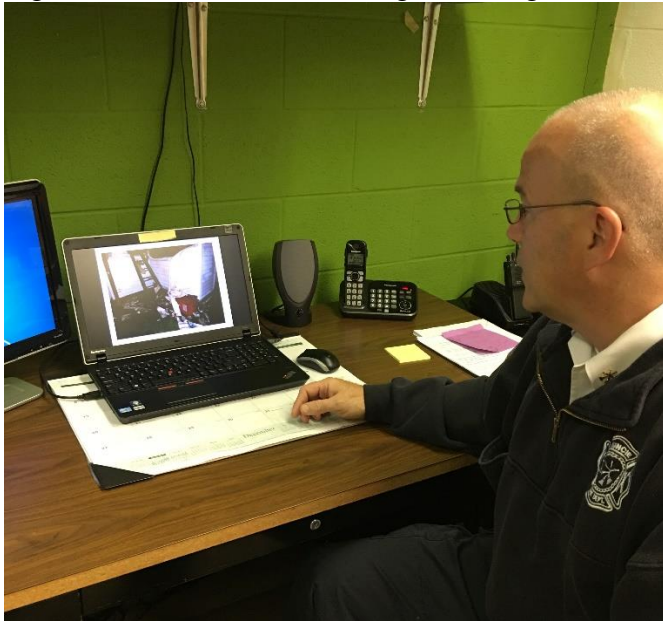
What do many people not understand about this field?

“The biggest thing is that people don’t understand about the science of this field, people don’t need to tell me how the fire happened, I can discover the story the fire incident tells me, making me more of a scientist than a fire investigator. I develop a hypothesis when I look at a scene. I try to find the area where the fire started. I try to determine any and all ignition sources in that area. I look for anything that can cause the fire. This could be resistive heating or an ash tray, as examples. I develop a hypothesis of what may have occurred at the scene. I document this and back it up with science. At the end of my investigation, I determine the classification of the fire. There are four things that I use to classify a fire: 1. Accidental, 2. Natural, 3. Incendiary, 4. Undetermined”. (R. Mead, personal communication, January 19, 2016).

What kind of fun technology do you get to work with in this career?

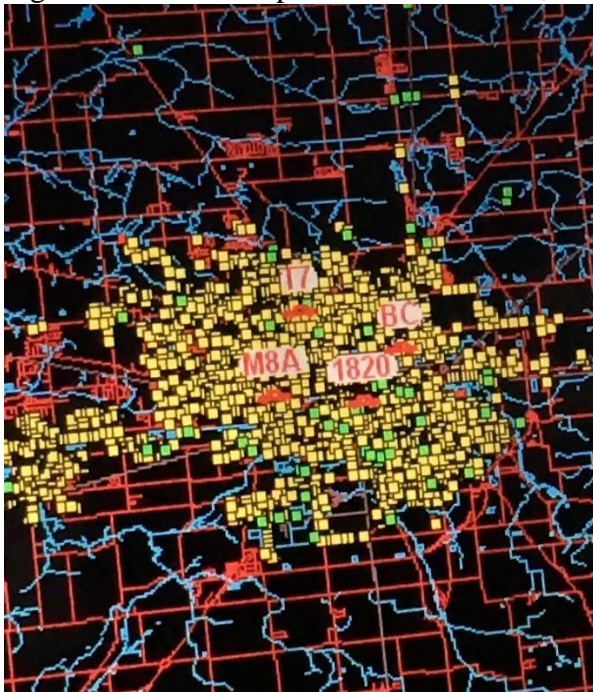
“PowerPoint (See Figure 2) is used in the fire department to train other firemen to understand the preservation of a scene and to gain an understanding of how an incident occurred. Pictures are embedded into the PowerPoints so the firemen have a visual representation of a variety incidents”. (R. Mead, personal communication, January 19, 2016).

Figure 2. Robert Mead showing a training PowerPoint.



“The MDT (Mobile Data Terminal) (See Figure 3) allows real time communication between all emergency agencies. An aerial map on the MDT allows me to view fire hydrants and location of other emergency units”. (R. Mead, personal communication, January 19, 2016).

Figure 3. A MDT map of the Muncie area, the yellow dots are fire hydrants.



“Smartphones (See Figure 4) allow me to take pictures of an incident and these pictures can help facilitate the process for me to write a narrative of my exploration of an incident”. (R. Mead, personal communication, January 19, 2016).

Figure 4. Robert Mead showing a picture of a gas line that started a fire on his smartphone.



“Element proof cameras and other digital cameras (See Figure 5) are used for formal documentation for the proof evidence in the courtroom”. (R. Mead, personal communication, January 19, 2016).

Figure 5. Various cameras used for photographing a fire-related incident.



“Thermal imaging cameras (See Figure 6) can be used to look for hidden fires and heat sources. They can be used in attic spaces or other spaces that can’t be properly searched by firemen to ensure a fire has been properly stopped. They can also be used for a search and rescue mission”. (R. Mead, personal communication, January 19, 2016).

Figure 6. A person shown with a thermal imaging camera.



“Maps (See Figure 7) are used to see accessible water mains within cities. Areas where there are current investigations are also noted on the map”. (R. Mead, personal communication, January 19, 2016).

Figure 7. Robert Mead examining a map of Muncie.



Conclusion

Becoming a fire inspector or investigator may be the right career choice for those who are willing to invest several years in training after high school. Even though there isn't a large expected growth of jobs, this is an exciting career field which presents new adventures everyday.

It is important to weigh the pros and cons before making the ultimate decision of choosing a career path. It may also be important to find people in this industry and to discuss with them their experience in order to discover what it is really like to have one of these careers.

References

Codes & Standards. (2016). Retrieved from <http://www.nfpa.org/codes-and-standards>

Fire Science Degree | Fire Science Schools & Colleges. (2016). Retrieved from <http://www.firescience.org/fire-science-degrees-and-programs/>

Global Leaders in Fire Investigation. (2015). Retrieved from <https://www.firearson.com/Training-Certifications/Certified-Fire-Investigator-IAAICFI.aspx>

Salary.com Salary Wizard- Do you know what you're worth? (2016). Retrieved from <http://swz.salary.com/salarywizard/Fire-Inspector-Salary-Details>

U.S. Department of Labor, Bureau of Labor Statistics (2015). Retrieved from <http://www.bls.gov/ooh/protective-service/fire-inspectors-and-investigators.htm#tab-1>