

# Training and Education needs for District Fire Chiefs in the Nashville Fire Department

## Executive Development

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## Abstract

The problem was the Nashville Fire Department had no training or educational program in place to help fire suppression personnel become successful at the District Fire Chief level.

The purpose of this applied research project was to identify the desired minimum training and education standards for becoming a successful District Fire Chief.

Using descriptive research, the researcher answered these three questions:

- 1) What are the nationally recognized fire service minimum training and education standards for District Fire Chief?
- 2) What are the state recognized fire service minimum training and education standards for District Fire Chief?
- 3) What do Nashville fire suppression personnel think the minimum training and educational standards for District Fire Chief should be?

The procedures used in this applied research project included a review of literature and interviews, and an internal survey was used to help determine what the national, state, and local recommended minimum training and education standards are for District Fire Chiefs.

Results showed several national standards and programs and minimal standards on the state level; the internal survey revealed general topics for future training and education of fire suppression personnel.

Recommendations include using the International Association of Fire Chiefs' *Officer Development Handbook* for increasing professional development of future District Fire Chiefs. This handbook is based on National Fire Protection Association standards and Federal Emergency Services for Higher Education Conference recommendations.

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## Introduction

The world is moving fast, and no group in any profession is moving faster for progress and survival than the American Fire Service. As the Nashville Fire Department (NFD) moves into the future, it must prepare and ensure that the department provides the needed training and education to carry out its mission and provide the level of service that its community deserves. Caught in the middle of this movement, with no clear direction on minimum training and education standards, are the District Fire Chiefs.

In 1873, Captain Eyre Massey Shaw, the first and most famous chief officer of the London Fire Brigade, wrote this after visiting several fire departments in the United States:

When I was in America it struck me forcibly that although most of the chiefs were intelligent and zealous in their work, not one that I met even made the pretension to the kind of professional knowledge, which I consider so essential. Indeed one went so far as to say that the only way to learn the business of a fireman was to go to fires . . . a statement about as monstrous and as contrary to reason as if he said that the only way to become a surgeon would be to commence cutting off limbs, without any knowledge of anatomy or of the implements required.

There is no such short cut to proficiency in any profession, and the day will come when your fellow countrymen will be obliged to open their eyes to the fact that if a man learns the business of a fireman only by attending fires, he must of necessity learn it badly, and that even what he

does pick up and may seem to know, he will know imperfectly, and be incapable of imparting to others.

I consider the business of a fireman a regular profession requiring previous study and training as other professions do; and I am convinced that where study and training are omitted, and men are pitch forked into the practical work without preparation, the fire department will never be capable of dealing satisfactorily with great emergencies. (pp. 110-111)

Captain Shaw recognized the need for training and education in the American fire service. If the fire service is to survive well into the 21<sup>st</sup> century, fire departments will need to develop and invest in training and educating the next generation of potential leaders. Failure to adequately address the issue of training and education requirements for promotion will result in fire suppression personnel being promoted with the lack of knowledge, skills, and abilities to be effective or successful.

The fire service has continued to grow in complexity over the years, and therefore, the professional development and training needs of fire suppression personnel have increased. The training and educational requirements will continue to increase because of the increase in responsibilities. In the future, working toward enhancing the fire service professional image will be done by increasing the training and educational requirements, especially at the District Fire Chief position. According to Bachtler & Brennan (1995):

The fire service has evolved from an organization whose single responsibility was fire suppression to an emergency services organization that provides fire suppression, fire prevention, fire code enforcement, fire

investigation, fire inspection, emergency medical services (basic and advanced life support), hazardous materials mitigation, and specialized rescue operations (urban search and rescue, wilderness search and rescue, high angle rescue, confined space rescue, and trench collapse). With these increased responsibilities come some of the greatest response challenges in our history. (p. 311)

Many view professional development as the key to our present and to our future. This development occurs when the fire service increases the training and education standards of fire suppression personnel. According to Clark (2001) “ We must include reading and writing through-out our training, education and practice from entry level to top scholar/practitioner to achieve these standards and increase our professionalism” (p. 10).

The problem is the NFD currently has no minimum training or educational program in place to help fire suppression personnel become successful District Fire Chiefs. In his research, Hall (1998) states this:

Of particular concern is the education and training that will be included in the requirements for advancement. With no career development plan presently established employees must anticipate the knowledge skills and abilities that they should be pursuing in preparation for future advancement. This situation has already led to confusion and frustration among current employees, which is certain to continue and worsen if no direction is provided. (p. 7)

In the past, the NFD has relied on the individual employees to prepare themselves for promotion. Price Pritchett states, “Today’s world takes no pity on the person who

gets lazy about learning. Either you take personal responsibility for continuing your education, or you end up without the knowledge you need to protect your career” (p.22). Advancing in position but not in your personal growth puts individuals in over their heads, sometimes permanently.

The purpose of this research project was to identify the desired training and education for becoming a successful District Fire Chief in the NFD. Descriptive research will be used to answer the following research questions:

- 1) What are the nationally recognized fire service minimum training and education standards for District Fire Chief?
- 2) What are the state recognized fire service minimum training and education standards for District Fire Chief?
- 3) What do Nashville fire suppression personnel think the minimum training and educational standards for District Fire Chief should be?

### Background and Significance

The NFD serves a city of approximately 570,000 people in a 533 square mile area. There are approximately 1,260 personnel in the NFD. The Nashville Fire/Emergency Medical Services (EMS) Bureau is the largest bureau in the Department with approximately 900 personnel separated into six divisions: Fire/EMS, Urban Search and Rescue (USAR)/Technical Rescue, Special Hazards/Water Rescue, Health and Safety, Fire/EMS Response, and Research/Inventory.

The Fire/EMS Division operates a total of 39 engine companies, 12 truck companies (which respond to all fire and extrication calls), and four heavy rescues (which

are specially trained in technical rescue and hazardous materials response and must respond to all fire incidents within their district). All companies respond to medical incidents. Within this division there are six engine companies that are staffed with firefighter/ paramedics for Advanced Life Support (ALS) response with all other firefighters trained at the Emergency Medical Technician (EMT) level.

The Urban Search and Rescue (USAR)/Technical Rescue Division is responsible for tasks and all other rescue functions that are not water related. The USAR contingents of the Fire Department include two core groups, each managed by a District Fire Chief. One engine company, one truck company, and two heavy rescue companies make up a “core” USAR group. A trench rescue equipment vehicle responds with either USAR core group. The four heavy rescue companies are trained in extrication and other various forms of technical rescue (including confined space, trench, building collapse and high angle rescue).

The Special Hazards/Water Rescue Division consists of two hazardous materials response teams as well as several water rescue teams. Each Hazardous Materials team consists of one engine company, one rescue company, one tactical foam unit, and 11 hazardous materials technicians per shift. The hazardous materials teams are trained and equipped to respond to weapons of mass destruction events and have extensive training in response to bio-terrorism. Water Rescue is responsible for surface/swift water rescue as well as dive rescue/recovery.

The Health and Safety Division is responsible for providing Risk Management and Infectious Control for the entire department and includes three District Chiefs who respond to all emergency incidents in the capacity of an Incident Safety Officer. This

division also provides air services to refill self-contained breathing apparatus for all companies.

The Fire/EMS Response Division is responsible for the placement and re-assignment of personnel within the Bureau. This division works in conjunction with the Nashville Fire Fighters and Fire Service Employees Association – Local 763 when dealing with bidding procedures. It also keeps track of documentation and recording of the bid process, budgeted monies for regular overtime and special operations as well as coordinating training with the Office of Emergency Management and The National Fire Academy (NFA) in scheduling personnel for outside training. This division is responsible for maintaining records of fire hall inspections, and the Research and Inventory Division is responsible for procurement of all equipment, apparatus, tools, and supplies necessary to carry out the Bureau's role in public safety. They oversee all fiscal affairs of the Bureau which include: research, specifications, budget/accounting, and coordinating planning for the future with all divisions and bureaus.

The NFD ranks with big business in number of employees, size of budget, magnitude of capital investment, and complexity of problems they face. Too often the fire service gives “lip service” to the human side while focusing its attention on the business side. For the NFD to survive in the future, focus should be on training and educating fire suppression personnel.

In the past, a firefighter desiring to become a District Fire Chief would develop the skills in fire suppression and advance through the ranks. After being a member for ten years and remaining at the rank of Captain in the NFD for a specified amount of time, usually three years, a person could test for District Fire Chief. Experience was considered

to be the number of years a person had on the job and not how much a person had grown through continued training and education during his/her career. A number of researchers disagree with the practice of determining experience solely on the bases of the number of years on the job. For example, Morrill (2001) states, "Experience alone does not provide any verification that the candidate has the required knowledge or skills for the position" (p. 17). Also in, "Fire Officer Development," Armstrong (1997) points out that "on the job training, may be enough to squeak by with, but it does not provide enough knowledge to be a safe and effective leader. There can be no substitute for proper training and instruction" (p. 10). The success of past District Fire Chiefs in the NFD relied upon their seeking outside training and educational opportunities on their own. This resulted in people accepting the position without the proper knowledge of what the position of District Fire Chief required to be successful.

The current District Fire Chief in Nashville is now responsible for supervisory, management, operational, and administrative duties involving command of personnel and equipment at emergency related activities. "The responsibilities of today's officers are diverse, so potential officers need to match their capabilities to the desired job description," notes Buhs (1998, p. 58). To keep up, fire suppression personnel must continue to develop their job related knowledge and skills through training and education. Bachtler and Brennan (1995) agree, "As the fire service's scope and mission have broadened, the need for enhancements in both training and education have grown proportionately" (p. 326). Increased training and education could help the NFD become one of the most technically trained and competent public service providers in the community.

For the fire service to survive in the next millennium, fire suppression personnel must recognize higher education's importance for their profession, themselves, and their community. According to Buhs (1998), "the fire service is moving forward, not backward, and future officers need to arm themselves educationally to confront the challenges of tomorrow" (p. 58). Tomorrow's District Fire Chiefs in Nashville need to prepare themselves for the challenges ahead. One of the biggest challenges will be requiring higher education for promotion. Lautner (2001) predicts this for the new millennium:

Greater emphasis will be placed on providing a more organized and efficient organization, in which the primary focus is the customer, both external and internal. In order to achieve greater efficiency and coping with issues in this new century, a more knowledgeable and better-educated workforce is essential. (p. 10)

This applied research project is related to the National Fire Academy's Executive Development course in Unit Two on Professional Development. The objective of Unit Two is to evaluate one's professional development by identifying components of professional growth. This research project also supports the United States Fire Administration goal "to promote within communities a comprehensive, multi-hazard risk reduction plan led by the fire service organization" (NFA, 2002, p. II-2) by identifying minimum training and education standards for District Fire Chiefs. Identifying the minimum training and education standards for future District Fire Chiefs in the NFD will help prepare them for success.

## Literature Review

*Webster's New World Dictionary* defines a professional as someone “engaged in, or worthy of the high standards of a profession.” In order to appreciate the fire service as a professional organization, we need to define what professional means. Marlatt and Walz (1988) define profession this way:

[an] occupation requiring specialized knowledge that can only be gained after intensive preparation. Professional occupations tend to possess three features: (1) a body of erudite knowledge which is applied to the service of society; (2) a standard of success measured by accomplishments in serving the needs of society rather than purely serving personal gain; and (3) a system of control over the professional practice which regulates the education of its new members and maintains both a code of ethics and appropriate sanctions. The primary characteristic that differentiates it from a vocation is its theoretical commitment to rendering a public service. (p. 445)

Looking at this definition, education and training are key elements in becoming a professional. Marlatt and Walz (1988) also state:

Professional development is a continuous and complex responsibility for the Fire Service Manager. Among its many facets is the recognition that the Fire Service constitutes not only a job, but a profession, with its own unique body of knowledge, and orientation toward community service, and a commitment to a set of ethical standards.... Taken together,

professional development and training are the cornerstone of an effective and well-managed Fire Service Organization. (pp. 466-467)

For District Fire Chiefs to be considered “professional,” they would be educated, trained, and experienced in their field, someone who is proficient and qualified to serve.

A review of pertinent literature from various sources helped to establish the minimum recognized professional training and educational standards for becoming a successful District Fire Chief. These sources include national standards, professional journals, Internet, books, and Executive Fire Officer papers. An internal survey helped identify what fire suppression personnel in the NFD consider important for becoming a successful District Fire Chief.

In February 1966 at the Wingspread Conference Center in Racine, Wisconsin, the Johnson Foundation convened an Ad-Hoc Committee to discuss the National Significance to “The Fire Problem in the United States.” This became known as the Wingspread Conference on Fire Service Administration, Education, and Research. The Ad-Hoc Committee identified twelve statements of national significance at the conference. Five of those statements deal with fire officer development. For example, statement six was “Professional status begins with education” (p. 10). The eleventh statement of national significance was “Fire service labor and management, municipal officers, and administrators must join together if professionalism is to become a reality” (pp. 14-15). A method for determining the desired education and training needs for achieving different levels within the fire service was born. The importance of training and education to increase the professionalism in the fire service nationally had been considered for the first time.

At the Wingspread II conference in 1976 the sixth statement dealt again with education. “A means of deliberate and systematic development of all fire service personnel through the executive level is still needed. There is an educational void near the top” (p. 12). This statement focused on the lack of national direction and lack of career ladder opportunities in the fire service.

The third statement that came out of Wingspread III conference in 1986 was “Professional development in the fire service has made significant strides, but improvement is still needed” (p. 6). This conference recognized the creation of the National Professional Qualifications Board (NPQB) to oversee development of a system of national standards for the fire service profession.

During the Wingspread IV conference in 1996 Dothan, Alabama the section on Education and Training noted:

Fire and emergency services managers must increase their professional standing in order to retain credibility with the policy makers and the community at large. Such professionalism should be firmly grounded in an integrated system of nationally recognized and/or certified education and training. (p. 9)

The conference identified that the next logical sequence for increased professionalism lies in four areas. The third area states this:

Mid to senior level fire and emergency services managers must have college experience if recognition of their professional status is going to be maintained. Fire and Emergency Services managers of the future must be

prepared to discuss issues, on an equal academic footing, with architects, engineers, city managers, and health care professionals. (p. 10)

In 1971, the Joint Council of National Fire Service Organizations (JCNFSO) created the National Professional Qualifications Board for the Fire Service to facilitate the development of nationally applicable set of performance standards specifically for the fire service. The committee for Fire Officer Professional Qualifications published by the National Fire Protection Association (NFPA), adopted the first edition of NFPA 1021, *Standard for Fire Officer Professional Qualifications*, in July of 1976. The scope of NFPA 1021 standard was the performance requirements necessary to perform duties of a fire officer and was reduced to four levels of progression in the 1992 edition of NFPA 1021 by the Correlating Committee on Professional Qualifications. The 1997 edition identifies these four levels of fire officers:

- Fire Officer I, the fire officer at the supervisory level.
- Fire Officer II, the fire officer, at the supervisory managerial level.
- Fire Officer III, the fire officer at the managerial/administrative level.
- Fire Officer IV, the fire officer at the administrative level.

In 1997, the Fire Officer Professional Qualification board recommended the following plan to meet NFPA 1021 standard:

Develop clear and concise job performance requirements that can be used to determine that an individual, when measured to the standard, possesses the skills and knowledge to perform as a fire officer.... The committee further contends that these job performance requirements can be used in

any fire department in any city, town, or private organization throughout North America. (p. 1)

NFPA 1021 does not address how fire service personnel should acquire the necessary job performance requirements, leaving it entirely up to the local jurisdiction.

In 1999, the first Fire and Emergency Services Higher Education (FESHE) conference was held. FESHE is comprised of colleges and universities that offer fire related two and four year degrees and state and local fire service training agencies. Because of the previous conferences, the outcomes were centered on a new strategic approach for professional development of fire suppression personnel and how it should occur.

At the FESHE 2000 conference, one issue raised by Dr. Dennis O'Neil was "how to move from a technical occupation to a full fledged profession similar to physicians, nurses, lawyers, and others who follow common paths towards professional status" (National Fire Academy, 2001, motion picture). Because of Dr. O'Neil's comment, discussion began on increasing the professionalism in the fire service by developing a model Fire Science curriculum that consisted of six core associate's degree level courses. FESHE Conference participants recommended that the six core courses become the "theoretical core" on which all fire service associate degree programs are based.

In 2001, FESHE started work to develop standard course descriptions, outcomes, and outlines for the "theoretical core" courses. These courses included Fundamentals of Fire Protection, Fire Prevention, Fire Protection Systems, Fire Behavior and Combustion, Fire Protection Hydraulics and Water Supply, and Building Construction for Fire Protection (United States Fire Administration Online, 2003). The director of FESHE

asked the National Fire Science Curriculum Committee to finalize development of the six core courses. The development of other model associate's degree level courses included the following: Fire Investigation I & II, Hazardous Materials Chemistry I, Fire Administration I, Legal Aspects of the Fire Service, Occupational Safety and Health for the Fire Service, and Strategy and Tactics.

At the FESHE IV conference in June of 2002, a model to provide an efficient pathway for the professional development of fire and emergency services personnel was developed and presented by the Commission on Chief Fire Officer Designation Program (USFA Online, 2003). This model shows the importance of how training and higher education should work together. Training provides the practical application to the beginning firefighters giving them the "ability to do the work" using skills or competency based approaches, while higher education provides the "ability to manage" through cognitive skills for later professional competencies.

A task force was formed within the International Association of Fire Chiefs (IAFC) in 1993 to look at recognition for chief fire officers. From this task force was born the Commission on Chief Fire Officer Designation (CFOD) and is administered by the Commission on Fire Officer Accreditation International (CFAI). This is a voluntary program designed to recognize individuals who can show their excellence in seven measured components including these: experience, education, professional development, professional contributions, association membership, community involvement, and technical competencies. The CFOD went on to say, "The mission of the Commission for Chief Fire Officer Designation is to assist in the professional development of the fire and emergency service personnel by providing guidance for career planning through

participation in the Professional Designation Program” (Commission on Chief Fire Officer Designation Online, 2003).

The CFOD states nine benefits of a professional designation program, and some of the benefits include:

- To raise the level of professionalism of the chief fire officers.
- To serve as a career path for new or prospective chief officers.
- To provide jurisdictional authorities with a means to identify individuals possessing superior skills, knowledge, and abilities.
- To develop an understanding of the need for continuing education, training, and skill proficiency. (CFOD Online, 2003)

The IAFC Officer Development Handbook states “Professional Development is the planned progressive life-long process of education, training, self-development and experience” (2002, p. 4). They want the fire service leadership to have the knowledge and skills necessary to be successful in supervisory, management, administrative, and executive positions. The more developed fire suppression personnel become the more versatile they will be as their careers start to unfold. Each section of the handbook is separated into four officer levels that correspond to NFPA 1021 standards. Each level is broken down into training, experience, self-development and education.

In August of 2001, The National Fire Academy (NFA) courses were related to the applicable National Fire Protection Associations (NFPA) Professional Qualification Standards (USFA Online, 2003). This process involved seventy-four courses being referenced to different NFPA standards including NFPA 1021,

*Standard for Fire Officer Professional Qualifications* (1997 Edition). The “crosswalk” between NFA courses and NFPA standards connected the individual job performance requirements, requisite knowledge, requisite skills and/or objects to the known information about each course. The Executive Development course was one of the courses NFA referenced in the “crosswalk” to 12 different NFPA 1021 standards. (USFA Online, 2003). This course is part of the nationally recognized Executive Fire Officer Program (EFOP) at the NFA. The U. S. Fire Administration, through the NFA, recognized the need for further officer development and instituted the EFOP in the 1980’s.

“ The Executive Fire Officer Program (EFOP) is the leading national curriculum program to prepare senior fire executives for their roles and responsibilities,” said Federal Emergency Management Agency (FEMA) Director Joe Allbaugh. “ Every opportunity for organizational and personal development must be accessed, particularly in times of great challenge” (USFA Online, 2003). The EFOP is a four-year program that also involves research. The program includes: Executive Development, Executive Analysis of Fire Service Operations in Emergency Management, Leading Risk Reduction in the Community, and Executive Leadership.

The NFA has recently developed a 160-hour Chief Officer Training Curriculum course for the newly promoted battalion/district-level chief officer. This course is due for release to Training Resources and Data Exchange (TRADE) representatives as a “train the trainer” program in February 2003. Four major areas are covered: leadership, human resources, risk reduction and operations.

Maryland Fire Service and Rescue Institute (MFRI) have developed a Fire Officer III Program based on Chapter 4, (Fire Officer III) of the NFPA 1021 standard (J. Craumer, personal communication, December 17, 2002). The MFRI Fire Officer III Program consists of 16 sessions that cover the following areas: ethics, public relations, budgeting, administration, inspections, safety, evaluations, and emergency services delivery.

The Fire Service College in the United Kingdom developed a program that examined the functions (what is done) and the tasks (how it is done) within the operational service. This program was called the Integrated Personal Development System (IPDS). IPDS “has been developed to lead to a safer and more effective workforce, delivering an improved quality of service” (Fire Service College Online, 2003). This information was used to form a series of accredited National Occupational Standards and the associated Scottish/National Vocational Qualifications. The Chief Officer level is called the Watch Management Level Three. It looks for knowledge and understanding in these areas: health and safety, organizational, personal and interpersonal, training and development, and technical. IPDS is concerned with the continued development of people and the organization.

Fire Personal and Organizational Development (FirePod) is the Web site for the IPDS program and provides an overview of “precisely what personal and organizational development means to individual employees across all roles” (Fire Personal and Organizational Development Online, 2003). FirePod basically provides a career path for the various levels of the fire service within the United Kingdom.

Leidich (1998) conducted an internal survey of the Washington Township Fire Department fire suppression personnel and asked, “What individual qualities do you feel are important to perform the position of Battalion Chief?” (p. 5). There were 17 responses to the internal survey, and some of the statements include:

- Thorough understanding of basic managerial concepts & problem resolution (Internal-employee, External-public)
- Minimum of associates degree should be required with bachelors degree preferred
- Fire ground tactics should be their strong area

The Minneapolis Fire Department has developed a Training and Development Plan for anyone wanting to promote into higher levels of responsibility. This plan addresses professional development by recognizing the requirements for the future leaders within the department. “As the technical and educational requirements of our profession increase, each person must move forward to address their own professional development...While experience in fire suppression is important, professional fire officers will need much more education and experience in a wide array of skills to be successful leaders in the future” (Clack, 2002, p. 10). One of the goals from this plan is to prepare fire suppression personnel for chief officer by completing the following courses before promotion.

The courses for Battalion or District Fire Chief in Minneapolis will include the following:

- Fire Department Administration Advanced
- Incident Management

- Statistical Analysis to Fire Protection
- Fire Sprinkler Design
- Critical Thinking
- Oral Presentation
- Concepts in Mathematics
- Ethics

David Ott (2001) with the Coronado Fire Department researched the development of a company officer training program by identifying and evaluating training criteria. His research identified and evaluated training criteria for company officers against national standards to use as a guideline for the Coronado Fire Department. The curriculum developed for use by the Coronado Fire Department includes the following major areas: human resource management, community and government relations, administration and organizational, fire prevention and inspection, emergency service delivery, and safety.

Several other research papers dealt with the desired training and education of fire suppression personnel to make them more successful in their department. One researcher was Jeffrey Huber (2001), who researched a plan to educate and train future Chief Fire Officers in Goshen, Indiana Fire Department. His plan produced a list of 10 courses that contain the required knowledge, skills, and abilities for future chief fire officers. Some of the courses included: leadership, organizational planning, ethics, and personnel management.

Based on research by Walter Booth (1999) of 166 U.S. paid departments with over 100 personnel, the training topics for battalion chief “included strategy and tactics,

incident command, and similar topics, but more commonly involved training in administrative and managerial topics” (p. 79).

Several researchers have looked at the issue of higher education’s importance in training and educating fire suppression personnel. Mainly, how higher education helps fire suppression personnel possess the needed training and education to function in a changing environment.

The need for formalized higher education in the fire service was highlighted in “A Study of Undergraduate Fire Service Degree Programs in the United States”. In his research Sturtevant (2001) states,

Fire department training programs have been overburdened by the need to address several disturbing trends. These include lack of progress toward reducing the staggering number of U.S. emergencies, and the changing role and scope of services provided by fire departments. These three issues have highlighted the need to embrace formalized higher education as a required supplement to traditional fire department training programs.  
(p. 1)

Rivenbark and McCall (2000) in “Promoting Higher Education in the Fire Service” state,

The National Fire Academy (NFA) and the National Fire Protection Association (NFPA) have both made it clear that higher education is an important ingredient in the career advancement of fire personnel and that higher education is critical to managing the complexities of the fire

service. The NFA strongly support professional development programs that encourage both associate and baccalaureate degrees. (p. 45)

In the late 60's The University of Tennessee (UT) at Nashville began offering courses for a degree in Fire Science. This ended when Tennessee State University took over the UT site in 1972 and started offering an associate's degree in Fire Science. Since 1992 Volunteer State Community College has provided fire suppression personnel the way to continue their higher education in the fire service. Volunteer State Community College offers both a Fire Science and Paramedic Science degree program. Both concentrations have a Technical Certificate Program and an Associate of Applied Science Degree (Volunteer State Community College Online, 2003). Tuition-reimbursement is available for all fire suppression personnel in the NFD who would like to take advantage of pursuing their higher education degree. In Booth's (1999) survey he revealed " 78% of fire departments had some type of tuition-reimbursement program" (p. 80).

On a local level in July of 2002, the NFD helped sponsor the Metropolitan Management Institute (MMI) for courses at the Nashville Fire Academy. MMI is an educational partnership with The University of Tennessee's Center for Government Training and the Human Resource Training Division of the Metropolitan Government of Nashville and Davidson County. The MMI certificate program is designed for managers, supervisors, and individuals who are about to be promoted to a supervisory position. The MMI program consists of 40 hours of instruction. Course titles include the following: Leadership/Supervision, Employment Law, Communications, Civil Service Rules/Safety/Employee Assistance Program, Coaching and Counseling, Performance

Evaluation, Sexual Harassment for Supervisors, Diversity Awareness, Workplace Violence, and Customer Service.

In summary, based on this review, the information obtained from the literature shows the need for a nationally recognized program to develop fire suppression personnel prior to promotion that includes minimum training and education standards for District Fire Chiefs. It was exciting to see collaboration and coordination between fire related training, higher education, and certification for the professional development of fire service personnel.

#### Procedures

The desired outcome of this research is to identify the minimum training and education standards for becoming a successful District Fire Chief in the NFD. Descriptive research was used to guide the applied research project to help understand the answers for the three research questions. The research questions deal with the recognized fire service minimum training and education standards for District Fire Chief on the national, state, and local level.

Research began in August 2002 with a literature search at the National Emergency Training Center's Learning Resource Center. Literature reviews continued through January 2003 by the interlibrary loan process. During this time personal communication and online research was conducted. Previous Executive Fire Officer applied research papers, books, and articles in professional fire service journals were reviewed.

An internal survey (Appendix A) was developed for all fire suppression personnel in the NFD. The survey asked respondents, based on their training and education, to identify what training and education requirements would benefit future District Fire Chiefs. Questions 1 and 2 on the survey asked about current rank and years of service on the NFD to see if rank and years of service affected fire suppression personnel opinion about District Fire Chief minimum training and education requirements. Fire suppression personnel were also asked in question 3 about the benefit of a District Fire Chief Program and in question 4 how the Department currently develops District Fire Chiefs. Questions 5 and 6 asked what type and level of educational degree was most desired by fire suppression personnel for the District Fire Chief position. The survey also asked the fire suppression personnel to place a value 1, *not important*; 2, *little importance*; 3, *somewhat important*; 4, *highly important*; 5, *extremely important*; on 19 different topics for future District Fire Chief training and educational needs. The survey results are represented in the Appendix section; firefighters (Appendix C), engineers (Appendix D), captains (Appendix E), and chiefs (Appendix F). Survey results for the total point value of the 19 topics (Appendix G) are broken down by rank along with the mean averages (Appendix H). Fire suppression personnel then were asked to pick out the five most important training and educational topics they felt would make a District Fire Chief more successful. Complete results are represented in Appendix I. By identifying what fire suppression personnel in the NFD desired to have as the minimum training and educational topics the possibility for future District Fire Chiefs to be successful should increase.

There are three shifts (A, B, C,) that rotate on a continuous 24 on/48 off work schedule, and one shift was chosen at a time to answer the internal survey so data could properly be collected. A shift roster identified the fire suppression personnel for that shift and their current company assignment. The surveys were separated into three shifts, and one survey was prepared for each individual. Packets were put together for each station after reviewing the shift roster.

The researcher started the internal survey process on 282 C-shift fire suppression personnel. A meeting was held at the Assistant Fire Chief's office with the seven district fire chiefs on duty. Fire suppression personnel on C-shift were chosen first because the researcher was currently assigned to that shift. Every district fire chief was given a packet that included one survey for each fire suppression personnel assigned to his/her district in various stations. The researcher then explained the entire process and purpose of the survey to each District Fire Chief. District Fire Chiefs were then given the opportunity to ask questions so they would better understand what was involved. The District Fire Chiefs agreed to help with the internal survey and hand one survey to each fire suppression personnel assigned to their district. The completed surveys were collected after each shift over the next five 24 hour work shifts. The researcher then asked the Assistant Fire Chief to identify all C-shift fire suppression personnel that were off duty on those five 24 hour work shifts. A list was obtained of those individuals, and a survey was sent through interdepartmental mail asking them to complete and return to the identified researcher. This entire process took ten 24-hour work shifts to complete. This gave adequate time for interdepartmental mail to be received back to the researcher.

After compiling the data for C-shift, the same process was started for A-shift and then B-shift for every fire suppression personnel.

Information about fire suppression personnel in the NFD that currently have a degree was obtained from the payroll division secretary. The researcher separated the list by rank and then by type of degree held. Data was calculated to see how many fire suppression personnel hold bachelor's degrees, associate's degrees, and anyone with a bachelor that also has an associate's degree in Fire Science.

### Assumptions and Limitations

An assumption was made that each district chief asked all fire suppression personnel assigned in their District to fill out the survey and return it to the researcher via interdepartmental mail. All fire suppression personnel could not complete the internal survey because of the various situations. Some were off because of in-line-of-duty injuries, extended military leave, extended sick leave, family leave, or already in the retirement process.

Lack of participation was caused by one district chief who refused to have anything to do with the survey. He refused to take part in the internal survey process and also advised the stations in his district not to express their opinion on the survey. It is possible that this situation caused some of the fire suppression personnel in that district to not get involved.

In the internal survey, 131 respondents to the type of degree desired for District Fire Chiefs marked the "None" category in question 5 and also responded to question 6.

These responses changed the actual response totals and the actual percentages for question 6.

Another problem encountered was the lack of material on district fire chief programs, but there was plenty of material on the development of company officers. The researcher had to depend on the 1997 edition of NFPA 1021 Fire Officer standard and other nationally recognized training and educational developments.

Also, it is uncertain if the researcher listed all of the minimum training and educational requirements for the position of District Fire Chief to make them successful in the internal survey.

#### Definition of Terms

**Advanced Life Support (ALS).** An individual who provides advanced life saving procedures; such as cardiac monitoring, starting IV fluids, giving medications, and using advanced airway adjuncts.

**Basic Life Support (BLS).** An individual who provides non-invasive emergency lifesaving care that is used to treat airway obstruction, respiratory arrest, or cardiac arrest.

**District Fire Chief.** An individual responsible for command of personnel and equipment at emergency related incidents.

**Emergency Medical Technician (EMT).** An individual who is trained and certified to provide emergency care at the scene, and during patient transport to a medical facility.

**Engine Company.** An emergency response vehicle providing specified levels of pumping, water, hose capacity and fire suppression personnel.

**Extrication.** Involves the removal and treatment of victims who are trapped by some type of man-made machinery or equipment.

**Firefighter.** An individual who performs related emergency duties such as firefighting, Emergency Medical Technician, hazardous material mitigation, and rescue operations.

**Fire Captain.** An individual who is responsible for fire suppression personnel during emergency scene operations.

**Fire Chief.** An individual who is responsible for directing and controlling company fire suppression personnel on the emergency scene. This individual could hold the rank of Assistant, Battalion, or District.

**Fire Engineer.** An individual responsible for driving fire department emergency response apparatus, pumping water, performing hydraulic calculations, and minor maintenance of the fire apparatus.

**Fire Lieutenant.** An individual responsible for fire suppression personnel in the absence of a Fire Captain during emergency scene operations.

**Fire Officer I.** The fire officer, at the supervisory level, who has met the job performance requirements, specified in the standard for Level I (NFPA 1021).

**Fire Officer II.** The fire officer, at the supervisory/managerial level, who has met the job performance requirements specified in the standard for Level II (NFPA 1021).

**Fire Officer III.** The fire officer, at the managerial/administrative level, who has met the job performance requirements specified in this standard for Level III (NFPA 1021).

**Fire Officer IV.** The fire officer, at the administrative level, who has met the job performance requirements specified in this standard for Level IV (NFPA 1021).

**Heavy Rescue.** An emergency response vehicle providing specified rescue equipment, capability and highly trained rescue fire suppression personnel.

**Incident Safety Officer.** Title given to the officer assigned by the incident commander to handle safety responsibilities and duties.

**Paramedic.** An individual who provides a thorough patient assessment and invasive Advanced Life Support (ALS) treatment.

**Technical Rescue.** Any rescue requiring specialized knowledge, equipment, and training of fire suppression personnel.

**TRADE.** Training Resources and Data Exchange (TRADE) network that consist of the 50 State Fire Training systems and Senior Training Officers from the Nation's largest fire departments in each State, or those fire departments which protect populations greater than 200,000 and/or have more than 400 uniformed personnel.

**Truck Company.** An emergency response vehicle providing an aerial device specified portable ladders, and equipment capability for fire suppression personnel.

**USAR.** Urban Search and Rescue (USAR) individuals who are supervised, organized, and trained in technical rescue to a specified level.

A review of national standards mainly through the Internet was used to identify the training and educational minimums for District Fire Chiefs.

## Results

*What are the Nationally recognized fire service minimum training and education standards for District Fire Chief?*

The NFPA 1021 standard is clearly the dominant standard recognized for training and educating the managerial/administrative level chief. This standard provides a clear and concise job performance requirement for that level.

Other national programs seem to reference the NFPA 1021 standard as a guide for program development. These programs include The Officer Development Handbook- (IAFC) and Fire Officer III- (MFRI). Both programs have identified the individual job performance requirement from NFPA 1021, *Standard for Fire Officer Professional Qualifications*, that relate to their own specific program.

Some national programs are geared toward higher education in the fire service as it continues to play a vital role in professional development of fire suppression personnel. The CFOD and EFOP are the two most nationally recognized programs that require higher education. The education component for the CFOD considers higher education as the second most important desired component for obtaining the designation. Starting in 2004, the minimum education requirement for CFOD will be an associate's degree. This minimum education requirement will be raised to a bachelor's degree starting in 2009.

Currently an associate's degree is required for application into the EFO program at the NFA where fire suppression personnel enhance their professional development through a series of baccalaureate and graduate level courses. However, in 2009 the minimum educational requirement for acceptance will be a bachelor's degree.

A national fire science curriculum, developed by FESHE for higher education, suggests what kind of courses fire suppression personnel should take as they progress through their career, beginning at the associate's degree level.

Finally, The Officer Development Handbook - (IAFC) that considers training, education, experience, and self-development should be given careful consideration as the new and upcoming minimum training and educational standard for District Fire Chiefs. Each area in the handbook corresponds with NFPA standards and with FESHE conference educational recommendations for the professional development of fire suppression personnel.

*What are the State recognized fire service minimum training and education standards for District Fire Chiefs?*

To identify the State recognized minimum training and education standards for District Fire Chiefs, interviews were conducted with the largest fire departments across the state.

According to the Director of State Training of the Tennessee State Fire Codes Academy, David Hedrick, there are no current state minimum requirements for the District Fire Chief position. However, the state academy does offer a four-week officer program geared toward the Fire Lieutenant and Fire Captain (personal communication, December 17, 2002).

Including the NFD, the researcher contacted the four largest fire departments in the state to find out about minimum requirements to test for District Fire Chief. These departments are reviewed in order of size below.

In Memphis, the requirement for Battalion/District Fire Chief is a minimum of eight years as a firefighter on the Memphis Fire Department, three years of which shall

have been as a Fire Lieutenant. Other minimum requirements for training and education are not recognized. (S. Rutledge, personal communication, December 17, 2002).

The last promotional application in the NFD for the District Fire Chief (Appendix L) position was reviewed for minimum requirements. There is a minimum requirement of 10 years experience, including two years as a Fire Captain in the NFD. A place to document previous training and education is also provided on the application.

Knoxville Fire Department's current minimum requirement for District Fire Chief is 10 years of service with the department and three years as a Fire Lieutenant. No other minimum training and educational requirements exist for Knoxville. (B. Russell, personal communication, December 17, 2002).

In Chattanooga, the Director Chief appoints all District Fire Chiefs, and no minimum requirements exist for the position. Since no minimum requirements exist, a firefighter with as little as one year of experience could be promoted to District Fire Chief. (M. Moore, personal communication, December 17, 2002).

*What do Nashville fire suppression personnel think the minimum training and educational standards for District Fire Chief should be?*

In order to identify the minimum training and education standards recommended by the NFD fire suppression personnel, an internal survey (Appendix A) was developed. The internal survey was used to help prioritize the identified minimum training and education required for the success of future District Fire Chiefs. The complete results for the internal survey appear in (Appendices B-K).

*1. What rank do you currently hold in the Nashville Fire Department?*

Of the 842 fire suppression personnel in the NFD, 813 personnel (97%) were sent the internal survey for completion. Total respondents to this survey were 669 fire suppression personnel (82%) with 359 respondents (85%) representing the rank of firefighter. A breakdown of all responses to question one are shown in Table I:

Table I

Rank	Actual Number of Personnel	Number Surveyed	Respondents (%)
Chiefs	28	26	(92)
Captains	166	157	(85)
Engineers	211	208	(74)
Firefighters	437	420	(85)
Total	842	813	(82)

*2. How many years do you have in the Nashville Fire Department?*

There were 146 respondents (22%) in the 1-5 year category and 154 respondents (23%) in the over 26 years of service category. Almost half, 300, of all respondents (45%) represent these two categories. A breakdown of all responses to question two are shown in Table II:

Table II

Years of Service	(%)	Firefighters	Engineers	Captains	Chiefs
1-5	(22)	142	4	--	--
6-10	(11)	62	11	1	--
11-15	(16)	55	35	14	--
16-20	(14)	37	31	23	1
21-25	(14)	31	26	37	5
Over 26	(23)	32	46	58	18

Note. This represents the years of service with the Nashville Fire Department and not the total years of fire service experience.

3. Do you believe that the department and individual would benefit from a District Fire Chief Program?

In the chief category, 24 respondents (100%) agreed the department would benefit from a District Fire Chief Program. A total of 561 respondents (84%) answered yes to the question about the benefit from a District Fire Chief program. A breakdown of all responses to question three are shown in Table III:

Table III

Respondents	n =	Yes (%)	No (%)	Not Sure (%)
Chiefs	24	(100)	--	--
Captains	133	(81)	(17)	(2)
Engineers	153	(80)	(19)	(2)
Firefighters	359	(86)	(12)	(2)
Total	669	(84)	(17)	(2)

Responses were further analyzed by years of service about the benefit of a District Fire Chief Program. The 1-5 years of service category had 137 yes responses (94%) to the benefit of a District Fire Chief Program. A lower percentage came from the two categories representing the highest years of service (21-25 and over 26 years of service). A breakdown of all responses to question three are shown in Table IV:

Table IV

Years of Service	n =	Yes (%)	No (%)	Not Sure (%)
1-5	146	(94)	(5)	(1)
6-10	75	(87)	(13)	--
11-15	106	(84)	(13)	(3)
16-20	92	(91)	(8)	(1)
21-25	96	(70)	(29)	(1)
Over 26	154	(77)	(18)	(5)

4. How would you rate the Departments overall career development system for District  
*Fire Chief?*

Sixteen respondents (67%) in the chief's category rated the career development system as poor. But 178 firefighter respondents (50%) rated the career development system as good. A breakdown of all responses to question four are shown in Table V:

Table V

Respondents	n =	Excellent (%)	Good (%)	Poor (%)	Not Sure (%)
Chiefs	24	(4)	(29)	(67)	--
Captains	133	--	(34)	(64)	(2)
Engineers	153	(3)	(46)	(48)	(3)
Firefighter	359	(6)	(50)	(43)	(1)
Total	669	(4)	(45)	(49)	(2)

Responses were further analyzed rating the career development system from the 1-5 years of service category with 91 respondents (62%) answering in the good selection area to the question. All other years of service categories answered poor, to the question of the department's current career development. The over 26 years of service category respondents, 77, had the lowest percentage (50%) answering poor. A breakdown of all responses to question four are shown in Table VI:

Table VI

Years of Service	n =	Excellent (%)	Good (%)	Poor (%)	Not Sure (%)
1-5	146	(5)	(62)	(32)	(1)
6-10	75	(7)	(36)	(53)	(4)
11-15	106	(1)	(44)	(53)	(2)
16-20	92	(4)	(38)	(57)	(1)
21-25	96	(2)	(35)	(61)	(2)
Over 26	154	(4)	(41)	(50)	(5)

5. Which one of the following degree(s) do you feel is adequate for individuals deciding to become District Fire Chief?

In the chiefs category, 10 respondents (42%) felt an associate's degree should be required while 9 respondents (38%) thought certificates were adequate. For the bachelor's degree requirement, 63 respondents (18%) of the firefighters felt that should be the minimum. Most of the 442 respondents (66%) thought a minimum requirement for District Fire Chief should be some type of certificate or higher degree. A breakdown of all responses to question five are shown in Table VII:

Table VII

Respondents	n =	Bachelors (%)	Associates (%)	Certificates (%)	None (%)
Chiefs	24	(8)	(42)	(38)	(12)
Captains	133	(9)	(36)	(20)	(35)
Engineers	153	(13)	(30)	(24)	(33)
Firefighter	359	(18)	(32)	(15)	(35)
Total	669	(14)	(33)	(19)	(34)

Note. Of the 225 respondents in the "None" category, 130 answered Fire Science in question 6.

Responses were further analyzed in years of service about adequate degree requirements for District Fire Chief. The 6-10 year of service category had the highest degree requirement with 16 respondents (21%) answering in the bachelor's category and 31 respondents (41%) answering in the associate's category. However, the 1-5 year of service category also represented a high degree requirement with 27 respondents (18%) answering in the bachelor's category and 55 respondents (38%) answering in the associate's category. Thirty-eight respondents (41%) with 16-20 years of service

answered in the “None” category. A breakdown of all responses to question five are shown in Table VIII:

Table VIII

Years of Service	n =	Bachelors (%)	Associates (%)	Certificates (%)	None (%)
1-5	146	(18)	(38)	(18)	(26)
6-10	75	(21)	(41)	(9)	(28)
11-15	106	(14)	(29)	(22)	(35)
16-20	92	(10)	(33)	(16)	(41)
21-25	96	(11)	(30)	(23)	(35)
Over 26	154	(12)	(29)	(21)	(38)

*6. Which type of degree do you think best serves the role of District Fire Chief?*

There were 571 respondents (86%) that desired either a Fire Science degree or the Fire and Paramedic Science degree as the minimum requirement for the District Fire Chief position. Of the 620 respondents, 480 (72%) preferred the Fire Science degree while 91 respondents (14%) preferred the Fire and Paramedic Science degree requirement. There were no responses to the Paramedic Science degree for this question, so it does not appear in the Table IX below. A breakdown of all responses to question six are shown in Table IX:

Table IX

Respondents	n =	Fire Science (%)	Fire & Paramedic Science (%)	Other (%)
Chief	24	(67)	(13)	(20)
Captain	127	(69)	(13)	(14)
Engineer	148	(67)	(17)	(13)
Firefighter	321	(75)	(13)	(2)
Total	620	(72)	(14)	(7)

Note. 49 respondents did not answer this question because they marked the “None” category in question five. Responses for other category are found in Appendix K.

Responses were further analyzed by years of service about the type of degree desired for District Fire Chiefs. In the category 1-5 years of service, 118 respondents (81%) thought the Fire Science degree best served the District Fire Chief position. The Fire and Paramedic Science degree was chosen by 19 respondents (25%) of the 6-10 year of service category. A breakdown of all responses to question six are shown in Table X:

Table X

Years of Service	n =	Fire Science (%)	Fire & Paramedic Science (%)	Other (%)
1-5	141	(81)	(9)	(7)
6-10	70	(65)	(25)	(3)
11-15	98	(60)	(15)	(17)
16-20	86	(74)	(9)	(8)
21-25	88	(77)	(7)	(7)
Over 26	137	(69)	(17)	(3)

Fire suppression personnel in the NFD that currently have a degree are represented in Table XI. Fifteen respondents (63%) in the chief's category have a minimum of an associate's degree. Currently 10 chiefs (42%) have an associate's degree, and 5 chiefs (21%) have a bachelor's degree. Forty-five firefighters (23%) currently have a bachelor's degree in the department. There was no data available for certificates for any of the ranks. The results for each rank are shown in Table XI:

Table XI

Rank	n =	Associate's Degree (%)	Associate's Fire Science Degree (%)	Bachelor's Degree (%)	Associate's Fire Science & Bachelor's Degree (%)
Chief	15	--	(42)	(21)	(60)
Captain	52	(12)	(12)	(15)	(25)
Engineer	35	(4)	(10)	(13)	(14)
Firefighter	80	(3)	(18)	(23)	(17)
Total	182	(5)	(10)	(13)	(17)

In addition to higher education requirements, the survey also asked respondents to identify training and education topics on a scale of one to five. Nineteen training and education topics were ranked in order of importance: 1, *not important*; 2, *little importance*; 3, *somewhat important*; 4, *highly important*; and 5, *extremely important* by fire suppression personnel in the NFD.

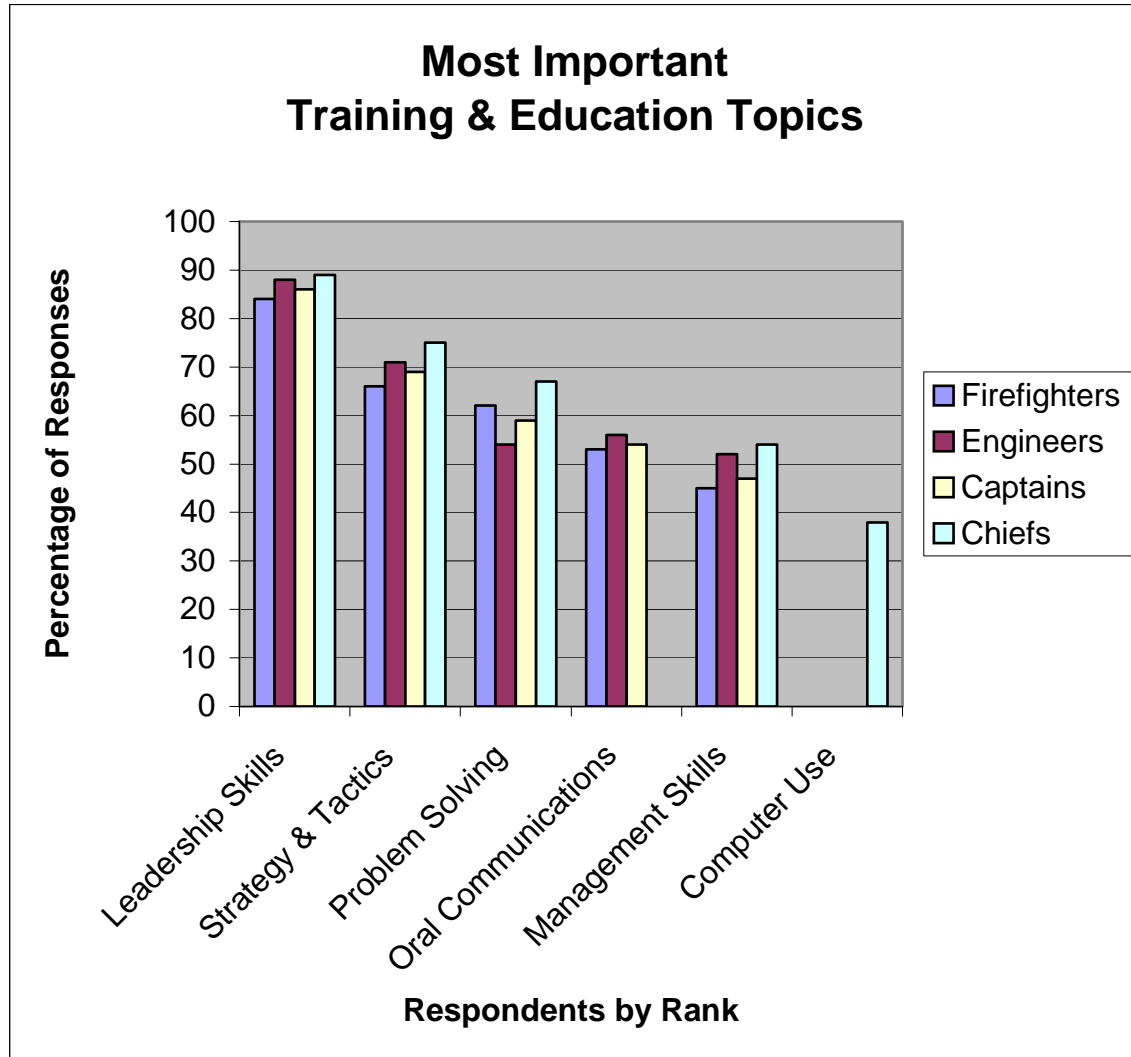
Respondents ranked leadership skills, management skills, oral communications, and problem solving as the highly important to extremely important training and education topics. The lowest mean averages for the least important training and education topics were also common for each rank. Budget/project management, fire code inspection, stress management, and time management were selected as being somewhat important training and education topics by several ranks.

Complete survey results can be found for firefighters (Appendix C), engineers (Appendix D), captains (Appendix E), and chiefs (Appendix F). The maximum total points for the 19 survey topics are represented in Appendix G for each rank. Mean averages for each rank on the 19 training and education topics can be found in Appendix H.

Each rank of the NFD - 359 fire fighters, 153 engineers, 133 captains, and 24 chiefs - were also asked to identify the five most important training and education topics, from the same list of 19 topics, they felt would make a District Fire Chief successful. The five most important training and educational topics chosen were the same for all fire suppression personnel categories with the exception of the chiefs. Nine chiefs (38%) chose computer use as the fifth most important training and education topic. Identified again as the least important topic by all ranks was budget/project management. A

breakdown of all responses to the five most important topics question is found by rank in Table XII. The complete survey results for each rank can be found in Appendix I.

Table XII

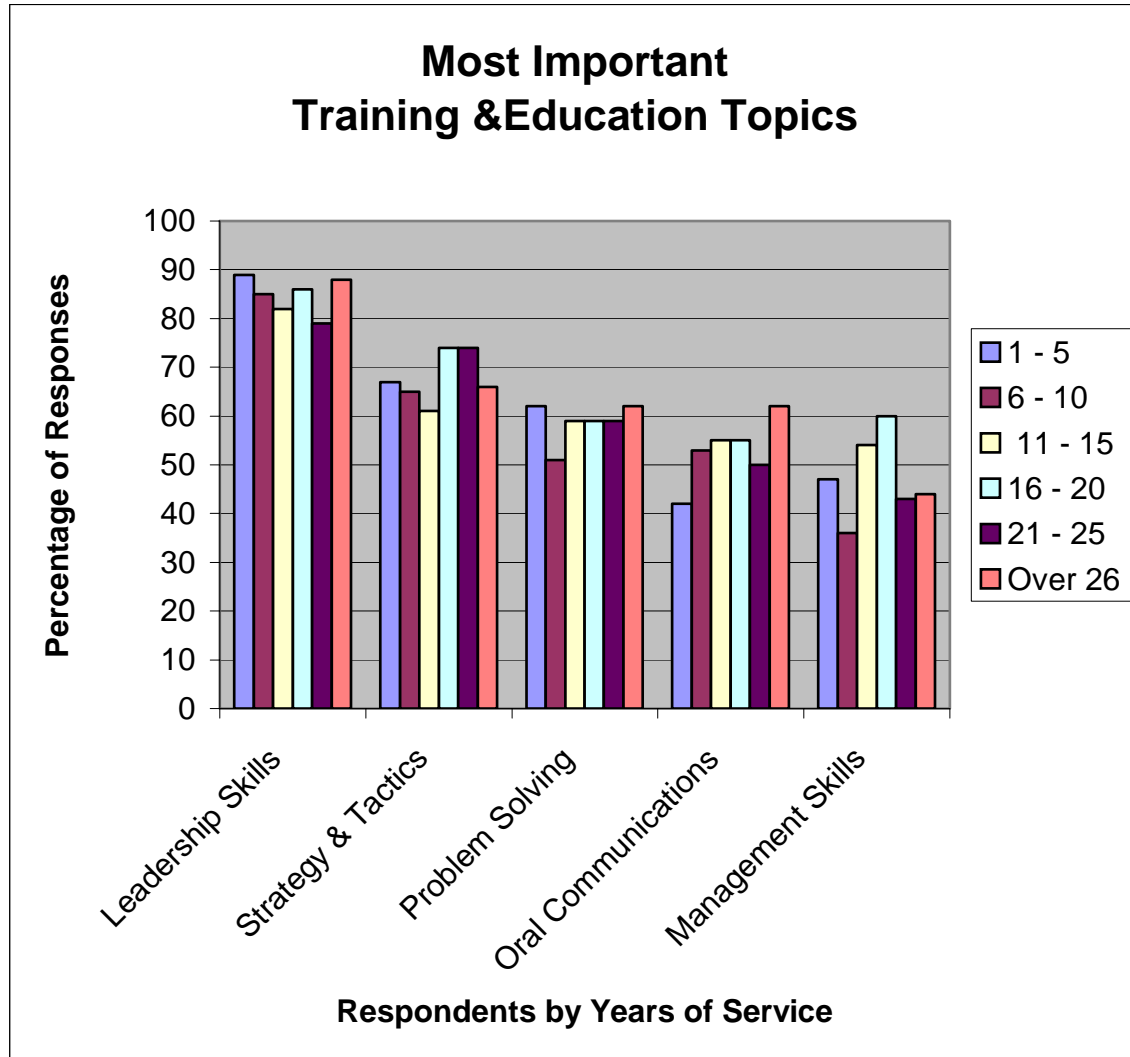


When the five most important training and education topics were analyzed by years of service, all categories contained the same five training and education topics (Table XIII). The biggest difference occurred in the oral communication category between the 1-5 years of service and the over 26 years of service. In the 1-5 year of service category, 62 respondents (42%) identified oral communication as the fifth most important training and education topic. However, 95 respondents (62%) in the over 26

year of service category selected oral communication as their third most important topic.

Complete results can be found in Appendix J.

Table XIII



When the least important training and education topics were analyzed by years of service for the same question, similar results to the lowest mean averages were produced. Budget/project management was represented by all categories, except the 1-5 year of service category. Stress management was represented in four categories and reports were represented in three. Complete results can be found in Appendix J.

## Discussion

Most realize that everyone in the fire service will not rise to the level of District Fire Chief, but for those individuals who do, minimum training and education standards should be required. In order for tomorrow's district fire chiefs to be successful, they should prepare themselves for the challenges ahead. Ott (2000) supports the need to develop certain skills for success:

In today's fire service with all the legal requirements, mandates, new and evolving standards, new technology, changing and increasing service demands, and the dynamic economic environment where cost, quality, and efficiency of services are the driving forces, well trained company officers who possess the skills necessary to operate in these environments are essential to the continuing success of the fire service. (p. 39)

Even though Ott refers to company officers specifically, there is still relevance in his statement for the success of future District Fire Chiefs by increasing the skill level of fire suppression personnel seeking the position.

Research showed the need for career development to better prepare district fire chiefs for their role in the fire service by developing the minimum training and education requirements needed to be successful. These requirements should be recognized nationally, on the state level, and within the local fire department jurisdiction.

Even though the need to increase training and education standards were not recognized nationally until 1966 at the Wingspread Conference, advanced fire officer training had started on a local level almost 50 years before in New York City. In 1914, New York City established a fire college for advanced fire officer training and education.

Nearly twenty years later, a two-year (now four year) program in Fire Protection began in 1937 at Okalahoma A & M college (now Oklahoma State University).

During the Wingspread Conference in 1966, the fire service focused on increasing the training and educational standards nationally. This conference recognized the need to develop different levels within the fire service and the training and education desired for each level. Given some direction, the development of different training and educational programs across the country began. Professional development issues for the District Fire Chiefs had finally started coming to the forefront.

Nationally throughout the fire service, there has been a lack of emphasis placed on the value of training and educating district fire chiefs. Within the last few years, the professional development issues for district fire chiefs have been considered as important as the company officer position. Previously, the fire service had been more focused on the development of company officer position in most fire departments across the country. Ott (2000) states “some have argued that the company officer position is the position in the fire service that has the most impact on service delivery” (p. 5). While the company officer plays a vital role in the fire service, it is the chief officer who sets the stage for the professional development of future leaders.

This study has identified several resources for becoming a successful district fire chief. NFPA 1021, *Standard for Fire Officer Professional Qualifications*, seems to be the most nationally recognized standard for identifying minimum training and education requirements for district fire chief. According to Bachtler and Brennan, “NFPA 1021, *Standard for Fire Officer Professional Qualifications*, prepares firefighters to qualify for leadership positions within the fire service. It is a comprehensive standard that requires

candidates to perform to the highest levels of both fire ground command and fire department administration and management” (p. 316).

The *Officer Development Handbook* (IAFC), while still a “work in progress” for professional development of fire suppression personnel, seems to encompass a well thought-out plan. This program is based on NFPA standards and FESHE recommendations. Thus the *Officer Development Handbook* recognizes “certifications” and “degrees” are benchmarks used in documenting achievements for training and education. With the likelihood that someone possesses the knowledge and skills for receiving training and education, the emphasis is placed on the content of the learning experience.

Other recognized national programs that should be given careful consideration for minimum training and education standards include the following: National Fire Science Curriculum - (FESHE), Chief Officer Training Curriculum - (TRADE), Executive Fire Officer Program – (NFA), Chief Fire Officer Designation - (CFAI).

This need to develop national requirements for each level has also reached the United Kingdom. The Fire Service College in the United Kingdom has also developed a program of national significance for the development of fire suppression personnel. This program is called the Integrated Personal Development System (IPDS). Their newly developed IPDS “provides a set of national standards against which performance can be reviewed” (FirePod Online, 2003). The target for the IPDS program to be completed is April 2003.

To date, Tennessee does not have any minimum training and education standards for District Fire Chiefs. After conducting four interviews outside the NFD with the state

Fire Academy, Memphis Fire Department, Knoxville Fire Department, and the Chattanooga Fire Department, it appears that nobody in the state has developed minimum training and education standards for the district fire chief position. Booth (1999) in “Raising the Bar for Promotions” states why fire suppression personnel who are candidates for promotion need minimum training and education standards:

Unfortunately, the candidates are usually placed into positions with little or no relevant training or experience. While some departments provide candidates with a brief orientation class, most individuals are simply thrown into the deep end of the promotional pool, with the vague hope that more will swim than sink. (p. 78)

Even though the NFD has increased the requirements on the application (Appendix L) for the position of district fire chief, it is not clear to the researcher that any minimum training and education standards exist. Thus, it does not appear that the nationally recognized NFPA 1021, *Standard for Fire Officer Professional Qualifications*, is being currently used as a guide for district fire chief promotional qualification. Other nationally recognized programs are not considered at this time either. However, the NFD does seem to require more training and education currently for the application process than other three larger fire departments in the state. All of them seem to have less minimum training and educational standards for their Battalion/District Fire Chiefs.

The fact that 84% of the respondents to the NFD internal survey stated the department and individual would benefit from a District Fire Chief Program shows the need for program development. When respondents were broken down into years of

service, 94% from the 1-5 category supported the need. After evaluating minimum training and certification standards for officers, Morrill (2001) states, “Such a program would greatly increase the likelihood of competence in those promoted to supervision positions” (p.17). Sturtevant (2001) also recommends the need for increased training and education:

The current method of training firefighters in-house is perceived by some to be ineffective in reducing the staggering number of U. S. emergencies and lacking in ability to address the changing role and scope of services provided by fire departments. The fire service must increase the integration of formulized education into their training and education program. (p. 7)

Educational requirements for the District Fire Chief level were supported by 66% of the respondents. Fourteen percent wanted the minimum requirement to be a bachelor’s degree, 33% checked the associate’s degree, and 19% wanted the certificate requirement. Respondents with the least number of years supported a minimum education standard: 74% for 1–5 years of service and 72% for the 6-10 years of service category (Table VIII). This is in line with Booth’s (1999) nationwide survey results of 166 fire departments. In “Raising the Bar for Promotion” he states, “18% [of the fire departments surveyed] require a bachelor’s degree while 37% require an associate’s degree for the battalion chief position” (p. 80).

Albertson’s (1999) survey of 40 fire departments throughout California produced similar results:

In 14% of departments, a bachelor's degree was a condition of eligibility for the battalion chief promotional process.... Twenty-nine percent of the departments required an associate degree in fire science... twenty-four percent required the California Chief Officer certificate... Surprisingly, more than 33% of responding departments indicated that there was no educational requirement for their agency's promotional exam for battalion chief. (p. 84)

In the NFD survey, the overall career development system category was evenly split between respondents in the good and poor category. However, when respondents were separated by years of service, every category above the one to five chose "poor" 50% or more of the time. This indicates that the NFD has not planned for the development of future leaders within the NFD. According to Ott (2001), "It is incumbent upon fire service managers to develop the future managers and leaders of their organizations" (p. 39).

Fire science was the type of degree chosen by 72% of respondents while 14% chose the fire and paramedic science degree. Only, forty-two percent of the respondents in the chief's category hold an associate's degree in fire science (Table XI).

Currently 15% of the NFD currently have an associate's degree of any type (Table XI), which is well below the 33% of the respondents that preferred a minimum of an associate's degree. This percentage shows that fire suppression personnel want to raise the minimum education standard for District Fire Chief. Rivenbark and McCall (2000) support the need for higher education of fire suppression personnel:

The pursuit of higher education among career fire personnel provides two major advantages for the fire service. First, it increases the organizational capacity of fire departments to handle the complex issues currently facing the fire and emergency services. Second, it is an excellent way for fire personnel to obtain the skills and knowledge outlined by NFPA 1021, *Standard for Fire Officer Professional Qualifications—1997*, for career advancement. (p. 47)

When surveyed on the 19 training and education topics on a scale of 1-5, common topics were chosen by all ranks. Respondents ranked, in different order, leadership skills, management skills, oral communications, and problem solving as the highly important to extremely important training and education topics. However, strategy and tactics finished in the top five in all ranks as being highly important with the exception of the chief's rank. Chiefs chose the training and education topic as fifth highest on the scale, out of the 19 topics presented. All ranks selected, in different order, the somewhat important training and education topics as budget/project management and fire code inspection. The firefighters and engineers chose computer use as the third somewhat important training and education topic, while captains and chiefs chose fire investigation. Complete survey results can be found for firefighters (Appendix C), engineers (Appendix D), captains (Appendix E), and chiefs (Appendix F). The maximum total points for the 19 survey topics, is represented in Appendix G for each rank. Mean averages for each rank on the 19 training and education topics can be found in Appendix H.

NFD fire suppression personnel were also asked to identify the five most important training and education topics out of the same 19 topics (Appendix I). This

resulted in some slight differences in the order of preference from the scale section in all ranks. However, the topics stayed the same for each rank with the exception of the chiefs. In the scale section of the survey, oral communication had the highest mean average overall in the chief's rank. Computer use replaced oral communication (from the scale section) as the fifth most important training and education topic in the chiefs' category (Table XII). Because computers play an important role in the fire service today, the chiefs chose to select computer use (38%) as the fifth most important topic. The reason computer use finished in the top five in the chiefs' category may be because 96% of chiefs currently have more than 21 years of service and so little, if any, computer training. Computer use was listed in the three least most important topics by both the engineer and firefighter rank, which tends to be the next generation of chiefs. Thus engineers and firefighters seem to be more comfortable using computers.

It should be noted that oral communication finished as the 11<sup>th</sup> most important training and education topic in the chiefs' category. However, oral communication was listed in the top five most important topics by all ranks as part of being a successful District Fire Chief. Maybe the current chiefs think they communicate with fire suppression personnel better than they do.

One of the least identified topic areas was budget/project management for all ranks. Fire code inspection was also identified by both the chief's and captain's ranks as one of their least important training and education topics. However, time management and stress management were identified as the least important training and education topic in several ranks.

When the five most important training and education topics were analyzed by years of service, all categories contained the same five training and education topics (Table XIII). The two most identified least important training and education topics selected by years of service were budget/project management and stress management. In the 1-5 year of service category computer use finished as the least important topic. Complete results can be found in Appendix J.

David Ott (2000) in “Identifying and Evaluating Training Criteria for the Development of a Company Officer Program” had similar results from an internal survey of all ranks within his department on ranking 20 important skills, knowledge, and abilities.

The results of the combined group’s answers to the skills, responsibilities, and tasks of a company officer in Coronado were emergency scene operations, leadership skills, discipline, and customer service were identified as the most essential. While budget management, stress management, fire code inspection regulations and inspection techniques were identified as the least important. (p. 30)

As we move into the future, we must prepare for it and ensure that our fire department provides the needed training and education to carry out our mission and provide the high level of service that our communities deserve. Bachtler and Brennan (1995) state:

The modern fire department, regardless of size or configuration, is essentially incomplete and virtually nonfunctional without adequate education and training. If the leaders of the organization have attained an

educational level that allows them to supervise and manage the organization effectively, its ability to achieve its complex mission is enhanced . . . The difference between *good* fire departments and *great* fire departments, and the difference between *capable* leaders and *great* leaders, is a matter of knowledge – knowledge gained through training and education. (p. 351)

### Recommendations

The problem was the NFD had no training or educational program in place for fire suppression personnel to become a successful District Fire Chief. The purpose of this applied research project was to identify the desired training and education for becoming a successful district fire chief in the NFD.

Based on this study, the NFD should begin to set minimum training and educational requirements if the future District Fire Chief is to be more successful. The balance between training and education, where one is not better than the other, may be the answer.

Literature review presented in the study has shown that newly promoted chief officers accept the position not knowing all of the responsibilities of the position. The responsibilities of today's chief officers are so diverse and therefore, future officers need to match their training and education to the desired job description.

The internal survey presented in this study has shown the need for the NFD to develop minimum training and education requirements for a District Fire Chief Program for individuals who want to rise to the first level of chief officer. While some personnel

may view these training and education requirements for professional development as barriers to their advancement, others will see them as an opportunity to move forward and be successful.

Therefore, based on the literature review, internal survey, and the analysis of this applied research project, the following recommendations should be considered for the future professional development of District Fire Chiefs in the NFD. This plan for professional development includes training, education, experience, and self-development, which will have the best potential to help prepare future District Fire Chiefs for success.

Recognizing past achievement is vital and that higher education in and of itself does not make an individual more professional in the fire service, but that a higher educational standard for the fire service does add to the credibility of chief officers the following should be considered:

1. Follow the guidelines for professional development set by the International Association Fire Chiefs in their *Officer Development Handbook*. These guidelines are based on the areas of training, education, experience, and self-development. This model illustrates the importance of both training and education as the basis for professional development. The *Handbook*, is also based on NFPA standards and FESHE conference recommendations.
2. Develop a training and education program based on the top 10 topics selected from the internal survey by NFD personnel. This would allow fire suppression personnel to cover some of the recommended training outcomes for the “Administrative Officer” section in the *Handbook*.

3. Require an associate's degree in Fire Science. This would allow individuals that want to pursue the District Fire Chief position some of the recommended outcomes in the education area of "Administrative Fire Officer."
4. Make the Metro Management Institute Certification program mandatory. This program is already in place and covers some of the recommended elements in the experience section of "Administrative Fire Officer."
5. Develop a committee for the professional development of all fire suppression personnel to recognize growth of future firefighters to chief officer level. This should give fire suppression personnel some insight on what is required before going to the next level so they can prepare for promotion ahead of time, and fulfill the self-development area of the "Administrative Fire Officer."

In order for the NFD to move forward, we should develop a plan by the fall of 2003 to be implemented in the spring of 2006. This plan should be a win-win approach for the professional development of future District Fire Chiefs in the NFD. Implementation of this plan will prepare future district fire chiefs for the new kinds of challenges they will face and increase their chances for being successful.

Since the fire service is constantly changing, in order to be considered professional, we must stay up to date on the latest developments in process, procedure, and technology. Eric Hall (1998) states:

The public image of firefighters is based upon a strong assumption that paid firefighters are professionals. Professionalism both implies and demands that an individual be extremely competent in his/her profession. The fire service has undergone a dramatic transformation from the task of

squirting water to that of a community problem solver. The wide array of new challenges makes it necessary for one to possess knowledge, skills, and abilities gained from considerable education, training, and experience. As a firefighter, one needs practical hands-on problem solving skills to combat emergency situations. However, as the firefighter advances into managerial and administrative positions, considerably more knowledge is needed for cognitive problem solving, long-range planning, budgeting, and other vital responsibilities. (p. 12)

Professional development is like a journey, and much of a journey's success is measured by our progress along the way. Therefore, if we see where we want to be in the future and make a commitment, we can make a difference. Max Depree said, "In the end, it is important to remember that we cannot become what we need to be by remaining what we are" (p.87).

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Appendix A  
 District Fire Chief Officer Program Survey  
 Nashville Fire Department Internal Survey

Please answer the following questions based on your perception of relative importance for District Fire Chief's, in training and education. Your answers will help prepare future individuals for the desired training and educational needs of District Fire Chief's.

1. What rank do you currently hold in the Nashville Fire Department?

Chief Officer \_\_\_\_\_ Captain \_\_\_\_\_

Engineer \_\_\_\_\_ Firefighter \_\_\_\_\_

2. How many years do you have on the Nashville Fire Department?

1 to 5 \_\_\_\_\_ 6 to 10 \_\_\_\_\_

11 to 15 \_\_\_\_\_ 16 to 20 \_\_\_\_\_

21 to 25 \_\_\_\_\_ over 26 \_\_\_\_\_

3. Do you believe that the department and individual would benefit from a District Fire Chief Program?

Yes \_\_\_\_\_ No \_\_\_\_\_ Not sure \_\_\_\_\_

4. How would you rate the departments overall career development system for District Fire Chief?

Excellent \_\_\_\_\_ Good \_\_\_\_\_ Poor \_\_\_\_\_ Not sure \_\_\_\_\_

5. Which one of the following degree do you feel is adequate for individuals deciding to become District Fire Chief:

Bachelors \_\_\_\_\_ Associates \_\_\_\_\_

Certificate \_\_\_\_\_ None \_\_\_\_\_

6. Which type of degree do you think best serves the role of District Fire Chief?

Fire Science \_\_\_\_\_ Paramedic Science \_\_\_\_\_

Fire/Paramedic \_\_\_\_\_ Other \_\_\_\_\_

## Appendix A (continued)

Based on your experience, please circle the number that describes the importance of every training and education topic listed that would help make District Fire Chief Officers more successful. Use the following scale to determine each topics importance:

1 = not important	3 = somewhat important	5=extremely important
2= little importance	4= highly important	
Budget/Project Management	1 2 3 4 5	Organizational Policies And Procedures
Computer Use	1 2 3 4 5	1 2 3 4 5
Counseling/Mentoring	1 2 3 4 5	Performance Evaluations
Customer Service	1 2 3 4 5	1 2 3 4 5
Discipline	1 2 3 4 5	Problem Solving
Diversity/Harassment	1 2 3 4 5	1 2 3 4 5
Fire Code Inspection	1 2 3 4 5	Reports
Fire Investigation	1 2 3 4 5	1 2 3 4 5
Leadership Skills	1 2 3 4 5	Time Management
Management Skills	1 2 3 4 5	1 2 3 4 5
Oral Communication	1 2 3 4 5	Training and Presentation Skills
		1 2 3 4 5
		Strategy and Tactics
		1 2 3 4 5
		Stress Management
		1 2 3 4 5
		Written Communication
		1 2 3 4 5

Please identify the five most important training and education topics from the following list that you feel would make District Fire Chief Officers successful.

Budget/Project Management	_____	Organizational Polices	
Computer Use	_____	and Procedures	_____
Counseling/Mentoring	_____	Performance Evaluations	_____
Customer Service	_____	Problem Solving	_____
Discipline	_____	Reports	_____
Diversity/Harassment	_____	Time Management	_____
Fire Code Inspection	_____	Training and	
Fire Investigation	_____	Presentation Skills	_____
Leadership Skills	_____	Strategy and Tactics	_____
Management Skills	_____	Stress Management	_____
Oral Communication	_____	Written Communication	_____

Appendix B  
(Results from 669 fire suppression personnel)  
Nashville Fire Department Internal Survey

Please answer the following questions based on your perception of relative importance for District Fire Chief's, in training and education. Your answers will help prepare future individuals for the desired training and educational needs of District Fire Chief's.

1. What rank do you currently hold in the Nashville Fire Department?

Chief Officer   24                        Captain   133    
Engineer   153                        Firefighter   359  

2. How many years do you have on the Nashville Fire Department?

1 to 5   146                        6 to 10   75    
11 to 15   106                        16 to 20   92    
21 to 25   96                        over 26   154  

3. Do you believe that the department and individual would benefit from a District Fire Chief Program?

Yes   561                        No   94                        Not sure   14  

4. How would you rate the departments overall career development system for District Fire Chief?

Excellent   26                        Good   301                        Poor   330                        Not sure   12  

5. Which one of the following degree do you feel is adequate for individuals deciding to become District Fire Chief:

Bachelors   96                        Associates   220    
Certificate   126                        None   225  

6. Which type of degree do you think best serves the role of District Fire Chief?

Fire Science   480                        Paramedic Science   0    
Fire/Paramedic   91                        Other   49

## Appendix B (continued)

Based on your experience, please circle the number that describes the importance of every training and education topic listed that would help make District Fire Chief Officers more successful. Use the following scale to determine each topics importance:

1 = not important	3 = somewhat important	5=extremely important
2= little importance	4= highly important	
Budget/Project Management	1 2 3 4 5	Organizational Policies And Procedures
Computer Use	1 2 3 4 5	1 2 3 4 5
Counseling/Mentoring	1 2 3 4 5	Performance Evaluations
Customer Service	1 2 3 4 5	1 2 3 4 5
Discipline	1 2 3 4 5	Problem Solving
Diversity/Harassment	1 2 3 4 5	1 2 3 4 5
Fire Code Inspection	1 2 3 4 5	Reports
Fire Investigation	1 2 3 4 5	1 2 3 4 5
Leadership Skills	1 2 3 4 5	Time Management
Management Skills	1 2 3 4 5	1 2 3 4 5
Oral Communication	1 2 3 4 5	Training and Presentation Skills
		1 2 3 4 5
		Strategy and Tactics
		1 2 3 4 5
		Stress Management
		1 2 3 4 5
		Written Communication
		1 2 3 4 5

Please identify the five most important training and education topics from the following list that you feel would make District Fire Chief Officers successful.

Budget/Project Management	<u>24</u>	Organizational Polices and Procedures	<u>158</u>
Computer Use	<u>44</u>	Performance Evaluations	<u>68</u>
Counseling/Mentoring	<u>160</u>	Problem Solving	<u>400</u>
Customer Service	<u>69</u>	Reports	<u>47</u>
Discipline	<u>198</u>	Time Management	<u>33</u>
Diversity/Harassment	<u>97</u>	Training and Presentation Skills	<u>143</u>
Fire Code Inspection	<u>46</u>	Strategy and Tactics	<u>455</u>
Fire Investigation	<u>84</u>	Stress Management	<u>41</u>
Leadership Skills	<u>573</u>	Written Communication	<u>47</u>
Management Skills	<u>316</u>		
Oral Communication	<u>354</u>		

Appendix C  
 Importance of Training and Education Topics  
 Results from Internal Survey for Firefighters

- 359 Firefighters responded to the survey
- Rated Training and Education Topics based on experience on a 1-5 scale
- Total responses represented in each category

Training & Education Topics	1 Not Important	2 Little Importance	3 Somewhat Important	4 Highly Important	5 Extremely Important
Budget/ Project Management	55	94	136	50	24
Computer Use	18	34	164	101	42
Counseling/Mentoring	8	29	95	119	101
Customer Service	4	17	85	130	114
Discipline	5	14	79	135	126
Diversity/Harassment	23	27	106	93	111
Fire Code Inspection	22	40	141	97	58
Fire Investigation	10	40	141	118	70
Leadership Skills	--	9	22	87	241
Management Skills	1	12	44	116	186
Oral Communications	1	3	37	110	208
Organizational Policies & Procedures	3	15	80	128	133
Performance Evaluations	5	17	86	134	117
Problem Solving	--	6	47	121	185
Reports	7	19	103	134	95
Time Management	6	16	129	121	86
Training & Presentation Skills	6	15	94	141	103
Strategy & Tactics	--	5	40	120	194
Stress Management	9	14	86	127	123
Written Communication	6	16	106	129	102

Appendix D  
Importance of Training and Education Topics  
Results From Internal Survey for Engineers

- 153 Engineers responded to the survey
- Rated Training and Education Topics based on experience on a 1-5 scale
- Total responses represented in each category

Training & Education Topics	1 Not Important	2 Little Importance	3 Somewhat Important	4 Highly Important	5 Extremely Important
Budget/ Project Management	29	36	63	19	6
Computer Use	9	18	62	36	18
Counseling/Mentoring	6	12	55	57	22
Customer Service	1	3	46	55	48
Discipline	2	10	29	65	47
Diversity/Harassment	4	13	41	53	42
Fire Code Inspection	5	30	65	36	17
Fire Investigation	7	29	56	40	21
Leadership Skills	--	7	21	43	82
Management Skills	--	6	31	49	67
Oral Communications	--	5	24	48	76
Organizational Policies & Procedures	--	7	44	40	62
Performance Evaluations	1	9	43	57	43
Problem Solving	--	2	28	54	69
Reports	1	3	46	55	48
Time Management	--	18	61	45	29
Training & Presentation Skills	2	4	53	59	35
Strategy & Tactics	--	--	26	49	78
Stress Management	3	16	54	45	35
Written Communication	1	10	52	51	39

Appendix E  
Importance of Training and Education Topics  
Results from Internal Survey for Captains

- 133 Captains responded to the survey
- Rated Training and Education Topics based on experience on a 1-5 scale
- Total responses represented in each category

Training & Education Topics	1 Not Important	2 Little Importance	3 Somewhat Important	4 Highly Important	5 Extremely Important
Budget/ Project Management	35	27	60	33	1
Computer Use	7	10	49	50	17
Counseling/Mentoring	6	10	38	42	36
Customer Service	3	5	39	58	28
Discipline	3	8	31	51	41
Diversity/Harassment	4	12	29	43	45
Fire Code Inspection	17	24	59	21	12
Fire Investigation	13	20	57	25	18
Leadership Skills	--	3	12	37	81
Management Skills	4	6	14	47	62
Oral Communications	1	1	13	43	75
Organizational Policies & Procedures	6	10	26	51	40
Performance Evaluations	3	5	39	58	28
Problem Solving	3	4	22	55	61
Reports	2	7	40	57	27
Time Management	4	6	48	51	24
Training & Presentation Skills	2	11	41	55	24
Strategy & Tactics	1	3	14	39	76
Stress Management	6	12	42	46	27
Written Communication	4	13	31	47	27

Appendix F  
Importance of Training and Education Topics  
Results from Internal Survey for Chiefs

- 24 Chief responded to the survey
- Rated Training and Education Topics based on experience on a 1-5 scale
- Total responses represented in each category

Training & Education Topics	1 Not Important	2 Little Importance	3 Somewhat Important	4 Highly Important	5 Extremely Important
Budget/ Project Management	2	7	12	2	1
Computer Use	--	--	6	11	7
Counseling/Mentoring	--	1	5	12	6
Customer Service	--	--	1	11	12
Discipline	--	--	1	11	12
Diversity/Harassment	--	1	2	6	14
Fire Code Inspection	1	1	18	4	--
Fire Investigation	--	3	14	7	--
Leadership Skills	--	--	--	11	13
Management Skills	--	--	2	7	15
Oral Communications	--	--	1	7	16
Organizational Policies & Procedures	--	1	5	9	9
Performance Evaluations	--	--	4	9	11
Problem Solving	--	--	3	6	15
Reports	--	--	3	8	13
Time Management	--	1	1	16	6
Training & Presentation Skills	--	--	3	6	15
Strategy & Tactics	--	--	4	7	13
Stress Management	--	--	2	14	8
Written Communication	--	--	2	14	8

Appendix G  
Importance of Training and Education Topics  
Results from Internal Survey

- Comparison of total responses for firefighters, engineers, captains, and chiefs
- 1795 Maximum total points per topic. 359 firefighters x 5 points = 1795
- 765 Maximum total points per topic. 153 engineers x 5 points = 765
- 665 Maximum total points per topic. 133 captains x 5 points = 665
- 120 Maximum total points per topic. 24 chiefs x 5 points = 120

Training & Education Topics	Firefighters Total Points	Engineers Total Points	Captains Total Points	Chiefs Total Points
Budget/ Project Management	971	396	406	65
Computer Use	1192	468	459	97
Counseling/Mentoring	1332	533	488	95
Customer Service	1418	605	502	107
Discipline	1440	604	521	107
Diversity/Harassment	1321	575	512	102
Fire Code Inspection	1206	489	386	73
Fire Investigation	1275	498	324	76
Leadership Skills	1637	659	595	109
Management Skills	1598	636	602	109
Oral Communications	1598	654	546	111
Organizational Policies & Procedures	1450	616	508	98
Performance Evaluations	1418	591	502	103
Problem Solving	1563	649	602	108
Reports	1368	605	499	106
Time Management	1339	544	484	99
Training & Presentation Skills	1397	580	487	108
Strategy & Tactics	1580	664	585	105
Stress Management	1418	552	475	102
Written Communication	1382	576	446	102

Appendix H  
Importance of Training and Education Topics  
Results from Internal Survey

Comparison of category mean averages for firefighters, engineers, captains, and chiefs

- M= 5.0 would represent an Extremely Important Training and Education Topic
- M= 4.0 would represent an Highly Important Training and Education Topic
- M= 3.0 would represent an Somewhat Important Training and Education Topic
- M= 2.0 would represent an Little Important Training and Education Topic
- M= 1.0 would represent an Not Important Training and Education Topic

Training & Education Topics	Firefighter M=	Engineer M=	Captain M=	Chief M=
Budget/ Project Management	2.70	2.59	3.05	2.71
Computer Use	3.32	3.06	3.45	4.04
Counseling/Mentoring	3.71	3.48	3.67	3.96
Customer Service	3.95	3.95	3.77	4.46
Discipline	4.01	3.95	3.92	4.46
Diversity/Harassment	3.68	3.76	3.85	4.25
Fire Code Inspection	3.36	3.19	2.90	3.04
Fire Investigation	3.55	3.25	2.44	3.17
Leadership Skills	4.56	4.31	4.47	4.54
Management Skills	4.32	4.12	4.53	4.54
Oral Communications	4.45	4.27	4.11	4.63
Organizational Policies & Procedures	4.04	4.03	3.82	4.08
Performance Evaluations	3.95	3.86	3.77	4.29
Problem Solving	4.35	4.24	4.53	4.50
Reports	3.81	3.95	3.75	4.42
Time Management	3.73	3.56	3.64	4.13
Training & Presentation Skills	3.89	3.79	3.66	4.50
Strategy & Tactics	4.40	4.34	4.39	4.38
Stress Management	3.95	3.61	3.57	4.25
Written Communication	3.85	3.76	3.35	4.08

## Appendix I

## Results from Internal Survey for the Five most Important Training and Education Topics

- Maximum in each Topic area is represented in parentheses under each rank category
- Number in each Topic area is the number of times selected by each rank

Training & Education Topics	Chiefs (24)	Captains (133)	Engineers (153)	Firefighters (359)	Total (669)
Budget/ Project Management	1	3	3	17	24
Computer Use	9	10	8	17	44
Counseling/Mentoring	8	25	28	99	160
Customer Service	4	16	14	35	69
Discipline	6	40	42	110	198
Diversity/Harassment	2	20	18	53	97
Fire Code Inspection	--	4	12	30	46
Fire Investigation	--	7	18	54	84
Leadership Skills	21	114	135	303	573
Management Skills	13	62	80	161	316
Oral Communications	4	72	86	192	354
Organizational Policies & Procedures	6	38	44	70	158
Performance Evaluations	1	18	14	35	68
Problem Solving	16	78	82	224	400
Reports	2	13	12	20	47
Time Management	1	3	11	18	33
Training & Presentation Skills	6	33	30	74	143
Strategy & Tactics	18	92	109	236	455
Stress Management	--	5	4	32	41
Written Communication	1	12	15	19	47

Appendix J  
Results from Internal Survey for Five most Important Training and Education Topics  
Years of Service Category's

- Number in each Topic area is the number of times selected
- Maximum for 1-5 category is 146 responses
- Maximum for 6-10 category is 75 responses
- Maximum for 11-15 category is 106 responses
- Maximum for 16-20 category is 92 responses
- Maximum for 21-25 category is 96 responses
- Maximum for Over 26 category is 154 responses

Training & Education Topics	1-5	6-10	11-15	16-20	21-25	Over 26
Budget/ Project Management	11	3	1	3	4	2
Computer Use	5	6	6	3	8	16
Counseling/Mentoring	31	23	37	24	21	24
Customer Service	13	9	9	9	11	18
Discipline	40	21	40	24	24	49
Diversity/Harassment	18	17	18	12	12	16
Fire Code Inspection	13	8	6	3	5	11
Fire Investigation	24	12	11	5	13	14
Leadership Skills	130	64	87	79	76	135
Management Skills	69	27	57	55	41	67
Oral Communications	62	40	58	51	48	95
Organizational Policies & Procedures	34	13	21	23	33	34
Performance Evaluations	13	6	17	6	10	16
Problem Solving	90	38	63	54	57	96
Reports	8	5	3	5	11	15
Time Management	11	6	4	2	7	3
Training & Presentation Skills	32	16	16	24	18	37
Strategy & Tactics	98	49	65	68	71	101
Stress Management	17	4	7	3	5	5
Written Communication	9	6	4	6	6	16

Appendix K  
Results from Question 6 on Internal Survey

*Which type of degree do you think best serves the role of District Fire Chief?*

- Responses represented below answered in the category (other)
- 4 most common responses separated into categories

Respondents	Responses (%)	Management	Experience	Common Sense	Certification
Chiefs	5 (20)	1	1	--	1
Captains	18 (14)	2	11	1	3
Engineers	20 (13)	3	13	1	1
Firefighters	6 (2)	1	2	1	--

Note: Chiefs also put down Public Administration and Political Science  
 Captains also put down Business  
 Engineers also put down Social Science and People Skills  
 Firefighters also put down Politics and any Bachelors Degree

## Appendix L

**SPECIAL FIRE PROMOTIONAL APPLICATION  
FIRE DISTRICT CHIEF-SUPPRESSION  
#02006D**

**Please print except for your signature.**

Name \_\_\_\_\_ Soc. Sec. No. \_\_\_\_\_

Address \_\_\_\_\_

Number Street(include apartment, if applicable)  
City \_\_\_\_\_ Zip \_\_\_\_\_ Phone: Work \_\_\_\_\_

Home \_\_\_\_\_

Do you have at least ten (10) years experience in the Fire Fighting Division of the Nashville Fire Department, including two (2) years experience as a Fire Captain in suppression? Yes \_\_\_\_\_ No \_\_\_\_\_

Do you have a valid "Class D" Drivers License? Yes \_\_\_\_\_ No \_\_\_\_\_  
(Copy of Driver's License Must Be Attached)

Do you have a High School Diploma or GED? Yes \_\_\_\_\_ No \_\_\_\_\_

**Circle Highest Level of Education Attained:**

Bachelor of Fire Science Associates of Fire Science

Fire Science Certificate General Bachelor Degree

General Associates Degree

**Circle Certificates/License:**

EMT or Paramedic Journeyman Haz Mat

**If additional space is needed, please use the back.**

**I certify that the above information is correct and I understand that false information could cause forfeiture of my rights to participate in this promotional process or forfeiture of promotion to Fire District Chief.**

Signature \_\_\_\_\_ Date \_\_\_\_\_