

**Steering the Ship – Should the Bedford Division of Fire Change its Shift Command
Structure?**

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CERTIFICATION STATEMENT

I hereby certify that the following statements are true:

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ABSTRACT

The problem this study investigated was the lack of a true Shift Commander in the Bedford Division of Fire.

The purpose of this study was to identify and describe the organizational structure best suited for the Bedford Division of Fire. The information from this study will be recommended to the Fire Chief for implementation into department operations.

The author used evaluative and descriptive research to answer the following questions:

What do the Bedford Firefighters think of the current organizational structure?

How do comparable departments in Cuyahoga and surrounding counties with on duty staffing, structure their shift officers?

What are the roles and responsibilities of the senior officer or shift commander in other fire departments?

What are the advantages and disadvantages of having a senior and junior officer position?

The procedures consisted of a literature review utilizing the internet, textbooks, journals and manuals. A survey was conducted of Bedford Firefighters to find out their feelings of the current organizational structure. A second survey was conducted by polling comparable fire departments in Cuyahoga and the surrounding counties. The results revealed that there appears to be some problems related to the unity of command and chain of command in the fire department. Most fire department and management experts recommend using a scalar structure for fire department operations to maintain unity of command, chain of command, span of control and separate duties by rank.

Recommendations were made to terminate the policy of rotating officers in charge. A captains' position should be created to have authority, provide unity of command and follow a

dedicated chain of command on each shift. The captains' position would be used to execute management functions within the department.

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INTRODUCTION

On February 14, 2004, a newly promoted Lieutenant's first day in charge, had a working fire in a two and a half story wood frame (balloon frame) residential structure with fire involvement on all floors. All of the on duty staff was working along with three other mutual aid companies (eighteen personnel in all). This fire occurred on a Saturday and there were no staff Chiefs available until after the incident was brought under control. There is currently modest training and preparation provided by the fire department to take on the new position. Newly promoted officers are forced to make split second decisions. This scenario occurs repeatedly as new officers are rotated as the officer in charge immediately upon promotion.

In 2006, a Civil Service exam was given for the position of Fire Chief. A Lieutenant, who served two years in grade, was eligible to sit for the exam of Fire Chief under the civil service rules. Having served a total service time of six years, this lieutenant scored a close second. It almost became a possibility that someone with as few as six years on the department could be put in charge of the division of fire while managing a budget of \$3,885,816. Lieutenants in the fire service often function as a first line supervisor as referenced in National Fire Protection Association [NFPA] 1021 (Standard for Fire Officer Professional Qualifications, 2009 Edition).

Statement of the Problem

The Bedford Division of Fire is structured with a Chief, Assistant Chief (staff positions), 2 Lieutenants and 7 Firefighters for each of the three shifts. The shift commanders are a junior and a Senior Lieutenant. Historically, this structure has led to problems.

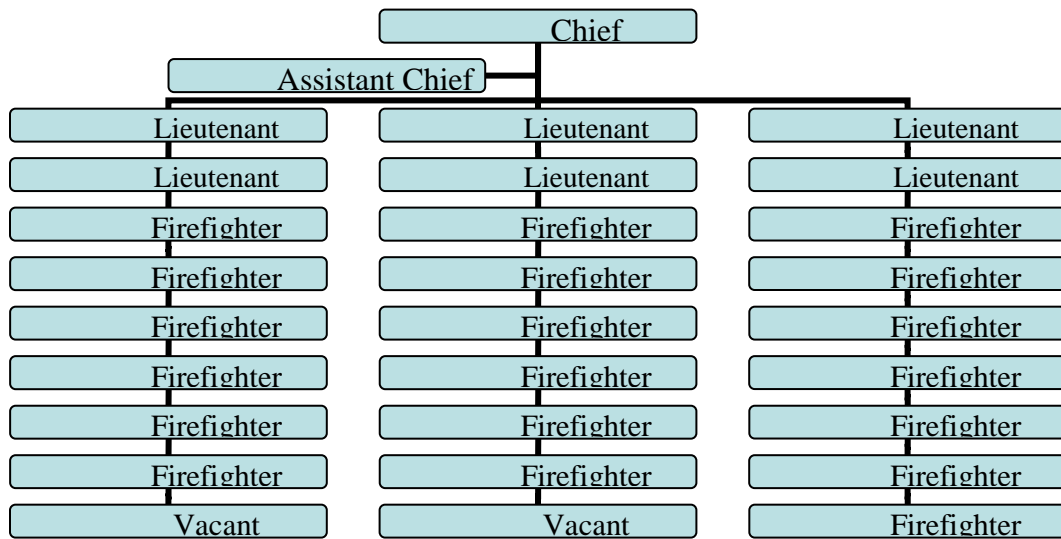


Figure 1.

Bedford Division of Fire Organizational Chart

Currently, a firefighter can test for the position of lieutenant after completing three years as a member of the Bedford Division of Fire (City of Bedford Civil Service Rules, 2007). Upon promotion, the new lieutenant is placed in an equal rotation where they may serve as the Officer in Charge with little experience in the position, as opposed to when the senior officer is not working. There is a great deal of responsibility on a new officer without having the guidance of working under the Command of a senior officer who can mentor the new lieutenant. The in charge position is rotated because each officer has equal rank, authority and pay, thus sharing duties and responsibilities. The system of rotating days of being in charge creates inconsistency in day to day operations. Firefighters and officers do not have a clear and consistent model or vision to follow.

The work schedule of the Bedford Division of Fire is 24 hours on duty followed by 48 hours off. Three separate shifts make up the department. In most fire departments it is commonly said that the three shifts operate as three separate departments. With six officers who

rotate days in charge, it is perceived by the firefighters to run like six different departments. All of the officers work from the same Standard Operating Procedures. However, each officer has a different management style and set of expectations. It is difficult for shift officers when firefighters from other shifts are working on trades or overtime. The additional firefighters may not be aware of the expectations of the officer in charge, as expectations vary amongst the lieutenants. At the same time, it is difficult for firefighters to know the six different sets of expectations.

One of the daily duties of the officer in charge is to approve time off. Recently, a firefighter went to the Senior Lieutenant, who was not in charge of the shift, to request time off. The Senior Lieutenant granted the time off without informing the Junior Lieutenant who was in charge of the shift. Another firefighter later asked the Junior Lieutenant for time off on the same day and was told time off was available. Consequently, the shift was already at minimum staffing which would not allow the subsequent time off. Firefighters often choose which lieutenant to approach because there is no clear chain of command. Firefighters often select a particular officer to get the answer they want. This is much like the child who chooses to go to one parent over the other.

Firefighters have been given conflicting answers on operational issues, leading to great frustration. In this scenario neither may be wrong but on that given day that's how things should be done. On days when the other officer is in charge it may be done differently.

When filling a vacancy for the chief or assistant chief position, a competitive exam is given to the Lieutenants who have served at least three years in that capacity. In theory, a person who has as little as six years on the department may be selected as the chief of the department. There is no formal educational requirement other than a high school diploma, for the chief

position, which is the only requirement to be a firefighter. The requirements for lieutenant are to obtain and maintain State of Ohio certification for Fire Instructor and Fire Safety Inspector. There currently is no requirement for the lieutenants to further their education or seek further career development in management. The department does not have a clear succession plan for those who aspire to become a chief officer.

There have been times, because of the rotation, when an incoming mutual aid unit will respond in and not know which one of the two lieutenants is in charge of the operation. It takes away from the incident at hand when a mutual aid unit is reporting to the wrong officer and has to seek out the other officer for an order or clarification. The mutual aid officers have the tendency to report directly to the senior most officers because they know they have served in that position longer.

The problem this study investigated was the lack of a true Shift Commander in the Bedford Division of Fire.

Purpose of the Study

The purpose of this study was to identify and describe the organizational structure best suited for the Bedford Division of Fire. The information from this study will be recommended to the Fire Chief for implementation into department operations.

Research Method

The research methods chosen for this applied research project are descriptive and evaluative. To answer the following questions research will be conducted to gather information as to the best organizational structure for the Bedford Division of Fire.

Research Questions

The following questions will be answered:

- 1) What do the Bedford Firefighters think of the current organizational structure?
- 2) How do comparable departments in Cuyahoga and surrounding counties with on duty staffing, structure their shift officers?
- 3) What are the roles and responsibilities of the senior officer or shift commander in other fire departments?
- 4) What are the advantages and disadvantages of having a senior and junior officer position?

BACKGROUND AND SIGNIFICANCE

The City of Bedford, Ohio is located in the southeast region of Cuyahoga County with a population of 14,214 residents (U.S. Census Bureau, 2000) and an area of 5.30 square miles. The city's land use is diverse as 39% is residential, 16.5% as metro parks, 8.8% commercial, 7.4% public and institutional, and 3.3% industrial (City of Bedford Master Plan, 1997). Bedford Division of Fire is responsible for covering many hazards including residential structures, multi-family residential, high rise apartment building, hospital, pharmaceutical manufacturing, chemical manufacturing, industrial, strip stores, big box commercial, metro parks with sheer cliffs and water hazards, a main interstate and railroad. In 2008, the Bedford Division of Fire responded to 2456 runs, an increase of 25% from 1994-2008 (Bedford Fire Department, 2008).

Prior to 1995, the Bedford Division of Fire provided fire and emergency medical service [EMS] protection with a staffing level of five firefighters and one lieutenant on each of the three shifts. Each shift was required to have a minimum of four firefighters on duty. In months leading up to November of 1994, the Bedford Division of Fire and its members of IAFF Local 1683, campaigned to establish a Paramedic level EMS service to its residents. The information that was distributed to the residents during the campaign specified it would increase daily staffing to a minimum of six firefighters. The pamphlets also stated the increased staffing would provide two Paramedic ambulances to the residents. The levy passed and beginning in January 1995, the Bedford Division of Fire began hiring paramedics and became the last full-time department in Cuyahoga County to establish a paramedic service. In February 1995, the paramedic service was up and running. By 1996, the department strength was up to three shifts of nine, eight firefighters with one lieutenant per shift. The daily minimum staffing was six

firefighters with a maximum of eight, which is close to the maximum span of control of three to seven employees (Federal Emergency Management Agency [FEMA], 2005).

Prior to 1998, there had only been one lieutenant assigned per shift. Traditionally, when the only lieutenant was off there was a variety of ways that the “Officer in Charge [OIC]” position was filled. One way was having the Senior Firefighter as the Acting Lieutenant. At one point, the acting OIC was designated by the Fire Chief. Also for a period of time the acting OIC was chosen from the current Lieutenant promotional exam listing. After increasing staffing it was determined that a more permanent position was needed when the Lieutenant was not working.

The Bedford Firefighters have a 48 hour workweek which means that in a three week work cycle they must be granted a day off to balance out their hours. Otherwise, the city would be required to pay overtime in accordance with the collective bargaining agreement. In this cycle, there are two days in which one of the lieutenants is automatically off. In addition, the lieutenants are allowed by contract to use vacation, holiday, compensatory time, and shift trades for additional days off. As a result of discussions with the city, they agreed to establish a second lieutenant position on each of the three shifts to maintain an officer on duty at all times. There are a few occasions when both officers are not working. However this is a rare occurrence.

The second lieutenant position was created to have a capable person fill in while either one of the lieutenants was off of work. The second lieutenant was also added to have an officer on EMS calls when both officers were working. In addition, they are used to conduct training and fire safety inspections. Once the positions were filled, the Senior Lieutenants rotated their days in charge with the Junior Lieutenants to give them experience running the shift. This meant

that the Senior Lieutenant has four days in charge and the Junior Lieutenant would have three days in charge for a three week cycle, working the 24 hour on and 48 hour off shifts.

The system of “rotating days in charge” has created some difficulties amongst the shift members. One of the biggest drawbacks is the fact that two officers hold an equal rank with no authority to be the tie breaker. At times, firefighters use this to their advantage by using the officers against each other depending on what answer they want to hear. Firefighters often complain about not knowing which lieutenant they should report to when both lieutenants are working. A rotation of officer’s does not allow for consistent operations from day to day. This practice fails to offer clear guidance and vision as to how the duties of the shifts are carried out. At times, critical information does not get exchanged and sometimes important issues are overlooked assuming the other lieutenant took care of it. The unclear chain of command and not having one person with the final authority on shift has resulted in a free for all.

This situation creates inconsistencies from day to day on operations. On certain days it is done one way and then changes with another lieutenant in charge. Firefighters express frustration when they are told one thing one day and then are given another direction the other day from another officer of equal rank. Most firefighters ask for fairness and consistency. The nature of a firefighter’s job is to handle adversity when responding to fire and EMS calls. Variations and added stressors should be kept to a minimum. Firefighters often say they just want stability and consistency.

When this research project began, the daily operational minimum staffing was six firefighters with a maximum of eight. With six firefighters working, the department was able to staff two Advanced Life Support [ALS] ambulances and an ALS engine for most calls. When a fire alarm would come in, the second ambulance crew would jump over and respond in the

ladder truck. When both lieutenants are working, one is the officer in charge and the other is the operations officer or interior commander at fires. When only one of the lieutenants is working the operations position is filled by a random rotation of the firefighters.

In December of 2008, the daily minimum staffing was reduced by 17% to a minimum of five firefighters. This decrease was due to the effects of the economy and the reduction in revenue to the City of Bedford. With the new minimum, the department currently staffs one ALS ambulance and an ALS engine. The department no longer responds, with the ladder truck or second ambulance when staffing is at five. When both lieutenants are working, the department utilizes the same command structure with an officer in charge and one in operations position. When one lieutenant, is working they are the officer in charge and the operations position is filled by a random rotation of firefighters.

The potential impact of this study will be used to improve day to day operations in the Bedford Division of Fire. Having a clear direction will provide vision, goals, and the means to executing the mission of The Bedford Division of Fire through a clearly defined organizational structure.

LITERATURE REVIEW

Mintzberg (1981) describes how organizations are derived. “Organizations are arranged around five major components: the strategic apex (top management), operating core (main workforce), middle line (managers), technostructure (analysts), and support staff (overall support of the total operation.” (Mintzberg, 1981, p.3). Not all organizations use all of these parts. The main purpose is to coordinate and divide the work. This coordination results in what the organization looks like, falling into one of the following categories; simple structure, machine bureaucracy, professional bureaucracy, divisionalized form, and adhocracy (Mintzberg, 1981). In his conclusion, consistency, coherence, and fit-harmony are all critical factors but can come at a price. Organizations cannot be all things to all people.

Drucker (1974) identifies that an ideal organizational structure is designed around work and task, results and performance, relationships, and decisions like all of the parts of the human body working together. In a social setting, we are limited to designs that may emphasize only one of those dimensions. He goes on to say there is no risk-free organization. A design that is great for a single dimension may be substandard for another task and even worse for a third element of work. Businesses may need to use several of these designs side by side.

Today’s organizational structures need to be different from early management theory with hierarchies and scalar organizations. We have gone from a manufacturing society of a single product, single-technology business to process technologies and producing knowledge (Drucker, 1974).

One of the points that Drucker (1974) favors about a scalar design is its ability to protect the employee. Scalar systems protect the employee by reporting to only one boss. With multiple

bosses, subordinates can find themselves between conflicting demands, commands, interests, and loyalties. He makes an inference that having one bad leader is better than having two good ones.

Robbins (2003) dedicates a chapter to organizational structure which is the roadmap to how work is to be accomplished. “There are six key elements that managers need to address when they design their organization’s structure; work specialization, departmentalization, chain of command, span of control, centralization and decentralization, and formalization.” (Robbins, 2003, p. 179; see also Daft, 2001).

Chain of command driven structures are not as popular today, but may still be important to some organizations according to (Robbins, 2003). This structure clearly defines who a subordinate is to report to when they have a problem. For this structure to work there needs to be a unity of command, meaning that employees should only have one supervisor to whom they are to report to, preventing conflicting orders from multiple supervisors (Robbins, 2003). The author feels this structure is inferior because of the advancements of technology where employees can access information that was previously accessible only to upper management. More and more employees are also being empowered to make decisions at the lowest level of the organization. This has reduced the time it would take for an answer to go up the chain and come back down under the old system.

Robbins (2003) proclaims the new trend in organizations is to have a widened span of control. This structure reduces costs while increasing flexibility, employee decision making and empowers employees. These elements are commonly grouped into one of three most common organizational structures. In the matrix structure, having two bosses is a common occurrence. This is also called a dual chain of command according to the author. “The major disadvantages of the matrix lie in the confusion it creates, its propensity to foster power struggles, and the stress

it places on individuals.” (Robbins, 2003, p.188). It is also said that reporting to more than one supervisor creates conflict and can lead to unclear expectations. Where bureaucracies are predictable, matrixes create stress and insecurity.

To have an effective organization one needs to have a sound organizational structure. Lack of a proper organizational structure could lead to failure of the organization. According to Daft (2004) organizational charts have been around for quite some time, and were routinely used in the Industrial Revolution. The early organizational structures had a CEO at the top and everyone else arranged in lower layers of the organization. The author does not feel this structure is adequate today because it does not allow modern businesses to keep up with fast paced changes. He feels these structures are too big to allow for necessary changes to be on the cutting edge. One of the main reasons the taller structures fail in today’s environment is due to the internet. The internet has allowed companies to obtain and transfer information in record time.

Organizations need to be structured to allow the flow of information both vertically and horizontally (Daft, 2004). The vertical structure has to deal with the amount of control necessary to run the organization while horizontal structures allow coordination and collaboration. Structures that are based on efficiency and control are said to be centralized. Decentralized structures place a high priority on learning, innovation, and flexibility while encouraging decision making at the lowest levels. The author feels that when organizations are out of alignment one or more of the following symptoms are present; decision making is slow or poor, the organization cannot respond to innovation and change, and constant conflict is present.

Fayol (1965) developed the 14 principles of management. He makes note that these principles are flexible and can be adapted to different needs of the workforce. Two of the

principles of relevance to this research are Unity of Command and Unity of Direction. With Unity of Command subordinates should receive orders from only one supervisor. “When violated, authority is undermined, discipline is in jeopardy, order disturbed, and stability threatened.” (Fayol, 1965, p. 24). When orders are given by two different people to the same subordinate uneasiness follows with disorder. The relation can be made of a foreign object attacking the body. Either one of the commanders is eliminated and homeostasis is achieved or the object continues to destroy the body (Fayol, 1965). Unity of Direction has a similar theme. This principle explains the need for one direction or one game plan. Organizations cannot have Unity of Command without Unity of Direction.

Torres (2007) reinforces the importance of unity of command. He states, “Unity of effort without unity of command will result in ineffectiveness on the battlefield.” (Torres, 2007, p.3). For the U.S. military to be more effective, it needs to have unity of effort, unity of command, and the authority, ability and resources to carry out tasks to completion. There needs to be someone responsible to oversee the total operation. In the war on terrorism, he states there are a number of areas with great confusion as to who is really in charge. He also mentions there has been a lot of bloodshed in the U.S. military because of a lack of unity of command. This goes back to the bombing of Pearl Harbor.

Command and control is a term used interchangeably by both the fire service and military. In the publication *Command and Control* MCDP 6 (United States Marine Corps [USMC], 1996), they talk about the significance of command and control and its various uses in the Marines. The Marines feel it is necessary for just about every part of their operation to be successful. “It is the means by which a commander recognizes what needs to be done and sees it

that appropriate actions are taken.”(USMC, 1996, p.37). This system is made up of people, information, and the control support structure.

The practice of command and control revolves around the USMC commanders having the authority over subordinates to execute their mission, either in war or in peace USMC (1996). This authority comes from two avenues. Official authority, which is the power given by the organization and any laws that are applicable. Personal authority is obtained from personal influence which is comprised of experience, reputation, skill, character, and personal example. Where responsibility is placed the USMC commanders need to have the authority to carry out the actions.

To work properly, command and control must have the ability to freely pass information from top to bottom and side to side USMC (1996). There needs to be a proper structure to allow for the exchange of information for the people who create, disseminate, and use the information. Command and control is put in place to reduce the amount of uncertainty so that proper decisions can be made. Under traditional command and control, also known as detailed command and control, information flow operates in a vertical or linear fashion (USMC, 1996). Information goes up the chain and orders go down the chain. In this system information flow can be slow. Under mission command subordinates are not guided by detailed instructions but by the requirements of the mission. Mission control requires self discipline, rigorous training, and education (USMC, 1996). The type of command used is dependent on the nature of the task, capabilities of our enemy, and quality of our people. “The general aims of organization with regard to command and control should be to create unity of effort, reasonable span of controls, cohesive mission teams, and effective information distribution.”(USMC, 1996, p.133) The organization of such structure establishes the chain of command.

Chain of command establishes authority and responsibility from one commander to another USMC (1996). Each commander receives directions and orders from a higher commander and then issues them to subordinates. Organization also needs to function under unity of command. Any operation that falls under the authority and responsibility of a single commander, must receive orders from only one superior. This structure needs to provide the commander with authority or access to all resources that are needed to accomplish the mission. Continuity of an organization comes from being a member of related teams that has a senior and a subordinate. In a decentralized command system, like mission command and control, the team cannot have unity or cohesion without a common vision (USMC, 1996). There needs to be a single commander who expresses and provides a common vision or there cannot be mission command and control.

The *Fire Protection Handbook* contends that most fire departments use a linear structure (NFPA 2009). Within that structure, many departments are using work groups to accomplish more of the management tasks. Fire department functions fall in to one of two categories, line functions and staff functions (NFPA, 2009). Line functions include emergency response and fire prevention. Fire suppression officers are considered line officers. As they are promoted, they typically become responsible for additional staff functions. Staff functions can include training, maintenance, communications, research and planning, public information and relations, financial management, personnel management, and fire protection engineering (NFPA, 2009). In larger cities, an officer is assigned to each of these duties. In smaller communities, officers may be responsible for more than one of these functions.

Fire departments are usually organized around fire suppression NFPA (2009). The basic element of the fire department is a company, which is a group of people operating one or more

pieces of apparatus under the supervision of a company officer. Companies are often referred to by the type of apparatus in which they respond (i.e. engine company, ladder company, rescue company, and etc.)

Structuring organizations is important so that work makes sense, it is supervised, and work gets accomplished according to Barr and Eversole (2003) authors of *The Fire Chief's Handbook*. When structuring, there has to be a chain of command, unity of command, span of control, division of labor, and an exception principle. These principles work well for the fire service because they fall in line with a paramilitary structure. Pyramid structures, which have been typically seen in Fire Departments, have traditionally replicated those of the military, which requires strict discipline on the battlefield.

Modern management philosophy advocates using other types of structures to keep up with the ever changing complexity of the fire service Barr and Eversole (2003). Matrix structures can coincide with the hierarchical structure that is used for day to day operations while meeting the challenges of today's fire service. The challenge of management in the fire service is to find a system that can maintain organizational discipline in emergency situations and can be flexible enough to meet the increased demands of today's fire service.

Preuer (2008) conducted an audit for the Avon Lake, OH, Fire Department, a department of similar structure. The study determined Avon Lake has a significant amount of "target hazards" including shopping, manufacturing, fuel storage, educational, and multi family residential. With a high degree of emergency potential, he states there needs to be a proportional incident command structure to handle the emergency.

Preuer (2009) recommends seven elements to design organizational structures. The three that are most important to public safety management are: chain of command, span of control, and

unity of command. The Avon Lake Fire Department uses two lieutenants on each of the three shifts. This system has officers doing complex jobs with a higher responsibility without being compensated. Because there is no rank separation, there is potential for conflict between the officers as well as confusion for the firefighters. This structure creates difficulties of quickly determining who is in charge at emergency scenes, for off duty personnel and mutual aid units. This audit made the recommendation to: “create the position of Captain to clearly recognize the duties currently performed by the “senior Lieutenant” and better defining the chain of command which will strengthen and clarify daily operations but is even more important for emergency scenes.” (Preuer, 2008, p.77).

Organization and structure is discussed in *Chief Fire Officer's Desk Reference* (Cochran, 2006). Since the beginning of the fire service, bucket brigades were organized for the mission and to achieve common goals. Organizational structures divide work groups, coordinate tasks, divide labor, and establish authority and lines of communication while maintaining accountability.

Fire departments are paramilitary organizations that rely upon chain of command Cochran (2006). Chain of command refers to the lines of authority. Authority allows individuals the ability to make decisions and take action based on their organizational level. With an increase in rank comes increased authority and responsibility. Another important component to organizational structures in fire departments is unity of command. Unity of command stipulates that individuals should only be accountable to one supervisor.

The modern fire department structure continues to use tall organizational structures (Cochran, 2006). With these structures, the flow of information from the top to the bottom can be slow and vice versa. Modern management practices support a free flow of information

exchange within these structures to keep everyone informed. These exchanges should not be viewed as going outside the chain of command by the organization. Under certain circumstances, it is often necessary.

Span of control refers to the number of personnel that an individual can effectively manage. An effective span of control is between four and eight. With a wider range, there is less of a need for officers, which is more financially efficient (Cochran, 2006). In smaller ranges, there are more supervisors and fewer workers. This situation is dictated by the nature and complexity of the task, which can justify the financial expense of this structure. Span of control on the emergency is dictated by the size, nature, and complexity of the emergency.

There are a number of different rank structures in use by fire departments today. The NFPA 1021 (Standard for Fire Officer Professional Qualifications, 2009 Edition), recognizes four distinct levels of officer responsibility and certification: Level I is used for the supervisory level; Level II is supervisory/managerial; Level III is managerial/administrative; Level IV is administrative. This standard establishes the minimum educational requirements and skills to achieve certification.

In an Applied Research Project for the National Fire Academy, Strock (1993), researched to find out if there needs to be a standard rank structure in the United States Fire Service. The predominate rank structure he discovered is: Lieutenant, Captain, Battalion Chief, Assistant Chief, Deputy Chief, and Fire Chief. His research states that the first two officer levels should be used for company officers. The third level and higher should be command or chief level officers. He also made the recommendation that these most common titles of officers should be included in the NFPA Standard 1021, entitled "Fire Officer Professional Qualifications."

King (2003) conducted research on the myth that police departments are typically too tall in their rank structure. The purpose was to find out if rank structure had any effect positive or negative on police organizations. The author set out to explain the perceived problems of a tall rank structure. His study found there has not been any hard and fast proof against the structures. Also, there has not been a clearly defined problem. On the flip side, there has not been any evidence supporting the taller structures with solid data. Part of the paper explains the difficulties of finding the literature relevant to his research because there are few studies devoted to the effects of organizational rank structure. His research concludes that there are many inconsistencies in the findings due to the different organizations, groups studied, and other variables. Due to the lack of significant evidence, he does not believe that tall rank structures are as bad as reported. Further research on this topic needs to be developed. Until there are significant findings, he recommends that these structures stay in place.

Summary Statement

The findings of the literature review have expressed the importance of a proper organizational structure using modern management philosophies. Without a proper structure work and task will not be carried out efficiently and chaos will proceed. Successful structures elsewhere will not work in all applications. The literature has identified sound principles in which organizations should be structured. These principles provide authority, direction and facilitate proper communication.

PROCEDURES

The purpose of this research was to evaluate the current organizational structure of the Bedford Division of Fire and determine which structure best suits the organization. The research project collected and analyzed information on organizational structure by looking inside and outside of the fire service to see how organizations go about determining their structure.

This study utilized descriptive and evaluative research methods. The research on organizational structure, division of labor, span of control, and unity of command was based on readings of literature and professional publications.

The initial research for this OFE paper was by conducted using the internet to delve into organizational structure and behavior. Additional resources were requested from the Cuyahoga County Public Library and National Fire Academy library through interlibrary loan. Other resources were purchased.

Two surveys were created to collect data from area departments and firefighters within our organization.

A survey form (Appendix 1) was given internally to find out how other firefighters felt about the current structure and operations. This survey was given to all twenty five shift firefighters and the two staff chiefs. A department roster was used to insure that each firefighter was given a survey. The firefighters were asked not to place their names on the survey form. The answers to the questions were kept anonymous until all of the surveys were collected in an unmarked envelope and tallied.

The survey had nine close-ended questions. This survey was designed to see what the firefighters thought of the current organizational structure and shift level operations.

The second survey (Appendix 3) was developed and sent to local fire chiefs who had departments of similar size and structure.

An initial list of departments was created of all of the fire departments in Cuyahoga, Lake, Geauga, Lorain, Medina, Summit, and Portage counties. After the list was made a phone call was made to each department to find out if their department was all full time, full time and part time, all part time, volunteer, or a combination of any of the above.

If the department was full time or full time and part time, they were asked what their daily minimum staffing levels are, how many stations they have, how many officers are assigned to each of their shifts and what rank do those officers hold. Using this information, the departments that had daily staffing levels of five to seven firefighters working each day, utilizing a single station and at least two officers assigned to each shift were sent a survey form. The survey asked questions as to how they structured their department, if they had a clear chain of command, and what responsibilities their officers have.

Twenty three surveys were sent out to departments. Twenty one surveys were returned and eighteen met the criteria to be used in the study.

Definition of Terms

Authority. “The right to make decisions and take actions.” (Cochran, 2006, p.6).

Balloon frame. “Balloon framing consists of long, one-piece 2x4 studs rising from a foundation up to the eaves without any fire stopping along the way.” (Norman, 1998, p.313).

Chain of Command. The “sequence of authority from upper to lower organizational levels.” (Cochran, 2006, p.6).

Division of labor. “Allows an organization to divide large jobs into specific smaller tasks.” (Smoke, 2005,p.66).

Interior commander. A title designated to a person over the fire department radio to coordinate and control interior firefighting operations.

Junior Lieutenant. A lieutenant assigned to a shift that has the least amount of seniority.

Mutual aid. “Assistance provided by another fire department or agency.” (Smoke, 2005, p. 386).

Officer in Charge [OIC]. A title given to a person who has the ability to coordinate and control the daily operations of the fire department.

Operations officer. The operations section is responsible for the tactical priorities, and (along with the safety section) the safety and welfare of the personnel working in the operations section.” (Brunacini, 2002, p.290).

Senior Lieutenant. A lieutenant assigned to a shift that has the most seniority.

Shift commander. The title designated to the person who has the authority and the resources to oversee the entire operation of a shift.

Span of Control. “Organizational principle that addresses the number of personnel a supervisor can effectively manage.” (Smoke,2005,p.387).

Standard Operating Procedures [SOP]. “An organized directive that establishes a standard course of action.” (Smoke, 2005, p.387).

Unity of Command. “The organizational principle whereby there is only one boss.” (Smoke,2005,p.388).

Limitations of the Study

The firefighters who participated in this survey might have given deceptive answers. Despite being an anonymous survey, firefighters may have perceived some of the questions as self incriminating. It is possible this would alter the true feelings of the Bedford Firefighters.

While the survey was being given to the Bedford Firefighters, the minimum staffing levels were reduced by the city because of decreased revenue. With the concerns over staffing issues, this survey may not have been taken seriously and could have produced inaccurate data.

Some of the questions on the firefighter's surveys were not completely answered. Without full cooperation and participation, the results may not provide a complete picture of their feelings.

Some of the questions used to survey comparable departments were open ended. The responses that were received were varied. Since it was up to the respondent to write in additional responsibilities this list may not include all of the functions that the shift officers oversee. Although the responses were worded differently, most of them had the same meaning. For the survey results to provide a clear representation, the similar results were grouped together. The results in their entirety were included in Appendix 4.

Some of the comparable departments stated they did not have an assistant chief position. A few of the departments stated they had other forty hour staff positions such as executive captain or lieutenant who perform the work of an assistant chief. These positions are used in administration and fire prevention. These results were not included in the number of assistant chiefs on the department.

RESULTS

The answers to the first question came directly from the results of a survey given to all twenty seven members of the Bedford Division of Fire. The results represent their opinions of the current organizational structure.

The responses of research questions two, three, and four came from the eighteen survey forms received from responding departments and the literature review.

Question One

What do the Bedford Firefighters think of the current organizational structure?

Sixteen firefighters (59%) of the twenty seven (27) surveyed stated that they did not feel the current practice of rotating days in charge was effective as shown in Figure 2.

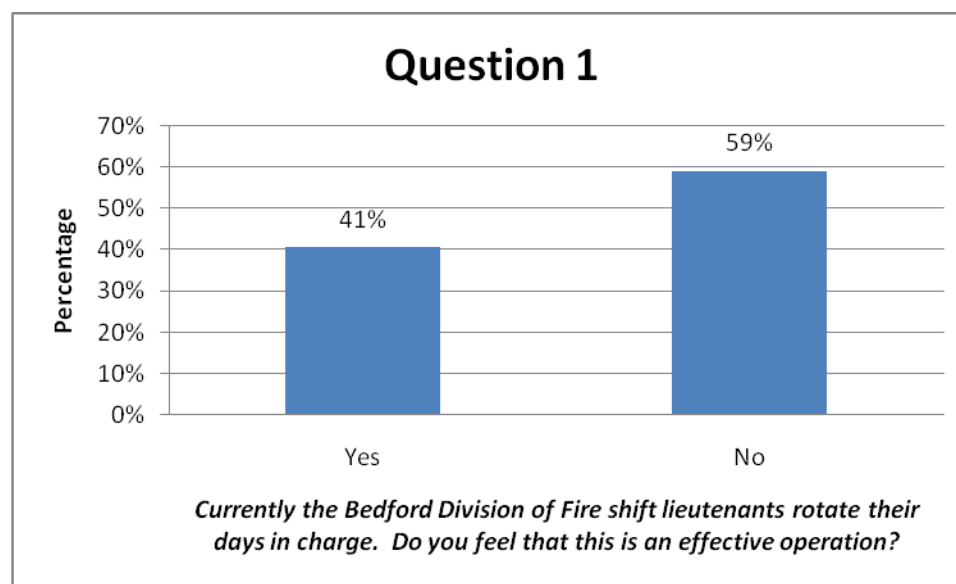


Figure 2. Results of survey question 1

Thirteen firefighters (48%) were totally clear, while twelve (44%) were unclear, as to which lieutenant they should go to when both lieutenants are working, results shown in Figure 3.

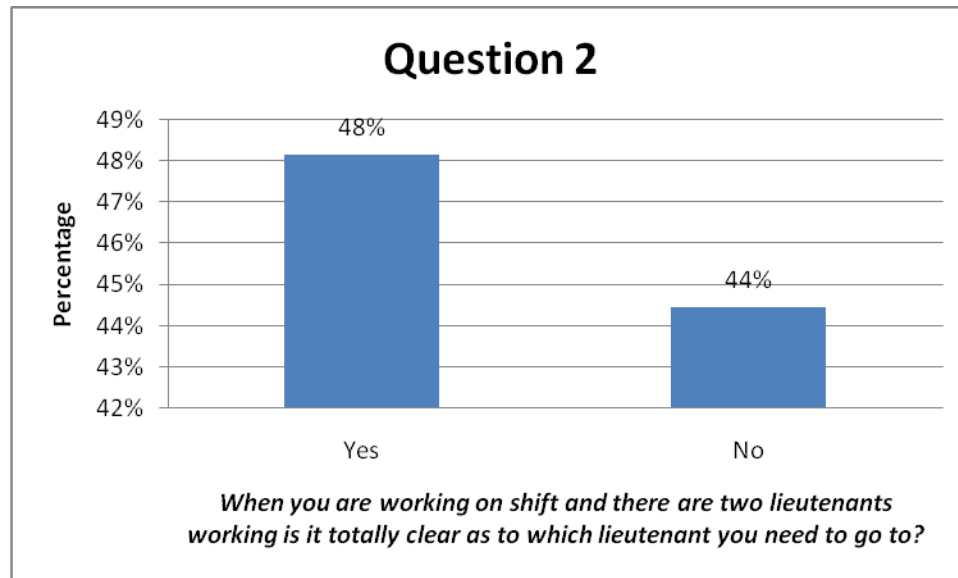


Figure 3. Results of survey question 2

When asked if important information gets passed on accurately and timely, the choices were:

- Never: One (4%) firefighter chose this response.
- Sometimes: Nineteen (70%) firefighters chose this response.
- Neutral: Two (7%) firefighters chose this response.
- Mostly: Five (19%) firefighters chose this response.
- Always: Zero (0%) firefighters chose this response.
- Results shown in Figure 4.

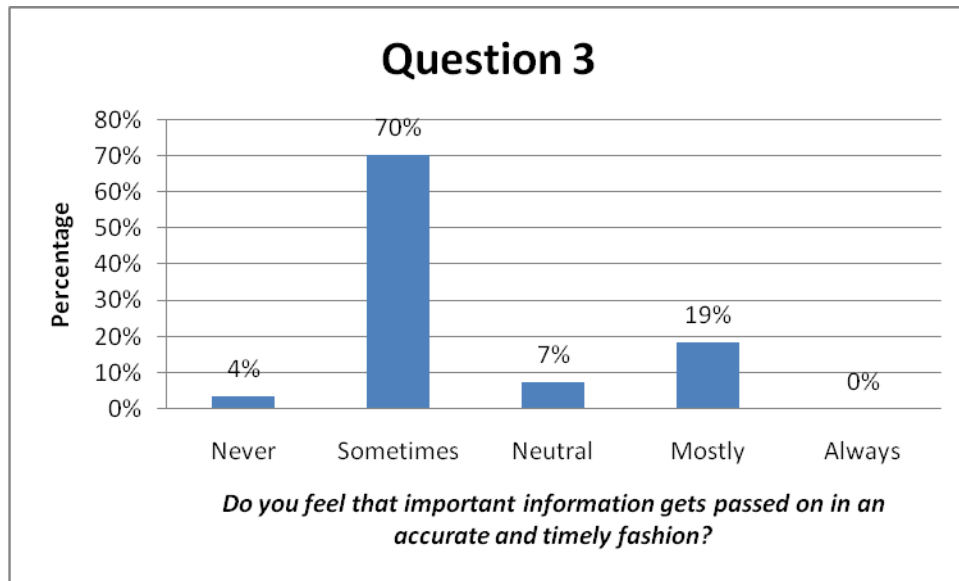


Figure 4. Results of survey question 3

When asked if daily operations were consistent with the rotation of officers, the choices were:

- Never: One (4%) firefighter chose this response.
- Sometimes: Ten (37%) firefighters chose this response.
- Neutral: Two (7%) firefighters chose this response
- Mostly: Twelve (44%) firefighters chose this response.
- Always: Two (7%) firefighters chose this response
- Results shown in Figure 5.

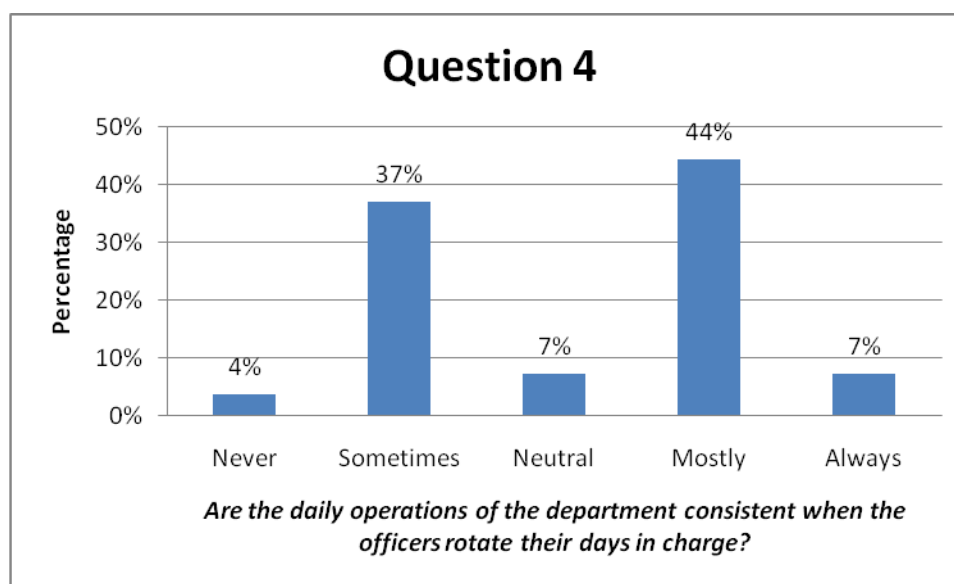


Figure 5. Results of survey question 4

When asked how many times they or another firefighter encountered a situation where they went to one lieutenant over another to get the desired answer and the choices were:

- Zero: Sixteen (59%) firefighters chose this response
- 1-2 times: Four (15%) firefighters chose this response
- 2-5 times: Four (15%) firefighters chose this response
- 5-10 times: Zero (0%) firefighters chose this response
- More than 10 times: One (4%) firefighter chose this response
- Results shown in Figure 6.

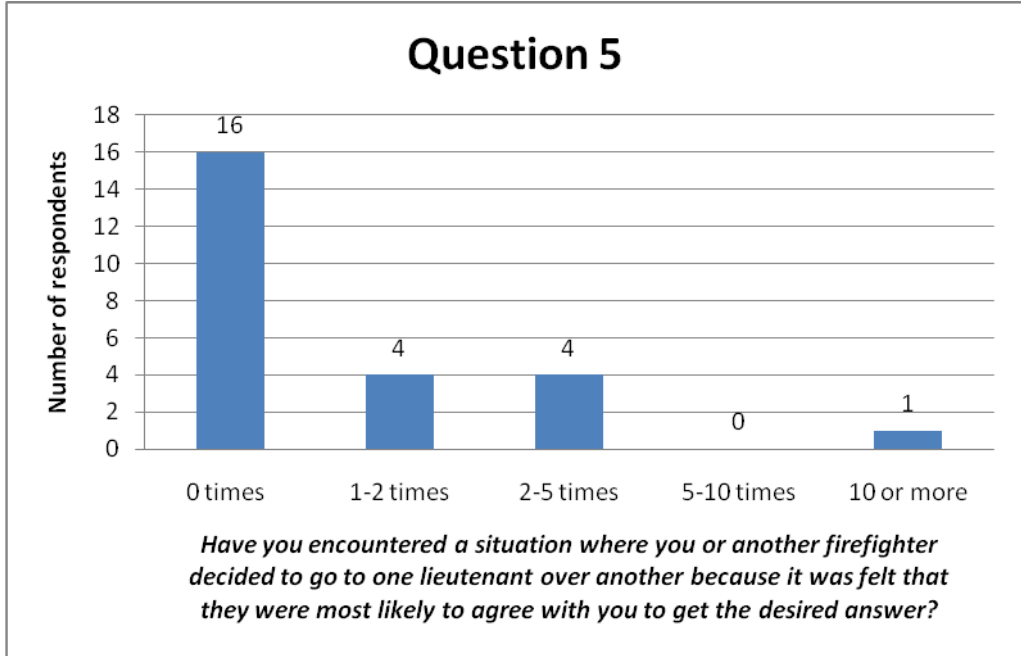


Figure 6. Results of survey question 5

Four firefighters (15%) indicated that they have used the lieutenants against each other to achieve a desired outcome either positive or negative. Results in Figure 7.

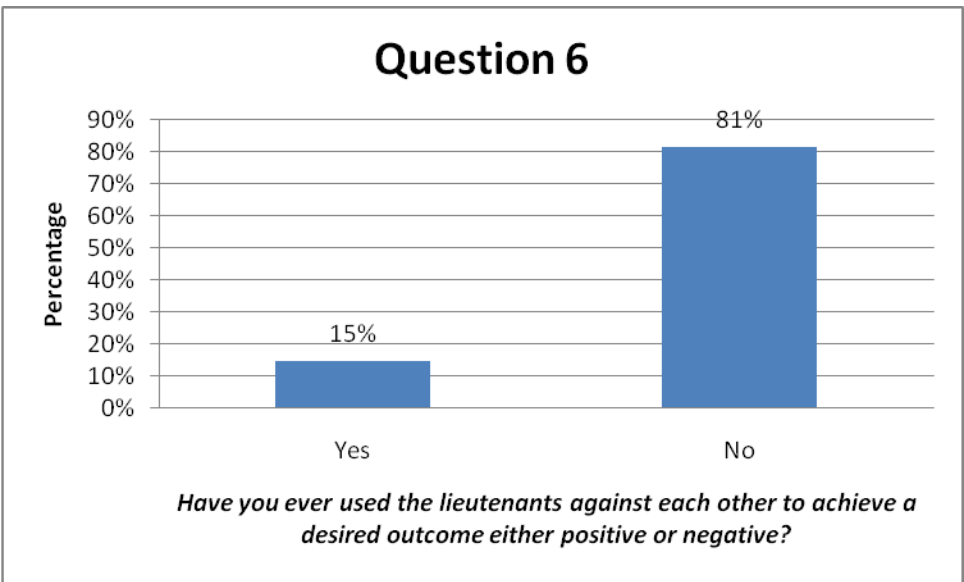


Figure 7. Results of survey question 6

Sixteen firefighters (59%) believed that having a more permanent position in charge would be more consistent and effective for operations and communications shown in Figure 8.

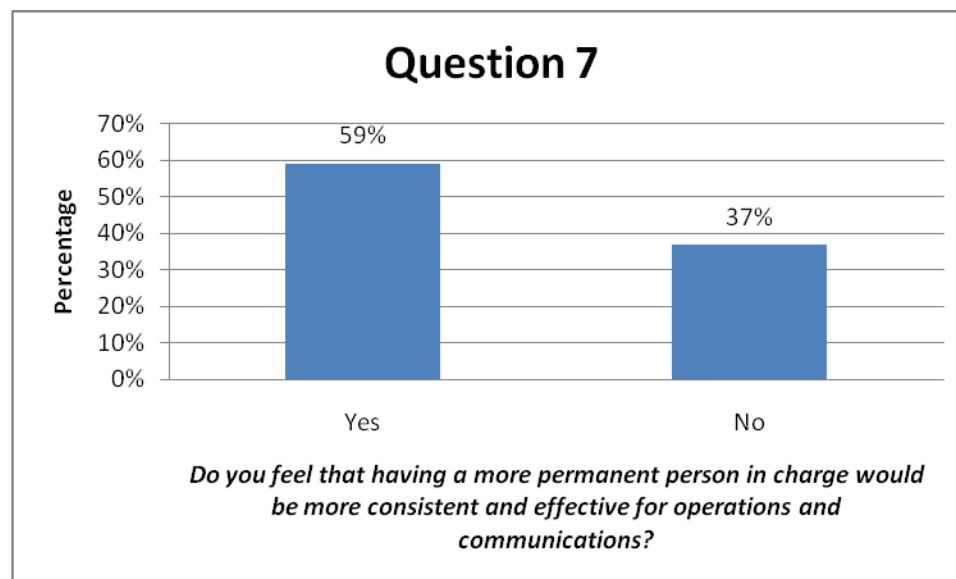


Figure 8. Results of survey question 7

The question was asked if there was variation on operations when the officers rotate their days in charge. The following choices were given:

- None: Three (11%) firefighters chose this response
- Seldom: Sixteen (59%) firefighters chose this response
- Often: Six (22%) firefighters chose this response
- Always: One (4%) chose this response
- Results in Figure 9.

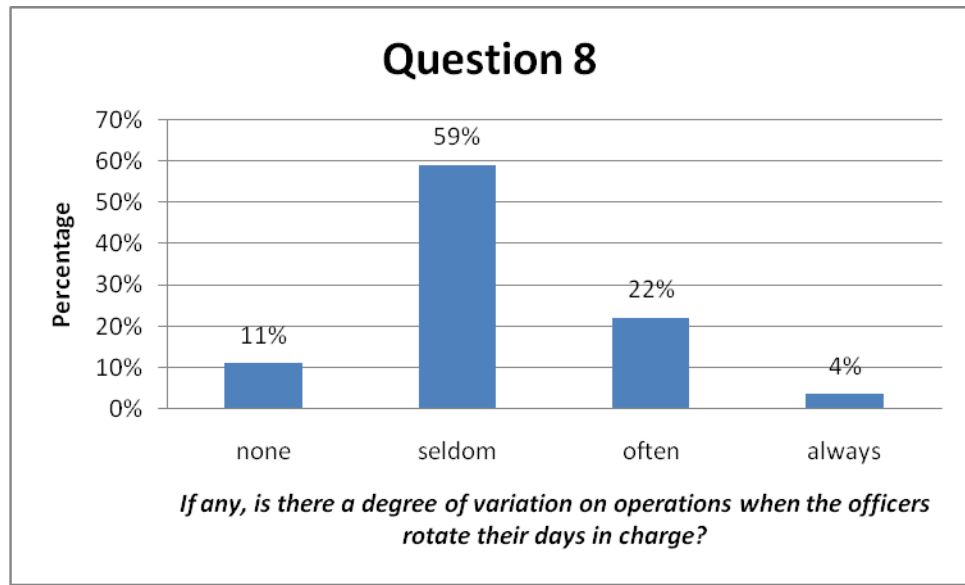


Figure 9. Results of survey question 8

When asked how the variation affected operations the choices were:

- Detrimental: Three (13%) firefighters chose this response
- Somewhat detrimental: Six (25%) firefighters chose this response
- Neutral: Eleven (46%) firefighters chose this response
- Somewhat healthy: One (4%) firefighter chose this response
- Healthy: Three (13%) firefighters chose this response
- Results shown in Figure 10.

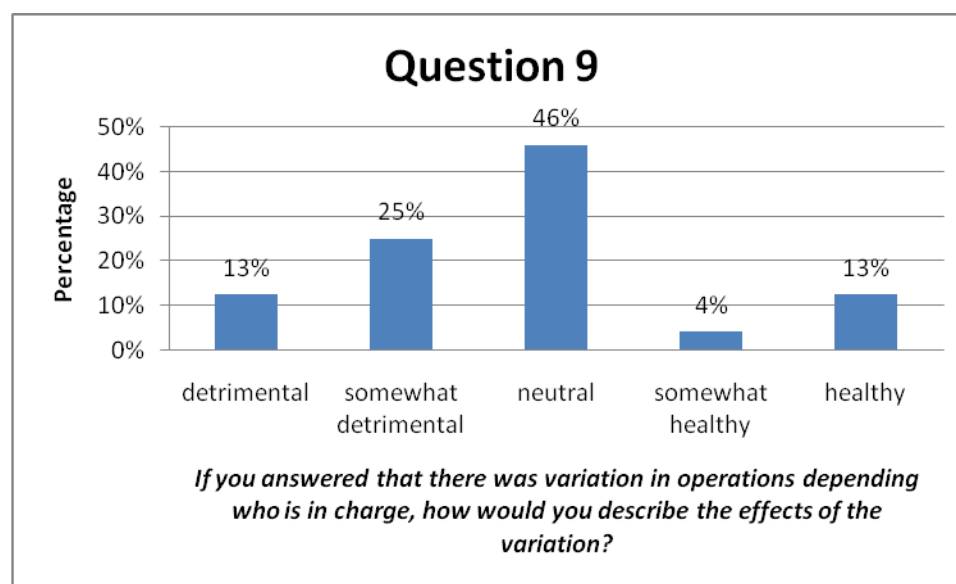


Figure 10. Results of survey question 9

The survey suggests the possibility of confusion amongst the firefighters exists as nearly half (44%) are unsure as to which lieutenant they should report to when both are working. A majority of the firefighters (59%) feel that the rotation of the officers is not effective.

The results indicate that there may be a problem with important information being communicated to the shift members. Sixteen firefighters (59%) suggest having a more permanent person in charge for more consistent communications and operations.

There could be inconsistency amongst the officers when carrying out the daily operations, as most firefighters were divided on the issue.

There is some evidence of firefighters choosing a certain lieutenant for a desired answer. Four (15%) firefighters admitted to using the lieutenants against each other.

Most firefighters (59%) rated the variation of operations when the officers rotate to be seldom. This suggests that the officers follow the SOP's consistently. When asked the about the

effects of variation on operations about half (46%) of the responses were neutral. The other half of the responses (38%) were slightly skewed toward detrimental or having somewhat detrimental effects.

Question 2

How do comparable departments in Cuyahoga and surrounding counties with on duty staffing, structure their shift officers?

The answer to this question was answered by surveying local and comparable fire departments. The results were able to be placed in to clear and attainable charts.

Three (17%) of the responding departments have firefighters and two lieutenants. One (6%) of the responding departments has firefighters, a lieutenant and an OIC. Thirteen (72%) have firefighters, a lieutenant, and a captain. One (6%) department has firefighters, a lieutenant, and a battalion chief shown in Figure 11.

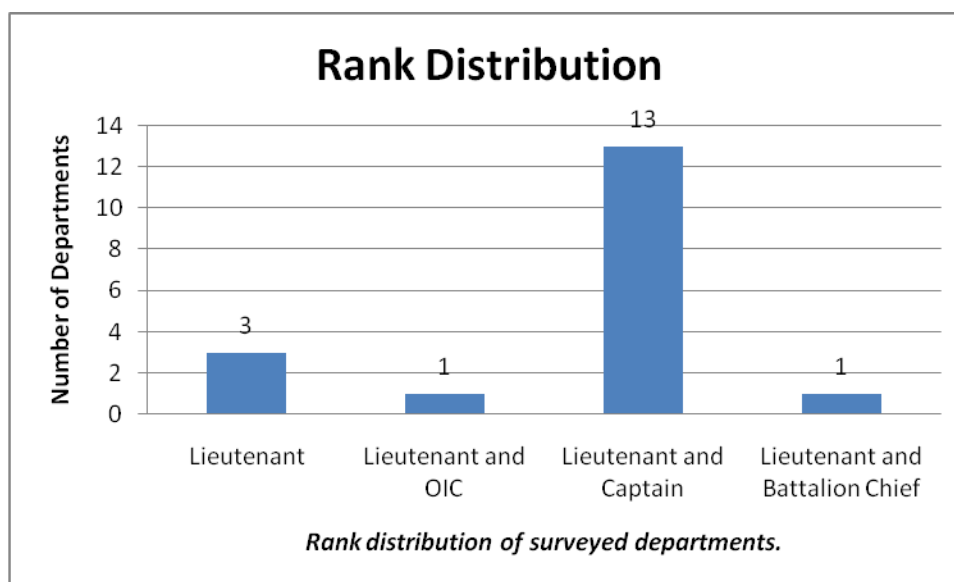


Figure 11. Rank distribution

The majority (83%) of the responding departments structure their shift officers with at least two separate levels of rank or authority.

Seventeen (94%) departments feel that having a dedicated shift officer provides an effective means for carrying out the daily responsibilities of the shift. See Figure 12.

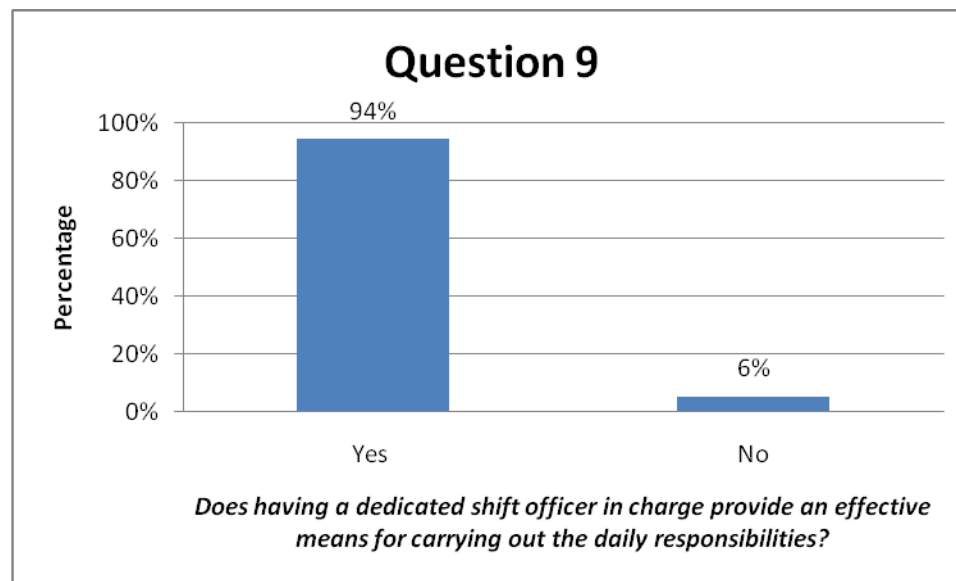


Figure 9. Results of survey question 9

Seventeen (94%) departments have a clear chain of command as to who is in charge of the shifts. See Figure 10.

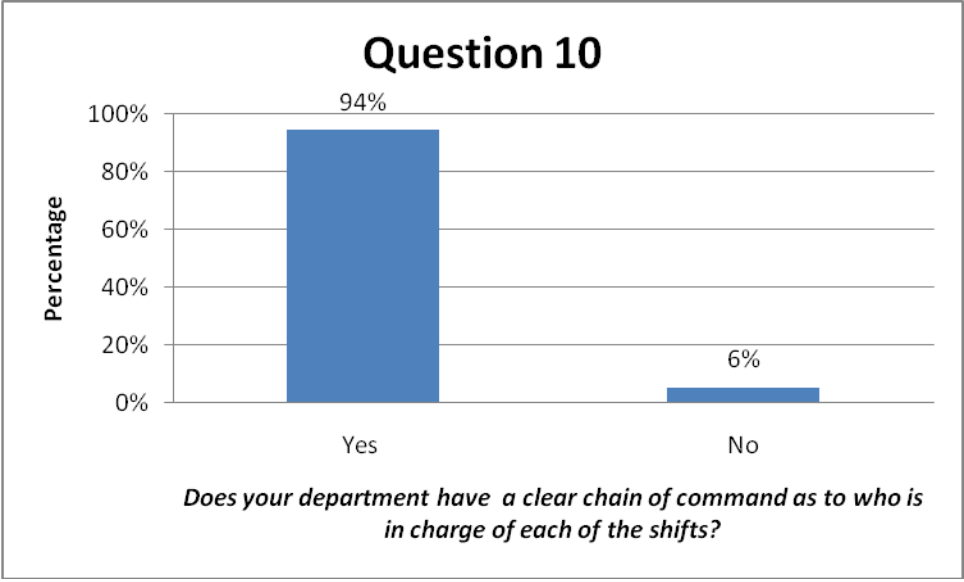


Figure 10. Results of survey question 10

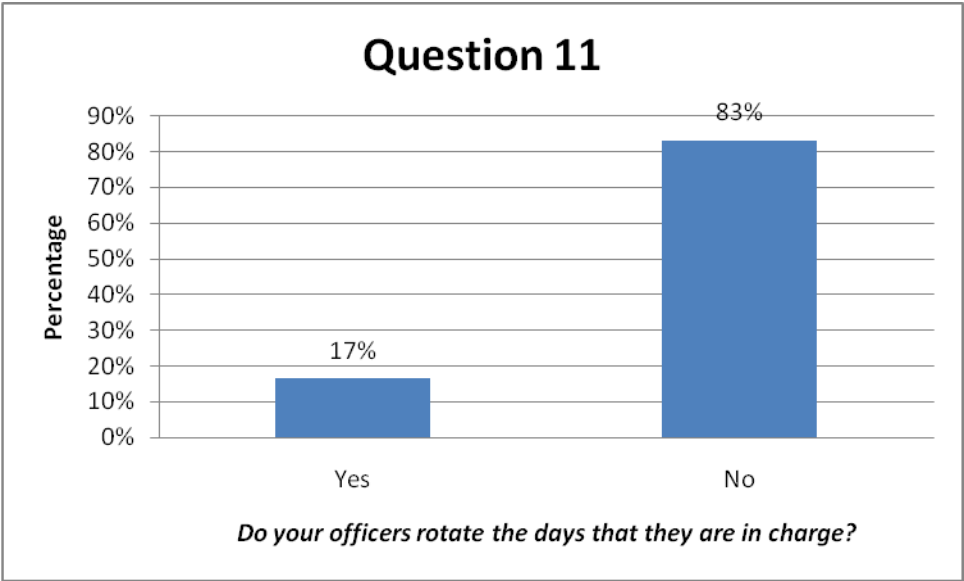


Figure 11. Results of survey question 11

Preuer (2008) made the recommendation to the Avon Lake Fire Department, Ohio, one of the comparable cities, to create the position of Captain. Avon Lake has two lieutenants per shift and also rotates the days that they are in charge. Without rank separation, there is potential for

conflict amongst the officers and confusion for the firefighters, Preuer (2008). This audit made the recommendation to: “create the position of Captain to clearly recognize the duties currently performed by the “Senior Lieutenant” and better defining the chain of command which will strengthen and clarify daily operations but is even more important for emergency scenes.” (Preuer, 2008, p.77).

Currently the rank structure in the Bedford Police Department has basic patrol officers, sergeants, lieutenants, one executive lieutenant, and a police chief. The sergeants and lieutenants are line officers, representing two levels of rank or authority on shift. The executive lieutenant and chief are staff positions.

The research suggests that the most common method of staffing two officers on a shift is by using two levels of rank or authority. This structure provides an effective mean for carrying out daily responsibilities and provides a clear chain of command.

The literature reveals the four main principles of structuring an organization. Those principles are: Division of labor, unity of command or unity of direction, span of control and chain of command. The first principle is division of labor which distributes specific tasks and responsibilities to individuals. It is said that one cannot have unity of command without unity of direction, the principle of reporting to only one supervisor or boss. Span of control refers to the number of people that one can effectively manage. Span of control is typically from three to seven employees (FEMA, 2005). The last principle chain of command designates the levels of rank or authority within an organization.

Question 3

What are the roles and responsibilities of the senior officer or shift commander in other fire

departments?

Respondents were given five responsibilities of the senior officer .They were also asked to write in others that may apply. The five that were predetermined are:

- Fire Suppression: Seventeen (94%) departments selected this choice.
- EMS: Sixteen (89%) departments selected this choice.
- Fire Prevention: Five (28%) departments selected this choice.
- Training: Sixteen (89%) departments selected this choice.
- Scheduling: Five (28%) departments selected this choice.
- Results listed in Table 1.

When asked, what are the responsibilities of the senior officer in comparable departments the results are as follows:

Table 1

Responsibilities of the senior line officer

	<u>Responsibilities</u>	
	N	%P
Fire Suppression	17	94.00
EMS	16	89.00
Training	16	89.00
Fire Prevention	5	28.00
Administrative/Scheduling	5	28.00
Apparatus	4	22.00
Water Supply	4	22.00
Special assignments by Fire Chief	3	17.00
Radio equipment	2	11.00
Mechanical equipment/maintenance	2	11.00
EMS coordinator	2	11.00
Station maintenance	1	06.00
Discipline	1	06.00
Preplans	1	06.00
Information technology	1	06.00

Public relations

1

06.00

*N=number of responsibilities out of 18 departments surveyed**%P=percentage of responding departments*

The results demonstrate that senior line officers perform both line functions and staff functions. Line functions include emergency response and fire prevention (NFPA, 2009). Staff functions can include training, maintenance, communications, research and planning, public information and relations, financial management, personnel management, and fire protection engineering (NFPA, 2009). The most common functions of the senior officers show they are responsible for fire suppression, EMS, and training.

The results also indicate there are a wide variety of management functions, or staff functions that senior fire officers are asked to perform.

Question 4

What are the advantages and disadvantages of having a senior and junior officer position?

The departments being surveyed were asked to write in what they felt were advantages and disadvantages of having two levels of supervision on each shift. The following numbers are based on the eighteen qualified departments that returned their survey forms. The full results can be found in Appendix 4. The results of the advantages are as follows:

- **Separation of duties by rank:** Eleven (61%) departments offered this choice
- **Clear chain of command:** Eight (44%) departments offered this choice
- **Ensure an officer is always on duty:** Seven (39%) departments offered this choice
- **Consistency:** One (6%) offered this choice

- **Less officer OT:** One (6%) offered this choice
- Results in Figure 12.

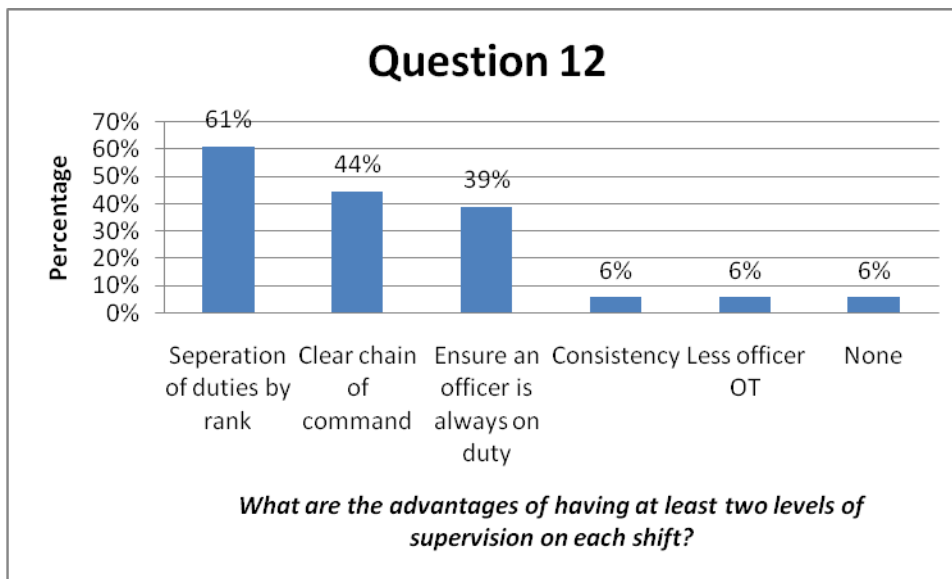


Figure 12. Results of survey question 12

The results of the disadvantages are as follows:

- **None:** Nine departments (50%) offered this choice
- **Cost:** Three departments (17%) offered this choice
- **Officer may not always be on duty:** Two (11%) departments offered this choice
- **Conflicting orders:** Two (11%) departments offered this choice
- **Info not always passed on:** One (6%) department offered this choice
- **Less coordination:** One (6%) department offered this choice
- **Lack of unity:** One (6%) department offered this choice
- Results in Figure 13.

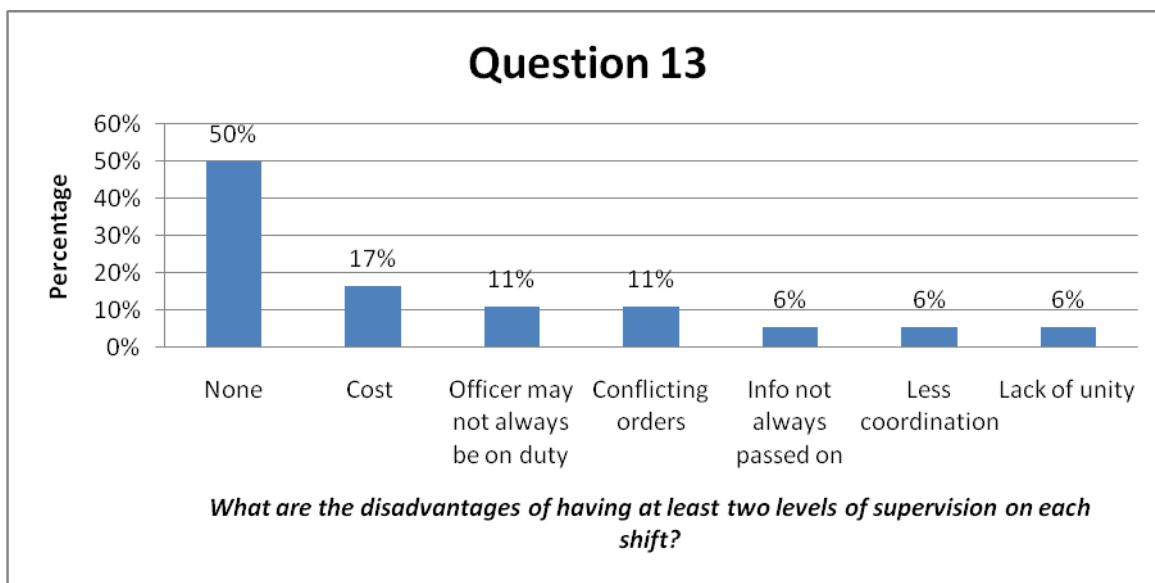


Figure 13. Results of survey question 13

The literature revealed information about organizational structure and design, both inside and outside of the fire service and using old theory and new theory.

A proper organizational structure is necessary for efficient operations. The *Fire Protection Handbook*, NFPA(2009) states that fire departments are structured for the purpose of fire suppression. According to Barr and Eversole (2003), there needs to be chain of command, unity of command, span of control, division of labor, and an exception principle. These principles work for the fire service because they fall in line with paramilitary organizations. The fire service has traditionally replicated the military structures because of the need for strict discipline on the battlefield.

Modern organizational structure design needs to be different from early management theory with hierarchy's and scalar organizations, Drucker (1974). We have gone from manufacturing society to process technologies and producing knowledge. The internet, which

has allowed companies to obtain and transfer information in record time, is one of the main reasons why taller structures fail, Daft (2004). Technology has allowed employees to access information that was previously accessible only to upper management, Robbins (2003). By empowering employees, decisions can now be made at lower levels of the organization which reduces the time it takes for information to go up the chain and come back down, Robbins (2003). With the ability to transfer information more freely it has allowed organizations to widen the span of control while reducing costs, increasing flexibility and employee decision making, thus empowering employees, Robbins (2003).

The research suggests the advantages of having a senior and junior officer are for separation of duties by rank, a clear chain of command and to ensure an officer is always on duty. Separation of duties by rank (division of labor) and having a clear chain of command are principles that fire departments use when structuring their organizations. These principles derived from the military's need for strict discipline and clear channels of authority.

Most fire departments felt there were no disadvantages of having the senior and junior officer. A couple of departments listed cost, not having an officer on duty and conflicting orders as other disadvantages. Management literature suggests the biggest problem with scalar organizations is the flow of information. Modern technology has improved communications to where tall structures may not be efficient as more employees are empowered to make decisions.

DISCUSSION

The structure of an organization is one of the most important aspects to maintain an efficient operation. Structure should provide individuals the framework to carry out the mission of their organization with clear lines of authority, responsibility and communication.

The ideal organizational structure should perform in harmony just as all of the parts of the body support and work together. The brain sends out messages to the major organs of the body just as a fire chief would communicate with the department. When the work and tasks are completed the message needs to be returned to the sender that the work has been completed. If there is any interruption to this process, problems will begin to surface. When organizations are out of alignment one or more of the following symptoms are present; decision making is slow or poor, the organization cannot respond to innovation and change, or constant conflict is present (Daft, 2004).

The research suggests that there may be a problem with the organizational structure of the Bedford Division of Fire. Literature review has identified some of the problems that can occur when an organization is out of alignment.

The first research question was to get an understanding of how the members of the Bedford Division of Fire felt about the current organizational structure.

When asked if it is effective for the lieutenants to rotate their days in charge, 59% felt this practice was not effective.

Bedford firefighters were asked if it was totally clear as to which officer they should go to for information when both officers are working and 48% stated it was clear. While the majority of firefighters felt it was clear as to which lieutenant to report to, the alarming number was that 44% of the firefighters were unclear.

A preponderance of evidence both inside and outside the fire service proclaim that reporting to more than one supervisor can have devastating effects. Having multiple bosses (dual chain of command), creates situations where subordinates find themselves between conflicting demands, interests, and loyalties (Drucker, 1974). Reporting to more than one supervisor creates conflict that can lead to unclear expectations (Robbins, 2003). “When violated, authority is undermined, discipline is in jeopardy, order disturbed, and stability threatened.”(Fayol, 1965, p.24). Preuer (2008) without rank separation, there is potential for conflict amongst officers and confusion for firefighters as to quickly determining who is in charge.

One area of concern that the study identifies, deals with the exchange of information in an accurate and timely manner. The firefighters (70%) stated, that information is conveyed only some of the time. The author contends this relates to lack of coordination amongst the officers due to the rotation and there is no unity of direction. Information is incorrectly disseminated or may not be communicated at times because it rarely comes from a central source. Firefighters felt communications and operations could be improved by having a more permanent person in charge.

The survey shows some evidence that firefighters use the lieutenants against each other depending on where their loyalties are. On a few occasions they have chosen one lieutenant over another to achieve the desired answer. The author feels these numbers may be low for the fear of possible repercussions. Firefighters have admitted this practice in the past.

The survey revealed that the department is divided by the consistency of daily operations, see *Figure 5*. Two (7%) firefighters felt there was consistency all of the time while Twelve (44%), said there was consistency most of the time. The author feels this is due to a lack of unity

of direction. Shift officers often have different management styles which creates inconsistencies when they rotate their days in charge.

When asked if there was variation of operations, the firefighters responded (70%) that was not usually the case. Seven firefighters (26%) felt this was common. This suggests the shift officers follow the SOP's consistently. However the effects of when there is variation are slightly skewed toward slightly detrimental or detrimental, with the majority being neutral. This author feels these detrimental effects can be reduced by having unity of direction or a person who is regularly in charge.

The second research question asks how other similar fire departments structure their organizations.

This author found that most fire departments utilize two separate lines of rank or authority for shift operations see Figure 11. The most common shift structure was firefighter, lieutenant, and captain. This structure coincides with the research done by Strock (1993), which states the predominate rank structure in the United States is: lieutenant, captain, battalion chief, assistant chief, deputy chief, and fire chief. Captains and Lieutenants are typically used for company officers.

Preuer (2008,p.77) made the following recommendation to the Avon Lake Fire Department, one of the comparables to “create the position of Captain to clearly recognize the duties currently performed by the “Senior Lieutenant” and better defining the chain of command which will strengthen and clarify daily operations but is even more important for emergency scenes.” Preuer (2008) also states Avon Lake also need to have a proportional incident command structure due to the high degree of emergency potential in Avon Lake. This author feels that the City of Bedford also has a high degree of emergency potential due to the number of

potential hazards within the response district.

The structure of a fire department organization needs to revolve around four main principles. The principles of division of labor, unity of direction or command, span of control and chain of command. This author feels the structure of firefighter, lieutenant and captain complies with the four main principles of organization.

Research question number three asked, what are the responsibilities of the senior officer in other fire departments?

This study found that senior officers in other departments are responsible for a wide variety of functions. The most common responsibilities were fire suppression and EMS both being line functions. The study revealed a number of staff functions or management functions that senior officers perform. Training was the most common staff function. The rest of the staff functions varied. See *Table 1*.

NFPA (2009) states in small communities, officers may be responsible for more than one staff function. This author agrees with this statement and acknowledges that this survey was given to fire departments in small communities.

The author of this study feels that there are more staff or management functions being performed by senior officers than the study revealed because the respondents were asked to write in their answers.

Some of these staff responsibilities require strong management skills. It is the author's opinion that a rank or level of authority above a supervisory position is necessary on a shift to provide unity of direction. This position should have a requirement of formal education and/or training to better handle managerial responsibilities and increased calls for service, to the residents of the community. This rank or level of authority would also serve to provide a pool of

candidates with a greater education level and management background and would allow them to become one of the next chief officers.

Research question number four asked what were the advantages and disadvantages to having a senior and junior officer position?

The survey results showed there are many advantages and disadvantages to having at least two levels of supervision on shift. The most distinct advantages of having two levels of supervision on shift are to separate duties by rank, have a clear chain of command and to ensure an officer is always on duty. When asked about the disadvantages of having two levels of supervision on shift, the majority of responses were that there are none. Cost was mentioned as a distant second disadvantage.

Modern management experts proclaim that tall scalar structures are not practical or efficient for many of today's businesses. The main reason they are against tall structures is because of how long it takes to transfer information up and down the chain of command. Modern technology has made it possible for information exchanges to take place much faster. Employees now have access to information that was inaccessible in the past. With access to the information managers have empowered their people to be able to make decisions on their own, requiring less supervision and direction. These structures known as matrix structures often have employees reporting to more than one boss. Matrix structures do have a negative aspect to them. "The major disadvantages of the matrix lie in the confusion it creates, its propensity to foster power struggles, and the stress it places on individuals." (Robbins, 2003, p.188).

Cost is also a factor when looking at organizational structure. Span of control dictates how many supervisors are needed for a given number of subordinates. Span of control is typically from three to seven. Span of control is influenced by the nature and complexity of the

task which can justify the expense (Cochran, 2006). This author contends that firefighting, like military operations, can be extremely dangerous and complex thus requiring a very narrow span of control. Narrow spans of control along with the proper command structure provide close supervision for operations. That can mean the difference between life and death when important decisions need to be made.

Even some of the biggest critics agree that scalar or linear structures still have a place and a purpose. Drucker (1974) states one of the few positive points is its ability to protect employees by only having to report to one boss. These structures clearly define who a subordinate is to report to and they need to have unity of command to prevent conflict (Robbins, 2003).

Scalar structures have been utilized by the military because of the need for strict discipline. Because fire departments are paramilitary organizations, chain of command is important (Cochran, 2006). Chain of command clearly defines the lines of authority.

Authority allows individuals to make decisions based on their organizational level (Cochran, 2006). With an increase in rank comes increased authority and responsibility (Cochran, 2006). Authority can be one of two types. Official authority is power given to any individual by an organization. Personal authority is gained by experience and reputation.

Cochran (2006) states the modern fire service still uses tall organizational structures. The author of this study agrees that this structure is still the most effective means for coordinating operations in the fire station and on the fire ground.

The negative aspect to scalar organizations is the time it takes for information to go up the chain and then wait for orders to come back down. Barr and Eversole (2003) recommend using matrix structures to coincide with scalar organizations for the daily operations.

Currently the Bedford Division of Fire operates out of a single firehouse. Matrix

structures are currently in use for many projects within the department. These structures provide input in various operations such as health and wellness, labor management, vehicle maintenance, technical rescue, EMS and equipment purchasing. Because the department operates out of a single location, communication amongst the committees is often timely.

King (2003) researched the effects of tall organizations of police departments and stated there was not enough evidence to support a claim for scalar structures or for decentralized structures. Due to the lack of significant findings, he feels these structures serve a purpose and should remain in place until further information can be revealed.

The organizational structure of the Bedford Division of Fire appears to have some flaws. From the flaws identified in this research, there are corrective actions that can take place to improve operations on the shift level.

The outcome of not making any changes is predictable as many management experts have commented.

The Bedford Division of Fire should look into adopting a new organizational structure which is similar to the structure that is utilized by most of the comparable cities. This structure can provide direction and unity for operations and help to improve communications. This is supported by management experts.

Shift officers in small communities are often involved in many staff or management functions. The organizational structure should reflect a higher level of authority or rank to supervise or manage the most important management functions of the department. With this increase in rank, it will also provide candidates with a greater managerial background for a chief officer position.

There are many advantages of having two levels of supervision on shift according to the

research. The negative aspects are slow information transfer and cost. This author feels that the avenues for communication within the department are widely available because the department operates out of a single location. Communication usually breaks down without a proper structure that designates who has authority to make decisions. The cost is hard to put a quantitative number on to make improvements. This author feels the cost is justified any time safety, operations and efficiency can improve. Often times these improvements can lead to taking on new projects or workload when the proper structures are in place.

RECCOMENDATIONS

The Bedford Division of Fire currently has two lieutenants on each of the three shifts. These shift officers rotate their days in charge. This structure has led to operational problems within the fire department. Based on the research in this study, it is recommended that the practice of rotating in charge days be terminated. It is also recommended that the feasibility of a new rank structure be researched to improve safety, coordination, and operations.

1. Effective January 1, 2010 the Bedford Division of Fire should terminate the practice of rotating the shift officers as “Officer in Charge [OIC].” The OIC position should be assigned to the senior lieutenant of the shift. This will improve unity of direction or command and provide a clear chain of command on each shift.
2. The Bedford Division of Fire should initiate conversations with the City management, Civil Service Commission and IAFF Local 1683 to implement a new shift command or rank structure in the fire department. The new rank structure, as recommended in the research, would be firefighter, lieutenant, captain, assistant chief, and chief. This structure will provide the department with a position who has authority or rank to make definitive decisions on a shift level. This position will also provide each of the shifts unity of direction to better coordinate operations and management functions. This rank structure is similar to the one used in the Bedford Police Department; patrol officer, sergeant, lieutenant, executive lieutenant, and chief. The negotiations should discuss creating a job description for the position of captain. This additional rank will provide the authority to make final decisions on the shift and on operations.

3. It is also recommended that these positions attend the Ohio Fire Executive program administered by the Ohio Fire Chiefs Association. This program offers executive level leadership and management training, related to the fire service. As senior shift officers, captains should be used in more of a management function and take on greater roles and responsibilities.
4. This author recommends that college education or an equivalent should be a requirement as one of the next chief officers could be selected from the group of captains.
5. These negotiations should take place by the end of 2010. At the end of 2010, the collective bargaining agreement with the Bedford Firefighters Local 1683 expires and will be up for renegotiation. At this time, a captain position should be included in the agreement.
6. To improve the chain of command and unity of command on operations, the Bedford Division of Fire should improve the acting officer program. The fire department management should initiate discussions with the city to give a new lieutenants exam. The testing for the position should be required every two years to keep firefighters educated on current fire ground tactics and supervisory practices.
7. Additional requirements should be added to the minimum qualifications for the position of lieutenant. College education and/or officer level certification should be considered. The required minimum years of service to take the test should be increased from three to five years on the department.
8. This list should be used to select firefighters to fill in the operations role or interior commander position on calls. This will also provide the senior officer another person to assist in the operations of the shift. These firefighters can be mentored to step in to the

role of lieutenant upon promotion. Having this position, consistently, will provide continuity in chain of command and unity of command.

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APPENDIX 1 – Survey Questionnaire to Bedford Firefighters

- 1) Currently the Bedford Division of Fire shift lieutenants rotate their days in charge. Do you feel that this an effective operation? Yes No
- 2) When you are working on shift and there are two lieutenants working is it always totally clear as to which lieutenant you need to go to for information (i.e. ideas, problems, concerns, staffing issues, operational issues)? Yes No
- 3) From time to time important information gets passed down that needs to be relayed to all of the shift members. Do you feel that this information gets passed on to all of the shift members accurately and in a timely fashion?
- Never Sometimes Neutral Mostly Always
- 4) Are the daily operations of the department consistent when the officers rotate their days in charge?
- Never Sometimes Neutral Mostly Always
- 5) Have you encountered a situation where you or another firefighter decided to go to one lieutenant over another because it was felt that they were most likely to agree with you to get the desired answer?
- 0 times 1-2 times 2-5 times 5-10 times more than 10 times
- 6) Have you ever used the lieutenants against each other to achieve a desired outcome either positive or negative? Yes No
- 7) Do you feel that having a more permanent person in charge would be more consistent and effective for operations and communications? Yes No
- 8) If any, is there a degree of variation on operations when the officer's rotate their days in charge?
- None Seldom Often Always
- 9) If you answered that there was variation in operations depending on who is in charge, how would you describe the effects of the variation?
- Detrimental to operations
- Somewhat detrimental to operations
- Neutral
- Somewhat healthy for the operations
- Healthy for the operations

APPENDIX 2 – Results of Bedford Firefighters Survey

	<u>Total # of People</u>	<u># of people</u>	<u>% of Department</u>
1. Currently the Bedford Division of Fire shift lieutenants rotate their days in charge. Do you feel that this an effective operation?			
Yes	27	11	41%
No	27	16	49%
2. When you are working on shift and there are two lieutenants working is it always totally clear as to which lieutenant you need to go to for information (i.e. ideas, problems, concerns, staffing issues, operational issues)?			
Yes	27	13	48%
No	27	12	44%
3. From time to time important information gets passed down that needs to be relayed to all of the shift members. Do you feel that this information gets passed on to all of the shift members accurately and in a timely fashion?			
Never	27	1	4%
Sometimes	27	19	70%
Neutral	27	2	7%
Mostly	27	5	19%
Always	27	0	0%
4. Are the daily operations of the department consistent when the officers rotate their days in charge?			
Never	27	1	4%
Sometimes	27	10	37%
Neutral	27	2	7%
Mostly	27	12	44%
Always	27	2	7%
5. Have you encountered a situation where you or another firefighter decided to go to one lieutenant over another because it was felt that they were most likely to agree with you to get the desired answer?			
0 times	27	16	59%
1-2 times	27	4	15%
2-5 times	27	4	15%
5-10 times	27	0	0%
More than 10 times	27	1	4%

	<u>Total # of People</u>	<u># of people</u>	<u>% of Department</u>
6. Have you ever used the lieutenants against each other to achieve a desired outcome either positive or negative?			
Yes	27	4	15%
No	27	22	81%
7. Do you feel that having a more permanent person in charge would be more consistent and effective for operations and communications?			
Yes	27	16	59%
No	27	10	37%
8. If any, is there a degree of variation on operations when the officer's rotate their days in charge?			
None	27	3	11%
Seldom	27	16	59%
Often	27	6	22%
Always	27	1	4%
9. If you answered that there was variation in operations depending on who is in charge, how would you describe the effects of the variation?			
Detrimental to operations	27	3	13%
Somewhat detrimental to operations	27	6	25%
Neutral	27	11	46%
Somewhat healthy for operations	27	1	4%
Healthy for the operations	27	3	13%

APPENDIX 4 – Results of the Comparable Departments Survey

	<u>Total # of Departments</u>	<u># of responses</u>	<u>% of Department</u>
1. What is the minimum number of firefighters that your department has on duty each day?			
Five	18	4	22%
Six	18	10	56%
Seven	18	4	22%
2. Do your shifts have two or more officers assigned?			
Yes	18	18	100%
No	18	0	0%
3. Does your department have a Lieutenants position on shift?			
Yes	18	18	100%
No	18	0	0%
If yes how many per shift?			
One	18	14	78%
Two	18	4	22%
4. Does your department have a Captains position on shift?			
Yes	18	13	72%
No	18	5	28%
If yes how many per shift?			
One	18	13	72%
5. Does your department have a Battalion Chiefs Position?			
Yes	18	1	6%
No	18	17	94%
If yes how many per shift?			
One	18	1	6%

	<u>Total # of Departments</u>	<u># of responses</u>	<u>% of Department</u>
6. Does your department have an Assistant Chiefs Position?			
Yes	18	9	50%
No	18	9	50%
If yes how many per shift?			
Zero	18	0	0%
7. What responsibilities does your first line officer have?			
Fire Suppression	18	18	100%
EMS	18	18	100%
Training	18	17	94%
Administrative/Scheduling/Staffing	18	8	44%
Fire Prevention	18	5	28%
Water Supply	18	4	22%
Mechanical equipment/maintenance	18	3	17%
Special assignments by fire chief	18	2	11%
Radio Equipment	18	2	11%
Apparatus	18	2	11%
Hose testing	18	1	6%
Inventory control	18	1	6%
Station maintenance	18	1	6%
Discipline	18	1	6%
Preplans	18	1	6%
Haz Mat	18	1	6%
Dive team/technical rescue	18	1	6%
Information technology	18	1	6%
8. What responsibilities does your second line officer have?			
Fire Suppression	18	17	94%
EMS	18	16	89%
Training	18	16	89%
Fire Prevention	18	5	28%
Administrative/Scheduling	18	5	28%
Apparatus	18	4	22%
Water Supply	18	4	22%
Special assignments by Fire Chief	18	3	17%
Radio equipment	18	2	11%
Mechanical equipment/maintenance	18	2	11%
EMS coordinator	18	2	11%
Station maintenance	18	1	6%
Discipline	18	1	6%
Preplans	18	1	6%
Information technology	18	1	6%
Public relations	18	1	6%

	<u>Total # of Departments</u>	<u># of responses</u>	<u>% of Department</u>
9. Does having a dedicated shift officer in charge provide an effective means for carrying out the daily responsibilities?			
Yes	18	17	94%
No	18	1	6%
10. Does your department have a clear chain of command as to who is in charge of each of the shifts?			
Yes	18	17	94%
No	18	1	6%
11. Do your officers rotate the days that they are in charge?			
Yes	18	4	78%
No	18	14	22%
12. What are the advantages of having at least two levels of supervision on each shift?			
Please write in:			
Separation of duties by rank	18	11	61%
Help in conducting special assignments			
Distributing officer responsibility			
Having an incident commander and an operations officer			
Having a shift commander and a supervisor			
Job assignments evenly distributed			
Company officer has more interaction with shift			
Captain oversees shift scheduling/evaluations			
Provides sharing of duties			
Two lieutenants increases supervision			
Assistance on personnel matters			
Second lieutenant in charge of truck operations			
Clear chain of command	18	8	44%
Chain of command x 2			
Command structure at emergency scenes			
Clear knowledge of someone in charge			
Captain is shift officer			
Never leave to question who is in charge			
Assistance on emergency scenes			
Dedicated chain of command			
Insure an officer is always on duty	18	7	39%
Maintain at least one officer on duty			
At least one officer on duty			
Insure an officer is on duty 99% of time			

	<u>Total # of Departments</u>	<u># of responses</u>	<u>% of Department</u>
One always on duty Lieutenant is in charge when captain is off			
Company officer is in charge when captain is off Always having one lieutenant on duty			
Consistency Consistency in operations	18	1	6%
Less officer OT Less OT	18	1	6%
None Not sure	18	1	6%

13. What are the disadvantages of having at least two levels of supervision on each shift?

Please write in:

None None x 9	18	9	50%
Cost Cost Financial Minimal cost	18	3	17%
Officer may not always be on duty Officer may not always be working Both request to be off at same time	18	2	11%
Conflicting orders Conflicting orders Possibility of conflicting orders	18	2	11%
Info not always passed on Info not always passed on	18	1	6%
Less coordination Less coordination on shift	18	1	6%
Lack of unity Lack of unity on shift	18	1	6%