

Identifying Functional Efficiency Strategies for the East Whiteland Fire Department

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Certification Statement

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used language, ideas expressions, or writings of another.

Signed: _____

Abstract

The problem was that the East Whiteland Fire Department (EWFD) was unable to provide consistent and appropriate response to emergencies under its current primarily volunteer arrangement. The purpose of the research was to identify strategies to improve the functional and fiscal efficiency of the EWFD. The research questions were: (a) What fire service issues associate with the need for organizational redevelopment, (b) What best practices have resulted from similar organizations, and (c) What short, mid-range, and long-term financial impacts are identified for combination fire departments. A descriptive research method was utilized that included interviews with chief fire officials who have been a part of, or are currently a part of a transition from a primarily volunteer to a career or paid-on-call department and an analysis of manpower, response and financial statistics for the EWFD and the volunteer association. The results indicated that although there was a wide array of systemic problems associated with inadequate response, staffing and financial support within fire service organizations, the primary factors indicating EWFD departmental reorganization was needed included low staffing, decreasing volunteer participation, and deficiencies in minimum training levels. Recommendations included increases to career staffing based on proposed models and projections, consideration for alternative work schedules to support increased staffing levels, investigation of stipend programs to assist in increasing volunteer participation, further refinement of the chain of command within the organization, and an examination of current funding sources as well as possible future revenue sources to fund the department's activities.

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Identifying Functional Efficiency Strategies for the East Whiteland Fire Department

Introduction

According to a study conducted by Carroll Brubaker and Associates (2008) for the East Whiteland Township Volunteer Fire Association and the Municipality of East Whiteland Township, volunteer fire companies have historically functioned independently for many years in a relatively stable financial and operational environment. However, the report points out significant changes that have occurred on a state level over the past 20 years, including large losses of volunteer members, recruitment challenges, volunteer retention difficulties, and changing demographics that have altered the organization of volunteer fire services (Carroll Brubaker and Associates, 2008). It is clear that today's fire service faces challenges with manpower and finances that are unprecedented in its long and storied history, and the current organizational structure of what is now the East Whiteland Fire Department (EWFD) is not immune to these challenges.

The problem is that the East Whiteland Fire Department (EWFD) is unable to provide consistent and appropriate response to emergencies under its current primarily volunteer arrangement. Deficiencies in response and manpower have created concerns for the safety of firefighting personnel and community members, and they have shed light on financial inefficiencies as well. The purpose of this research is to identify strategies to improve the functional and fiscal efficiency of the EWFD. The research questions are: (a) What fire service issues associate with the need for organizational redevelopment, (b) What best practices have resulted from similar organizations, and (c) What short, mid-range, and long-term financial impacts are identified for combination fire departments. A descriptive research method will be utilized that includes interviews with chief fire officials that have been a part of, or are currently

a part of a transition from a primarily volunteer to a career or paid-on-call department and an analysis of manpower, response and financial statistics for the EWFD and the volunteer association.

Background and Significance

East Whiteland Township, located approximately 20 miles west of Philadelphia in Chester County, PA, is home to a resident population of over 10,000 people and U.S. Headquarters to several national and international firms. The township is governed by a three-person elected board of directors and a Township Manager who serves at the will of the board of directors.

The EWFD was formed in 1990 with the hiring of a single firefighter to augment the decreasing participation level of the volunteer association's membership. As of 2013, it has grown to nine, fulltime line personnel (including a supervisor), 11 part time personnel, three Assistant Fire Marshals, and the Director of Codes and Life Safety who oversees the department and concurrently serves as the township's Chief Fire Official by ordinance. Initially formed to augment the local volunteer fire department's staffing, the EWFD has evolved into the primary emergency service provider (fire, rescue, and BLS transport) for East Whiteland Township. The EWFD now has an annual operating budget of over \$2.1 million, which includes salaries, benefits and associated operating costs for the municipal career personnel (East Whiteland Township, 2013). Personnel operate out of one station and provide 24/7 coverage on a four platoon system, each platoon working 24 hours on, followed by 72 hours off. Typical daytime staffing is a minimum of three persons, but the staff is supplemented by regularly scheduled part-time shifts as well, which brings typical daylight staffing to four persons for at least 16 hours a day. In 2012 alone, there was a budget increase of \$150,000 to provide additional, regular part-

time hours seven days a week. The administrative personnel (director and assistant fire marshals) work a 40 hour work week and augment response during work hours as well as participate in call-back for operations and fire investigations at significant incidents. The most recent change in the organization of the department involved a township resolution, enacted in 2013, that designated an official emergency services chain of command documenting specific career personnel in positions of responsibility (See Appendix A).

Along with the EWFD, the volunteer fire association continues to function separately as well. East Whiteland Township makes an annual contribution to this organization (in 2012 it was \$150,000) along with paying approximately \$20K annually for vehicle insurance and general liability (the apparatus is owned by the volunteer fire association), \$50K annually for worker's compensation insurance, and \$3,500 annually for fuel costs. As part of the agreement between the township and the volunteer organization with regard to payment of insurance expenses, there is a requirement that apparatus operators have a valid commercial driver's license with tank endorsement and no air brake restriction in order to operate any fire apparatus.

In 2012, the department responded to 1,394 incidents. With ever-increasing expenses, the realization of significant administrative and operational duplication of services, and inconsistent training and education standards between the career and volunteer segments, East Whiteland Township continues to explore service improvements in order to assure a fiscally responsible and consistently high level of response to emergencies within its primary response district.

This research is important to the department and the citizens and visitors of East Whiteland Township because the department and municipality bear the ultimate responsibility for public safety within jurisdictional boundaries by state statute. From the inception of EWFD's

data collection in the National Fire Incident Reporting System (NFIRS) in 2005 through the end of calendar year 2012, total department responses have increased from 1262 to 1394: a 104% increase over the seven year time period. Over the same time,, the average turnout per incident has dropped from seven to five, or a 28% overall decrease. During this time period, full time staffing has remained at nine and part-time paid staffing has increased, indicating a substantial drop in volunteer participation (See Figure 1 for a snapshot of the comparison between incidents per year versus average turnout per call). With reliable data in hand, failure on the part of township officials to identify strategies designed to maintain or improve public safety services in a manner that is safe for department personnel and fiscally responsible to the community may result in potential liability to the township. More importantly, without changes to the current arrangement, the residents and visitors of the township will be placed at an increased risk relative to effective emergency response.

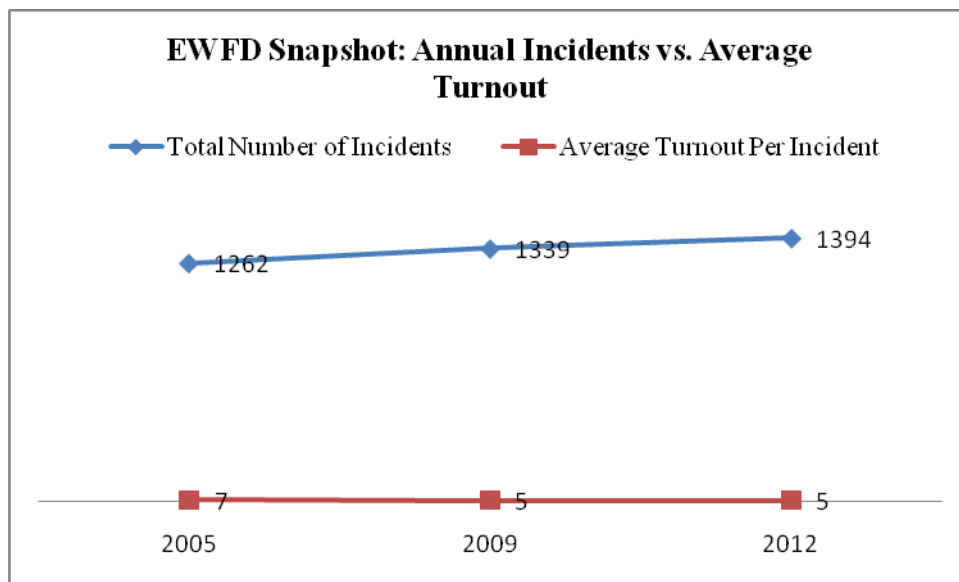


Figure 1: EWFD Snapshot: Annual incidents versus average turnout

This research aligns with the Executive Fire Officer Program (EFOP) course Executive Analysis of Fire Service Operations in Emergency Management (EAFSOEM) in its intent to help

analyze and identify strategies to improve fire service levels of preparedness, and it aligns with the United States Fire Administration Operational Objective #3, to improve the fire and emergency services' capability for response to and recovery from all hazards.

Literature Review

The author began the study by reviewing available literature that addressed the first research question: *What fire service issues associate with the need for organizational redevelopment?* It is well documented that the volunteer fire service suffers from ever-increasing challenges with regard to recruitment, retention and funding. While this general conclusion is consistent across the United States, Pennsylvania has seen a particularly high impact.

Since Benjamin Franklin helped form the first volunteer fire company in Philadelphia in 1736, Pennsylvania has had a strong tradition in volunteer firefighting. In fact, the state still retains the most volunteer fire companies of any state in the country (Smith, 2013). The pride of volunteerism does not come without challenges, however. According to National Volunteer Fire Council (NVFC), although volunteer fire companies make up about 70% of the nation's firefighting service, volunteerism has been on a drastic decline (2007). In fact, the NVFC estimates that volunteer membership has declined at a rate of 2%-3% annually (2007). Case in point: According to Siebert (2013), The Braddock Hills Volunteer Fire Company outside of the City of Pittsburgh recently failed to respond to a house fire across the street from their fire station, prompting responses from neighboring fire companies to extinguish the fire. As a result, Braddock Hills's government officials have solicited assistance in the form of protection proposals to provide fire protection for their municipality, citing lack of volunteers (Siebert, 2013).

The decline of volunteerism has forced municipalities and fire departments alike to explore alternatives to providing adequate fire and emergency services to their jurisdictions. One of the issues that the fire service faces with regard to service levels is that community needs and resources vary greatly, creating a situation where a “one size fits all solution” is impractical and in many cases cost prohibitive.

Further complicating the matter is the increase in average age of volunteers and a marked increase in training requirements that have been handed down (many as mandates from the Federal Government), upon fire departments. In Chester County, PA, in an effort to assist local fire companies in meeting minimum requirements for firefighters, the current recruit firefighter (FF-I) program now consists of 172 contact hours over a span of nearly three months (Chester County Pennsylvania Department of Emergency Services Training website, n.d.). Included in the program in addition to basic firefighting knowledge and skills are National Incident Management System (NIMS) components, required hazardous materials training, and live fire evolutions as well as the opportunity to test for the National Firefighter I certification at the conclusion of the program. While beneficial to recruits, programs such as this one place a tremendous strain on volunteers that are already pressed for time, in turn causing recruitment and retention difficulties for fire departments across the state and country.

While calls for service increase and organizations press their members to participate in more fund-raisers to stay solvent financially, volunteer member availability has declined due to increased work and family commitments, making turnout numbers inconsistent based on the time of day and day of week (LeFever, 2013). In fact, the highly technical nature of the work involved in providing firefighting services adds even more pressure. In Rice Township, PA, for example, township supervisors recently noted that a lack of volunteers certified to operate

emergency vehicles has forced them to add neighboring agencies to emergency calls in their jurisdiction in order to provide required services (Rushton, 2013).

In the volunteer fire service, funding for everything from every-day operational expenses to capital improvements tends to fall squarely on the backs of the members. According to Smith (2013), at least 50% of the Litiz (PA) Fire Company's budget is self funded. In fact, in 1995, the Litiz Fire Company saw a return rate of 54% on their annual fund drive solicitation; that number is now down to about 25% for many companies in the region (Smith, 2013). Examples such as this one underscore the need for proper organizational financial planning that accounts for community needs and provides adequate data to municipal officials. Coleman (2006) states: "Financial planning should be based on the organization's strategic or master plan goals and objectives. If the plans are current and valid, they will address most of the reasons why a department has needs to be fulfilled or sustained" (p. 45). Running a fire department and providing adequate emergency services to a community cost money, and proper forward thinking in terms of the ability to develop or sustain such service levels must be initiated and revisited on a regular basis.

While the volunteer fire service remains steadfastly in the limelight with regard to operational inefficiencies, the reality is that no fire department, volunteer or career, is completely immune to the operational and fiscal challenges faced in today's economic climate. In fact, many career and combination fire departments have suffered drastic cuts to manpower due to budget reductions. In Benton Harbor, MI, the fire department that was once staffed with 12 full time personnel has been reduced to only three total personnel, or one per shift (Matuszak, 2013). Such drastic reductions in staffing not only impact community safety, they also affect the personal safety of the firefighters still employed.

Training inconsistencies are another common obstacle that fire departments in transition must overcome. Whether the organizational redevelopment is contained within a single jurisdiction or there is consideration given to consolidation with other jurisdictions, there is often a disparity (in training levels) among volunteer and career members and members of different organizations. Garrisi (2001) suggests that consistent training standards should apply across the board and include basic components such as national certification levels of Firefighter I & Firefighter II, which contain embedded prerequisites that enable organizations to better meet federal mandates as well. In most cases, an already established contingent of career firefighting personnel will set the training benchmark for volunteer members wishing to participate, especially because there are typically no set standards that volunteer organizations follow (Garrisi, 2001).

In the case of fire and emergency services, many of the desired outcomes are difficult to measure. Outcomes such as lives saved (or not lost) and property not lost are hard to calculate (Hatry, Fisk, Hall, Jr., Schaenman, & Snyder, 2006). For this reason, it is essential that comparisons drawn with departments of similar size and makeup serve as a primary means for meeting an organization's desired outcome. Hatry, et al. (2006) suggest that to accomplish the task of measuring fire protection and prevention outcomes, measures should be created within each category by which data can be collected and analyzed. The conclusions derived from the collection and analysis of such data can serve as important support for financial assistance and defense in all phases of financial planning.

Indeed, whether the fire department is volunteer or career, it is still a part of a larger governmental organization, and government is tasked with making judicious decisions about how to spend taxpayer money. As Behn (2003) points out in further defense of performance

measurements, there are several reasons for doing so, including: Budgeting and financial planning, agency promotion to the public, informing politicians and other stakeholders, learning more about what is working and what is not working, and discovering ways to improve performance.

Bruegman and Smith (2006) point out that master planning, long-range capital and financial planning, and short-term operational plans must also be included when determining the direction of a fire department.

Dr. Harry Carter summarizes the vast array of issues that plague modern fire departments by documenting that changing societal views of volunteer fire departments, more mobile populations, and an aging population are driving factors in organizational redevelopment, further suggesting that any community lacking adequate fire department staffing or response, regardless of the reason, becomes a prime candidate for reorganization (Carter, Ph.D., 2000).

The author continued reviewing available literature to answer the question: *What best practices have resulted from similar organizations?* The identification of best practices that have resulted from similar organizational redevelopment must be considered, and according to Casner (2006), a good place to start is to conduct a needs assessment in order to determine where the fire department is not meeting its mission. Whether the deficiency is in administration, firefighting, apparatus operation, training, or some other mission critical component, an honest needs assessment will provide a starting point for sound organizational improvement. In the case of Casner's department, the assessment identified a need for an administrator. This process then moved forward with a systematic development of a job description, investigation of any charter changes or ordinances that were needed to document the relationship between municipal and

volunteer entities, and a general idea of what the ideal candidate's attributes might look like (Casner, 2006).

Another prerequisite for any organizational assessment must be honest and direct communication to all affected stakeholders. The development of sound communication methods and paths has become a mainstay in organizational redevelopments; their level of effectiveness has a direct impact on the success of the redevelopment. As Bushnell (2001) states: "Honest communication from management toward both labor groups (career and volunteer) should be maintained and enhanced. Initial efforts should include empirical data for the volunteer staff to demonstrate the need for career staffing" (p. 48).

In central Arizona, the concept of community-based fire stations is a cornerstone to the critical components identified by the Central Arizona Life Safety Council in providing essential fire, rescue and emergency medical services. The communities covered under the Central Arizona Life Safety Council are beneficiaries of a modern automatic aid system that has helped jurisdictions increase levels of service and weather difficult economic times (Central Arizona Life Safety Council, 2004). While this automatic aid system (a system that guarantees by contract, response from the closest available unit(s) to an emergency) is the backbone of their standard of cover, there are many individual best practice components that are incorporated within to provide consistency in service delivery. These components include Consistent training standards and minimum training requirements; a minimum of four personnel on each engine and truck company; similar capabilities in terms of equipment carried on apparatus in addition to the minimum manpower requirements; and shared technology and cost savings based on the use of one of only two emergency dispatch centers in the state of Arizona (Central Arizona Life Safety

Council, 2004). Their system has clearly helped the participating fire departments to navigate tough economic times while at the same time maintaining safe operating levels for personnel.

The Benton Harbor, MI fire department is an example of a small organization that lost 75% of their career firefighting force due to budget cutbacks, going from 12 full time personnel to three (Matuszak, 2013). In response to this reduction in force, two competing solutions emerged: The establishment of a public safety department where police officers are cross-trained as firefighters and carry turnout gear in their patrol vehicles in order to supplement the response to fire emergencies, and the potential merger or consolidation of Benton Harbor's fire department with neighboring communities' departments in order to maximize resources and reduce costs (Matuszak, 2013). Both concepts under consideration have been utilized in different areas of the country as part of organizational redevelopment initiatives, but it is critical that each option be investigated thoroughly in order to determine practical viability not only from a financial standpoint, but also from a "human" standpoint before making any wholesale changes to the operational aspects of a fire department.

There is also evidence that organizational redevelopment can go beyond assisting in more rapid and efficient response to emergencies. In central Pennsylvania, the residents of two towns, Kingston and Forty Fort, have been beneficiaries of a regionalization of their emergency services not only from a response standpoint, but also from an insurance premium standpoint. Konkle (2013) points out that along with service improvements to the community, Insurance Service Offices (ISO) ratings have come down in the communities as well, because the combining of services has increased the department's protection rating. The end result can be less expensive insurance premiums for property owners.

The author concluded the literature review by addressing the question: *What short, mid-range, and long-term financial impacts are identified for combination fire departments?* It is widely accepted that the funding choices made by organizations directly affects the viability of both career and volunteer fire departments (United States Fire Administration [USFA], 1999). These funding choices are not only intertwined with strategies for fire protection and prevention, they are also “...major political decisions of an appropriate sort in a democracy” (USFA, 1999, p. 9-4). There are a wide range of services that modern fire departments provide. Short term, mid-range and long term financial planning should be considered based on the specific services the organization is tasked with administering, as well as on the input from community stakeholders that understand dependence on either career or volunteer services each comes with associated costs and benefits. Although budget performance measurement is not necessarily the most optimal tool to use when evaluating a fire department’s performance, it can shed light on certain spending trends. Perhaps even more importantly, though, it can also help to identify underfunding as a possible cause for underperformance, as long as managers realize it poor performance can also be a function of factors that money can’t fix (Behn, 2003). From a management standpoint, the importance of identifying these issues and their true causes cannot be understated.

Aside from master planning and long range projections, everyday operational costs, including purchase of necessities such as turnout gear and basic firefighter training, also have deep impacts on volunteer and career organizations alike. Estimates range from between \$5,000 and \$8,000 to train and equip a new firefighter, and this money has to come from municipal funding, organization fund raising events or some combination of the two, unless somewhat scarce grant funding is obtained (LeFever, 2013).

Whether the funds come from fund-raising, tax levies, or other revenue sources, the fact remains that costs almost always increase as time goes on. Many communities that depend on tax revenue for fire department funding are scrambling to identify revenue streams that can fund emergency services without consistently increasing the burden to the taxpayer. Career fire departments across the country are now initiating station closings and rolling “brownouts” (the temporary closing of a company or companies to cut overtime costs) in order to control their reduced budgets. In Durango, Colorado, officials have proposed a solution to providing fire protection services by officially de-annexing the city from the Durango Fire Protection District through a new, long-term contract that keeps fire protection services in place without increasing property taxes (Haug, 2013), proving that the fire service funding dilemma is not restricted to volunteer organizations alone.

Even the unknown and unexpected have financial impacts on fire service organizations. In Burnside, PA, a recent accident that involved a vehicle crashing into the local firehouse has caused concern among members because they fear insurance coverage will not adequately cover the cost of repairs to the building (Wisienewski, 2013). The event has resulted in company officials being forced to consider holding fundraisers specifically organized to pay for the damage in addition to fundraisers already being held just to pay the bills (Wisienewski, 2013).

The information gleaned in the literature review indicates that significant adaptive challenges exist in fire department organizational redevelopment. The literature review supports the idea that there is no simple solution to the problem of providing adequate emergency services in a safe and efficient manner; rather, there are a multitude of factors that influence the problems fire departments and municipalities face when addressing this subject. The programmatic means by which these problems can be addressed are numerous, but they must be tailored to fit each

organization's needs and limitations. This literature review served to document the major factors in organizational redevelopment and allowed the author to consider examples of other departments' best practices as part of the process of identifying recommendations for solutions for the EWFD.

Procedures

The procedures used to identify strategies for improving efficiency in the EWFD were:

(a) The distribution of interview questions to four (4) chief fire officials that have specific experience in transitioning fire departments from primarily volunteer to career, combination or paid-on-call organizations (See Appendix B), and (b) An extensive analysis of EWFD and the volunteer association's pertinent fiscal data, manpower statistics, response statistics, current hiring practices, and strategic planning.

The interview participants were: Dave Camarda, Fire Marshal for Whitpain Township in Montgomery County, PA, Rick Kane, Fire Chief in Manheim Township, Lancaster County PA, Rick Kline, Fire Chief for the Plymouth Fire Department in Plymouth, MN and co-author of the Firehouse Magazine column *20 Tough Questions for the Fire Chief: Are you Prepared to Answer Them?*, and Matt Norris, Fire Chief of the Berwyn Fire Company in Chester County, PA. Camarda and Kane lead and manage career personnel in combination fire departments that also utilize volunteer personnel in operational and administrative capacities. Their department make-ups and demographics are similar to that of East Whiteland Township, and they are located within the same region in southeastern PA. Kline leads a paid on-call fire department with an authorized strength of 78 personnel. He manages the department with an administrative staff that also includes a career deputy fire chief, two career captains and a fire safety technician. Norris leads a combination fire department that originated as an all-volunteer organization and

has since expanded to include career personnel on a 24/7 basis. Again, the Berwyn Fire Company is of similar size and complexity to that of East Whiteland Township's organization.

The interview questions were written to specifically address each research question and categorized in that fashion. All correspondence was conducted via email and document attachments, with the respondents submitting their answers to the interview questions electronically. Similarly, data sets that were selected for analysis served to address each research question specifically. All results obtained from the research procedures were compiled and categorized based on the research questions and categorized in that fashion.

This research is limited to the responses from the interviewees and the data available for analysis within the EWFD and the volunteer organization. With regard to EWFD financial data (historical and projected), this research is limited to personnel costs; it does not include predicted operational cost increases such as cost of uniforms, turnout gear, or other operating costs associated with an increase in staffing, nor does it include the cost of employer paid taxes and benefits that typically vary significantly across jurisdictions. The research is further limited by the relatively short (six month) timeframe allowed for completion of the project. Although this research is replicable through similar interview techniques, data collection and subsequent data analysis, the unique nature of the challenges organizational redevelopment challenges facing fire departments across the country underscore the importance of conducting research that draws comparisons from departments of similar size, complexity and associated government structure.

Results

Interview subjects answered the following questions in order to address the research question: *What fire service issues associate with the need for organizational redevelopment?*

Author: Please provide a brief history of the evolution of your department from an all volunteer organization to its current organizational structure.

Camarda: It started with funding issues, response issues and disgruntled paid staff being raised to the municipal leaders. The service was receiving significant funding and had hired two duty firefighters.

Kane: In 2007 our municipality had a retirement of a full time Fire Coordinator position. This position had been in place since 2001 and was an administrative only position that was intended to perform administrative duties for the volunteer stations. This position had a poorly written job description and it never really provided any tangible benefit. Upon this person's retirement, the volunteer stations requested a change to a Fire Chief's position so that there could be operational support instead of administrative only. The Township agreed and hired a full time Chief. This new position was tasked with overseeing a strategic planning process for the fire service, which ultimately led to implementation of supplemental career staffing in 2010, which is marked as the beginning of our combination system.

Kline: The department has operated since 1960, its inception, as a paid on-call service. We operate out of three fire stations and average around 1,400 calls per year. In addition, our members log over 7,000 hours of training each year. We have nearly 80 call firefighters and are supplemented by a traditional volunteer page-out system.

Norris: Berwyn Fire Company has slowly transitioned from an all volunteer to combination department over the past 25 years. It has slowly gone from a "paid driver" during the day to full time staff providing 24 hour coverage. Originally driven by need for Emergency Medical Service (EMS) personnel, the staff has developed into a vital part of the everyday function of the company.

Author: Specifically, what were/are the driving factors that caused the transition in your organization to take place? (Include, manpower, financial, duplication of services/command and control, etc.).

Camarda: These positions turned over quite frequently due to supervision confusion, constant changes and salary matters. The supervision kept changing from the chief to the directors to the president and back and forth. Staffers were promised a salary at interview and then started at a lower rate, with subpar benefits. When the staff threatened legal action, the company requested the township take over the oversight of the staff. During this changeover, it was discovered that the company was using funds outside the approved budget that was set forth. Also, there was information that was uncovered regarding failed or delayed responses. There was a short study completed by two local fire service professionals that also outlined the issues and the need for additional career staffing and township oversight of the department.

Kane: The driving factors were increased call volume which was creating more burden on the volunteers, lack of financial support from direct mail fund raising which required the implementation of a municipal fire tax, lack of organized command structure, and lack of standard operating practices.

Kline: The local economy as it impacts municipal services has a great influence on the scope and scale of service delivered. We are no different than any other community in this regard. Many communities have needed to shift resources (funding, personnel) in an effort to support their core mission. Some may chose to down size or eliminate seldom used services, eliminating or redeploying (repurpose) areas of waste or contract historically provided service(s). If the community or local government is not satisfied with the level of service, typically measure by response time, fire loss, or catastrophic event may move a department to consider alternative

delivery options. An example may be when comparing response times throughout the response area. Should all our customers receive the same level of service, i.e. a six-minute response time or is it acceptable to have differing times by time of day, day of week, area, etc.? (A philosophical question, I know). Since we have operated the same (paid on-call with volunteer support) from inception, we focus on areas such as response time, manpower needed, and often look at items such as appropriate vehicle use for certain responses and other operational issues.

Norris: Manpower for EMS and then a need for fire staffing too. Transition to an Advanced Life Support (ALS) service in 2001 doubled our staff.

Author: Please describe your chain of command/rank structure and whether there is or was any duplication of duties or conflicts with rank/responsibility between volunteer and municipal personnel.

Camarda: After the transition, the township prepared a “fire protection services” ordinance outlining the department’s hierarchy that included a township selected Fire Marshal/Chief Fire Officer. This position was to be the highest ranking officer in the chain of command. The fire company maintained a Fire Chief, Deputy Chief and other officers. The regulations were clearly spelled out; however, more often than not, the company officers would ignore the township leader and prepare their own policies and procedures. On several occasions, the company leaders would “back door” the township official and complain to members of the Board of Supervisors that their existence was threatened by requirements of the township official. This scenario continued until September of 2010 when the township official was removed from any oversight of the fire company. The paid staff are again controlled by the volunteer fire chief; however, I must note, this individual is a township public works employee. That said, when the township wanted a change to Quick Response Service (QRS) responses and

the fire company balked, the “chief” was reminded of his allegiance and the changes were quickly made! As of today all may seem well; however, what will happen when a new chief is elected? Who then will control this department? We shall see.

Kane: Career Fire Chief and career Deputy Chief top the command structure, followed by volunteer station chiefs and volunteer line officers. Volunteer chiefs previously had no reporting requirements above their level so duplication and lack of consistency was high. Now a clear chain of command with career officers at the top has increased the effectiveness of the entire officer staff. There have been no issues between career and volunteer members with this structure.

Kline: In addition to me, a career deputy chief, two career captains and a fire safety technician compliment the rank structure. There is no duplication of rank with regard to volunteer personnel.

Norris: Tredyffrin and Easttown (the two townships that we serve) do not have any municipal personnel that have emergency response responsibilities outside the police department. Tredyffrin has one codes enforcement/building inspector. Easttown sub contracts code enforcement/building inspection to a third party. Berwyn Fire Company operations consists of a volunteer Fire Chief, volunteer Deputy Chief, two volunteer Assistant Chiefs, one volunteer Captain, two volunteer Lieutenants and four career Lieutenants. The paid Lieutenants each work one 24 hour shift on a four day cycle, thus providing 24 hour/7 day officer point of contact. EMS operations is managed by a volunteer Captain, two volunteer Lieutenants, a volunteer Medical Director and career ALS Coordinator. EMS command roles up into overall incident command, which is usually staffed by fire officers, in the event of an incident.

Author: Please describe any other issues specific to your department that are driving/have driven organizational redevelopment, if any.

Camarda: It has always been my opinion that when the volunteers didn't get their way, the threat of them quitting would spark concern from the elected officials of rising costs of paid staff. They used that technique several times during my watch, but it was the full study done in 2009 that caused the camel's back to break. The study, completed by Tri-Data Corporation presented one such issue, indicating that the volunteer members did not recognize the legal authority of the fire marshal to regulate fire services in the township. Similar studies in the past have also recommended the appointment of a township official (fire marshal) as the chief fire official for the township in order to avoid duplication of rank and responsibility. Essentially, the laws have changed in the township to meet this recommendation, but the attitudes of the volunteer members have not.

Kane: We continue to transition towards career station officers as our next staffing move. Suppression level personnel are sufficient; we continue to battle lack of appropriate station level officers, so implementation of career station officers is the next step.

Kline: Community demographics may move decision makers to revise their historic delivery methods. Volunteer agencies that are losing its base of membership (lack of volunteer firefighters) and are unable to meet the minimum service benchmarks may bring about change. A shortage of volunteer members, in a growing or aging community should signal a need to research alternatives to service. This is especially true if statistical trends support a continued loss of members.

A change in mission, such as acquiring primary EMS response may bring a need to reconsider the organizational model. In this case, the addition of personnel to meet the staffing

demand may help with overall staffing (on paper at least). Depending on the system demands and requirements, this could be a two-edged sword. The end result could be additional expenditures, while not realizing a gain in overall staffing. The cross-training of existing personnel may be a benefit to the agency. Although we are not currently an EMS provider, we are constantly monitoring demographics, staffing, call volume and the general political climate in order to stay ahead of the curve.

Norris: Designating four career Lieutenants was our most recent change. The need was identified for an officer/point of contact/command presence to be available 24 a day. While the staff already had the qualifications to fill the role prior to appointment, their skills and command responsibilities were not always recognized by other agencies, leading to mutual aid companies being confused as to who was in command of a Berwyn Fire Company incident if volunteer officers were not present. The addition of career Lieutenants created an external point of contact. Internally, the career Lieutenants filled a much needed leadership role within the paid and volunteer ranks. While the staff in these roles was already serving the role, their official designations gave them the recognition and flexibility to make day to day decisions impacting our readiness.

In addition to the interviews, an internal analysis of both EWFD and the volunteer association's most recent manpower levels with respect to minimum qualifications was completed using data from the calendar year 2012. Currently, in order for any member (career or volunteer) to be qualified to participate in interior firefighting operations, he or she must be nationally certified to the FF I level, at a minimum (See Table 1). In addition, average manpower response per call data was compiled. This information is available beginning in 2005 when the National Fire Incident Reporting System (NFIRS) began to be utilized by the EWFD

(See Table 2). Career staffing includes two personnel on each of four platoons working 24 hours on, 72 hours off, plus a daytime supervisor who works a 40 hour work week. The total average response is a combination of career and volunteer personnel as entered into the NFIRS software. It is important to note that the total turnout statistics is inclusive of *all* responding personnel, including support (exterior operations) personnel and fire police officers.

Total # Volunteer Personnel	FFI Certified	EMT Certified
39	19	6
Total # Career Personnel	FFI Certified	EMT Certified
20 (Includes P/T Personnel)	20	20

Table 1: Training level comparison, career vs. volunteer

Year	Average Turnout Per Incident 2005-2012	
	Average # Personnel Responding	# of Full Time Career Personnel
2005	7	3 (2+1)
2006	6	3 (2+1)
2007	6	3 (2+1)
2008	6	3 (2+1)
2009	5	3 (2+1)
2010	5	3 (2+1)
2011	5	3 (2+1)
2012	5	3 (2+1)

Table 2: Average turnout per incident; 2005-2012

Information specific to EMS response and the crew makeup was also compiled. Due to a recent change in EMS incident reporting, accurate information was only available starting in 2012 (See Table 3).

Year	EMS Response Staffing	
	Career Crew (Calls/Percentage)	Volunteer Crew (Calls/Percentage)
2012	908 / 94%	133 / 14%
2013 (1 st Qtr)	316 / 99%	18 / 1%

Table 3: EMS staffing comparison

Finally, the total revenue generated through ambulance billing for 2011 and 2012 was obtained (the only historical statistics available in this category). The results indicate that in 2011, a total of \$176,608.00 was received by the volunteer association, and in 2012, a total of \$296,836.00 was collected. There was *no* reimbursement to the township for any costs associated with career staffing on the ambulance.

Interview subjects answered the following questions in order to address the research question: *What Best practices have resulted from similar organizations?*

Author: Based on your organizational redevelopment, have you established any standard qualifications for personnel, regardless of status as paid or volunteer?

Camarda: Although we attempted to have standards for all department members, I was unable to get that accomplished for volunteer members. I did prepare a minimum standard for the position of career firefighter/EMT and for Part Time Deputy Fire Marshal.

Kane: All volunteer positions did previously have job descriptions in standard township-wide SOP's. Job descriptions have been created for career chief, career deputy chief/safety officer, and career FF/EMT personnel.

Kline: All members must obtain and maintain minimum training standards. All are required to be state certified as Firefighter I (FF I), Firefighter II (FF II), Hazardous Material Response – Operation Level and First Responder or EMT. With the exception of the medical requirement, all must be obtained within the first year of employment. We allow three years until the first responder or EMT requirement must be met. All members must also participate in department training activities to maintain active status.

Norris: A minimum of state or national Firefighter I certification is required within the first year of membership for volunteers. Career staff must have at least state or national Firefighter II certification, Pump Operations, and an EMS skill. We also try to hire the most experienced people we can.

Author: *Does your organization provide EMS services to your jurisdiction, and if so, to what extent does EMS billing help to offset personnel expenses?*

Camarda: QRS Service is provided by the fire department on all accidents, calls where the primary ambulance is busy and calls with multiple victims. We do not bill whatsoever for these calls; we do get some supplies replenished by the primary EMS provider.

Kane: We provide QRS service only, and we do not charge for the service.

Kline: We do not offer QRS. We provide radiological response for the state's two nuclear power facilities. This is funded through a state grant.

Norris: EMS billing comprises about 65% of our operating income. We provide both Basic and Advanced Life Support transportation services.

Author: Has your organization developed a “standard of cover” either with respect to minimum manpower or number and type of apparatus, for its responses?

Camarda: No. I am quite certain that our fire service doesn't even know what a standard of cover is, in terms of minimum personnel and/or apparatus required.

Kane: An attempt was made during strategic planning at a standard of cover document; however, this was never fully implemented. The agency is intending to pursue accreditation, so a standard of cover document is on the radar to be developed.

Kline: No. We benchmark services, but not a formal standard of cover.

Norris: We don't have a minimum staffing level on the apparatus, but our box assignments do have minimum apparatus responses based on type of incident and location (example: three engines and two ladders on a medium hazard box). EMS is required to have an EMT and paramedic on duty 24/7.

Author: Has your organization developed and/or implemented any incentive, paid-on-call or other stipend program to recruit and retain volunteers to supplement career staffing? Please describe any programs, their requirements, and give your opinion on their success level.

Camarda: There are incentives provided to our volunteers; however, the township does not know how they are managed.

Kane: A quarterly incentive program was approved as part of the strategic planning process. This program requires a point total of 25 per quarter, accumulated in a variety of ways including call response, training hours, meeting attendance, etc. If 25 points is obtained, the volunteer is rewarded with a \$50.00 gift card. If all 4 quarters in a year are obtained they receive a bonus \$100.00 gift card. This program was intended as a recruitment tool, but it has ended up

being a retention tool that is working with moderate success. The dollar payout is not enough to really grab their attention.

A retirement program is in place. Active volunteers get \$500.00 a year while active administrative members get \$250.00 a year, all based on the same point system described above. This program also designed for recruitment. Today the program is not an incentive for new members and is not much of a retention tool for younger members who do not see retirement age as anywhere in their future, so it has had mediocre results at best.

Kline: There are five pay levels within the paid-on-call wage system. Each wage level is based upon time-in-grade and training level. Members are paid on an hourly basis. The wage range is: \$11.19 to \$13.73. Minnesota also has an excellent pension/length of service (LOS) system for its volunteer/paid on-call (POC) firefighters. Funding is derived through a state sponsored fee added to resident property tax to support the statewide pension system.

Norris: No specific program has been established, although we provide a small stipend of \$1/call on an annual basis to volunteers that meet their quota requirements.

Author: *As part of your reorganization, does your department participate in any contractual automatic aid agreements?*

Camarda: We have one signed automatic aid agreement with Norristown Borough. It outlines minimum training requirements our personnel must have to respond there and who is responsible for damages to equipment or injury costs.

Kane: Yes – with Lancaster Bureau of Fire, an all career agency that borders us.

Kline: We have automatic mutual aid agreements with all the communities that surround Plymouth. Auto aid is used on a 24/7 basis and provides city wide coverage.

Norris: We don't have any contractual fire mutual aid agreements, but we do respond to mutual aid requests.

Author: Is your reorganization backed by an ordinance, resolution, or some other legal document or statement that clearly defines the chain of command/responsibilities? Please explain.

Camarda: Our ordinance has been changed to indicate that the fire chief elected by the fire company is the department's leader. It does not specify anything else.

Kane: Strategic planning called for changes in the ordinance; this project has not been completed as required. Elected officials do not think it is urgent, so the project has not moved very rapidly, but will be done at some point.

Kline: Yes, it's a city fire department in terms of providing the service to the community.

Norris: We are designated annually by the townships we serve as the primary emergency services provider for the coverage territory they have determined. No other legal requirements surround our response.

The analysis of EWFD hiring practices shows that since the inception of the career firefighter program, minimum qualifications have been in place for hiring purposes. Specific to job function, those minimum qualifications are: Certification at FFI Level or above, EMT-Basic certification through the PA Department of Health, Pump Operations, Hazardous Materials Operations Level, and a valid commercial driver's license with tank endorsement and no air brake restriction. While many EWFD career personnel have voluntarily attained higher levels than required, the implementation of this hiring practice has allowed the EWFD to maintain a well qualified staff.

Interview subjects answered the following questions in order to address the research question: *What short, mid-range, and long-term financial impacts are identified for combination fire departments?*

Author: By what method(s) is organization currently funded? Please describe the methods of funding for both operational and capital expenditures as well as any strategic planning you are undergoing.

Camarda: Whitpain Township has a fire tax enacted and this is the primary funding source for their operation and capital budgets. The fire marshal is funded from the general budget. I started an apparatus replacement schedule and that has since been changed to remove a 75' quint and add a 100' tower. There is some planning; however, that seems to change with what the present day folks now want.

Kane: All funding, capital and operating, is now provided 100% by a municipal fire tax set at .43 mills. This millage rate generates approximately \$1.8 million annually. Additional costs are offset by a combined Firefighters Relief Association which receives about \$325,000.00 from the state annually.

Kline: There is no money tree in municipal government. We are all battling for the limited funding available to provide our services. With that said, strategically planning for the future is essential. Part of this plan involves the level of service and how that is delivered. Changing organizational models can be expensive and our decision makers are often not enamored in making such "drastic" (in their eyes anyway) moves. Costs are generally associated with people. People cost money and if you're adding career personnel, a lot of money in pay and benefits. Cost off-sets should be identified. If I do this (add people) what am I getting in return? Can this move save us money in the long run? Capital cost saving could include consolidation of

stations, delaying the addition of new fire station(s) or use of hybrid type response vehicles to replace traditional larger apparatus. Perhaps the move will result in the requirement for *less* staffing or by using volunteers to satisfy staffing needs.

Norris: EMS billing (65%), Township funding (20%), Fundraising efforts including direct mail campaign (20%), Communications tower rental (5%).

Author: *Does your municipality provide any financial support to an existing volunteer organization that still has jurisdiction in your response area, and is this in addition to funding a career/municipal initiative?*

Camarda: We only provide funding to the township fire company, Centre Square. The career personnel are employees of the township and paid directly by the township.

Kane: Allotments are provided to all three (3) existing volunteer stations for operations as part of the fire tax budget. This is in addition to funding for all career positions.

Kline: No.

Norris: The townships we serve provide funding that covers approximately 20% of our operating expense, which includes staff, apparatus, facilities and more. They also provide a small amount of funding for capital expense such as apparatus replacement annually, about \$150K per year.

Author: *What would you identify as your top three (3) priorities within your organization in terms of future financial impact, and how are you attempting to address those issues from a financial standpoint?*

Camarda: The top priority right now is the replacement of the fire station which was outgrown 10 years ago. A new station is needed SOON. I know of no other priorities beyond this.

Kane: These items would be: 1) Next round of apparatus replacement (3 units) in 2016; 2) Additional career staff as early as 2014; 3) Fire station construction projects. All of these items will come from the municipal fire tax, which is anticipated to have the millage rate raised in 2014.

Kline: Planning efforts should identify expected cost from inception to long-term (10-years). Personnel cost (pay, benefits, uniforms, etc), training, equipping, overhead, facility and associated expenditures can be outlined to provide a base for cost estimation. Pursuing personnel grant options (SAFER) may assist with short term cost with the recognition that assumption of costs will occur at some point.

Norris: We are currently in the very preliminary phase of analyzing the need/impact of a substation to service the north end of our territory. This includes the need for additional staffing and a building. This is most likely a 10+ year project. In addition to a possible substation, the current firehouse is aging quickly. To replace it will be a multi-million dollar project. Funding scope and sources have not yet been identified. In conjunction with the substation analysis, we continue to analyze our need for paid staff. Although not specifically identified on any long range plans, (in my opinion) we will see a need for an increase in paid staffing in the next 5 to 10 years if not sooner. Capital needs for equipment and apparatus are currently met at this time; however, that could shift if the need for other capital projects (station[s]) or operating expenses (increased staffing) arises without a corresponding increase in income sources.

An internal examination of EWFD data included a staffing cost comparison beginning in FY 2012 (historical) and continued with projected data through FY2016. The data compares full-time career staffing and associated personnel salary costs, including overtime and holiday pay. It also includes examples of proposed staff increases, corresponding schedule formats, and

cost of salaries for each option including the use of “Kelly Days” (built in days off within the set schedule to avoid payout of overtime within a pay period) in the 24/48 schedule format to contain salary costs based on an increased work week (See Table 4).

Fiscal Year	Number of Personnel	Salary
FY 2012 Actual	9 (2+1)	\$526,023.00
FY2013 Forecasted	9 (2+1)	\$599,404.00
FY2014 24/72 (Proposed)	13 (3+1)	\$876,772.00
FY2014 24/48 (Proposed)	13 (4+1)	\$876,772.00
FY2015 24/72 (Proposed)	13 (3+1)	\$903,084.00
FY2015 24/48 (Proposed)	13 (4+1)	\$903,084.00
FY2016 24/72 (Proposed)	21 (5+1)	\$1,502,592.00
FY2016 24/48 (Proposed)	16 (5+1)	\$1,144,836.00

Table 4: Career staffing models and cost comparison

Discussion

What fire service issues associate with the need for organizational redevelopment?

The NVFC (2007) asserts that although the number of volunteer fire departments in the United States far outweighs that of career departments, there has been a steady decline in volunteer participation (at the rate of 2%-3% annually). Concurrent with the NVFC's assessment, Siebert (2013), LeFever (2013), and Matuszak (2013) all describe measures that

municipalities are taking as result of reduced manpower. These measures include the solicitation of proposals from neighboring departments and consideration of alternative approaches to staffing, such as conversion to public safety departments. Interview respondents generally concur with this approach. Although there were minor differences in the makeup of the respondents' departments, with the exception of Kline, (whose department has maintained paid on-call status since 1960), all other respondents point directly to a decline in volunteers coupled with increased call volume as primary drivers in their need for reorganization. In fact, in Kline's case, although the paid-on-call system has been in place for decades, the difficulty in drawing consistent manpower response to maintain safe fireground operating levels remains a challenge. Further, as indicated by Rushton (2013), the lack of availability of qualified apparatus operators has also forced officials to explore alternative options to staffing. This issue directly aligns with EWFD's requirement that all apparatus operators maintain a commercial driver's license. The lack of qualified volunteers to operate their own apparatus places an additional burden on the career staff and the township.

The interview results were also conclusive in establishing that there were specific, significant factors that contributed to the need for reorganization beyond staffing problems. As Matuszak (2013) points out, regardless of status as volunteer, combination, or career, many departments have experienced significant budget cutbacks that have deeply impacted their ability to maintain safe levels of service to their communities. The need for long-term financial and strategic planning along with outcome-based performance measurements (that are somewhat difficult to identify and document in the fire service) is clearly indicated in the literature review, as Hatry, et al. (2006) and Coleman (2006) describe. The interview respondents overwhelmingly concur with the literature review with respect to the financial impacts on their organizations'

operational capabilities. They specifically define municipal funding issues, the need for career personnel in leadership positions to research and implement such strategic and financial plans, and significant decreases in the level of direct mail and other fund-raising efforts. For example, the lack of private monetary contributions, as Smith (2013) points out, used to account for at least half of many departments' annual funding in his region, whereas now, it is down to approximately 25%. Alternatively, Matuszak (2013) indicates that a drastic reduction of paid staff (due to municipal budget cuts) has forced the municipal officials to consider establishing a public safety department that requires police officers to be cross-trained as fire fighters in order to supplement manpower at emergency scenes.

Another factor that impacts organizational readiness is appropriate training standards. Garrisi (2001) suggests that regardless of status as career or volunteer, consistent training standards should apply. Minimum certification standards, according to Garrisi, should include national firefighter certification at the Firefighter II level, thus inherently satisfying other basic training requirements such as hazardous materials and a basic medical certification through prerequisite requirements of national certification. The fire training division in Chester County, PA (n.d.) has taken a similar approach with the gradual development of a recruit firefighter program that largely services a volunteer community. Interview respondents generally concur with literature reviewed, asserting that training levels must be consistent, and they must be provided at a level that supports the tasks that are required of firefighters (such as interior firefighting).

The internal analysis of current training levels and average manpower turnout per call data within the volunteer and career ranks of the EWFD reveal a great disparity in the levels of training attained by the career personnel as compared to the volunteers. Specifically, the data

clearly shows a disparity between volunteer and career personnel with respect to *operational* qualifications.

The average response data further substantiates the need for additional qualified personnel. In 2012 for example, the average response per incident was five, with three of those personnel being career firefighters. These results are conclusive in indicating a need for additional qualified personnel that are available on a consistent basis to staff the apparatus. Further, with respect to EMS responses, the data reveals that well over 90% of the staffing on a given incident came from the career ranks, even though all revenue received from ambulance transport is collected by the volunteer organization. Although there was limited data available in the EMS response category, increasing responses and dwindling volunteer manpower provide enough evidence to draw the conclusion that future EMS response trends will drive the need for additional manpower and funding. This lack of adequately trained volunteer personnel is found to be in direct contrast to Garrisi (2001). The data proves not only that the lack of qualified personnel has had a dramatic impact on the available manpower at incident scenes, it also provides evidence that improvements in fiscal efficiency are warranted.

What Best practices have resulted from similar organizations?

Casner (2006) asserts that a logical approach to implementing best practices starts with a thorough needs assessment designed to identify where the organization is not meeting its mission. Bushnell (2001) further indicates that the needs assessment must include honest and open communication between all stakeholders; and in the case of volunteer organizations, it should also include data that displays the need for career staffing. Casner (2006) also specifically identifies the importance of the development of appropriate job descriptions for personnel as a base to work from when considering best fit for these roles. The interview

respondents generally concur with Casner and Bushnell in addressing their departments' staffing needs. They cite consideration of consistent and appropriate levels of training and the hiring of qualified personnel to meet response needs as driving factors (those respondents that offered EMS transport services clearly indicated that staffing for EMS was an important consideration). In fact, Camarda, Kane and Kline, in direct alignment with Casner (2006), also specifically identify the establishment of job descriptions for personnel as a key component in organizational redevelopment.

The literature reviewed also offers examples of communities' creative efforts to meet staffing challenges from a standard of cover standpoint. As documented by the Central Arizona Life Safety Council (2004), minimum staffing of four personnel on all apparatus and utilizing the closest apparatus to respond to emergencies in their response district has not only increased manpower and safety levels at emergency incidents; it has also spurred cost savings through consolidation of dispatching resources. Further, Matuszek (2013) describes efforts to supplement staffing by cross-training police officers to fight fires in response to drastic budget cuts that led to layoffs of a significant number of career fire personnel, and Konkle (2013) points toward organizations that have begun to consider wholesale consolidation of organizations. In some cases, these reorganizations are driven by improved Insurance Service Offices (ISO) ratings and lower insurance premiums realized as a result of the increased protection ratings given to the newly formed organization. Alternatively, interview respondents cite the use of automatic or mutual aid to supplement incident responses beyond what was determined to be appropriate staffing for their organizations (based on community needs and financial limitations) and the use of volunteer personnel to augment career staffing. Specifically, all interview respondents cite the use of mutual aid, where Kane and Norris also identify some form of

internal incentive or stipend program available to volunteers that meet response and training requirements for a given time period.

An analysis of EWFD hiring practices and training levels shows that the best practice of setting minimum qualifications for the hiring of career personnel has been a driving factor in the success of the career program. This best practice coincides with the Arizona Life Safety Council's (2004) approach to providing consistent, adequately trained and equipped staff throughout their service area as well as with Garrisi's (2001) suggestion that consistent training standards should apply across the board (with career personnel typically setting the benchmark for training in an organized fashion). Conversely, the data reveals that there was not a consistent level of training among the volunteer personnel in comparison to that of the EWFD. It is clear based on the research that maintaining minimum training requirements has helped the EWFD to provide a consistently high level of response with skilled personnel in the face of waning volunteer support.

What short, mid-range, and long-term financial impacts are identified for combination fire departments?

As the USFA (1999) indicates, the funding choices made by fire service organizations not only affect the viability of the organizations, they are also primary political decisions that are made in communities of all sizes. As varied are the services that are provided, so are the sources of funding, as indicated by interview respondents. Camarda, Kane and Kline specifically describe tax collection as a primary source of funding, while Norris indicates a more varied approach that combines fundraising, municipal contributions, EMS billing, and rental income to support operations. These approaches to funding are in line with Behn (2003), who also points out that underfunding, if proven to be the case, can have a direct on underperformance as well,

causing management to look to alternative methods to provide adequate services to the community.

Not only do fire service leaders have to contend with current budget constraints and known future spending increases tied to staffing and capital improvements, they must also plan for the unexpected. Kline specifically states that strategic financial planning is crucial considering the competition for limited funds across public service organizations in a community. This could be the cause for communities such as Durango, CO to look toward de-annexing the city from the current fire protection district in order to keep services levels adequate while holding the line on property taxes, as Haug (2013) points out.

Consideration for daily operational costs aside from salaries and benefits cannot be overlooked either. According to LeFever (2013), it is estimated that it can cost between \$5,000 and \$8,000 to train and equip a new firefighter. Maintenance of facilities and equipment and the unexpected will also impact the budget, as Wisienewski's (2013) example of costs to repair building damage over and above insurance coverage indicate. The interview respondents agree with the literature reviewed with respect to the importance of long range planning in their descriptions of organizational priorities and its impact on future budget needs. They specifically cite a combination of steadily increasing personnel costs in addition to the need for capital improvements such as apparatus replacement, fire station replacement or remodeling, and the potential need to add fire stations, apparatus, and personnel in order to maintain service levels to their communities.

The current funding source for the EWFD is the township's general fund. As previously indicated, it is evident that lack of reimbursement for certain services provided by the township (specifically career staffing for EMS responses while EMS billing revenue is collected by the

volunteer association) has had an ever-increasing impact on the funding of career personnel. The EWFD data that was analyzed indicates that the primary factors driving the need for reorganization are largely tied to consistently low personnel response levels and a lack of qualified personnel to engage in interior firefighting operations. This data aligns with Siebert (2013), LeFever (2013), and Matuszek (2013). Further, the financial analysis of costs associated with career personnel versus the revenue generated by the volunteer association through ambulance transport billing shows a need to evaluate current financial models in order to consider funding options for additional career staff. Although continued volunteer participation is critical to the operation of the organization, in 2011 and 2012 alone, nearly \$500K in revenue was generated through ambulance billing while the primary service providers were township career staff – a fact that cannot be overlooked. In fact, based on the current cost of personnel salaries and future projections, the cost of the proposed increase in staffing (four new personnel for FY2014) could be completely absorbed by transport revenue alone. The data collected and analyzed concurs with both Coleman (2006) and Behn (2003) who point out that proper financial planning is critical in validating an organization's strategic planning process while maintaining transparency to the public, politicians, and other stakeholders. The data further aligns with Hatry et al. (2006) in their opinion that performance measurements should be based on the analysis of the data within an organization to draw appropriate conclusions on how to plan for the future based on the specific needs of that organization. In the case of EWFD, the analysis clearly shows a need for an increase in qualified staff with continued support from the volunteer force, as well as a fresh look at the disbursement of funds to cover the cost of the increase in staff.

Recommendations

It remains the responsibility of the elected and appointed officials of East Whiteland Township to actively monitor the operational efficiency and the financial health of the township in order to consistently provide the services expected from a public agency in a responsible fashion. The results of the research have allowed the author to develop recommendations specific to the EWFD that take into consideration both operational efficiencies and fiscal responsibilities within the township

In the near term (FY2014), it is recommended that the career staffing be increased by one (1) per shift, while maintaining the current daytime position. Under the current staffing arrangement, this increase would provide three (3) personnel per platoon (24/72) and be augmented by the current daytime position in addition to part time staffing as needed.

Alternatively, it is recommended that a dialogue be opened with firefighter's union (International Association of Firefighters [IAFF] Local 4752) officials to consider a change in shift scheduling to a three platoon, 24/48 system to compliment the addition of the four (4) new personnel. This new schedule, if implemented, would increase shift staffing to four (4) per platoon, and it would also be further supplemented by the daytime position. It is further recommended that consideration be given to the creation of shift commander/battalion chief positions on each platoon to solidify the chain of command, maintain a manageable supervisory and operational span of control, and reduce the likelihood of inconsistent operations across shifts.

In the mid-term, (FY2015) it is recommended that township management initiate discussions with the volunteer association to determine the appropriate reimbursement of funds collected through ambulance billing to offset the cost of career personnel handling the emergencies. It is also recommended that a certain portion of that total EMS billing revenue collected be set aside for the creation of a volunteer stipend program to reward those qualified

volunteer personnel for shift coverage over and above the career staff minimum per shift (the exact amount to be determined after additional fiscal analysis). As part of this recommendation, the author stresses that due diligence be conducted to ensure that the program, once established, meets all state and federal regulations regarding the payment of personnel for services without the need to establish them as bona fide township employees. It is further recommended that this program be officially documented with a formal policy that includes (but is not limited to) participation guidelines, minimum training requirements, and a clear explanation of the chain of command at emergency incidents and in non-emergency settings.

In the long term (FY2016 and beyond), it is recommended that the career staffing be increased to a total of five (5) shift personnel, augmented by the daytime position. The basis for this recommendation involves the consideration for a minimum of two (2) personnel who would be assigned to EMS transport (on a 24 hour basis) while a minimum of three (3) personnel would remain available to staff an engine company.

In 2013, the township began to solidify and document a chain of command for the combination fire service that serves the community by establishing a designated chain of command that includes both township and volunteer personnel. It is recommended that a more specific delegation of authority to official township (career) personnel is included as a part of the proposed staffing model in order to ensure that properly qualified personnel fill supervisory/incident command positions and to eliminate duplication of effort across the department. This recommendation is general in nature, but it emphasizes that ultimately there should be *one* clear and specific chain of command that is based on qualifications and responsibilities as handed down to the township by the Commonwealth of Pennsylvania with respect to the legal responsibility for providing appropriate emergency services.

Although there is currently no emergency services tax levied in the township, a general recommendation to consider implementing a public safety tax or identify alternative funding sources in order to assist with operational expenses is also offered. In addition, consideration should be given to the establishment of a capital reserve fund for the EWFD in order to prepare for the possibility that the township may be required to purchase apparatus and facilities for its personnel in the future. Specifically, a portion of the annual contribution currently given to the volunteer association by the township should be set aside for this purpose, the exact amount to be determined during annual budget preparation and based on current economic conditions. Prudent financial planning dictates such recommendations based on the ever increasing cost of providing emergency services to a community in the face of decreased volunteer participation; however, the exact timing of such implementations is not predictable at this point.

The research clearly indicated that a myriad of factors can influence the need for organizational redevelopment in the fire service, and many of these factors directly relate to the size, makeup and complexity of the organization and municipality. To that end, the author recommends that future researchers focus organizational redevelopment research on organizations similar to their own in order to properly assess potential weaknesses and areas for improvement that will produce recommendations that will have the most impact.

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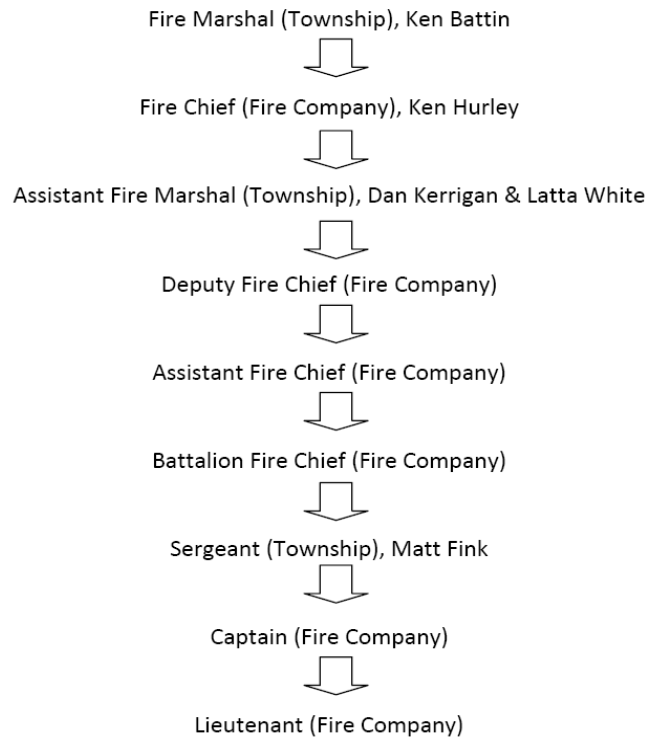
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Appendix A

East Whiteland Township Emergency Services Chain of Command

**2013 East Whiteland Township
Emergency Services Chain of Command
(FIRE/EMS/RESCUE)**



Appendix B

Interview Questions

(Research Question #1: What fire service issues associate with the need for organizational redevelopment)?

Interview Questions:

1. Please provide a brief history of the evolution of your department from an all volunteer organization to its current organizational structure.
2. Specifically, what were/are the driving factors that caused the transition in your organization to take place? (Include, manpower, financial, duplication of services/command and control, etc.).
3. Please describe your chain of command/rank structure and whether there is or was any duplication of duties or conflicts with rank/responsibility between volunteer and municipal personnel.
4. Please describe any other issues specific to your department that are driving/have driven organizational redevelopment, if any.

(Research Question #2: What Best practices have resulted from similar organizations)?

Interview Questions:

1. Based on your organizational redevelopment, have you established any standard qualifications for personnel, regardless of status as paid or volunteer?
2. Does your organization provide EMS services to your jurisdiction, and if so, to what extent does EMS billing help to offset personnel expenses?
3. Has your organization developed a “standard of cover” either with respect to minimum manpower or number and type of apparatus, for its responses?
4. Has your organization developed and/or implemented any incentive, paid-on-call or other stipend program to recruit and retain volunteers to supplement career staffing? Please describe any programs, their requirements, and give your opinion on their success level.
5. As part of your reorganization, does your department participate in any contractual *automatic* aid agreements?
6. Is your reorganization backed by an ordinance, resolution, or some other legal document or statement that clearly defines the chain of command/responsibilities? Please explain.

(Research Question #3: What short, mid-range, and long-term financial impacts are identified for combination fire departments)?

Interview Questions:

1. By what method(s) is organization currently funded? Please describe the methods of funding for both operational and capital expenditures as well as any strategic planning you are undergoing.
2. Does your municipality provide any financial support to an existing volunteer organization that still has jurisdiction in your response area, and is this in addition to funding a career/municipal initiative?
3. What would you identify as your top three (3) priorities within your organization in terms of future financial impact, and how are you attempting to address those issues from a financial standpoint?