Personnel Utilization: Putting the Payroll to Work

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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 is Unified Fire Authority (UFA) has several staffed fire stations in outlying areas with minimal engagement in functional activities, decreasing organizational efficiency. The purpose of this research is to identify projects or programs which could be augmented by field personnel in remote areas of the jurisdiction, in order to create greater productivity within UFA.

Evaluative research was conducted to address the following four questions: What business models exist in other fire or emergency services agencies which support the augmentation of organizational functions within the field (Operations)? How should UFA conclude upon the capability of field personnel to take on additional assignments or duties? What projects or programs could be tasked to Operations in remote areas of the jurisdiction? Would there be educational or certification requirements, motivational considerations, or hindrances to overcome for the successful completion of any assigned work?

A survey of Operations personnel was conducted to obtain information regarding their diverse backgrounds, education, and motivation for the potentially added responsibilities. Beyond the literature review, research also included interviewing administrative personnel from smaller fire organizations to discover what roles and responsibilities (outside of initial response) their field personnel conduct and have care over while working in Operations.

The definitive objective is to empower field personnel at certain underutilized fire stations with program or project work, which will benefit and support the mission of UFA. The findings contained within the research make it quite apparent that UFA is not engaging its personnel as efficiently as it could, considering their capabilities and the time allotted at certain outlying stations. It is recommended UFA explore options to overcome this loss.

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Personnel Utilization: Putting the Payroll to Work

In order to provide emergency services to residents in remote areas of the jurisdiction, the Board of Directors has authorized prudent and particular staffing levels in each area despite low call volume.

The problem is Unified Fire Authority (UFA) has several staffed fire stations in outlying areas with minimal engagement in functional activities, decreasing organizational efficiency. The purpose of this research is to identify projects or programs which could be augmented by field personnel in remote areas of the jurisdiction, in order to create greater productivity within UFA.

The following four questions are explored within this paper: What business models exist in other fire or emergency services agencies which support the augmentation of organizational functions within the field (Operations)? How should UFA conclude upon the capability of field personnel to take on additional assignments or duties? What projects or programs could be tasked to Operations in remote areas of the jurisdiction? Would there be educational or certification requirements, motivational considerations, or hindrances to overcome for the successful completion of any assigned work?

Evaluative research was conducted during the literature review processes. Additionally, a survey of Operations personnel was conducted to obtain information regarding their respective backgrounds, educational levels, and motivational desires for supplemental responsibilities. In addition to the literature review, research also included interviewing internal specialists and administrative personnel from smaller fire organizations to discover what roles and responsibilities (outside of initial response) their field personnel conduct and maintain while serving in Operations.

Background and Significance

The UFA was originally created through inter-local agreement in the summer of 2004. Known previously as the Salt Lake County Fire Department, and functioning as a division of Salt Lake County Government, this predecessor provided fire, EMS, hazmat, and other related emergency services to all of the unincorporated areas of the County and several municipalities, via annual contracts.

While pleased with the all-hazard response, the above mentioned municipalities had no voice with regard to the creation or modification of internal policy, nor a fiscal responsibility for the allocation of funds. Thus, all parties began working toward a coalition which would allow for a governing vote based on jurisdictional representation, and at the same time solidify a long-term relationship. By doing so, this would also provide the ability for formal strategic planning. The result of the agreement formed a separate quasi-governmental entity recognized by the State of Utah, and presided over by a local Board of Directors. This Board is comprised of one elected official from each of the member cities, in addition to three elected officials from the unincorporated areas represented (12 in all).

UFA provides fire prevention and suppression, emergency medical treatment and transport, hazardous materials and bomb squad response, as well as heavy rescue, swift water and dive rescue response to more than 520,000 residents throughout a 600 square mile area. According to a document prepared by UFA, the organization currently employs 439 full-time firefighters (some serving in administration) with an additional 127 full and part-time technicians and support staff serving in various operational and administrative positions (Unified Fire Authority, p. 2). During the calendar year of 2012, UFA responded to nearly 27,000 calls for service, and has a current operating budget of approximately 61 million annually.

For the purposes of this paper, it is important to understand the way in which UFA is funded. In general, the *total adjusted UFA budget minus revenues* is divided by the number of *fulltime firefighters serving in Operations*, thus obtaining a baseline calculation for each fulltime employee (FTE). Each member entity of UFA is then responsible to pay annually that number times the number of FTEs working in each of their corresponding fire stations throughout the year (see Table 1 below). Thus, the organization works to contain the FTE to lowest possible denominator. Any increase to the overall budget has a profound effect upon the FTE and the amount each member pays for service.

Table 1
FTE Factor

Total Adjusted Budget	Number of Firefighters in Ops	Price per FTE
$46,275,000	389	$118,959
Example Municipalities	Total FTE's	Annual Cost
City of Taylorsville	33	$3,925,643
City of Holladay	16	$1,903,342

Further, the FTE baseline billed to each member agency factors approximately 25% for administrative overhead, such as utility bills, maintenance to buildings, apparatus repairs, and new equipment. It also factors for the total number of office and administrative personnel. As the Board works to keep the FTE rate as close to the original baseline from year to year, should any of the aforementioned administrative costs increase, the amount of funding available for additional staff personnel is decreased – even if growth within the UFA takes place.

As detailed, it is not feasible to merely raise the FTE in order increase the number of personnel working in administrative positions, despite the potential of becoming overwhelmed by the workload. More must be done to rely on Operations personnel, where possible, to assist in various administrative functions.

The findings contained herein are of significance to the organization, policy makers, and the population served, insofar as the recommendations for augmenting administrative responsibilities within Operations are applied.

As cited by the U.S. Fire Administration, the role of the EFO student, specific to the Executive Analysis of Fire Service Operations in Emergency Management (EAFSOEM), is to prepare senior staff officers in the administrative functions necessary to effectively manage the operational component of a fire/rescue department (U.S. Fire Administration, 2010, p. 2). By adopting the recommendations set forth in this paper, Operations personnel from the officer on down may indeed be better prepared to manage emergency incidents through a greater understanding of, and participation in, the administrative processes set forth, prior to the call for action.

Literature Review

Efforts to identify previous work on the subject-matter were difficult at best. Two visits and hours of subsequent online searches through the National Fire Academy's Learning Resource Center revealed little with respect to the research questions posed in the introduction – comprising of programs, plans, or project work which could be given to field or Operations personnel.

Topics of the search included: *"Program management in fire stations," "Jobs in the fire house," "Administrative work at the station,"* and *"Duties at the station level."* For each, several references to select bodies of work were indeed located, but none specific to the desired literature.

For example, with respect to *"Program management in fire stations"* books, papers, and articles centered on fire service law, introduction into fire protection principles, and views into

extreme fire behavior. Admittedly, an in-depth review of each search and title beyond the executive summaries was not conducted on each article. However, it was quite apparent that in each case none would yield additional insight respective of the research questions.

With the above stated, it is deemed reasonable to assume the problem and purpose statement as specified for this paper is *original* work – insofar as could be determined by the library and Internet searches conducted by this author.

One observation, however, with respect to the research queries: There is an overriding theme within the fire service at present, and it centers on "rethinking" the way in which we as an industry approach change, varying expectations, and continuing pressures (financial and operational) of the day.

As a case in point, an article from *Fire Chief Magazine* in July of 2010 focused on the importance and value of obtaining international accreditation. The author, Rick Black (highlighting Chief Cliff Jones and the Tempe Arizona Fire Department), stated that one particular advantage to the process focuses on the "self-assessment phase" which serves as an "excellent continuous-improvement tool." Black goes on to say that the greatest challenge for each agency is to realize we are now living in the 21st century, and that as such, we must continue to ask ourselves if we are up to the task. The only real way to know is by a "carefully crafted examination of everything we do" (Black, 2010).

With the above noted, the research questions initially proposed will remain in place, but with a modified focus on aspects related to those questions – concepts identified in the preliminary search for information. This includes: Defending the need for staffing at each of the remote stations, unit hour utilization factors, defining motivation, as well as morale and cultural change within the organization.

A Defense for Staffing

Pick up a newspaper, search the Internet, or attend any local city council meeting during budget talks, and it becomes quite evident that many citizens in the national arena are beginning to question the value of the fire service. Some take the local or national statistics of "fire response" and determine that in all reality fire personnel really do not fight fires.

In a recent article, Leon Neyfakh notes that major fires within Boston are becoming rare compared to 1975 analysis. Then, there were 417, compared to only 40 in 2012. He cites "better building codes, automatic sprinkler systems, and more careful behavior" as reasons for the decline (Neyfakh, 2013). As stated above, Neyfakh's assessment is not unique – and even he notes previous publications and blogs on the subject ("Smoke and Errors" by Fred McChesney, and Marginal Revolution by Alex Tabarrok).

While accurate compared to fire responses of the 1970's, not everyone recognizes the "all hazards" response (medical, heavy rescue, swift water, hazmat, etc.) offered to the community – which has come to be expected by so many others within their respective communities.

Regardless of the need for change or the potential "evolution" within the service, it is quite evident, at present, that the necessity for emergency mitigation remains. In UFA, emergency calls average approximately 74 calls per day.

For many years now, fire agencies have also cited the need for rapid response in both the fire and EMS realms, based on guidelines found within the National Fire Protection Association (NFPA) 1710 standard. For example, it dictates that for Advanced Life Support (ALS), response times should be no more than eight minutes, 90% of the time (NFPA, 2010). While some may question whether or not this is acceptable on either end, it is nonetheless considered a "standard" to aim for within the industry.

In addition, firefighters do more than "answer the call for help." A local journalist followed one fire company in Orem, Utah and discovered the wide range of activity which is included in the routine of fire-house living (Fieldsted, 2013). To her discovery, Fieldsted noted the many hours spent training, testing the equipment, maintaining the station and apparatus, and physical exercise – all in preparation for any type of emergency response, which she also noted as many and diverse.

Those within the service also justify their existence by including business inspections and preplanning, hydrant inspections, instruction at elementary schools, and tours of the stations as part of their daily routine. Even at station with lower call volume, many of these activities remain the same.

Unit Hour Utilization

The analysis used by many EMS service providers in order to determine efficiency is referred to as Unit Hour Utilization (UHU). As defined by one consulting group, a "unit hour is equal to one hour of service by a fully equipped and staffed ambulance available for dispatch or assigned to a call." They go on to define utilization as a "measure of productivity, which compares the available resources (unit hours) with the actual amount of time those units are being utilized for patient treatment and transport or productive activity" (J.R. Henry Consulting Inc., 2011, p. 2).

These terms combine to create a benchmarking tool which organizations can use to measure potential effectiveness. The industry standard scales optimal utilization between .55 to .45, above average between .45 and .35, average at .35 to .25, below average at .25 - .15 and poor utilization at .15 to .01. Each rank is based on financial and operational data which can be calculated through the use of worksheets, such as the one provided by J.R. Henry Consulting

Inc., and which will be incorporated into the Results section of this report (J.R. Henry Consulting Inc., p. 3).

An article published by JEMS Magazine offered an analogy related to the number of ambulance units which may be needed at any given time. They compared this to the number of tellers working at a bank, and when there are more tellers than customers, there is no line at the door. The reversal is also true however. When there are fewer tellers and a greater number of customers, lines are longer and tempers may flare. Either way, the manager may be questioned as to his inefficiency (Ludwig, 2010).

So too it is with the number of emergency personnel (in this analogy, ambulances) available to assist in a time of need. As stated in the article, the major difference between an emergency services agency and a bank is that when residents wait too long for a response, it may result in "deaths, lawsuits and unfavorable media coverage" (Ludwig, 2010). And yet, to have units merely waiting around for a "potential" call is not only inefficient, but may raise tax rates needlessly. Hence, the importance of measuring effectiveness in addition to, and in light of, the real risks associated with emergency response.

It is worthy to note, however, the "productivity" as described may also be equated to "profit." Thus, UHU is a strong analysis for determining profitability, but may not reflect overall public value.

Defining Motivation

In order to produce a quality good or service, a motivating environment is critical – which is especially true in the fire service as well. Without such, it would be nearly impossible to move forward with the desired vision or mission of the organization, as most individuals would work for only the "paycheck."

A positive environment is one in which individuals are given opportunities to foster and develop intrinsic values for their lives, and thus foster a general goodwill for the organization itself. The value-sets of the individual and the organization then combine to create an atmosphere conducive to production and the desired end result for each.

It has been said that people *are* the culture of an organization – and, as such, their thoughts, attitudes, hopes, and desires are indeed fostered and promoted. However, without a motivating environment, intended outcomes are often replaced with less than desirable elements, and the targeted goals and outcomes are never realized.

The models for creating such a positive environment are many, but there are three which can be applied for the purposes of this paper: Abraham Maslow's Hierarchy of Needs, Frederick Herzberg's Motivation-Hygiene Theory, and Douglas McGregor's X/Y Theory.

According to Maslow, each of us has needs, and these needs must be met. These needs are described as physiological, safety, social, esteem, and finally, self-actualization (Hersey, Blanchard, & Johnson, 2008, p. 33). While these are generally considered as hierarchical in nature (hence the title), each need may be given a different weight based on the various pressures of the individual at any given time.

In other words, if physiological needs are met today, a person may be more focused on social or esteem aspects. But, if the job or a promotional opportunity is threatened during pending financial troubles, then an individual may revert back to the physiological.

According to Herzberg and his Hygiene Theory, individuals will stay with a particular organization if their extrinsic needs are being met, such as: working conditions, salary, and associations. Even though they may be *dissatisfied* with the job, they may not leave if these extrinsic needs are in order. However, to be *satisfied* within the organization, Herzberg states

that individuals desire more intrinsic value sets. These include such opportunities as status, achievement, promotion, opportunity for growth, and a sense of accomplishment given the work itself (Robbins & Judge, 2008, p. 72).

One may note, there is a remarkable comparison to Maslow and Herzberg in that beyond those of physiological and safety needs (as offered by pay, benefits, and working conditions), the intrinsic values begin at the social level and beyond. In other words, once people have the opportunity to meet their social and esteem needs through accomplishment and status, a true motivating environment takes place within the organization. Hence, to increase productivity, the employee must be given opportunity to enhance their intrinsic values-set.

Lastly, McGregor offered a theory of “X” and “Y” managers. X managers believe that people are inherently lazy, hate work, and must be motivated. Y managers believe that people desire to do well in their work, are self-starters, and have the ability to accomplish great things with very little supervision. It is important to recognize that any organization may have employees who fit either category (Robbins & Judge, 2008, p. 71). Hence, a supervisor must be able to recognize both types of employees and work with each to determine how best to motivate.

In summary, for many agencies it is all too easy to attempt to motivate individuals on a bell-curve – managing only the middle or treating everyone the same. To avoid this tendency, it is paramount to work with each member through a formal and informal interview process, spending the time necessary in order to determine the motivational desires or needs of each person in Operations.

Morale and Cultural Change

It is not uncommon to hear individuals speak of morale within their respective organization. This can be especially true of firefighters, depending upon a number of internal or external pressures placed on a given agency. All too often, however, these 'highs and lows' of morale are brought about by unexpected change.

Throughout the review of literature, it was apparent that the management of change is an old topic. For example, Chief Stanley Deimling of the Union Town Fire Department stated in 1998 that critics of the fire service were paying more attention to our industry, and in many ways exploring other management options (Deimling, 1998).

Deimling went on to say, "The ability to foster an organizational climate that manages change productivity is more important than any other time in the history of the public sector" (Deimling, 1998, p. 30). He also noted that one must understand their own culture in order to manage change effectively. The relevancy of these concepts 15 years ago is even more striking when compared to the post-recession era of today.

With respect to the new firefighters of his day, Deimling stated that employees want more than a career with a "pecking order" dependent on seniority, and that the traditions of yesterday are constantly being tested (Deimling, 1998, p. 31). Once again, this thought is pertinent to today.

The Unified Fire Authority recently conducted a survey in which 306 employees participated. Fifteen questions were asked for the primary purpose of determining the "mood or morale" within the organization. The survey was coordinated and compiled in 2012 by an internal Customer Service Committee, made up of eight members from various ranks in both administration and Operations.

Question six read as follows: Please give us three suggestions to improve morale or employee satisfaction within UFA. The responses varied, and were thus tiered into seven subcategories given the nature of the open-ended answers (*Employee Survey Results*, 2012, p. 33).

Most of the respondents focused on administrative interaction/communication, but many also expressed their willingness and desire to be more engaged. Table 2 below contains a sample of their comments.

Table 2
Sample Answers to Question 6

- We have a lot of talent and expertise in the department, and don't seem to tap into it like we should.
- More empowerment to standing committees to make decisions.
- Involve the field in decision making. Give the employee a sense of ownership/power. We have great problem solvers – people who think out of the box, and different points of view.
- As a firefighter, I feel like there is little value placed on the position of firefighter. It would be helpful if there were more opportunities for firefighters and more incentive for us to train harder and perform better.
- More input from guys doing the job.
- Give people the chance for on the job training. Allowing them to learn more and build confidence among their peers and subordinates.
- Ability to take on projects.

Of course, not all were of the same opinion with respect to improving morale. But it appears evident that many desire to be more engaged in the organization, and that a cultural change with respect to the purpose and findings contained in this paper may be acceptable.

Procedures

The first step in the evaluative research was to develop a greater understanding and knowledge base with respect to what other entities have done to address the issue. This was

attempted, and somewhat accomplished, through a review of several articles and reports in magazines, on various websites, and other applied research papers cataloged in the Learning Resource Center at the National Fire Academy.

From these initial readings, it was determined that not only does UFA have a potential problem with respect to the distribution of work, but that little research with respect to this particular problem had been conducted previously. Therefore, validating the need to continue the research and discover new primary data and information.

The second step was to conduct two surveys – the first to the personnel in the outlying stations within the organization, and the second (same questions) to all Operations personnel in the remaining stations. The primary purpose for this action was to not only discover the education levels and thoughts of those at the remote stations, but to compare them to the population at large within the agency.

The next step in the process was to interview select officers outside UFA regarding the problem – specifically, those agencies who, through necessity, may have already discovered and assigned personnel various administrative assignments. The intent was to learn from their respective experience(s) and receive additional details and suggestions, as well as potential benefits of a proposed change.

In addition, two specialists within UFA currently working at slower stations were interviewed. Through observation it was discovered that each was already engaged in taking upon themselves project work which they felt would be of benefit to the organization. By meeting with each, it was believed they could provide insight as to their own motivation and reason for taking initiative.

Lastly, while convinced that a call volume disparity exists between the core stations in comparison to the outlying stations, a validation of such was nonetheless also conducted by way of statistical review. This also provided a guide for determining which stations should be included in the first survey as described above.

In recognition of the potential value of Unit Hour Analysis as discovered in the Literature Review, two of the busiest stations (101 and 118) were compared to the seven slowest stations identified in the Results section. By using the on-line worksheet provided by J.R. Henry Consulting Inc., the contrast between these stations is evident and noted in the Results as well.

In essence, all of the research contained herein was obtained through face to face interviews and electronic mediums such as email and the use of survey gathering technology. Correspondence and notes of all the procedures outlined are documented and referenced appropriately throughout the remainder of this paper, in the Reference section and Appendices.

While this paper can be measured with some depth, there are nonetheless limitations. As with any survey, there is question as to the motivation for participation. Whereas the responses were solicited by way of an email invite in order to allow for anonymity, the motivation for participation is not known. Meaning, only those who are currently motivated to take action could have been the only ones to respond, and thus, the answers to the questions may not be representative of the entire employee base.

Also, the Unit Hour Utilization comparison was based on one unit per station, per incident. In fact, many responses generate a two unit response. Rather than break down each call per unit, for the purposes of this report, one unit per station, per incident was used in the calculations for consistency. If an exact calculation was necessary for determining efficiency and profit margins, the data would need to reflect each unit per station, per response.

Results

This section is separated into three categories, as described in the Procedures: Survey Results, Interviews, and Statistical Analysis.

Survey Results

The first survey within UFA (Group 1) took place between the dates of May 15 and June 12, 2013. The original invite went out via email and follow up phone calls to each platoon at the following seven stations: 108, 113, 115, 119, 122, 251, and 252. Stations 108, 113, and 119 are located in east canyon areas of the Salt Lake valley, with stations 115 and 122 in less developed areas within the County. Stations 251 and 252 are in the newly annexed and rural area of Eagle Mountain, Utah, located just south and west of the Salt Lake County border in Utah County.

From these stations, in total, there were 48 full-time employees and 15 part-time employees who could have participated. Of these, 19 responded, representing about a 30% contribution rate.

With the approval of Command Staff, the second survey (Group 2), which contained the same questions as the first, was sent to the remaining Operations' employee base beginning on June 12 and running through September 6, 2013. Of the 456 potential respondents, 120 members participated (approximately 26%).

In both groups, this author believes the sample size was adequate. The detailed questions asked of the participants are listed in Appendix A, but a breakdown of the percentages, with the exception to Question 2, is shown in Table 3 (page 20).

An overview of skill-sets, education, and certifications obtained by UFA personnel as identified in response to Question 2 of the survey is listed as follows: In Group 1, members had completed course work in the advanced PIO (public information officer) course, criminology,

NWCG (National Wildfire Coordinating Group) certifications, all of the various NIMS courses, leadership and management training, and boom and forklift certification. As expected, firefighters also noted the traditional certifications required for specialty positions or advancement within UFA (hazmat, fire inspector, wildland (red card/squad boss), dive team (SCUBA), heavy/technical rescue, etc.).

Table 3

Survey Results and Comparison

	Group 1	Group 2		Group 1	Group 2
Question 1: Education			Question 4: Add Duties		
HS Graduate Only	0%	6%	Yes	79%	87%
1 Year	11%	7%	No	21%	13%
2 Years	5%	30%			
3 Years	47%	20%	Question 5: Utilized		
Graduated College	37%	24%	Yes	32%	31%
Some Graduate Level	0%	9%	No	68%	69%
Completed Graduate	0%	4%			
			Question 6: Satisfied		
Question 3: Pay Incentive			Yes	68%	81%
Yes	89%	86%	No	32%	19%
No	11%	14%			

In addition to most of listings for Group 1, Group 2 also held license or certification in plumbing, PA (physician's assistant), culinary arts, electrical apprentice, personal trainer/master exercise practitioner, finance, POST (police officer standards training), real estate, drafting, wildlife rehabilitation, commercial aviation, drug investigations, general contractor, and FBI evidence collection.

There was a lot of crossover between respondents, but it was surprising to learn that one member has received two BS degrees, along with three AS degrees. His or her education

includes crime scene forensics and evidence collection, emergency response to terrorism, and he/she also has Federal buildings and dam security information clearance.

Interviews

The first interview held was with Battalion Chief Wayne Edginton of the South Jordan Fire Department, located in Salt Lake County, Utah. BC Edginton has nearly 40 years of experience, having spent 32 years working for the Salt Lake City Fire Department prior to retiring as a battalion chief and then rehiring in South Jordan. Prior to promotion, Edginton spent 20 years working as a paramedic, to include secondary employment with Air Med, where he also served as chief flight medic for 10 years. While at SLCFD he managed the Medical Division and provided oversight to the Heavy Rescue program. Many of these past experiences are utilized in the programs he manages in his current position.

South Jordan Fire Department serves a population of approximately 56,000 covering nearly 25 square mile. The total number of personnel is listed at 48, to include administration.

When asked about the types of administrative roles field personnel conduct, BC Edginton stated everything from SCBA maintenance, uniform and personal protective equipment (PPE) ordering and compliance, small engine repair and oversight, as well as the hydrant inspection program – to include interaction with the water department.

The above listed were the assignments given to line firefighters. The captains administer the Hazmat and Heavy Rescue programs, new hire training, probation workbooks, the inspection program of new and existing businesses, and part-time (paid-call) new hires and development.

At present, these additional responsibilities are considered part of the daily workload, and there is no incentive offered outside of building an internal resume – for promotional

consideration, etc. Everyone has responsibility, even if it is to sit on an advisory committee or focus group.

Edginton stated, “No one gets to say no” but also added that administration works hard to determine an individual’s interests. Meaning, if someone has a special skill-set or desire to work in a given area, they generally tap into that ability or comply with the request of the employee. Their goal is to ensure everyone succeeds and thus offer the training and “tools” requisite for completing the assignment.

In addition, their administration works to instill a philosophy of cooperation, and the need for awareness of all aspects and interactions within the entire city at large (personal interview, September 4, 2013).

The second external interview was conducted with Battalion Chief Jason Nicholl of the South Salt Lake Fire Department, and as the name implies, immediately south of Salt Lake City, Utah. Their organization covers an area of 7.63 square miles, and serves a population base of 22,000 residents – which swells to nearly 110,000 during the workweek. They employ 77 personnel to include administration.

BC Nicholl entered the fire service in 1991, and was promoted to paramedic in 1995. His leadership experience includes time spent as a supervisor for a private ambulance company as well as company officer prior to promotion to battalion chief. Oversight has included the Quality Assurance (QA), ambulance, and inspection programs. BC Nicholl has a BS degree in Behavioral Health from the University of Utah and a Masters in Fire Administration from Oklahoma State University.

Program management within Operations is likewise necessary for South Salt Lake Fire Department as was discovered in South Jordan. Officers in the field are responsible for the

ordering of medical supplies, fleet management, the Hazmat program, facilities upkeep, and PPE ordering and maintenance. Likewise, specialists deliver all of the medical training within the organization and manage the preceptor program for the development of other paramedics.

When asked if personnel were given incentives, he said no, and added that everyone is just expected to "wear two hats." Some overtime is authorized if time to complete a project off-duty is required. To be clear at the time of hire, candidates are interviewed and informed that such a requirement is expected, and all comply knowing it is a condition of employment.

South Salt Lake also attempts to match people with their willingness to work within a given scope. If a need is determined, in most cases the right individual comes forward on their own, expressing an interest and in some instances, ideas. In each circumstance, their philosophy is to give the employee the authority, autonomy, and responsibility to see a job or program through to the end.

BC Nicholl stated the formal education levels within the agency are relatively low, but many individuals are willing to learn more, and said that funds are available to send personnel to various courses as needed. A tuition reimbursement policy is available to personnel in select positions, but the process is cumbersome at various levels within the city government. Therefore, most do not take advantage of the system in place (personal interview, September 9, 2013).

The first internal interview was held with Paramedic Ron Sanders, who began his fire career at the age of 16, working for a rural volunteer ambulance service. His first full-time hire was in 1998 with Midvale Fire Department, also located in the Salt Lake Valley. For many years, he has worked in outside sales with small businesses, consults and trains individuals in the private sector (groups of 100 to 200 at times), and was the lead trainer for Midvale Fire

Department before coming into the UFA. As a self-taught "computer geek" he is also considered an Information Technology systems expert.

When asked what motivates him, Paramedic Sanders replied that he likes to be acknowledged in subtle ways for doing a good job, and not necessarily in front of others. He likes to solve problems on the job, but this attribute also extends to family and friends and their given needs. Seeing a job completed gives him a sense of accomplishment, knowing that he has made a difference.

Several months ago, Paramedic Sanders saw a need to better train part-time personnel and track their training – and that technology was being underutilized in the arena. Their individual schedules were such that consistent delivery of the training was problematic, and knowing who had versus had not received that training was not tracked effectively. He also recognized a potential revenue source by billing separate agencies for continuing education classes which could be put on-line for internal purposes, but could also be made available to other entities at their request.

To this, he created a proposal while working at the station (122) and presented it to the battalion chiefs over the Fire and Medical Training Bureaus. This proposal, with some modifications, is being given serious consideration. While not exactly as Paramedic Sanders had envisioned, his idea and concepts sparked a needed discussion and brought the missing component of training opportunities to the forefront of Command Staff.

Even though he is not seeking any compensation for his additional work performed, his thoughts on whether or not incentives should be offered to personnel who perform "other" duties was received with mixed review. He felt that to do any project work for only pay or bonus would not necessarily be sufficient. Meaning, some may not be motivated. Thus, he felt the

organization needs to ensure any person taking upon them the assignment must also be motivated by the assignment, to see it through and provide a quality product. However, he did acknowledge that pay may be helpful for some, but should not be the primary factor.

Paramedic Sanders also noted one weakness through his recent experience. He stated that the process for sharing a proposal and getting the correct audience was difficult. He felt that much of what he went through was a "trial and error" for getting his idea past a conceptual stage. He believes the formal process to address senior officials should be simplified so that others have a forum and defined avenue for making such proposals (personal interview, September 8, 2013).

The final formal interview was held with Paramedic Daniel Coleman. He too had been involved with administration on two different proposals, prior to the creation of this research.

Paramedic Coleman has worked in the fire service for a total of 13 years; five of those with UFA. He has a BS degree in Bio-Chemistry (with honors), and an AAS degree with Paramedic Emphasis. His current assignment is at Station 115 in Copperton, Utah.

Paramedic Coleman is motivated by providing for his family and making a difference in his community, whether in or outside of work. But he also to aspires develop the creativity within himself. He further stated that he likes his current station and environment, but wants to be more involved with the organization as a whole.

When asked about his work with administration to date, he stated that he first began inquiring about the potential of assisting with the review of current policies – providing feedback for improvements by way of clarity, grammar, etc. (currently, there is still a need). Although his offer was not accepted up front, he was nonetheless deterred. Paramedic Coleman is now working to assist with the UFA grant writing proposals, for which he also has experience.

He believes there are several members of our organization who have great talents, and that there should be an avenue for reaching out to them and finding out their respective motivations for taking on additional responsibilities. He likewise believes that by tapping into the UFA incentive program, personnel can be provided with pay for taking on these jobs, and at the same time building an internal resume.

In addition, Paramedic Coleman is willing to attend specialty conferences, or obtain the training, certifications, or skill-sets necessary for any assigned task or program. Providing that the organization would pay for the training and travel as needed, he believes many of his counterparts would feel the same way as well (personal interview, September 9, 2013).

On a less formal basis, there were several occasions in which this author discussed the applied research with individuals in Operations and administration. Captain Ben Sharer suggested creating a committee to review project proposals. This could be done by advertising and incentivizing such project work, thus bringing more ideas to the forefront. Once a given project was approved by the committee, the employee could be placed at one of the outlying stations for a period of time in order to see the project through to its conclusion.

Statistics and Unit Hour Analysis

In order to better understand the call volume dynamics and potential disparity between stations, a statistical analysis was created based on run data provided through the Records Management System, FDM (Table 4, page 27).

Table 4

Call Volume Comparison

	Total Call Volume for First Six Months 2013					
Stations	Jan	Feb	Mar	Apr	May	Jun
101	322	223	442	254	310	314
118	189	189	395	198	228	250
Stations	Jan	Feb	Mar	Apr	May	Jun
108	24	31	16	5	8	12
113	36	30	7	18	14	15
115	18	18	21	24	13	17
119	9	11	5	6	15	17
122	47	30	22	20	27	33
251	66	46	13	11	11	12
252	*66	*46	50	44	37	46

*Presumed Statistical Error in Report as Compared to Station 251

The above comparison is of field responses to incidents within the respective zone for each station. The first two rows are representative of stations with above average call volume, while the last seven is data from the outlying stations which are in the focus of this research.

Given the Unit Hour Utilization definition and instructions as discovered and outlined in the Literature Review, calculations were then determined based on the statistical review plotted in Table 4. The first row features the seven outlying stations, and the second row is of the two above average stations. The total number of "units" per line is based on one piece of apparatus per station responding with their respective crews to each incident. Table 5 below reveals the findings for each group's combined average by dividing the average calls per day by the unit hours available within the six month period, and is given here for illustration purposes only.

Table 5

Unit Hour Utilization Calculation

Units	Hours/Day	Days	Unit Hours (6 Mo)	Calls Per Day	UHU
7	24	182.5	30,660	5.57	0.0182
2	24	182.5	8,760	18.16	0.2073

Discussion

The purpose of each research question was to assist in discovering what would be requisite to assign various administrative responsibilities to personnel in remote or outlying stations. Each of the four questions will be explored separately in connection to the Literature Review and Results sections.

<u>What business models exist in other fire or emergency services agencies which support the augmentation of organizational functions within the field (Operations)?</u>

As described earlier in this report, previous research on the subject revealed little, and thus, there was no "business model" which could be used by way of a template. However, the statistical review, UHU analysis, and interview process with chief officers outside the UFA did offer insights to possible solutions.

At present, the UFA Board continues to support the reasoning and justification of personnel serving in outlying areas of the jurisdiction. Much of this is based on NFPA 1710 standards, and other nationally recognized experts and guidelines set forth within the industry.

While these efforts are to be applauded, it was also evident in the Literature Review that a "value added" approach must also be considered, beyond responding to emergency incidents – especially in the current economic environment.

In addition, it is quite apparent from both the statistical review and the UHU analysis that the time which may be required to work on additional projects is plausible. One should note that even at the busier stations within UFA, the analysis also indicated a "below average" as indicated in the evaluation scale provided by J.R. Consulting, Inc.

As discussed, there is more to the fire service than merely responding to emergency incidents (training, tours, inspections, public awareness, etc.), and UHU, in essence, often only

measures effectiveness with respect to profitability. But, it is a good measuring tool, especially for personnel operating from remote areas who may not have the additional duties as described above.

The information discovered through interviewing both chief officers outside of UFA was also insightful. Given their relative size, it is by necessity that each employee within their respective agencies take on additional responsibilities. Their modeled approach not only "requires" the help of their personnel, but then matches that expectation with what each employee has expressed an interest. This should be considered in any recommendation set forth.

How should UFA conclude upon the capability of field personnel to take on additional assignments or duties?

As noted in the Motivation sub-section of this report, it is easy to manage and guide individuals on a bell-curve, and treating everyone identically. To avoid this, it is important to work with each member through an interview process, and to spend the time needed to determine their respective needs, desires, and abilities.

In response to the internal survey, it was evident that both Group 1 and Group 2 are more than willing to do more than is asked of them at present (see Question 4, Table 3). It is therefore easy to conclude that UFA is not utilizing the personnel as well as it could, nor as much as the employees themselves may desire.

It is also apparent from the response to Question 6 of the same survey that the employee base is happier when busier. Both groups responded in the affirmative, but note the personnel in Group 1, (the slowest, outlying areas), do not appear as satisfied as Group 2, where more is expected by way of daily workload.

What projects or programs could be tasked to Operations in remote areas of the jurisdiction?

In response to Question 2 of the survey, as well as the internal interviews of two specialists, it appears there is as wealth of talent of which UFA is not currently cultivating or tapping into by way of resource management. The interviews with the two battalion chiefs also gave insight to projects which could be assigned to personnel in Operations.

Throughout the research process, general ideas for potential projects developed, but are not limited to the following: Policy development, review and revision, hose testing (surplus stored at Logistics), PPE inspection and cleaning, initiating the national accreditation processes, fire and medical training (lead coordination), peer review of medical reports, grant writing, and management of the part-time firefighter program (training and scheduling) through a coordinated effort of several specialists.

As suggested by one officer, creating a committee to review project proposals may also be an option for discovering additional project work of value. This could be done by soliciting ideas and then offering incentives for any approved project, thus bringing creating greater depth in the organization. It would, however, also be important to give the employee complete authority, autonomy, and responsibility with respect to their new assignment as outlined by the South Salt Lake City Fire Department.

Would there be educational or certification requirements, motivational considerations, or hindrances to overcome for the successful completion of any assigned work?

As with anything new, or at any point a change takes place within an organization, there is bound to be potential complications. So too, with such a transition of shifting responsibilities to individuals who may not know certain systems or nuances of administration.

However, as determined by the 2012 survey conducted by the Customer Service Committee, most personnel are willing and wanting to take on additional responsibilities – meaning a significant portion of the "cultural battle" may have already been won.

As identified in Question 1 of the survey conducted by this author, nearly 90% of the respondents have completed at least two years of college or more – with a significant segment having at least a four-year degree or above.

Also, one may conclude that many in the organization are indeed being underutilized, especially in light of their response to Question 6 in which nearly 70% of both groups felt they were not being challenged to their capacity.

Regardless of education, or past experience, it is apparent that many organizations (including UFA at present) will send personnel to specialty courses, seminars, and workshops in order to receive additional training; especially if this training is paid for by way of course fees and travel expenses. This is a small price when compared to the alternative of adding personnel to the administrative payrolls.

It appears that with proper motivation (finding what the individuals themselves are inspired by), potential compensation (incentives, resume enhancement, etc.), and reasonable autonomy, any hindrance can be overcome.

Recommendations

Based on the literature review and the recent research, it is recommended UFA begin looking at options and alternatives for delivering project and program work from administration to Operations personnel serving in outlying area within the agency.

The definitive objective is to empower field personnel at certain fire stations with program or project work, which will benefit and support the mission of UFA. The findings make

it quite apparent that UFA is underutilizing its personnel given their educational experience and capabilities and lack of time constraints in certain areas. It is the opinion of this author that UFA begins to explore options to overcome this loss.

Before any course of action is pursued, it is also recommended that a group of administrative and Operational personnel work together to foster ideas in relationship to this change. Presuming all concerns or anticipated complications have been addressed, there is little to be lost and much to be gained should the findings within this paper be put into practice.

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Appendix A

Questions posed within the internal survey conducted between May 15 and September 6, 2013:

1) What is the highest level of education you have completed?

2) What additional certifications in or outside of the fire service do you possess?

3) Would you support supplemental pay to personnel who have additional education beyond a high school diploma?

4) Would you be willing to take on an additional assignment or project during “down time” while on-duty at the station?

5) Do you believe you are being utilized to your full potential or ability?

6) Are you satisfied with your job?

Appendix B

Interview questions of officers working outside of UFA during the month of September, 2013:

1) What is the size of your organization?
    a. Population served:
    b. Number of personnel:
    c. Square miles:

2) What is your current rank, level of experience, and general credentials?

3) What types of operational or administrative roles do you have field personnel conduct?

4) Are there any incentives or pay attached to these additional responsibilities?

5) What motivational factors have you, or do you believe need to be considered when requesting or mandating such additional responsibilities?

6) Do foresee any additional training or educational requirements necessary to conduct these activities?

7) Additional comments or insights?

Appendix C

Interview questions of personnel currently serving in outlying stations within UFA during the month of September, 2013:

1) What is your current rank, level of experience, and general credentials?

2) What motivates you?

3) Describe the type(s) of “additional” work you have recently taken upon yourself.

4) What types of operational or administrative roles do you believe field personnel can conduct?

5) Do you believe incentives or pay should be attached to these additional responsibilities? Why or why not?

6) Do foresee any additional training or educational requirements necessary to conduct certain activities, and would you be willing to receive the education?

7) Additional comments or insights?