EMS ORGANIZATONAL ANALYSIS FOR THE SOUTHERN BERKSHIRE REGION

Official Report prepared by:
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in Partnership with
Kramer & Associates and Meyers EM

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FOREWORD

During the winter of 2019 Randall Hanifen of the Consulting firm, ***Hanifen and Associates, LLC***, led a team of consultants in conducting a study regarding the EMS and fire department operations in Southern Berkshire, MA, delivering service from numerous stations, funded in numerous ways and operating under various organizational structures. Active partners in the study were William Kramer of the firm ***Kramer and Associates*** and Patrick Meyers of ***Meyers Emergency Management***. (Resumes of consulting team members are found in **Appendix 1.**)

The consultants performed an analysis to determine the capability of numerous EMS organizations within Southern Berkshire County to answer EMS calls and utilize partnering agencies for first response for emergency medical calls, both now and into the future. In addition, it was quickly recognized by the consultants that the primarily volunteer fire service was losing volunteers and having difficulties attracting new volunteers. Staffing, organizational structuring, EMS and fire station conditions and locations, and similar factors were studied in detail. The suitability of the current organizational structuring of the region was examined to determine a course forward.

A complete analysis is a complex undertaking where a change in one factor has a ripple effect changing all others. For example, the types of emergency medical emergency response vehicles determine the size needs of a given station. The age and condition of an existing station determines whether it is viable or needs replacing. If it needs replacing, then maybe the property can be sold, and a replacement facility can be relocated to a more advantageous location. If there are savings in the costs of stations and new apparatus, does this allow paid staffing? The consultants have balanced all of these factors in presenting a blueprint for the future in Southern Berkshire.

The Southern Berkshire Regional Emergency Planning Committee deserves credit for seeking a neutral opinion regarding the EMS Operations since this service is among the most vital and expensive of governmental services.

Lengthy interviews with a wide cross section of stakeholders indicated that there are differing opinions regarding the state of EMS response in the Southern Berkshire region. In discussions with governmental leaders, EMS officials, fire officials, and ordinary citizens, however, the consultants found appreciation for the EMS and fire organizations providing the service within the region.

Officers and members of the EMS and fire organizations, as well as governmental leaders and elected officials all participated actively in meetings with the consultants, consistently displaying a progressive spirit that can only be beneficial to the residents and corporate citizens of the Southern Berkshire region.

A consultant is usually no more intelligent than the client that he or she is serving but can bring objectivity and non-bias to a jurisdiction that can be quite valuable. It is hoped that this study will provide information that can be used by regional officials to create an EMS transport and first response service commensurate with increasing demands, and quality service which residents and businesses of the area deserve. While the area is unique in many

of its remote areas, the citizens still expect EMS care and fire suppression when they summon the service.

Increasingly scarce tax dollars mean that there is a genuine community value in any efficiency that can be gained in EMS and fire department operations. In volunteer departments, like many in Southern Berkshire, the lion's share of a budget will not have to go to staffing. Hence, as the progression of the need for service intersects with the decreased numbers and time availability of volunteers. Planning for salaries is imperative.

Special thanks to Heather Barbieri for facilitating the visits and coordinating the logistics of the consultant's visits. Thanks to the Southern Berkshire Regional Emergency Planning Committee for their interaction and providing feedback and history as we worked to develop the data and plans within. Thanks to the town selectboard members, town administrators, fire chiefs, and EMS Directors, and rank and file of the fire and EMS organizations, all of whom cooperated fully to make sure that the study was comprehensive, and momentum was maintained. Thanks also to the Massachusetts State personnel, who were helpful in providing meaningful information throughout the study. On many occasions we had both formal and impromptu meetings and discussions with these individuals as well as personnel throughout the rank structure in the EMS and fire organizations. We gained much insight into the heart and spirit of South Berkshire's future at these meetings.

Southern Berkshire Regional Emergency Planning Committee

Last Name	First Name	Organization	Title
Augusti	Bruce	MEMA	Program Coordinator
Backhaus	Gareth	Monterey	Police Chief/EMD
Barbieri	Heather	Fairview Hospital	EMD
Berkel	Stephen	Alford	Fire Department
Beinvenue	Gail	MDPH	RHC
Buell	David	MA State Police	Lieutenant
Burger	Charles	Great Barrington	Fire Chief
Burrows	John	Sandisfield	EMD
Coburn	Katie	GB Healthcare	Administrator
Curtin	James	Tyringham	EMD
Hamill	Daniel	Otis	Interim Police Chief
Harner	Charles	Fairview Hospital	Director of General Serv.
Harvey	Ed	New Malrboroughugh	New Malrboroughugh EMD
Hathaway	William	SBVASS	Director
Lanza-Weil	Carmela	MRC	Volunteer Coordinator
Litchfield	Bobby	New Malrboroughugh	Assistant EMD
Marsden	Chris	Stockbridge	EMD
McGurn	George	Egremont	Selectboard
Muir	Scott	Stockbridge Fire	Captain/EMT
Munson	Eric	Sheffield	Police Chief/EMD
Oggiani	Lou	West Stockbridge	EMD
Parsons	Stacy	COAD	Chair
Shalaby	Michelle	New Malrboroughugh	Selectboard Chair
Smith	Jayne	BRPC/BPHA	Senior Health Inspector
Walsh	William	Great Barrington	Police Chief/EMD
Whiting	Charles	Otis	Police Officer
Wood	Rene	Sheffield	Selectboard

Special recognition to Smitty Pignatelli for his attainment of funding and support of the project. During the Consultant's interview with Smitty, he demonstrated great support and care for the communities served with a forward-thinking outlook on shared services. This type of passion and collaboration is what is needed to improve the delivery of government services in any area.

The Town's Selectboard members in the region have a reputation of being pro-active and to their credit supported this forward approach in mapping out the direction needed for its fire and EMS services.

Town Selectmen Members

Alford
Peggy Rae Hendon-Wilson
Charles Ketchen
Peter Puciloski

Egremont
Bruce Turner, Chair
George McGurn, Vice Chair
Mary Brazie

Great Barrington
Stephen Bannon Chair
Edward Abrahams Vice-Chair
Daniel Bailly
Bill Cooke
Kate F. Burke

Mt Washington
Brian Tobin, Acting Town Police Chief
Jim Lovejoy
Gail Garrett

Monterey
Carol Edelman-Chair
Kenneth Basler
Donald Coburn

New Malrboroughugh
Tara B. White
Michele Shalaby Chair
Nathaniel Yohalem

Otis
Donald Hawley Chair
Gary Thomas
William Hiller

Sandisfield
Mark Newman Chair
Brian O'Rourke
George Riley

Sheffield
David A. Smith, Jr. Chair
Nadine A. Hawver
Rene C. Wood

Stockbridge
Donald M. Chabon – Chair
Ernest J. Cardillo
Terry Flynn

Tyringham
James Consolati Chair
Matt Puntin, Clerk
Michael Curtin

West Stockbridge
Bernie Fallon Chair
Peter Skorput Secretary
Doane Perry Clerk

A comprehensive analysis was performed to determine the capability of the fire companies, as currently organized in Southern Berkshire, individually and collectively to deliver necessary fire protection and other emergency services, both now and into the future. The four-page synopsis below is an "Executive Summary" which gives a brief overview of the findings.

Sign in Front of Egremont Fire Station.

EXECUTIVE SUMMARY

The consultants reviewed many interconnected aspects of the Southern Berkshire's EMS and Fire organizations in detail. During numerous multiple-day site visits the consultants interviewed key personnel from town government, EMS organizations, area fire departments, and other nearby agencies that had a role in the operations of the EMS and fire delivery. Statistical data items were reviewed, collated, and reduced to summary tables in this report. The Consultants always strove for detailed, factual data and a wide range of viewpoints. While the need for additional data is noted, the organizations should be commended on the amount of information available from primarily volunteer organizations.

The consultants were impressed with the high degree of professionalism in town government and in the Fire and EMS service itself. Members of the consulting team monitored field operations whenever possible. In short, they are pleased to report that the EMS and fire service is delivered by dedicated personnel, but now is the time to plan for future delivery options.

Staffing: Southern Berkshire EMS and Fire Agencies

While the majority of the emergency service agencies are volunteer or have a small paid crew, the future of many Fire and EMS agencies will focus on staffing to ensure 24-hour service coverage. The consulting team found varying degrees of energy and enthusiasm among members of all ranks in the Southern Berkshire EMS agencies and overall a professional group of which the region can be proud. Staffing levels are somewhat comparable to areas of similar size by population of each town, but spread thin due to balancing of 911 and interfacility transports that Southern Berkshire Ambulance Service must undertake to provide funding to keep paid crews on duty. Each agency struggles to recruit volunteers and many no longer have the demographic in town that can provide fire and EMS activities. Paid staffing will only be affordable through a district model of funding.

EMS Apparatus and Equipment:

The rolling stock, more commonly called EMS and fire apparatus units, now serving Southern Berkshire were reviewed and found to be serviceable but aging. The existing fleet can be tweaked going forward to meet the needs of the region. As in many volunteer areas, the equipment is often plentiful. As costs for personnel are afforded over the next 5-10 years, apparatus will need to be consolidated and purchases will have to combine functions. The purchase of Quints and Pumper/Tankers will eliminate the need for multiple types of apparatus. SBVAS states that the ambulances are aging, and the maintenance costs are growing significantly, which will require funding new vehicles.

EMS and Fire stations:

The distribution of fire stations is currently good, but when examining new stations, thought should be given to the overall region in addition to individual towns served. As District personnel sites are initially picked and added throughout the growth of the district, consideration to total area served and population centers versus travel distances must be taken into consideration. The road network will not change for many years and the placement of stations must take advantage of the current and predicted road network.

Adding new fire and EMS stations seems to be an expensive proposition but the cost of the facility is a mere fraction of the investment in salaries for the personnel which will staff the station over its lifetime. The importance of a quality location is shown to be an investment far beyond construction costs.

Run Data Balance in Functions:

The report analyzes run data and provides suggestions for improvement. Where service demand is greatest, response times are closer to recommended standards, but like most areas, in the sparsely populated outer areas of Southern Berkshire, average response times and distances are stretched to the limits of acceptability. The report addresses the changing nature of the EMS role in the community, looks at it from a regional perspective and notes the occasional need to give and receive mutual aid. This is a starting point towards more regional efforts. Recommendations also occur for increased data collection and validity, as any additional funding for a district will be predicated on valid data.

Topography and Demographics

The study provides an overview of Southern Berkshire as a community, including topography, demographics, special hazards, target zones, and other unique characteristics that impact upon emergency response. It analyzes unique corporate citizens such as the tourist businesses as a key taxation sponsor, but also potential resource demand for the Southern Berkshire Emergency Services. The study analyzes the community in light of new demands placed on the modern emergency service, including emergency management and homeland security involvement. See **Appendix 2** for the demographics that were used as a backdrop for this study.

Standards, Comparisons

In analyzing call volume and response times, the report references national standards for performance and staffing recommendations, such as National Fire Protection Association (NFPA) Standard 450, 1710, and 1720, which address EMS administration and Fire/EMS response times. We analyze the present and future ability of the Southern Berkshire emergency service agencies, individually and as a group, to comply with the standards. The study will include a comparison of Southern Berkshire with similar sized regions regarding the structuring and staffing of the emergency service organizations.

Regarding response activities at an incident, the report shows that the Southern Berkshire emergency service organizations can sometimes meet rigorous National Standards even though some calls are delayed or not answered by the jurisdiction providing service. Its ability to answer emergency calls and meet standards is compromised primarily when multiple simultaneous EMS calls, either through interfacility transport or 911 deplete available personnel and during times when volunteers must attend their full-time employment. Regionalization of a paid force coupled with the current volunteer forces will increase the ability to meet the standards on a greater percentage of time and increase the service level to the community.

Regional Fire and EMS Protection Assets:

With the decline in numbers of volunteers available in any particular community and the sparse taxation dollars needed to afford paid personnel in each small community, the use of regional response models often fulfills the demand while balancing the cost for service. This will be a key theme in this report. As noted on a previous page, the urgency for the need for volunteers from fire and EMS is near a crisis level in some of the communities and will be to the same level of urgency for all communities in the near future. The competing demand that Southern Berkshire Volunteer Ambulance Squad is experiencing is creating a gap in 911 EMS service according to themes collected through interviews during the study. This necessitates the need to create a cross trained paid staff at the regional level to answer the simultaneous needs and demands of the communities involved.

Funding, Budgets:

Both the capital and operating budgets in Southern Berkshire are limited and the emergency service organizations should be prepared to operate without significant increases. In light of the fact that paid personnel usually consume a "lion's share" of an emergency service organization's budget, any personnel additions would have to be off-set with new revenues. Due to the lack of funding that exists in each town to employ and pay their own personnel, the creation of a Fire/EMS District is needed to spread the cost over a larger group of citizens and homeowners. The report addresses in multiple places the costs and taxing structure that could be attained through the creation of a Fire/EMS district model and how this new taxing structure creates equity in costs and service.

Communications

The consultants found strengths in both the Berkshire Sheriff's Control and Great Barrington Dispatch. We typically see an advantage in a regional center that handles police, fire and EMS from the same central facility for many municipalities. Because of the cost of on-duty dispatchers, it is best to spread the costs among many different communities. While some may argue about the loss of intimate knowledge of the individual town and its operations, the continued work with the same organizations in the regional organization will allow for a good portion of the individual town knowledge that could be experienced if individual dispatch centers are used. It is recommended that if Great Barrington Dispatch will continue the practice of assigning the police officer in dispatch to other duties remote from the dispatch console that an additional civilian dispatcher be assigned as well to allow a person present at the console continually. It is also recommended and well received that the development of "alarm cards" be created and entered into the CAD systems for fire and EMS to streamline the dispatching and mutual/automatic aid requests.

Territory Growth

Southern Berkshire is a more rural community made up of single family residential as well as commercial structures serving a tourist base. While the remote tourist destination desire is on the rise, it cannot be expected that significant growth would be derived from tourist destinations, as many like the remote feeling of the current tourist business. The area is also attractive to secondary homeowners from adjoining states, which skews the population data lower, as these residents are counted at their primary residence.

Because there are no significant growth predictions of full-time homeowners, the emergency response organizational structures must change in order to meet the demand into the future, as increased monies to operate in the same fashion with increased pay for staffing would not be feasible under many of the town's budgets.

Short-Term Changes

While there are long-term changes that will have a lasting impact on the service delivery of fire and EMS, there are many short-term changes that can have an incremental effect on the current service delivery and organization. Many interview participants agreed that these short-term changes could lead to quicker response times and more resiliency in the current service. It is recommended that this list be started immediately.
The list of short-term changes includes:

1. Integrate current ems certified personnel in region's FDs into ambulance services to allow tiered approach
2. Equip and train local volunteers in CPR and AED use to allow quick response in remote areas
3. Upgrade dispatch technologies to allow pulse point and/or "IamResponding" to allow tiered response to ems calls
4. Work with SBVAS board of directors and operations manager to determine funding model pro/cons and deployment locations
5. Change dispatch protocols to include local first responders to be simultaneously dispatched with ambulance services to reduce response times and increase scene efficiency
6. Increase data collection and reporting to include creating a report in both cad dispatching systems to track out of service/unit utilization of current ems organizations
7. Utilize IamResponding to sign up for volunteer shifts to show when ambulances are staffed
8. Change practice of 3 tones prior to mutual aid to 5 minutes and dispatch mutual aid automatically for both fire and ems responses
9. Increase dispatch personnel (civilian) in Great Barrington to allow dispatching as sole function to increase safety and validity of incident times
10. Allow EMS directors to attend fire chief's meetings and hold a monthly fire/ems integration meeting
11. Create a region-wide training officers program within the current fire chief's organization to coordinate fire and ems training in the region
12. Update response tables to ensure compliance with NFPA 1710 and 1720 to the greatest extent possible
13. Conduct a facilitated meeting of stakeholders to start the collaboration needed to implement business plan
14. Appoint a person or company to oversee immediate actions and start business plan

Long-Term Business Plan

The long-term business plan involves retaining the volunteer fire and EMS organizations and supplementing these organizations with a regional fire-rescue district that provides four 3-person crews on a 24-hour basis that are fire and EMS trained providing a "First Emergency First" response model. The fire district will be led by a fire commissioner that will liaison with all current fire chiefs and EMS directors to provide a cohesive response system that allows quick response from an on-duty crew, supplemented with the long-standing volunteer force.

The district model is beneficial, as the costs of full-time personnel for each town is impractical and each town's fire and EMS service has difficulties meeting the demand. The consultants recommend this transition occur in stages and begin with automatic aid, joint training and purchasing to work toward the transition. This transition will require the buy-in from numerous town's selectmen, fire and EMS leaders, but the consultants are confident based on our interviews that each town is aware of the current lack of volunteers and finances to afford paid staff individually, while having a desire to see the service delivered to the community. This is the impetus for the proposed district.

HISTORICAL PERSPECTIVE

The Southern Berkshire emergency service organizations have provided fundamental service throughout its history. The origins of the Southern Berkshire Volunteer Ambulance Squad has roots in the nursing staff from the hospital walking to the SBVAS garage on the hospital grounds to take the ambulance on calls and delivering the patients back to the hospital during an emergency. As the call volume increased, more volunteers and paid personnel were added. Today, SBVAS is a full-time and part-time staffed service. The local fire departments have mostly remained all-volunteer except for a few departments, such as Great Barrington which places a few paid staff on station during the weekdays. The agencies continue to protect the many areas, including the high-profile tenants and venues such as many tourist destinations, ski resorts, and arts festivals. Although the frequency and severity of structure fires are declining nationally, Southern Berkshire mimics this trend and experiences exponentially more EMS calls

Over time, the changing landscape of more seasonal tenants and increase in tourism have together created a lack of full-time residents within an age range that allows a volunteer fire and EMS service to be viable. The demand for service will continue to increase, as many urban and suburban residents that comprise the seasonal population are accustomed to having fire and EMS services readily available and are not willing to wait or provide self-service for these types of service, since other communities likely have paid services within a short travel distance of their homes.

The proper size of an emergency service organization, including numbers of personnel and numbers of stations is open to subjective interpretation but there are national standards and comparisons with other communities that will be used to help Southern Berkshire “Right size" its force. Citizens and business owners are the ultimate decision-makers as they vote to accept or reject taxes to pay for their own protection. This study should provide guidelines for growth/transition, and a blueprint for the future.

Fire and EMS protection, in general, presents an interesting history which is relevant to our study and which can be divided into three eras. The first era (“Era I”) dates to the days of Benjamin Franklin, an early leader in the first American volunteer fire service. Early in our history, the US citizenry depended upon fire protection in the form of vehicles such as hand-drawn hose carts and later, horse-drawn steamers brought to the incident location. Related to EMS in the first era was only remote care at a patient’s location.

In a sense, this first form of fire protection has not changed much. Coast-to-coast across North America, fire departments both large and small back their apparatus into quarters, await the sound of a call, and rush to the scene when an alarm is sounded.

From an EMS perspective, delivery of care is performed in much the same fashion as fire protection in which vehicles with trained personnel are dispatched to your location when needed and perform a limited set of skills based on life saving measures until delivered to a hospital where care is transferred to a physician.

A second era of fire protection (“Era II”) is represented by placement of fire suppression systems (sprinklers and alarms) inside of structures themselves. Commercial buildings, factories, hotels, schools, and any other buildings which present a potential for large loss or which represent a life hazard in terms of occupancy can be protected with automatic sprinkler systems. These will hold a fire at bay and often will summon fire

suppression forces when the water flow in the piping system triggers an automatic alarm. This type of fire protection is immediately deployed and is capable of operating independently of the external protection provided by the fire department. Fortunately, some high-value occupancies in Southern Berkshire, including Fairview Hospital are sprinkler protected, greatly reducing the fire-suppression responsibility that would otherwise be present for the Southern Berkshire region fire departments.

As part of Era II, smoke alarms, which are mandated in many commercial structures, have become popular in homes and have resulted in the early detection of many fires while in the incipient stage. This has allowed the occupants to take immediate action and is responsible for saving untold numbers of people and many homes from the ravages of fire.

An obvious tradeoff exists between in-house proximate protection, provided by sprinklers and alarms, ("Era II") and the external protection provided by the fire departments ("Era I"). As new commercial development occurs over time in Southern Berkshire region buildings will enjoy Era II internal protection, reducing the demands on firefighting forces. New homes should be mandated to have hard-wired, battery-backup ionization and photoelectric smoke alarms.

The second Era of EMS protection will incorporate telemedicine in which physicians will be connected to the patient within seconds and kits that can be purchased for use by a layperson will be utilized with the doctor's instructions. This will decrease the time to critical care and add exponentially the number of care givers. You are beginning to see this with Pulse Point in which a phone app dispatches a CPR trained citizen to a nearby cardiac arrest.

The third generation of fire protection will consist of a "non-combustible society". ("Era III"). Currently, the technology exists to construct fire-resistant buildings, and to outfit these buildings with non-combustible furnishings. Coupled with this is the ability to treat all fibrous products such as clothing, paper, decorations or anything else that could conceivably be brought into a structure with a fire retardant process. (One such product called "no char ®" has been used to treat all of the barns at the Ohio State Fairgrounds).

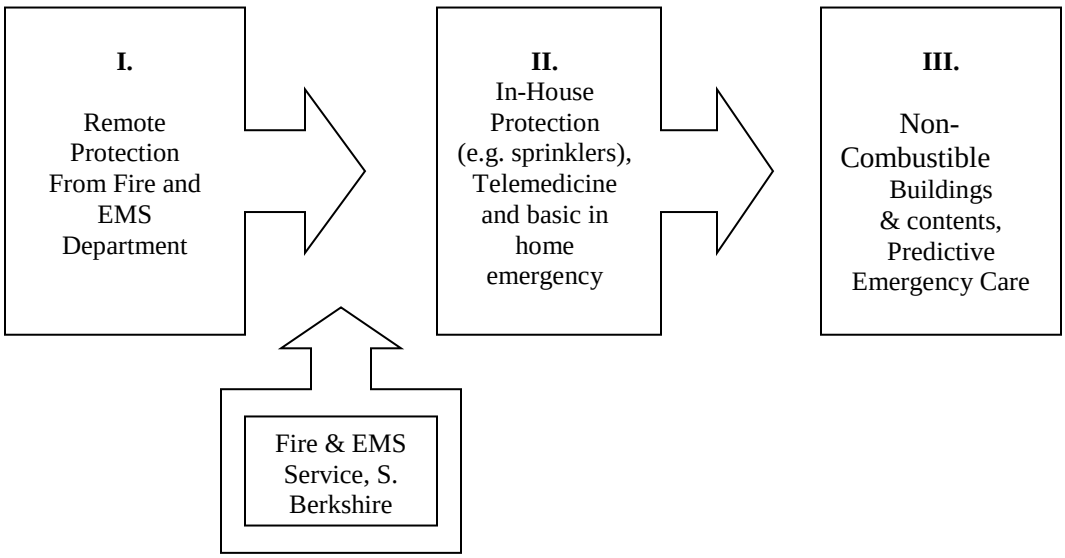
The third generation of EMS care will involve body systems monitors similar to advanced automobiles, which monitor all of the vital systems and predict when a service is needed. Similarly, our body monitors will be able to predict the buildup of plaque in the arteries that lead to cardiac arrest or the weakening of an artery in the brain that leads to a stroke and provide warning advanced enough that we will no longer need emergency care with the exception of injuries from accidents.

Should we as a society ever agree to make the necessary expenditures to create a non-combustible society, then not only are fire departments from "Era I" rendered less important, but even sprinkler systems and in-house protection from "Era II" will likewise become far less necessary. The "Era III" will not enter into our study or equation since society is not even close to entering a non-combustible age. Overall, however, the historical result of the move toward Era II and III has been fewer fires, and less intense fires. Fire Departments have taken on EMS, Haz-Mat, Technical Rescue, and other functions to remain viable.

The advancement of Era 2 and 3 for EMS are likely to arrive prior to Era 2 and 3 of firefighting due to the for-profit business opportunities that will be involved in these advancements. We must ensure that as the advancements are made that the culture of EMS is ready to adapt.

In remote areas of the region, the push for purchases of AED's should be a priority, as well as teaching citizen CPR courses, as the CPR trained citizen is the true first responder. **Figure 1** shows the three-step historical evolution, and the current positioning of the Fire and EMS Service in Southern Berkshire

FIGURE 1
The Three Historical Eras of Fire Protection



Like many developing communities the Southern Berkshire region has grown somewhat irregularly in terms of geographical borders and occupancy types. Southern Berkshire is surrounded by many state parks and mountainous areas. New properties should be inherently safer than older due to better building codes and internal fire prevention systems such as sprinklers, but light-weight building materials and synthetic components tend to off-set these gains, replacing old challenges in firefighting with new.

There are two opposing arguments regarding the fire protection and emergency medical protection:

- **Argument No. 1:** Each and every citizen and business occupant within the Southern Berkshire region deserves response times for Fire and EMS protection that are within national standard guidelines and therefore, regardless of how expensive and regardless of the infrequency of runs, enough fire and EMS stations will be constructed so that all residents and businesses have speedy response times.

- **Argument No. 2:** An opposing argument is that the location of fire and EMS units must logically include the frequency or the demand for the services from that facility. Locations should then favor frequent response zones.

In Southern Berkshire some sort of balance must be struck between these two arguments. The consultants have balanced these factors on an approximately 50/50 basis which will be reflected in the recommended station layout. In short, we balance response time with service demand.

COMMUNITY RISK ASSESSMENT

Community Risk Assessment cannot be ignored when choosing emergency service station (EMS/Fire) locations. While the two opposing arguments above are valid, the reality of EMS and fire protection coverage in a community is that certain properties present a larger life safety, call frequency, property loss and fire spread possibilities. While some facilities may have their own EMS response teams and certain buildings may have protection systems that lower the fire risk, the EMS and fire forces will have to answer calls at these locations based on their frequency, which is affected by the numbers of people present and their interaction with the property.
Some of the Target Hazards include:

1. Tall/Large Buildings & Urban Dense Areas
2. Remote/Rural Areas
3. Ski Facilities
4. Apartments & Hotels
5. Hospitals, Senior Living Facilities, Schools

Tall/Large Buildings & Urban Dense Areas

Urban areas and tall buildings provide a greater density of people for EMS calls. Often tall buildings and urban areas house apartments on the second and third floors of the buildings, which are common housing locations for elderly that can no longer take care of or afford a single-family property. While this is a benefit to the elderly to no longer take care of a yard, etc. these occupancies create an increased risk for EMS crews, as many of the buildings were not designed for ambulance cot egress. This forces EMS personnel to utilize stair chairs and other means to remove the patient, increasing risk of injury to the ambulance crew. Additionally, the response time to arrive at the patient is extended, as crews must traverse stairs and hallways to reach the patient, delaying needed medical interventions.

Many of the tall buildings and downtown buildings in the Southern Berkshire region date to a period in which the fire code did not require sprinklers, which increases their hazard level above that encountered in newer cities. This coupled with an increased elderly population in the buildings creates an increased risk for both fire and EMS incidents.

Because the elderly population may have difficulty with sensory functions, an increase in cooking fires is noted in this population span, which can cause an increase in fire calls, but also burn injuries to patients.

Traversing to fires on upper floors of tall buildings requires firefighters to ascend stairs to access the fire. While during normal operation, citizens can ride elevators, during a

fire, the firefighters must take the stairs and begin to assemble fire or EMS equipment 1 to 2 floors below the fire. This extra time can cause additional fire spread or increased medical needs for the patient

EMS and fire agencies should work in coordination to ensure automatic sprinklers are installed as buildings are remodeled and that safe cooking classes are provided to at risk populations. This will reduce both the EMS and fire call volume and severity of incidents for all agencies.

Fortunately for the Southern Berkshire Region, the tall buildings and urban density occur in the downtown area and are based on the availability of land around the town. This is unlikely to change in the immediate future, as building vertically is exponentially costly, in comparison to building horizontally due to architectural requirements.

Photo 1: Tall, continuous buildings line the streets of Downtown Great Barrington.

Remote/Rural Areas

Remote and rural areas present a time/distance issue, as well as a feasibility of funding issue. Because some homes are so remote with narrow driveways, it can take 20 minutes or more to deliver EMS or fire services to these occupancies. From an EMS standpoint, anyone with a heart attack or a stroke is likely to have a significantly diminished survival rate. Verifying this are studies showing that a victim's chances of survival are reduced by 7%–10% with every minute that passes without defibrillation and advanced life support intervention. Few attempts at resuscitation succeed after 10 minutes.[1]

[1] Weisfeldt ML, et al. Ventricular Tachyarrhythmias after Cardiac Arrest in Public versus at Home. New England Journal of Medicine, 2011; 364:313-321.

Compounding the response time issue is the lack of tax dollars per square mile. The costs of providing EMS and fire protection are constant on a baseline regardless of call volume, as a certain number of paramedics must be present per medical protocols and the tasks related to delivering certain medical interventions. Additionally, an ambulance must be purchased and maintained, as well as a station to store the ambulance. The station must have climate control due to drugs present and electricity, all of which have monthly recurring costs. All these costs must be offset by as few as 400 people in some of the towns surveyed. This can make the cost of a service not used on a daily basis very significant.

Beyond just the ability for the ambulance to reach the remote location, the ambulance must transport to a hospital that has the needed resources. For minor injury or minor illnesses, this can be nearly any hospital, but severe trauma or cardiac events require special hospitals with trauma centers and cardiac labs. This can add 30 or more minutes depending on the location of the specialty hospital. Additionally, the weather of the area prevents medical helicopter use

To remedy the time distance issue, transport to the medical facility is often accomplished via a helicopter. While this can save significant time, the bill can be upwards of $25,000 per transport due to the cost of the aircraft and medical equipment. Sometimes insurance does not cover this cost and even if the patient survives, he or she is saddled with costs.

Photo 2: Aerial Photo of Remote Residence/Long Driveway

Ski Resorts

Ski resorts and other recreational areas for travelers and local citizens provide a multitude of EMS challenges. The first is the number of people present at the venues at one time. On a popular weekend in the winter, the ski resorts can have more people than many of

the town's population in Southern Berkshire. With the increase in people, so is the increase in EMS calls. This is true no matter the venue or location, but couple this fact with a high-risk recreational sport such as skiing and snowboarding. Recent medical studies indicate a significantly higher rate of injury than non-sports participants and notes that beginning skiers are three times more likely of injury than experts. While other sports, such as bicycling have higher rates of injury, the severity of injury from skiing can be significantly higher due to speeds of the skier.

It is noted that many ski resorts have National Ski Patrol volunteers on site to respond to the hills. Still the time delay from injury to arrival in the ambulance is significantly increased due to the remote location of the person at the time of injury. Based on the location, the ski medical team may have to bring the victim down the slope on a special stretcher. All of this activity can cut into the golden hour of trauma survival.

Photo 3: Butternut Ski Resort Photo

Apartments and Hotels

These two occupancies have increased hazard ratings due to the number of occupant units within one building, which based on the potential for around 2 occupants per unit, can place 20 or more people in a small hotel or apartment building to upwards of 100 in larger buildings. The EMS workload is not only increased from the numbers of occupants, but from the transient nature of both to preclude the occupants from using a primary health care provider. In hotels, the occupant may only be in the occupancy a day or two and be unfamiliar with the area, thus any medical needs are best answered through a 911 call. While not efficient, it may be the only option recognized by the occupant. Apartments are typically for short term habitation and the occupant likely does not have a long-standing relationship with a primary health care provider. Thus the hospital and the 911 service often become the primary health care provider.

From a fire suppression standpoint, the most prevalent fire in these types of occupancies are cooking related fires. According to NFPA, "In 2010-2014, U.S. fire departments responded to an average of 166,100 home structure fires that involved cooking equipment per year. These fires caused an average of 480 civilian fire deaths, 5,540 civilian fire injuries, and $1.1 billion in direct property damage."[2]. Additionally, NFPA reports in the year 2016, 95,000 apartment fire occurred in the United States resulting in 325 civilian deaths and 3,375 civilian injuries.[3]

Civilian actions that increase the fire damage after ignition include the removal of smoke detectors, removal or alteration of automatic door closures, and tampering with fire extinguishers. The removal of smoke detectors can delay the reporting of a fire. With a few exceptions, fire alarm systems in apartments are automatic and require a monitoring company, which makes it important for residents to hear the smoke detector and call 911. Removing the automatic door closers allows for smoke and fire travel beyond the apartment or hotel unit, allowing the fire to enter the hallways, which can trap people in other units and increase the fires intensity. A comprehensive video showing many of the fire flow path principals is located at https://www.youtube.com/watch?v=A7QpojetrYo .

Because of the factors listed above, a greater firefighting force must be assembled quickly at an apartment and or hotel occupancy. Failure to receive the call for a fire quickly after ignition of the fire, coupled with response and setup time allows the fire to grow quickly and endanger many occupancy units within the building. This can create the need to rescue between 20 and 100 persons in addition to the need to operate multiple hose lines.

A few fire prevention tactics that can help lessen the size of an apartment and/or hotel fire are the use of Stove Top Fire Stop https://stovetopfirestop.com/ or similar device that mounts above a stove and will dispense fire extinguishment automatically if a fire occurs. A cursory internet search shows these units can cost around $55.00 per unit. Additionally, placing a fire extinguisher in the apartment or hotel room can decrease the distance needed to attain an extinguisher and can reduce the vandalism of the devices.

Because of the instances listed above, it is not uncommon for a fire in this type of occupancy to become a mass casualty incident. Recently, a fire in Cincinnati required 10 patients to be transported, all in separate ambulances. A transport need such as this in Southern Berkshire would stretch well beyond the resources present. Therefore, it's important for the Fire and EMS agencies to team up to ensure codes are abided by and that training of the staff at the hotels is provided so they know how to limit this type of event through prevention and education.

[2] NFPA (2018). Reports and statistics about cooking fires and safety. Retrieved from https://www.nfpa.org/Public-Education/By-topic/Top-causes-of-fire/Cooking/Reports-and-statistics-about-cooking-fires-and-safety

[3] NFPA (2018). Apartment structure fires. Retrieved from https://www.nfpa.org/News-and-Research/Fire-statistics-and-reports/Fire-statistics/Fires-by-property-type/Residential/Apartment-structure-fires

Photo 4: Hotel Photo

Assisted Living and Nursing Homes

From an EMS delivery perspective, assisted living and nursing homes can add a significant demand to EMS responses, especially if EMS administrators are not actively educating and auditing responses to ensure they are true emergencies and not a substitute for a private ambulance transport. In West Chester, OH, two nursing home facilities add approximately 500 calls per year in a community that answers approximately 4,000 EMS calls annually. This equates to 12.5% of the total call volume from two properties. The use of the EMS system as a private transport could be an added income for Southern Berkshire, but should be considered versus the unavailability of ambulances and the need to hire additional personnel and staff more ambulances. School buildings have similar usage for their age bracket and should be considered when considering future call volume.

Photo 5: Nursing Home Facility Photo

COMPOSITION AND AGE STRATIFICATION OF THE POPULATION AND ITS EFFECT ON BOTH EMS AND FIRE DEMANDS NOW AND INTO THE FUTURE

Hanifen & Associates, LLC used information provided by the U.S. Census Bureau to provide this data. (See below). Essentially the data converts to a gradual increase in demand for EMS service due to an aging population and to a public that is more willing to avail itself of public services, including EMS

Southern Berkshire Population and Median Age

Town	Population
Alford	494
Egremont	1255
Great Barrington	6915
Mount Washington	140
Monterey	729
New Malrboroughugh	1370
Otis	1577
Sandisfield	859
Sheffield	3190
Stockbridge	1980
Tyringham	439
West Stockbridge	1095
Richmond	1521
Lee	5795
Lenox	4994
Tolland	666
Becket	1852

Table 1
Population by Town

Town	Median Age
Alford	61.5
Egremont	54.8
Great Barrington	44.9
Mount Washington	58.5
Monterey	57.5
New Malrboroughugh	57.8
Otis	51.7
Sandisfield	50.2
Sheffield	51.8
Stockbridge	56.7
Tyringham	59.9
West Stockbridge	53.6
Richmond	58.1
Lee	44.5
Lenox	55
Tolland	50.9
Becket	50.9

Table 2
Median Age by Town

Town	Educational Attainment
Alford	98.50%
Egremont	94.40%
Great Barrington	89.00%
Mount Washington	98.60%
Monterey	95.50%
New Malrboroughugh	93.10%
Otis	93.20%
Sandisfield	91.40%
Sheffield	91.40%
Stockbridge	92.00%
Tyringham	97.90%
West Stockbridge	96.00%
Richmond	94.40%
Lee	89.10%
Lenox	96.30%
Tolland	92.60%
Becket	93.40%
Total/Average	93.40%
State AVG	90.30%

Table 3
Percentage of Population with at Least a High School Education by Town

Translating Demographics into Service Demand Estimates

Highlighted within **Tables 1, 2 and 3** are factors that have a significant impact on EMS operations. The percentage of the population 65 and older and the percent of the population with health insurance affect the call volume and funding related to EMS. The percentage of the population 65 and older is currently significantly higher in the Southern Berkshire region. The median age in the State of Massachusetts is only 39.4 indicating that unless an influx of younger citizens is expected in the near term, provisions within the current EMS must be made to accommodate a segment of the population that comprises the largest users of the EMS system. The percentage of the population with Medicare would trend slightly higher than the state average. This should translate to a higher collection rate for ambulance billing, than segments of the population that do not have healthcare coverage, such as many younger adults that are just starting in the workforce or have only part-time

employment. While the Affordable Healthcare Act was to remedy this issue, current politics cannot guarantee this coverage to continue.

Table 3 and **Figure 2** highlight the fact that educational attainment is higher than the State of Massachusetts Average. As noted in the figure below, higher education levels equate to better preventative health care, which often lessens the demand on the EMS system. Focus for Southern Berkshire should continue on ensuring that EMS demands of today are met with the expectation of increased service demand over the next decade, as the median age pushes to 60 to 65.

Figure 2
Academic Study on Income and Healthcare Activities Correlation

Higher Education and Health Investments: Does More Schooling Affect Preventive Health Care Use?◆

Jason M. Fletcher[a] and David E. Frisvold[b]

Abstract

While it is well-known that individuals with higher levels of education consume more preventive medical care, there are several potential explanations for this stylized fact. These explanations include causal and non-causal mechanisms, and distinguishing among explanations is relevant for accessing the importance of educational spillovers on lifetime health outcomes as well as uncovering the determinants of preventive care. In this paper, we use regression analysis, sibling fixed effects, and matching estimators to examine the impact of education on preventive care. In particular, we use a cohort of 10,000 Wisconsin high school graduates that has been followed for nearly 50 years and find evidence that attending college is associated with an increase in the likelihood of using several types of preventive care by approximately five to fifteen percent for college attendees in the early 1960s. We also find that greater education may influence preventive care partly through occupational channels and access to care. These findings suggest that increases in education have the potential to spillover on long-term health choices.

The excerpt below from the Daily Dispatch email blast on March 1, 2019 shows this aging population and increased use of EMS is not only a Southern Berkshire issue, but is common around the country. The excerpt also demonstrates that communities and regions are working to increase their EMS abilities through organizational adjustments.

Sylvania Township Fire Department Challenged by Increasing EMS Calls

Answering the bell has become a challenge for the Sylvania Township Fire Department in the past few years. In January of 2018, paramedics transported 44 people to the hospital. This January, they've transported close to 300, due mainly to their growing ability to handle their own calls. "Everyone's getting older. And the older population is, I won't say the only people that call. We have diabetics, we have seizures, we have all of that," Sylvania Township Fire Chief Mike Ramm said. With growing EMS calls from an aging population moving to the suburb, the department was constantly relying on mutual aid from neighboring departments. Springfield Township, Richfield Township, and Toledo's fire departments were stepping up to cover Sylvania Township's calls for help.

TOLEDONEWSNOW

Source: Ohio Daily Dispatch email blast on March 1, 2019

Chief Burger of Great Barrington Fire Department Summed up the Demographics and Population Trends Best:

"In summary, the demand for fire, rescue, and EMS services is growing while the population to recruit volunteers from is rapidly declining."

WORKFORCE SPREAD THIN WHEN MULTIPLE CALLS OCCUR

Southern Berkshire currently operates 8 EMS Units and 20 fire stations but only 3 EMS Units and 3 Fire Stations are staffed, one through cross staffing. This spreads the workforce thin when any call occurs. Currently, if 2 EMS calls occur in the same area while a private transport is occurring, ambulance service is delayed and first response from fire companies may or may not occur in a timely basis.

The following table shows that many areas that cover similar size populations have transitioned toward career departments. We have noted that Southern Berkshire EMS and fire services have maintained entirely separate services. We will examine this is greater detail in later portions of the report, and the community should determine if efficiency can be gained through the combining of fire and EMS services.

Southern Berkshire is fortunate to have an on-duty force in SBVAS since the transition towards career is at the intersection of the populations we noted in the region. All too often, tragedy strikes the during the times dedicated volunteers do not have the ability respond like their on-duty paid counterparts. **Table 4** on the next page shows a national breakdown of department types by community size.

Table 4
Coverage per population categories
by Career and Volunteer Fire Departments

Population Category	Number of Career Departments	Number of Volunteer Departments
1,000,000	36,100	100
500,000 to 999,000	35,900	4,150
250,000 to 499,999	24,750	2,800
100,000 to 249,999	47,100	3,000
50,000 to 99,999	47,050	5,650
25,000 to 49,999 (Total Study Area)	46,650	23,950
10,000 to 24,999 (Southern Berkshire)	45,200	79,200
5,000 to 9,999	17,000	109,000
2,500 to 4,999	5,500	165,950
under 2,500	8,050	429,550

(Courtesy of National Fire Protection Association *U.S. Fire Department Profile)*

The excerpt below from the national fire service news indicates that the resources are spread thin throughout the northeast United States, as well as the Southern Berkshire region.

Connecticut firefighters hold meetings to discuss resources amidst budget troubles

VIDEO: Numerous firefighters, officials, departments, and community leaders are holding meetings to discuss their resources in firefighting amidst an almost certain tightening of the budget belt. Firefighters are familiar with fighting smoke and flames, but at a meeting in Torrington, firefighters and officials are fighting for their futures in the face of shrinking state resources. Channel 3 spoke with fire officials from across the state who said they are holding a series of meetings to discuss how departments can best handle the potential of sharing resources as well as meager budgets. Glastonbury Fire Department Chief Michael Thurz is sharing information on how departments can best prepare themselves. "With the financial situation that we are in with the municipalities down to their financial situation, we are trying to figure out what's the best for the Connecticut fire service and what the future holds," explained Chief Thurz.

WFSB-TV CBS 3

Source: The Daily Dispatch Email Blast dated March 12, 2019

BALANCING EMERGENCY RESPONSES AND INTRERFACILITY TRANSPORTS THROUGHOUT THE REGION

The history of the EMS organizations within Southern Berkshire indicates that they have competing priorities. Southern Berkshire Volunteer Ambulance Squad (SBVAS) is a non-profit 501C3 organization that provides both 911 response and interfacility transports. This is not unusual for the area, as noted County Ambulance in the center of Berkshire County performs the same operation. Competing priorities provide a reduction in 911 ambulance service many times a day. On a positive note, SBVAS, does not charge many of the towns for their service, as would be the case if a municipal based service was in place in each of the towns, but to offset the lack of funding. SBVAS schedules numerous interfacility transports that take 1 or more of the 2 staffed ambulances out of the region for extended periods of time.

The existing EMS stations have been located over time in Southern Berkshire based on population centers and demand factors. While not perfect, they are reasonably placed, however SBVAS could split the 2 ambulances and shorten response times to the areas served if not for the interfacility transport needs. Overall, there is some balance in the Southern Berkshire EMS system, but as volunteerism declines and the median age of those available to volunteer declines, it will be important to consider locations based on staffed units. It should also be examined from the standpoint that if the fire departments continue to see a decline in volunteerism, could a merger of activities occur and what would the location of the merged service need to be to provide the best response to the community.

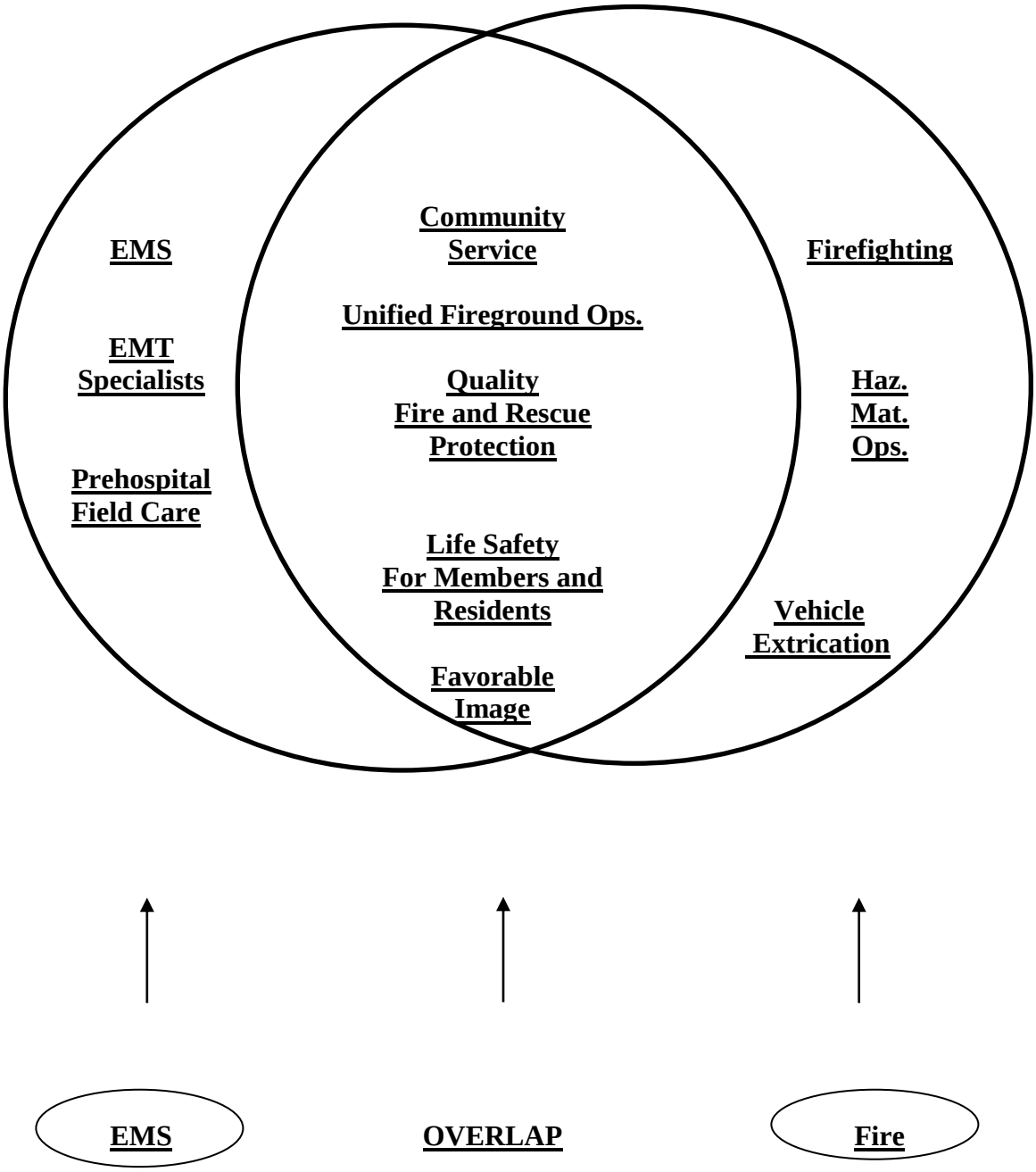
INTEGRATION OF FIRE AND EMS THROUGHOUT THE REGION

The area fire departments also respond on EMS incidents and due to the working relationship maintained by EMS Directors, there is a smooth working relationship among the co-responders. This interface and extended coverage (perhaps called redundant by critics) helps ensure adequate personnel on the scene to ensure patient care. The Southern Berkshire Fire Departments provide both fire protection and Medical Services support, and their personnel are shifted between Fire and EMS roles depending upon the priorities of the moment, such as providing a driver for the ambulance or making a first response. **Figure 3** Shows the Fire and EMS operations overlap

It is not completely unusual for the EMS and Fire Systems in Southern Berkshire to experience simultaneous emergency medical runs and fire runs. When this does happen, resources become depleted in direct proportion to the escalating number of emergencies. Some of the region's fire departments have begun to build EMS resources. In Great Barrington, to build a resiliency in the EMS system, Chief Burger often responds to the scene when only 1 person is available from SBVAS to make the transporting crew.

Figure 3

The EMS and Fire Operations Overlap



This overlap/combination of duties happens in communities of all sizes all the time. An EMS or fire department can only afford to staff and equip itself for the ordinary and probable, not the unusual times when resources become totally depleted and calls are "stacked." In Southern Berkshire assistance is available from recalled personnel or adjacent communities with mutual aid units. However, it is noted that the interfacility transports pull 911 resources away and leave large areas with one or no ambulances for extended periods of time. This is coupled with a significant travel time to summon staffed ambulances from the center of the county or from neighboring New York. **Figure 4** below shows a typical protocol listing where fire department assists to EMS units are advised.

Figure 4 – Typical Fire Company EMS Response Protocols

- Cardiac Emergency (Heart Attack, Chest Pain, Shortness of Breath, etc.)
- Respiratory Emergency (Asthma, COPD, Shortness of Breath, etc.)
- Altered Level of Consciousness (Stroke, Drug, Overdose, Generally Unresponsive, etc.)
- Obese Patient or Difficult lifting and or transportation factors. (Steep or narrow stairway, etc.)
- Motor Vehicle Accident
- Engine companies will be initially dispatched in their respective districts per emergency communications center CAD system and the stated criteria and is subject to modified response, as the Officer in Charge may deem appropriate.
- Early and adequate definitive patient care and staff health/safety are our goals.
- First ambulance response in the county will initially consist of two personnel. Subject to the above criteria, three personnel may respond on the ambulance with Officer in Charge approval.
- Any Paramedic or Officer may request additional resources once they determine need.
- Anytime in the region that rescue, or extrication is required, an officer will be assigned for Command purposes.
- NIFIRS fire incident report must be completed anytime a truck goes out to assist an ambulance.

Consistent with national trends, the frequency and severity of actual fires is declining in Southern Berkshire as elsewhere in the nation, and the number of fire calls (alarms, smoke scares, etc.) has shown only moderate growth, while their EMS runs are escalating. **Figure 4** above is a typical protocol. The Southern Berkshire EMS directors are encouraged to work with the Fire Departments to continually refine such procedures to ensure primary quality control, as well as determine if personnel exist within the fire organizations that can be added to their rosters to allow seamless operation of the first response personnel to the highest trained level and still comply with state rules for EMS.

When both fire and EMS units respond to medical emergencies, many well-intentioned citizens wonder why. They question whether this is a waste of resources, but it can be a cost savings measure. In fully integrated systems fire/EMS systems, the fire engines can reduce the response time to critical events such as trouble breathing and cardiac arrest and allow a number of ambulances on duty commensurate with the transport needs rather

than time-distance needs. In the fully integrated Fire/EMS system, the Fire Engine is staffed with cross-trained firefighter paramedics and/or EMT's that respond to critical emergency medical calls with selected EMS equipment and begin lifesaving interventions. Then the patient is transported by an ambulance when it arrives. Current EMS protocols only dictate rapid transport in a small percentage of events, but rather suggest quick intervention from basic and advanced life support procedures that can be delivered via equipment carried on the fire engine. Further integrating patient care reporting software with the fire companies and the ambulances allows time-intensive reporting to begin with the fire company and save valuable out of service time for ambulance crews.

Without this efficiency, communities would need a high number of both Fire and EMS vehicles and crews to meet critical time needs of both fire and EMS emergencies. In some districts, Fire Departments in Southern Berkshire have adopted sensible response policies sending adequate size crews to handle medical emergencies, even when some of those crewmembers arrive on a firefighting vehicle.

EVOLVING FIRE DEPARTMENT MISSION

When assessing needs, we must look at what services are essential for fire departments to provide to their customers. The fire service should not only provide an emergency response role to its community, but also provide support functions that make the fire departments a valuable asset to their community's safety. Other programs which the consultants feel are valuable are the training of kids with a fire safety house and the juvenile fire setters' program.

Currently, most Southern Berkshire fire departments do not provide the EMS transport service for the community. While this arrangement might seem attractive to a few fire purists, without the EMS role the departments would be considerably less active and less visible to the taxpayers of the community, thus making some question any additional or continued funding to the fire department. Southern Berkshire area fire departments have some personnel that welcome the opportunity to obtain EMT and Paramedic certifications and would welcome hospital transports to the list of services they provide. While this may not be the first phase of changes in Southern Berkshire, this is a trend nationally due to efficiency and funding and will likely be the end result for agencies in the region to survive with the need for paid personnel and only small increases in funding.

SOUTHERN BERKSHIRE RESPONSE DATA

The EMS Agencies in Southern Berkshire have continued to have increased demand for service, both in 911 service and inter-facility transports. While the majority of their calls are EMS, these agencies do occasionally respond with the fire department to MVA's and Fires. The protocol for all structural fire responses should include an ambulance, possibly two. This ensures that the potential fire victims receive immediate care and an ambulance is stationed at the event for the possibility of a firefighter injury or illness. This can also show reciprocity between the two agencies. **Table 5** and **Table 6** shows the number of EMS and fire calls made by all EMS organizations within the Southern Berkshire Region.

The trend-line regarding the work load of the Southern Berkshire area Fire Departments shows that they can expect to answer an increasing number of calls over time, as the table below portrays, and the consultants can state with confidence that the workload will continue to increase yearly. We thank agency administrators for the following data.

Table 5 – Southern Berkshire Region EMS Departments Calls for Service

EMS Service	# of Calls in 2017	# of Calls in 2018
Southern Berkshire Volunteer Ambulance	1851	1942
New Marlboro	90	94
Otis Rescue Squad	NR	NR
Sandisfield Fire Department	100	102
Lee Ambulance	1192	1190
Richmond Fire	176	176
Total	3409	3504

Note: NR indicates data not provided.

Table 6 - Southern Berkshire Region Fire Departments Calls for Service

Southern Berkshire Fire Department Calls				
Town	# of Calls in 2017	# of Calls in 2018	2018 EMS First Response	2016 Fire Totals
Alford	26	32	10	1
Egremont	198	208	107	12
Great Barrington	553	585	119	79
Montery	NR	NR	NR	2
New Marlboro	NR	NR	NR	5
Otis	NR	NR	NR	1
Sandisfield	70		NR	9
Sheffield		140	260	0
Stockbridge	375	375	169	1
Tyringham	NR	NR	NR	0
West Stockbridge	NR	NR	NR	7
Richmond	NR	NR	NR	9
Lee	206	237	N/A	3
Lenox	NR	NR	NR	24
Tolland	NR	NR	NR	0
Becket	NR	NR	NR	0
Total	1428	1577	665	153

2016 Data source:
https://www.mass.gov/files/documents/2019/03/04/2016%20MFIRS%20Annual%20Report.pdf

NR=Not Reported to Consultant

From 2017 statistics in **Tables 5 and 6**, we see that Regional Fire Departments that reported data responded to a total of 1577 calls for service in 2018. In 2018 there were 665 EMS first response calls (42.2%) and 912 fire calls (57.8%). Overall, there were 149 more calls last year than in 2017, a 10.4% increase. This increase is consistent with the State EMS director's comments about the call volume increasing 10% per year as a statewide trend.

Demand for service throughout the region, including Southern Berkshire and surrounding mutual-aid districts will continue to grow. We project a modest growth for the current year as projected in **Tables 5** and **6**.

The totals given in **Tables 5** and **6** show fire or EMS when in fact there are a variety of calls, some of which might be combinations. (For example, a car fire with a burn injury) This two-way (Fire/EMS) breakdown is a meaningful simplified metric, however, and is based on the following premise: If an ambulance is the primary responding vehicle it is EMS; If a fire vehicle is primary, then it is categorized as "fire."

The fire and EMS services delivered by the Southern Berkshire Region Fire Departments are of high quality and are often delivered quickly throughout the area. On several occasions the consultants watched crews in action and were impressed with their knowledge and skill.

RESPONSE TIME DATA

The Southern Berkshire EMS and fire departments can handle the myriad types of emergencies that the area routinely faces, but improvements are possible, and some suggestions are presented throughout this report.

It is noted that much of the response time standards are difficult to meet due to the rural area of Southern Berkshire. However, we will examine the most commonly used response time standard in fire and EMS, which are NFPA 1710 and 1720. While today the EMS service is separate from the fire departments in most of the organizations, and some may ask why use NFPA 1710 and 1720, the consultants recognize that the construction of these documents were centered around American Heart Association's recommendations for BLS and ALS response. Additionally, in some areas of Southern Berkshire, the fire departments send first response or assist the ambulances, thus these standards are best to apply, as they are focused on the citizens recognized time from call to arrival.

NFPA 1710 suggest that a turnout time of 60 seconds (time from alarm sounding to the crew until the unit is moving towards the incident) 90% of the time. NFPA 1710 suggests that a 4-minute travel time for BLS be attained 90% of the time and that an 8-minute travel time for ALS be attained 90% of the time

The response times are currently higher than the standard, but this is due to the extended travel times to reach the rural areas and the need for volunteers to respond to the station. One area that each organization can track to help inform the citizens is the percentage of times that the standard is being met. Some towns have a denser area in which a larger portion of the citizens live, and it can show that the EMS and fire services are reaching the majority of the citizens in a timely manner. Later in the report we cover citizen-focused

intervention as a stop gap for the longer travel times that are encountered in the rural/remote areas.

Adding Another Ambulance Based on Data

Common themes occurred when interviewing both fire and EMS personnel during site visits. One of the themes centered on the need for more ambulances or the ability to have a quicker response when one of the ambulances are already on a call or on an interfacility transport. Another common theme was the practice of toning an ambulance for 15 minutes prior to calling mutual aid when the original ambulance fails to respond. One of the pieces of data that would support or nullify these interview themes are historical call data centered in ambulances not being available for response due to being on another call or the failure to respond due to lack of a crew. Unfortunately, this information is not tracked. The consultants recommend that unit utilization statistics for ambulances in the area be established and reported monthly to the Southern Berkshire Regional Planning Committee.

Adding/Rebalancing Future Ambulances Station Locations

The task of selecting the next locations to house an ambulance has numerous facets and the consultants recommend a thorough examination based on the criteria below at the time the ambulance is added. Currently, on-site themes indicate that SBVAS should separate the ambulances, but performing dual duty of interfacility transports and 911 service simultaneously, the movement of 1 ambulance will only have that 1 location out of service when an interfacility transport is conducted. This nullifies the benefit of the movement currently. Adding an ambulance in a diverse region such as Southern Berkshire can be likened to providing triage at a large-scale disaster. The goal in Triage is “to do the most good for the most amounts of people” When providing ambulance locations, we must think about 2 key concepts.

1. Providing ambulances where most of the call volume exists, which aligns with population density (Factor=Density)
2. Providing a response time that serves all county residents equally (Factor=Distance)

Because of these two criteria, the consultants have taken a dual approach to the assignment of new ambulances, varying between density and distance. This approach will lower overall response times and ensure ambulance availability in the most methodical fashion. Additionally, internal policy can adjust the staging locations when call volumes are high to realign with the call volume as needed.

Following are **Table 7 and Table 8** showing the first 2.5 staffed ambulances already in existence, which the consultants agree are appropriately situated based on the staffing and organizational configuration. **Table 8** shows the relocation of the ambulances, which number 4 plus Lee Ambulance based on the business plan presented later in the report. It should be noted that the consultants recommend the use of current fire station locations to house the new ambulances.

Table 7
Existing Ambulance Locations

Ambulance Number	Location	On-Duty
SBVAS Unit 1	SBVAS EMS Building (Fairview Hospital)	Yes
SBVAS Unit 2	SBVAS EMS Building (Fairview Hospital)	Yes
SBVAS Unit 3	SBVAS EMS Building (Fairview Hospital)	No
New Marlbough Rescue	New Malrborough FD/EMS	No
Otis Rescue Squad	Town of Otis	M-F Days
Sandisfield	Sandisfield Fire	No
Lee Ambulance	Lee	Yes

Table 8
Recommendations for Future Ambulance Locations

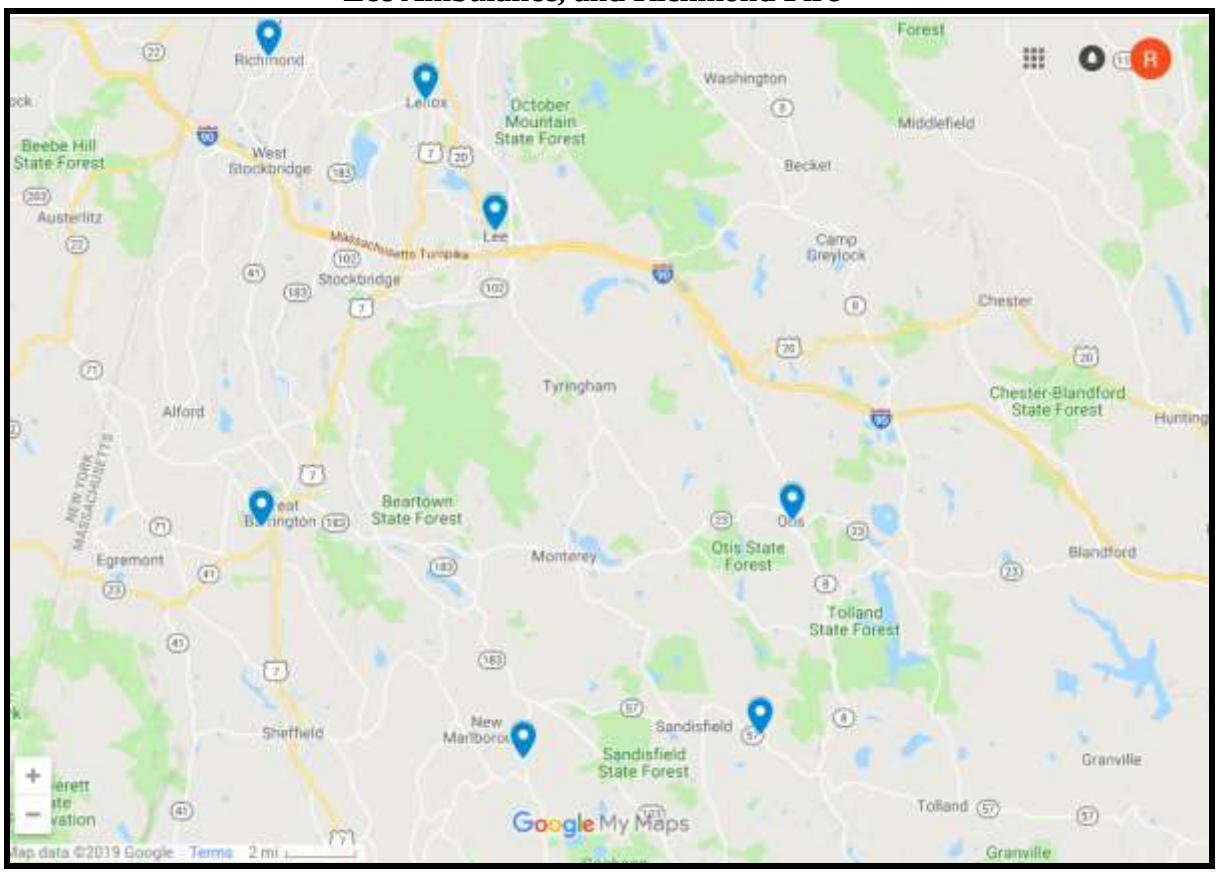
Ambulance Number	Location	On-Duty	Factor Utilized
Ambulance #1	Great Barrington Fire 37 State Rd, Great Barrington, MA 01230	Yes	Density
Ambulance #2	Stockbridge Fire 1 East St, Stockbridge, MA 0126	Yes	Density
Ambulance #3	Monterey Fire or Sandisfield Station 2 411 Main Rd, Monterey, MA 01245 207 Sandisfield Rd. Sandisfield MA, 01255	Yes	Distance
Ambulance #4	Sheffield 65 Depot St. Sheffield. MA 01257	Yes	Density

EMS STATION LOCATIONS

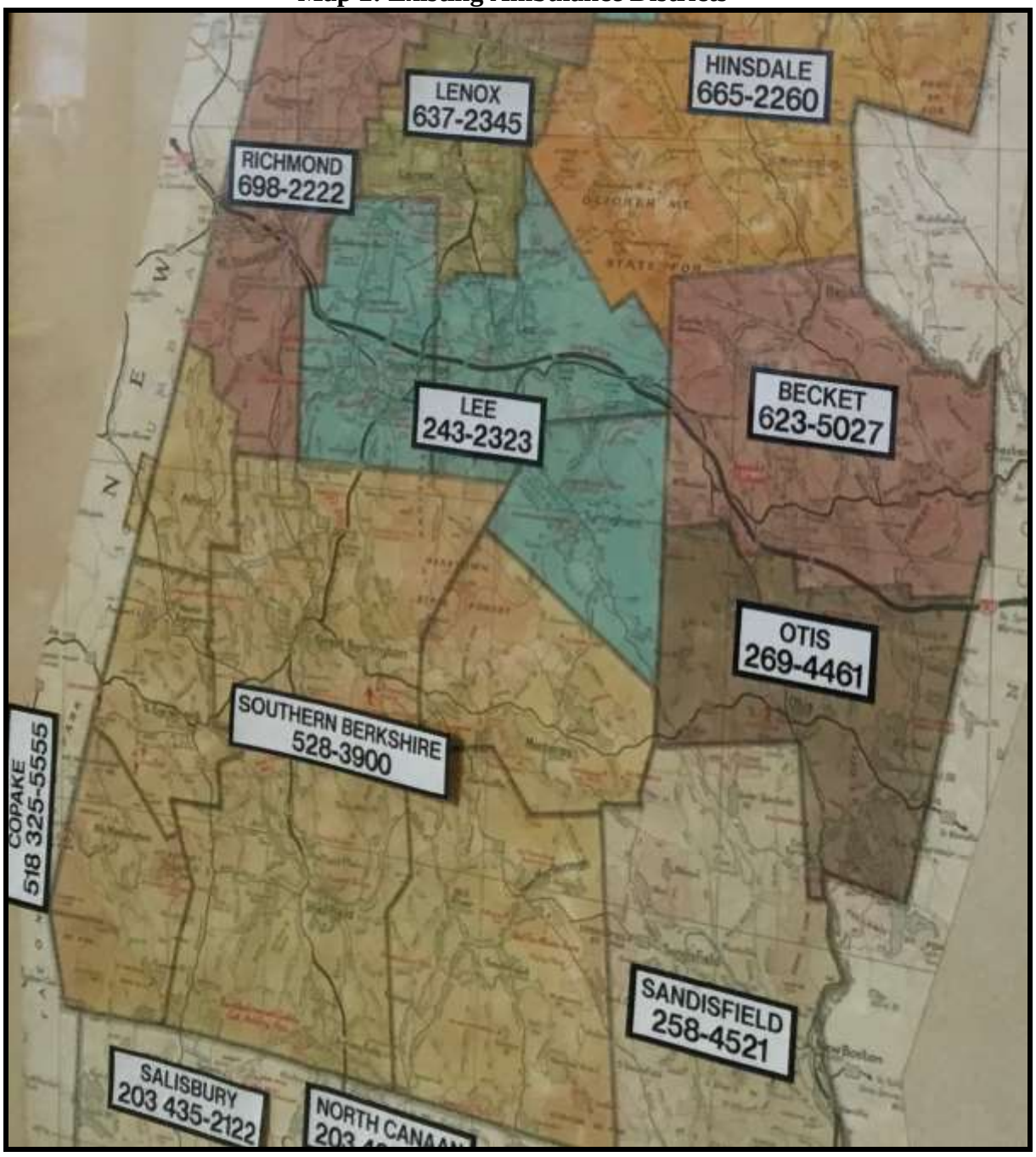
The existing locations of EMS stations/units in Southern Berkshire are reasonably placed. Because both Fire and EMS Stations tend to be built in populated areas they are usually well located when objectively analyzed. Response times to the less populated areas are beyond national guidelines but about the norm for similar sized and similar populated communities all across America.

Map No. 1 & No. 2 shows the existing Southern Berkshire station locations of EMS Stations and Ambulance Districts.

Map 1: Existing EMS Station Locations
SBVAS, New Malrborough Rescue, Otis Rescue Squad, Sandisfield Fire, Lenox EMS, Lee Ambulance, and Richmond Fire



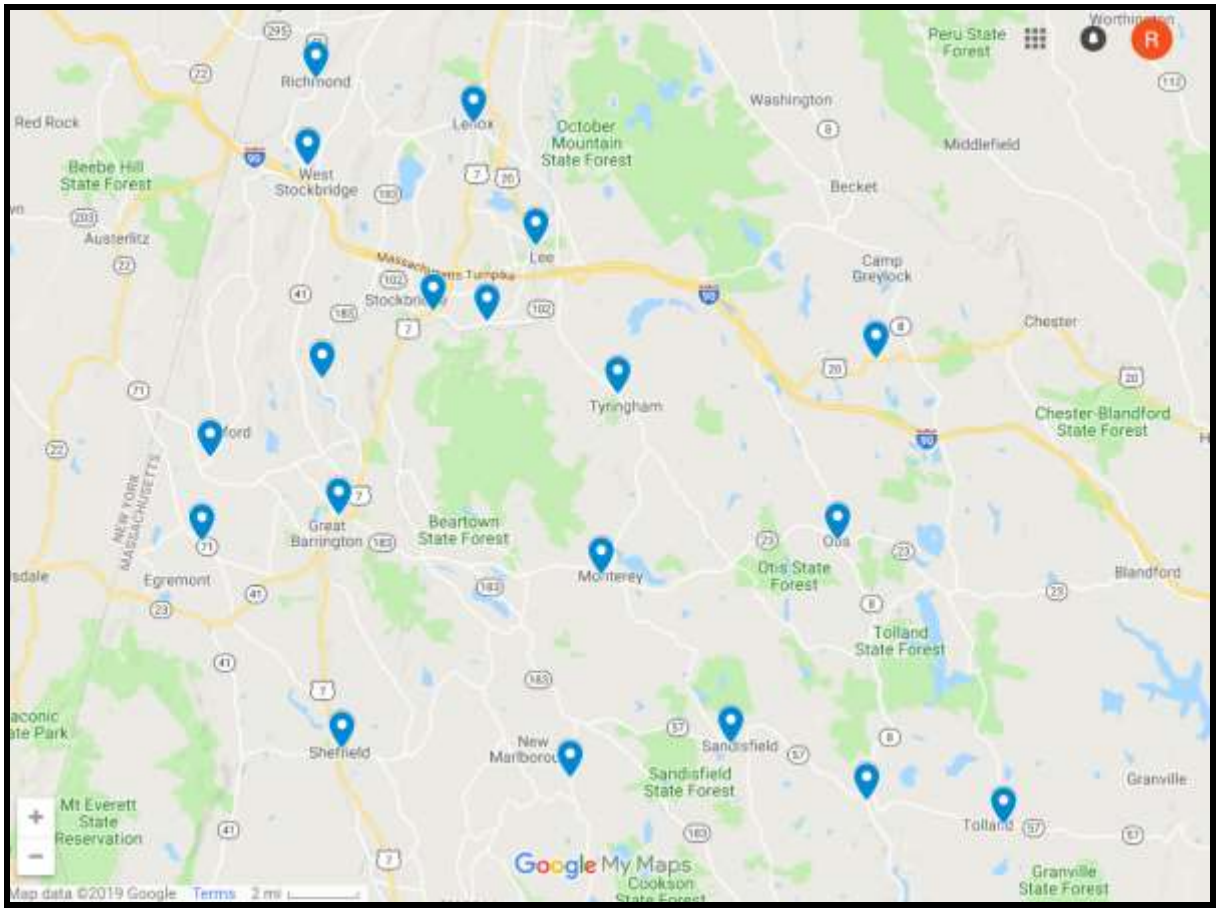
Map 2: Existing Ambulance Districts



Currently the ambulances are stationed in the areas with the highest population densities. While this does leave the rural portions of the region without quick ambulance response, the limited resources are positioned as well as possible considering the call volume and population. Due to the large gap that exists in the rural parts of the region, we suggest a public education campaign that encourages the purchase of commercially available AED's and the training of citizens in CPR, as well as seeking depth in resources that could be obtained through the collaboration with the area's fire resources.

FIRE STATION LOCATIONS

The existing locations of fire stations in Southern Berkshire could be improved and the sites examined will allow positioning for the future flat growth rate of the area coupled with declining volunteerism. Because fire stations tend to be built in populated areas they are usually well located when objectively analyzed. In Southern Berkshire , the vast land mass and lack of a gridded street system of the rural area provides coverage challenges for the fire stations, as their response times are somewhat cyclical and the long winding roadways do not allow for speed of response.



Map 3: Existing Fire Stations

Southern Berkshire Area Fire Station Locations	
Town	**Fire Station Address**
Alford	51 N Egremont Rd, Great Barrington, MA 01230
Egremont	187 Egremont Plain Rd, Egremont, MA 01230
Great Barrington	37 State Rd, Great Barrington, MA 01230
	172 Front St, Housatonic, MA 01236
Mount Washington	
Montery	411 Main Rd, Monterey, MA 01245
New Marlboro	205 Norfolk Rd, New Marlborough, MA 01230
Otis	15 S Main Rd, Otis, MA 01253
Sandisfield	79 South Main Street
	207 Sandisfield Road
Sheffield	65 Depot St, Sheffield, MA 01257
Stockbridge	1 East St, Stockbridge, MA 01262
Tyringham	100 Main Rd, Tyringham, MA 01264
West Stockbridge	24 Albany Rd, West Stockbridge, MA 01266
Richmond	35 Fire House Ln, Richmond, MA 01254
Lee	179 Main St, Lee, MA 01238
	20 Church St, Lee, MA 01238
Lenox	14 Walker St, Lenox, MA 01240
Tolland	206 W Granville Rd, Tolland, MA 01034
Becket	629 Jacobs Ladder Rd, Becket, MA 01223

Table 9: List of Fire Station Addresses

Areas Outside of the 4 Minute Response Zone

As we noted, the rural areas of the region do not fall within the 4-minute response zones due to the rural nature of the area. These are high risk areas that will not have any manual fire protection to save the occupants during a fire. It will be imperative that public education about the instillation of residential sprinklers and attainment of fire extinguishers takes place. Fire department personnel can help facilitate training on fire extinguishers.

From an EMS response standpoint, the use of technology, such as pulse point can allow the immediate dispatch of CPR trained citizens that are nearby to the scene to help with cardiac arrests. Additionally, the department can identify volunteers that live in the rural/remote areas and provide them an AED to keep in their home or car and upon receipt of a critical medical call, they can respond direct to the scene. The phone app Pulse Point can allow both citizens and department members to become the true first responders.

Building for the Future

As we look towards building any public safety facilities of the future, it is best to build stations that will accommodate both fire and EMS apparatus, as well as a police outpost. This will allow the best use of tax dollars and prevent duplication of buildings. Once the cost is incurred for a building, an extra bay can cost as little as 5% of the total cost of the building and land, thus doubling the use for only 5% of the cost.

CALCULATIONS AND EXAMPLES FOR REPLACING & REMODELING EMS and FIRE STATIONS

Stations grow old and need to be replaced. In flat or declining growth communities, consolidation of stations can be needed, as may soon be the case in Southern Berkshire due to the need to provide service with a declining volunteer base, as well as a flat tax income. We can show mathematically how *inexpensive* the facilities are compared to the personnel on duty. If the facilities are conducive to training, provide comfortable living standards, and improve morale, then a better trained, more highly motivated employee makes the emergency responses. This dimension of quality can then be multiplied across all members using the improved facilities.

In departments with paid personnel, when the cost of a station is plotted next to the cost of the personnel who will staff that station over its lifetime, the investment of the building becomes relatively insignificant. We could estimate that a new fire station is likely to cost about $6 million. While this may seem to be a major investment, if the building will last 50 years the cost per year on a simplified straight-line basis is figured as follows:

Building: 6 million ÷ 50 = $120,000 per year

Let's say this building will conservatively house an average crew of five persons, for 24 hours a day, earning an average of $75,000 per year. Three shifts plus earned days off, sick time, vacation leave, and an overtime factor create a multiple of four. Hence the following calculation:

Salaries: 5 x 4 x $75,000 = $1,500,000 per year

These are simplified calculations. In actuality the station could have more or fewer personnel, the wages could average more, and will certainly rise over fifty years, etc. but there is no mistaking the high cost of personnel vs. facilities. As this station continues its life cycle over 50 years, its cost is dwarfed by personnel costs that would continue to accelerate. Hence, it makes no sense to cut corners on construction, or accept a substandard location for a new station.

Because site selection represents an investment far greater than the real estate and building, selecting a site is an important investment, especially if a non-optimal location results in higher response times.

The overall layout and orientation of the facility is important to facilitate the rapid egress of emergency equipment. Drive-through bays are becoming increasingly more important for egress, reduced wear and tear on vehicles, improved visibility, and reducing the hazard of stopping traffic and backing apparatus with personnel present.

COMPARABLE STATION OPTIONS

The consultants will show options for future stations. The Hamilton Township station shows the absolute minimums for a substation to house on-duty personnel and provide garage space for 2 apparatus. Pre-fabricated facilities such as Morton and Butler buildings can cost less up front, as seen in this photo below:

Hamilton Township, Station 77 Warren County, OH

Location: 2000 East U.S. 22 & State Route 3
Hamilton Township, Ohio 45152

Built in 2001 station serves the residents of the northeastern corner of Hamilton Township. The building was constructed by Morton Buildings at an approximate cost of $1.85 Million. Today's construction costs would push the station well past the 2 million price.

Affordable Station Designed by Dore & Whittier in City of Springfield, MA

More commensurate to what will be needed, the City of Springfield recently constructed a station. According to a Dore and Whitter's website, the station is a little over 16,000 square feet and contains sleeping rooms, a kitchen/day room, fitness room, a training room, and three apparatus bays that primarily hold fire apparatus. This is very similar to the proposal of what the consultants recommend if stations are replaced in a more urbanized area, as they need to match the town aesthetics. While this is a big expense and may not be needed immediately, this demonstrates what type of facility the region should pursue to ensure that all public safety is provided space in a new facility.

REGIONAL APPARATUS

Currently, each organization provides their own apparatus and buys enough kind and types to fully protect their jurisdiction. This is easily done because few communities pay for personnel currently. As the thoughts of paid staff enters the budgeting equation, the departments will have to find a reduction in apparatus and order apparatus that can fulfil many tasks simultaneously, such as Quint apparatus, which has a definition shown in **Figure 8** on page 53 and possibly ambulances with small water tanks and an attack line. While this may be far-fetched by what is in place today, the gradual transition to paid staff that can handle the majority of the calls for service, coupled with volunteer compliments will be the only way that the towns will be able to provide a reliable and quick response to their citizens. This requires a shift in apparatus acquisition.

The National Fire Protection Association has 2 prevalent standards that address EMS and fire apparatus, these are NFPA 1917 Standard for Automotive Ambulances and NFPA 1901 Standard for Automotive Fire Apparatus

NFPA STANDARD 1917

We have read about standards developed by the National Fire Protection Association, regarding Fire Department operations. Since many Fire Departments are now in the business of providing ambulance transport, this organization has put together Standard 1917, explained below:

.

What is NFPA 1917?

Developed with consideration of the Federal Specification KKK-A-1822 and NFPA 1901: Standard for Automotive Fire Apparatus, NFPA 1917 defines the minimum requirements for the design, performance, and testing of new automotive ambulances intended for use under emergency conditions to provide medical treatment and transportation of sick or injured people to appropriate medical facilities.

What does NFPA 1917 address?

The Standard presents general requirements for ambulance design and performance, along with standalone chapters for ambulance components, including chassis, patient compartment, low voltage electrical systems and warning devices, and line voltage electrical systems. NFPA1917 also specifies provisions for test methods.

While there may be slight differences in the1917 standard, all manufacturers are building the majority of their ambulances to incorporate all the ambulance standards, as they do not want to change the design depending on if the vehicle is purchased by a fire department or an EMS organization. The important point is to purchase within the standards to increase reliability and safety, while reducing liability for purchasing a non-standard complaint vehicle.

AMBULANCES AND FLEET MAINTENANCE

Maintenance records were examined by the Consultant. They were adequate and up to date, and no serious deficiencies were noted. However, it is noted that the fleet is aging, and constant maintenance issues are occurring with the SBVAS ambulance fleet. While the Mercedes ambulance has a great track record of reliability, the design fails to allow adequate patient care for a 911 service.

Photos 6, 7, and 8:
Current Ambulances Utilized by SBVAS

Photos 9 and 10:
Current Ambulances Utilized by Lee Fire-EMS

Photo 11:
Current Ambulances Utilized by New Marlborough EMS

As the number of transports increase in number due to the increased demands for EMS service, more frequent preventative maintenance checks may become necessary, as the travel distance to a hospital is long in many cases, causing exponentially more miles on an ambulance the same age as one that was operating just 5 years ago.

Tracking of the hours and mileage on all vehicles is important. They provide a means of planning approximate replacement dates. Specific circumstances must be weighed prior to any significant investment in rolling stock. Some of the decision algorithms involve number of miles, number of hours, or cost/benefit analysis. The number of miles is a straightforward assessment providing a replacement decision based on a service life of a vehicle as measured in number of miles. This can be 250,000 miles for a diesel vehicle such as an over the road tractor-trailer. However, when assessing emergency vehicles, which go from being turned off to full throttle in a short period of time, then left to idle while on scene and at a hospital, the calculation of hours and use must come into play.

According to a medium duty truck website, "Both hours and miles are valuable metrics for medium-duty fleets to track. While miles may be best for measuring many fleet analytics, hours are an important component to ensure total visibility into all aspects of fleet maintenance and measurements." Further, the article states, "The more the truck is used with idle time versus drive time, the more important using cost per hour is to the fleet," said Reid of GE Capital Fleet Services. "For some fleets, you find the lower mileage units (but with higher hour usage) have more maintenance costs than the lower mileage trucks. That is because the engine wear and tear of vocational equipment is more than a truck driving on a highway." When calculating hours and miles *Lauren Fletcher,* states in relation to idling "Mileage isn't being recorded during this time, but one hour of idling is equal to 25-30 miles of driving. That usage needs to be properly accounted."

Cost/Benefit Analysis is another method of deciding on replacement. While mileage and hour calculations provide the best predictive analytics to replace vehicles, an outlying vehicle that provides significantly high maintenance costs can shift the traditional replacement guidelines. Despite the best research and proven track record of apparatus manufacturers, changes in technology, engineering, and assembly practices can produce a near "lemon" vehicle. This has happened with many of the medium duty vehicles in the past as manufactures of the engines accommodated new pollution/emissions regulations, many times in a short time frame due to government regulations.

Some jurisdictions are opting for ambulance leasing arrangements thus shifting the maintenance to a third party. See **Figure 5** below showing a section from the website of "Life Star" regarding leasing fees.

Figure 5 Ambulance leasing example

LIFE STAR RESCUE INC

STANDARD RATES

$3,000 Per Month Ambulance Rental Plan
This includes 3,000 miles per month. Any mileage over allotted amount will be charged at $.75 cents per additional mile. **$1,700 Per Two Week Ambulance Rental Plan**
This includes 1,500 miles per two weeks. Any mileage over allotted amount will be charged at $.75 cents per additional mile. Need us to pick up your ambulance or deliver your lease or rental? We can do it for an additional fee! We also offer newer units for rent or lease at a higher price (call us at 888-607-6655 for pricing).

Life Star Rescue will work with you and your insurance company to meet your needs. If you have been involved in an accident and your insurance carrier provides ambulance rental coverage, we will deal directly with them to assist you in providing uninterrupted service to your community.
Call us today at 888-607-6655 or fill out our easy contact form and we will quickly get back to you to discuss your ambulance leasing options

Caution: These are vehicle costs only. Additional Equipment needed to make the units functional is substantial.

NEW COSTS FOR TRANSPORTING VEHICLES

The Southern Berkshire EMS agencies have done well in keeping a fleet of ambulances. A fully-equipped ambulance purchased new can cost $300,000 or more, although there are demo models and used vehicles, which are available for less.

Southern Berkshire could also consider saving by leasing, as noted in the previous section. This eliminates the up-front investment and allows payment as EMS billing revenues are received. Caution is given in this model due to the potential mileage costs. A full cost benefit analysis should be conducted prior to the next purchase.

At times considerable savings can be achieved by purchasing Demo models See **Figure 6** below for an example of a used demo unit reasonably priced.

Figure 6 Used ambulance example

2012 FORD E-350 SUPER DUTY
AMBULANCE FOR IMMEDIATE
DISCOUNT SALE
MAKE - FORD
YEAR - 2012
ENGINE - GASOLINE
TYPE 3 BOX AMBULANCE

SPECIAL DISCOUNT PRICE- $60,000 OR
BEST OFFER

CONTACT - PAUL
CONTACT PHONE
CONTACT FAX

CONDITION- THIS IS A BRAND-NEW AMBULANCE IN EXCELLENT CONDITION
MILEAGE - 235 MILES ONLY

THIS AMBULANCE MUST BE SOLD IMMEDIATELY TO SETTLE IRS DEBT AND PENALITIES.

This option may be much more viable, especially if a new drive chassis is installed prior to purchasing, as the chassis is the portion that wears our faster, as compared to the box of the ambulance.

EMS AND FIRE FLEET REPLACEMENT

A replacement schedule for vehicles, whether leased or purchased, would be necessary for EMS and Fire agency's capital budgets. This consultant is in favor of simultaneously replacing the vehicles and their primary equipment (all of which has an effective life span of about 5 to 7 years). That means that the ambulance, cot, monitor, chest compressor and radio equipment all go in service new at the same time.

If new or used vehicles are purchased, one alternative involves the viable option of refurbishing the ambulances. These can be refurbished after five years and gain an additional five years of life. Caution is offered by the consultants about refurbishing or re-chassis of an ambulance past a direct match with the prior chassis. Consultant Randall W. Hanifen has witnessed that the capital savings is often replaced by overhead maintenance costs due to mismatched parts and components that cause numerous repairs, especially electrical problems. This issue was acknowledged by many familiar with the EMS fleet in SBVAS. If this option is exercised, it is advisable to complete the operation through the original manufacturer and receive a warranty to cover issues that may arise. The replacement schedule should be updated annually and can be refined with input from a Fleet Manager who is likely familiar with the condition and reliability of various units.

New vehicles always present the opportunity to add new functions as technology evolves in patient transport. There is a cost to maintenance and we would consider **Table 10** below was provided by SBVAS Director Hathaway and does show an aggressive replacement schedule. The consultant does note that currently on $42,000.00 is set aside annually and has only been as high as $90,000 in recent years, but shows a bump to $180,000 over the next 5 years.

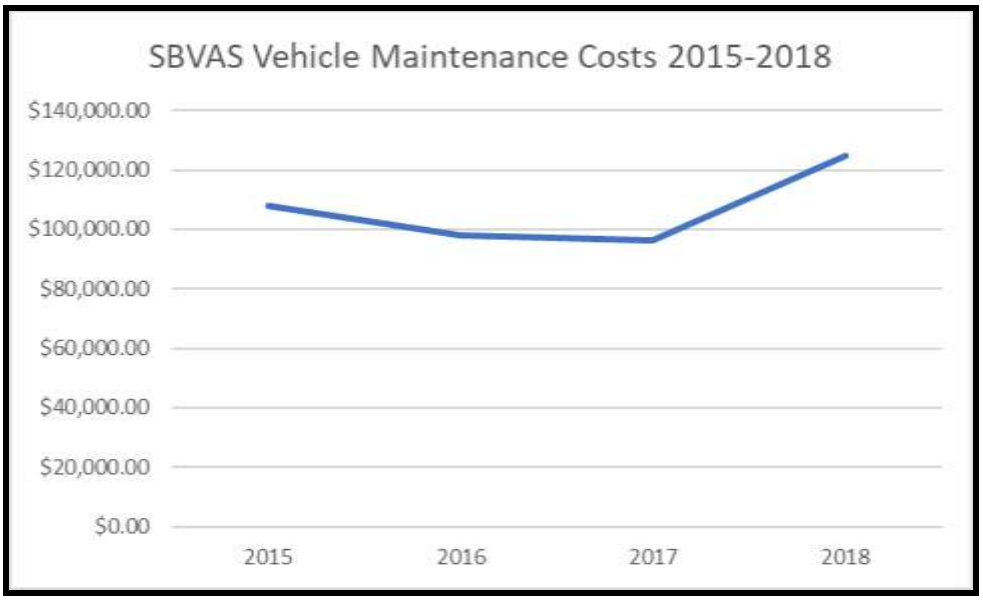
Table 10:
Southern Berkshire Ambulance Vehicle Replacement Plan
Current As of 2/12/19

Year	Set Aside	Balance	Amt Needed	Amt Remaining End of Year	Vehicle Replaced	Vehicle Purchased	Purchase Date
2013	$85,000.00	$85,000.00	0				
2014	$85,000.00	$170,000.00	$102,460.00	$67,540.00	None	New Type II	October 28, 201
2015	$90,000.00	$157,540.00	$87,460.00	$70,080.00	2009 Type III (Remount)		June 2, 201
2016	$51,979.36	$122,059.36	$106,835.50	$15,223.86	2010 Type III Remount		April 26, 201
2017	$42,241.52	$57,465.38	$0.00	$57,465.38			
2018	$42,241.56	$99,706.94	$0.00	$99,706.94			
2019	$180,000.00	$279,706.94	$205,000.00	$74,706.94	None	New Type 1 (Unit 4)	
2020	$180,000.00	$254,706.94	$210,000.00	$44,706.94	Unit 3	New Type 1 (Unit 3)	
2021	$180,000.00	$224,706.94	$210,000.00	$14,706.94	Unit 1	New Type 1 (Unit 1)	
2022	$180,000.00	$194,706.94	$210,000.00	-$15,293.06	Unit 2	New Type 1 (Unit 2)	
2023	$130,000.00	$114,706.94		$114,706.94			
2024	$130,000.00	$244,706.94	$110,000.00	$134,706.94	Unit 4	Remount Unit 4	
2025	$130,000.00	$264,706.94	$111,000.00	$153,706.94	Unit 3	Remount Unit 3	
2026	$130,000.00	$283,706.94	$112,000.00	$171,706.94	Unit 1	Remount Unit 1	
2027	$130,000.00	$301,706.94	$113,000.00	$188,706.94	Unit 2	Remount Unit 2	
2028	$130,000.00	$318,706.94		$318,706.94			
2029	$130,000.00	$448,706.94	$220,000.00	$228,706.94			
2030	$130,000.00	$358,706.94	$223,000.00	$135,706.94			
2031	$130,000.00	$265,706.94	$224,000.00	$41,706.94			

Table 11
Fleet Maintenance Costs,
Southern Berkshire Volunteer Ambulance Squad

	2015	2015	2016	2016	2017	2017	2018	2018	2019
Vehicle Expense	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget
Vehicle Repairs	$18,000.00		$18,000.00		$15,000.00	$1.82	$20,000.00		$35,000.00
Unit 1		$4,808.80		$6,712.62		$12,661.41		$17,259.73	
Unit 2		$24,140.12		$5,226.89		$4,127.03		$10,823.08	
Unit 3		$3,809.00		$4,990.96		$2,972.23		$10,141.22	
Vehicle Gas & Oil	$21,775.00	$17,930.36	$18,000.00	$18,460.22	$18,000.00	$23,257.51	$25,000.00	$29,188.30	$31,000.00
Consumables		$184.82	$0.00	$2,017.03	$1,000.00	$1,936.18	$2,000.00	$5,062.00	$6,000.00
Vehicle Registration	$100.00	$0.00	$100.00	$210.00	$200.00	$75.00	$100.00	$75.00	$100.00
Road Tolls	$500.00	$0.00	$660.00	$840.00	$800.00	$976.50	$1,100.00	$971.36	$1,200.00
Vehicle Leases	$0.00	$0.00	$0.00	$0.00	$0.00		$0.00	$0.00	$0.00
Auto Insurance	$6,341.00	$0.00	$8,621.00	$7,415.90	$6,000.00	$8,187.87	$9,000.00	$9,065.75	$11,000.00
Vehicle Replacement	$90,000.00	$90,000.00	$90,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$121,029.00
Vehicle Depreciation	$0.00	$0.00	$0.00	$51,979.36	$49,000.00	$42,241.52	$42,000.00	$42,241.56	$43,000.00
Total Vehicle	$118,716.00	$108,115.18	$117,381.00	$97,852.98	$90,000.00	$96,437.07	$79,200.00	$124,828.00	$248,329.00

Figure 7:
Trend Line of Fleet Maintenance Cost by Year



Fire Apparatus

NFPA 1901 addresses the design features of fire apparatus including fully enclosed cabs for all riding positions for apparatus designed after 1991.This standard is updated every 5 years and the 20-year mark would encompass 4 revisions of the standard. Some of the latest revisions of the NFPA 1901 standard involve marking the rear of the apparatus for visibility. As technology improves and research related to safety of personnel evolves, these findings are incorporated into the standard. Planning for replacement vehicles will become more important as the prices rise. Many of the Selectmen voiced concerns over the cost of the fire apparatus. They were all very supportive of the need, but all agreed the costs are significantly rising. Following in **Table 12**, an example of an apparatus replacement provided by Chief Burger. It shows the vehicle, replacement year, costs, and potential funding source.

Table 12

Great Barrington Fire Department-Vehicle Replacement Schedule

Apparatus	Year	Cost	Funding
Car 8: 2009 Ford Expedition EMS Response/Administrative	FY22	$45,000	General Fund
Car 1: 2016 Expedition	FY28	$45,000	General Fund
Engine 2: 2000 Pumper	FY29	$600,000	Borrow
Engine 5: 2000 Rescue Pumper	FY25	$600,000	Borrow
Engine 3: 2009 Pumper	FY33	$600,000	Borrow
Rescue 7: 2011	FY35	$450,000	Borrow
Ladder 1: 2014 100' Tower	FY38	$1,100,000	Borrow
Engine 4: 2017 Pumper	FY41	$700,000	Borrow
Brush 545:		No plan to replace	

Tracking of the hours and mileage on all Southern Berkshire area Fire Vehicles is important. They provide a means of planning approximate replacement dates. Specific circumstances must be weighed prior to any significant investment in rolling stock.

With the prevalence of databases related to the EMS and fire service, it is recommended that detailed records be maintained related to each maintenance intervention, the parts utilized, and the costs associated, as this will be important when the vehicles find more use in the District. This will help with budgeting and future specification considerations.

Figure 8

Quint by definition

Before this discussion goes any further, let's make sure that we're talking about the same animal. Today's quint is designed to provide five tools for firefighters to carry out these tactical firefighting functions:

- Supply fires streams (pump and hoses);
- Provide initial and continuing water supply (pump, water tank, and hoses)
- Provide personnel with access to elevated areas (ground ladders)
- Provide personnel with access to elevated areas (aerial ladder)
- Provide elevated master fire stream (pump, hose, and aerial device)

The National Fire Protection Association outlines the requirements for a piece of apparatus necessary to function as a quint in NPFA Standard 1901, The Standard for Automotive Fire Apparatus. Here is a summary of the quint requirements as detailed in Chapter 9 of the standard:

- Fire pump with a minimum capacity of 1,000 gallons per minute
- Water tank with a minimum capacity of 300 gallons
- Aerial ladder or elevating platform with a permanently installed waterway
- Hose storage area with a minimum of 30 cubic feet of storage area capable of accommodating 2.5 inch or larger fire hose; two hose storage areas, each with a minimum of 3.5 cubic feet or 1.5 inch or pre-connected hose lines.
- Compartments with minimum of 40 cubic feet for equipment storage
- Complement of ground ladders containing a minimum of 85 feet of ground ladders, including at least: two extension ladders, one roof ladder and one attic ladder
- Suction hose of a minimum of 15 feet of soft suction hose or 20 feet of hard suction hose for drafting water.

COMMUNICATIONS AND DISPATCH

The consultants visited the Southern Berkshire Area Dispatch Centers to include the Great Barrington Dispatch Center located at the Great Barrington Police Department and the Berkshire Sherriff's dispatch center, and feel regional communications capabilities will be key to regionalization and any needed consolidation. Consultant Randall W. Hanifen works in an area that had 9 different dispatch centers, all of which could not communicate with one another, nor could the responders. Simultaneously dispatching all needed resources and providing a common operating channel is the norm with today's communication capabilities and should be strived for at the earliest convenience. Beyond just making sense for safety, there is a sense of community and cooperation that is often achieved over time when everyone can communicate via the same radio system.

Great Barrington Dispatch Center

Consultant Randall Hanifen visited the Great Barrington dispatch center, which is located in the Great Barrington Police Department and is operated by one of the three police officers on shift in the police department. Sergeant Carlotto was very knowledgeable of the CAD system and the radio system that dispatches the units. The dispatch center contained a CAD system that was recently purchased for the fire and EMS agencies, as previously only the police side of the CAD was purchased. The Priority Dispatch ProQA program was installed and utilized on the consultant's visit.

The main area of concern is the multiple duties that the one police dispatcher must perform. In addition to dispatching, the police officer must answer walk-ins to the police department, perform administrative duties of the police department, and tend to prisoners that are in holding cells located remotely from the dispatch console. This could become a significant safety concern for responders, as the dispatcher, which is often the safety line for those in the field may be away from the console for an undetermined period of time and calls coming into 911 may not be answered in a timely manner.

Fortunately, it was noted that if a 911 call rings for more than 5 minutes, it forwards to the Berkshire Sherriff dispatch. The consultant recommends immediately placing 2 personnel in the dispatch center. The dispatch center does not need to be staffed with a commissioned police officer, but instead can utilize a civilian, receiving significantly less pay, and employable without mandated pay into a public safety pension. This provides a financial savings while providing a dedicated dispatcher. This is the trend throughout the country.

Photo 12: Sergeant Carlotto working in the Great Barrington Dispatch Center

Berkshire Sheriff Control (Dispatch)

Berkshire Sheriff dispatches resources other than Great Barrington Fire and SBVAS for calls in Great Barrington. The Sherriff's dispatch center provides dispatching for 24 of the 32 agencies in the county. The dispatch center handles fire, EMS and police related calls from 3 different dispatch consoles for all shifts except overnight, which is staffed with 2 personnel. The dispatching personnel do have the ability to use the ProQA priority dispatching, but they do not provide priority dispatch. The CAD is designed to dispatch by department, but unit numbers are not tracked. Additionally, the sheriff's dispatch center cannot see the great Barrington CAD system and the status of the units in their CAD. Lt. Col. Grady, who manages the dispatch center, states that they would like to have more defined methods of dispatching by unit or via alarm cards, but feel bound by what each community provides. He states that they do not have a committee of stakeholders that could provide information and guidance to the dispatch center.

Based on the interviews and analysis of the dispatch center's operations, the following recommendations are made:

1. Develop a communications center committee comprised of fire, EMS, and police agencies, as well as dispatch personnel for all dispatch centers and any supporting CAD/IT personnel to develop policies and procedures for the dispatch centers to utilize and ensure that the agencies shall abide by these protocols
2. Develop Standardized alarm cards for all types of fire and EMS calls
3. Develop a standardized numbering system and track vehicles by unit numbers to increase records related to responses and to reduce confusion on the radio and incident scenes
4. Utilize priority dispatching, as mentioned prior in the report, to have the closet EMS responder to dispatched to critical calls

5. Conduct an assessment of compliance with NFPA 1221 to ensure that the call taking and dispatching segments, as components of the overall response time equation, are within the standard's limits.

The next important venture that should be undertaken is a fully integrated CAD systems in each of the two dispatch centers and the addition of AVL location. This will ensure the correct dispatching of the closest units, incorporating differing alarm assignments based on the severity of the call. As we mentioned prior, the need to have varying levels of response to meet rural and remote areas is key and the latest CAD systems can incorporate this need eliminating the need for a lengthy algorithm and multiple spreadsheets to ensure the correct resources are dispatched.

In the future, this can facilitate a county-wide automatic aid system. In some jurisdictions this concept is called AMARS (Automatic Mutual Aid Response System) and is used to summon closest units regardless of jurisdictions, and multiple units for more serious incidents.

Photo 13:
Dispatch Center Binders that Outline Each Department's Dispatch Protocols

Photo 14:
Multi-faceted display screen at dispatch Center in Berkshire Sheriff Control

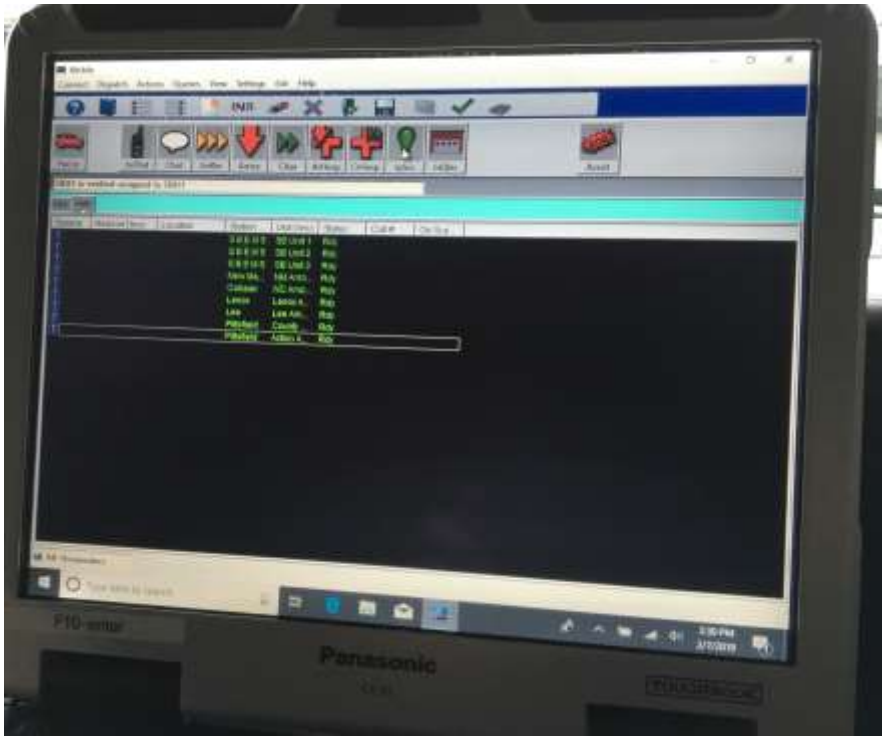


Photo 15:
SBVAS MDC Screen

When anyone in the area dials 911 for fire or medical assistance, the clock begins for the emergency response agency. Many elements result in the final response time of the EMS and fire department to the call for help. These begin in the dispatch center. Time can be saved with efficient dispatch just as with efficient vehicle response. See **Figure 9** illustrates these elements

Figure 9 -- Response Time Equation

Call Processing Time	**+**	**Alerting Time**	**+**	**Turnout Time**	**+**	**Travel Time**	**+**	**Setup Time**	**=**	**OVERALL RESPONSE TIME**

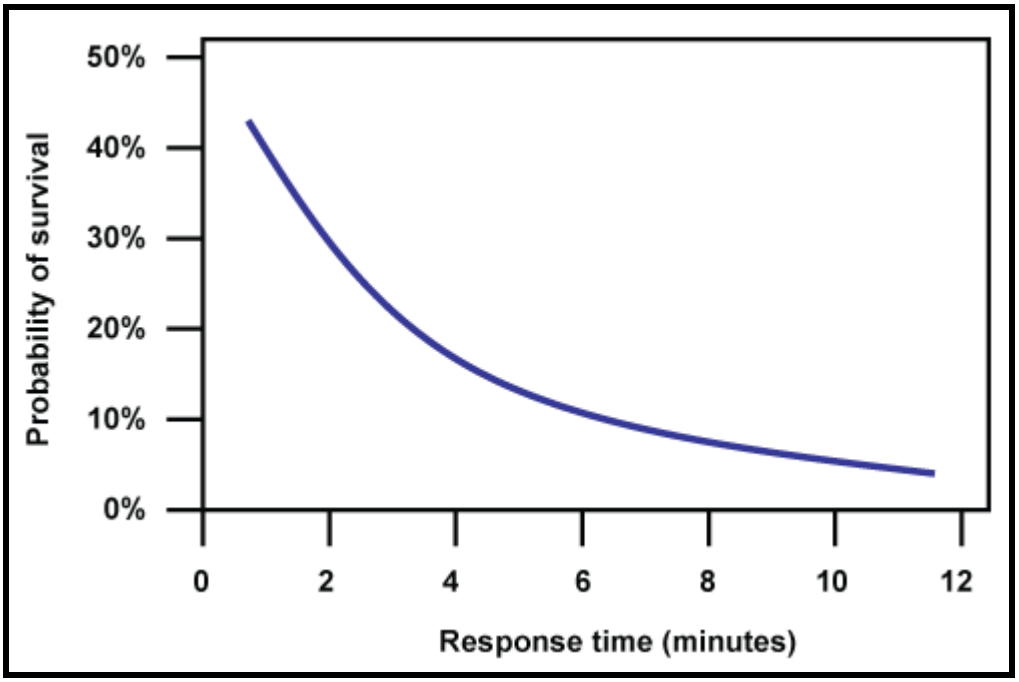
- **Call Processing Time[1]:** The time interval that starts when the call is created in CAD by a Dispatcher until the initial Fire or EMS unit is dispatched.
- **Alerting Time:** The time needed for the Dispatcher to send out the alert to the responding Fire and/or EMS units.
- **Turnout Time:** The time interval between the activation of station alerting devices to when first responders put on their PPE[3] and are aboard apparatus and enroute (wheels rolling).
- **Travel Time:** The time interval that begins when the first unit is enroute to the incident and ends upon arrival of any of the units first on scene.
- **Setup Time:** The time needed at the scene (E.g. Moving a stretcher up to the patient or stretching hose lines) before mitigation actually begins

The first two factors in the equation can be improved in the dispatch center, while the final three are up to the EMS and fire departments. The consultants believe that Dispatch Center(s) are quite conscientious and will work with the EMS and Fire departments in reducing the response time elements within their control. **Appendix 4** contains an article by Tom Jenkins and Jake Rhoades on ways to reduce all segments of response times.

Ideally call processing time and alerting time combined are about a minute or less, within the recommendations of NFPA standards. As seen in **Figure 11** below, the temperature of a fire escalates quickly during the first minutes. If lives can be saved, rescues must be performed prior to an event known as flashover, which normally occurs at 500 degrees Celsius for normal residential combustibles.

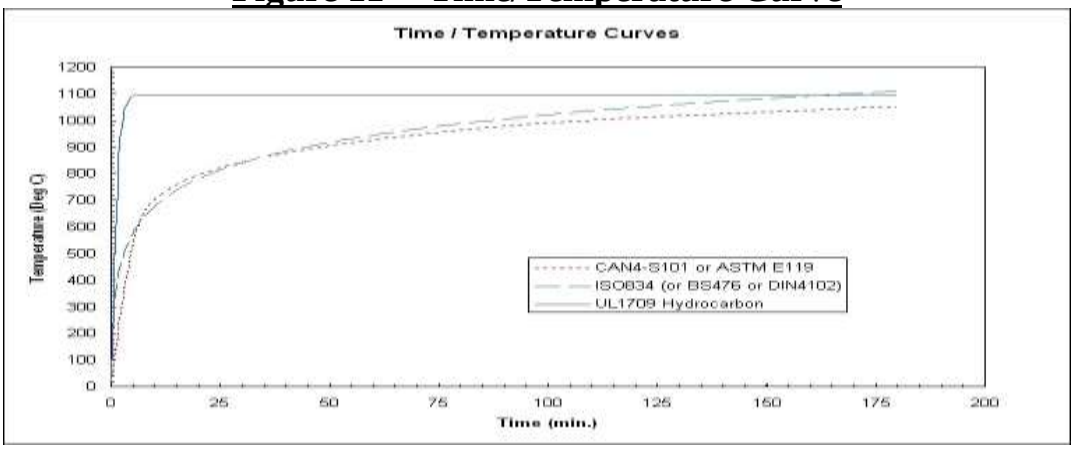
As noted in **Figure 10**, the survival time of sudden cardiac arrest has nearly the same time interval for CPR and AED intervention and significantly decreases after the 4-minute timeframe

Figure 10 – Cardiac Arrest Survival Curve



Source: https://psnet.ahrq.gov/webmm/case/155/Resuscitation-Errors-A-Shocking-Problem

Figure 11 -- Time/Temperature Curve



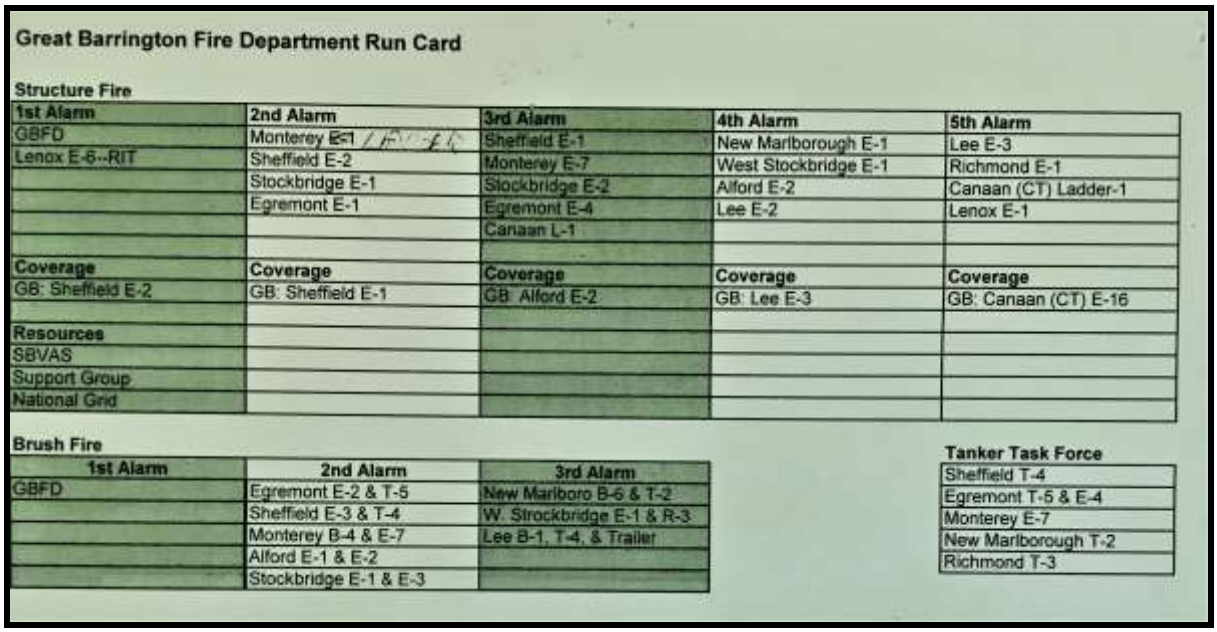
MUTUAL AND AUTOMATIC AID

Several chiefs of the EMS and fire departments in the region met with the Consultants, expressed respect for the other Southern Berkshire area EMS and Fire Departments, which is a good starting point towards developing automatic and mutual aid systems. Within the Southern Berkshire region, there are several ways that automatic and mutual aid would benefit the citizens. These are:

1. Automatic Dispatching of the closest fire or EMS unit to either a fire or EMS emergency to ensure that quick overall response is achieved.
2. Dispatching of the nearest fire company on critical EMS calls to ensure that paramedics receive extra personnel to perform tasks simultaneously and can have a driver for the ambulance during the transport phase
3. Dispatching an Ambulance on all fire calls to tend to fire victims and firefighter health needs
4. Dispatching the appropriate amount of apparatus and personnel to meet the tasks listed in NFPA 1710, which ensure that handlines of sufficient numbers and size are deployed and the searches for victims are completed while having command and safety personnel directing and monitoring the fire scene.

There are no reasons why any department in the Southern Berkshire region need hesitate before sending or asking for assistance as needed. Even though Southern Berkshire has some larger departments as compared to the immediately surrounding departments, in terms of equipment and population, it is still to their advantage to participate, as no department in the area could support NFPA 1710 deployment requirements with internal only resources.

In what is sometimes called the "Robin Hood Syndrome" the haves subsidize the have-nots. There comes a time, however, when some vital piece of equipment is needed in return, perhaps when the lager departments are stretched thin due to multiple or prolonged incidents. In our interviews, it was determined that this program benefits all involved and that some departments are already participating on a limited basis. Some may argue, why call all of the apparatus to build to NFPA 1710 compliance when the fire may be out upon their arrival due to travel distance. Nonetheless the reasons for dispatching of the needed apparatus and departments is two-fold. The first is that if the first arriving company does not quickly contain and extinguish the fire, the needed personnel for a larger fire are already on the way. Second, the number of calls as compared to the needed training can be one deterrent to volunteering. Extra calls, such as structure fires can attract and retain volunteers.



Great Barrington Fire Department Run Card

Structure Fire

1st Alarm	2nd Alarm	3rd Alarm	4th Alarm	5th Alarm
GBFD	Monterey E-1	Sheffield E-1	New Marlborough E-1	Lee E-3
Lenox E-6--RIT	Sheffield E-2	Monterey E-7	West Stockbridge E-1	Richmond E-1
	Stockbridge E-1	Stockbridge E-2	Alford E-2	Canaan (CT) Ladder-1
	Egremont E-1	Egremont E-4	Lee E-2	Lenox E-1
		Canaan L-1		
Coverage	**Coverage**	**Coverage**	**Coverage**	**Coverage**
GB: Sheffield E-2	GB: Sheffield E-1	GB: Alford E-2	GB: Lee E-3	GB: Canaan (CT) E-16
Resources				
SBVAS				
Support Group				
National Grid				

Brush Fire

1st Alarm	2nd Alarm	3rd Alarm
GBFD	Egremont E-2 & T-5	New Marlboro B-6 & T-2
	Sheffield E-3 & T-4	W. Stockbridge E-1 & R-3
	Monterey B-4 & E-7	Lee B-1, T-4, & Trailer
	Alford E-1 & E-2	
	Stockbridge E-1 & E-3	

Tanker Task Force

Sheffield T-4
Egremont T-5 & E-4
Monterey E-7
New Marlborough T-2
Richmond T-3

Photo 16: Mutual Aid Fire Alarm Card on Great Barrington Dispatch Center

Healthcare Reform/Technology Improvements

EMS BILLING REVENUES AND EXPECTED CHANGES; TRANSPORT FEES AND INSURANCE COMPANY POLICIES

One primary method of creating additional revenue that is used by most communities in America is EMS insurance billing. This is the key to funding paid personnel for the regions EMS System. Per records provided by SBVAS, billings typically range from $282.00 to $618.00 per transport depending on the level of care and miles traveled. In other departments in the Midwest, the BLS charges are $475.00 and ALS is $941.00 with $11.70 charged each mile. However, collection rates, which can range from 15% to 80% influence the total revenues. Work with a contracted billing agency to derive estimates based on location and demographics should be undertaken prior to providing a solid estimate beyond that which is currently being collected by SBVAS.

The Centers for Medicare and Medicaid Services Ambulance Fee Schedule webpage lists the following information **(Figure 12)** about EMS billing, i.e. federal laws that contribute to its rate, and changes that are taking place in 2019.

Figure 12
2019 Ambulance Fee Schedule Updates

CY 2019:

The Bipartisan Budget Act (BBA) of 2018 includes three major Medicare ambulance services provisions pertaining to the extensions of certain ground ambulance temporary add-on payments, development of a data collection system for ground ambulance providers and suppliers, and payment reduction for non-emergency ESRD ambulance transports. A copy of the BBA of 2018 and summaries of these provisions are available at: https://www.cms.gov/Center/Provider-Type/Ambulances-Services-Center.html.

Temporary Add-on Payments:

Section 50203 (a) of the BBA of 2018 extended payment provisions of previous legislation including the Medicare and CHIP Reauthorization Act (MACRA) of 2015, Protecting Access to Medicare Act of 2014, the Pathway for SGR Reform Act of 2013, the American Taxpayer Relief Act of 2012, the Middle Class Tax Relief and Job Creation Act of 2012, the Temporary Payroll Tax Cut Continuation Act of 2011, the Medicare and Medicaid Extenders Act of 2010, the Patient Protections and Affordable Care Act of 2010 (ACA), and the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA).

Section 50203(a)(1) of the BBA of 2018 includes an extension of the temporary add-on payments under section 1834 (l)(13)(A) of the Social Security Act (the Act) that were set to expire December 31, 2017. They are now extended through December 31, 2022. The temporary add-on payments include: 3 percent increase in the base and mileage rate for ground ambulance services that originate in rural areas (as defined by the ZIP code of the point of pickup and a 2 percent increase in the base and mileage rate for ground ambulance services that originate in urban areas (as defined by the ZIP code of the point of pickup).

Section 50203(a)(2) of the BBA of 2018 includes an extension of the temporary add-on payment under section 1834 (l)(12)(A) of the Act that was set to expire December 31, 2017. This add-on payment is now extended through December 31, 2022. The temporary add-on payment includes a 22.6 percent increase in the base rate for ground ambulance transports that originate in an area that is within the lowest 25th percentile of all rural areas arrayed by population density (known as the “super rural” bonus).

Non-Emergency ESRD Ambulance Transports:

Section 53108 of the BBA of 2018 amended Section 1834(l)(15) of the Act pertaining to AFS reductions for non-emergency ESRD ambulance transports. Effective for ambulance services furnished on or after October 1, 2018 consisting of non-emergency basic life support (BLS) services involving transport of an individual with end-stage renal disease (ESRD) for renal dialysis services furnished other than on an emergency basis by provider of services or renal dialysis facility, this provision increases the reduction in AFS payments from 10 to 23 percent. The 10 percent reduction applies for ambulance services (as described in section 1834(l)(15) of the Act) furnished during the period beginning on October 1, 2013 and ending on September 30, 2018.

The CY 2019 AFS PUF includes the three temporary add-on payments in the calculation

Source: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AmbulanceFeeSchedule/afspuf.html

During the year 2019, the Medicare fees are calculated via **Figure 13** below and are affected significantly by level of service. This increase and decrease correlate directly to the need to control healthcare costs. By continually working with the EMS billing company and continuing Quality Improvement Control (QIC), administrators can ensure that revenue maximization occurs.

Figure 13
Ambulance Transport Rate Calculation

Relative Value Units (RVU): RVUs set a numeric value for ambulance services relative to the value of a base level ambulance service. Since there are marked differences in resources necessary to furnish the various levels of ground ambulance services, different levels of payment are appropriate for the various levels of service. The different payment amounts are based on level of service. An RVU expresses the constant multiplier for a particular type of service (including, where appropriate, an emergency response). An RVU of 1.00 is assigned to the Basic Life Support (BLS) level of ground service, i.e., BLS has an RVU of 1; higher RVU values are assigned to the other types of ground ambulance services, which require a higher level of service than BLS.

The RVUs are as follows:

Service Level (HCPCS Code)	RVU
Basic Life Support, Non-emergency (BLS) (A0428)	1.00
Basic Life Support, emergency (BLS- Emergency) (A0429)	1.60
Advanced Life Support, non-emergency, Level 1 (ALS1) (A0426)	1.20
Advanced Life Support, emergency, Level 1 (ALS1- Emergency) (A0427)	1.90
Advanced Life Support, Level 2 (ALS2) (A0433)	2.75
Specialty Care Transport (SCT) (A0434)	3.25
Paramedic Intercept (PI) (A0432)	1.75

Rural Base Rate / Rural Mileage:

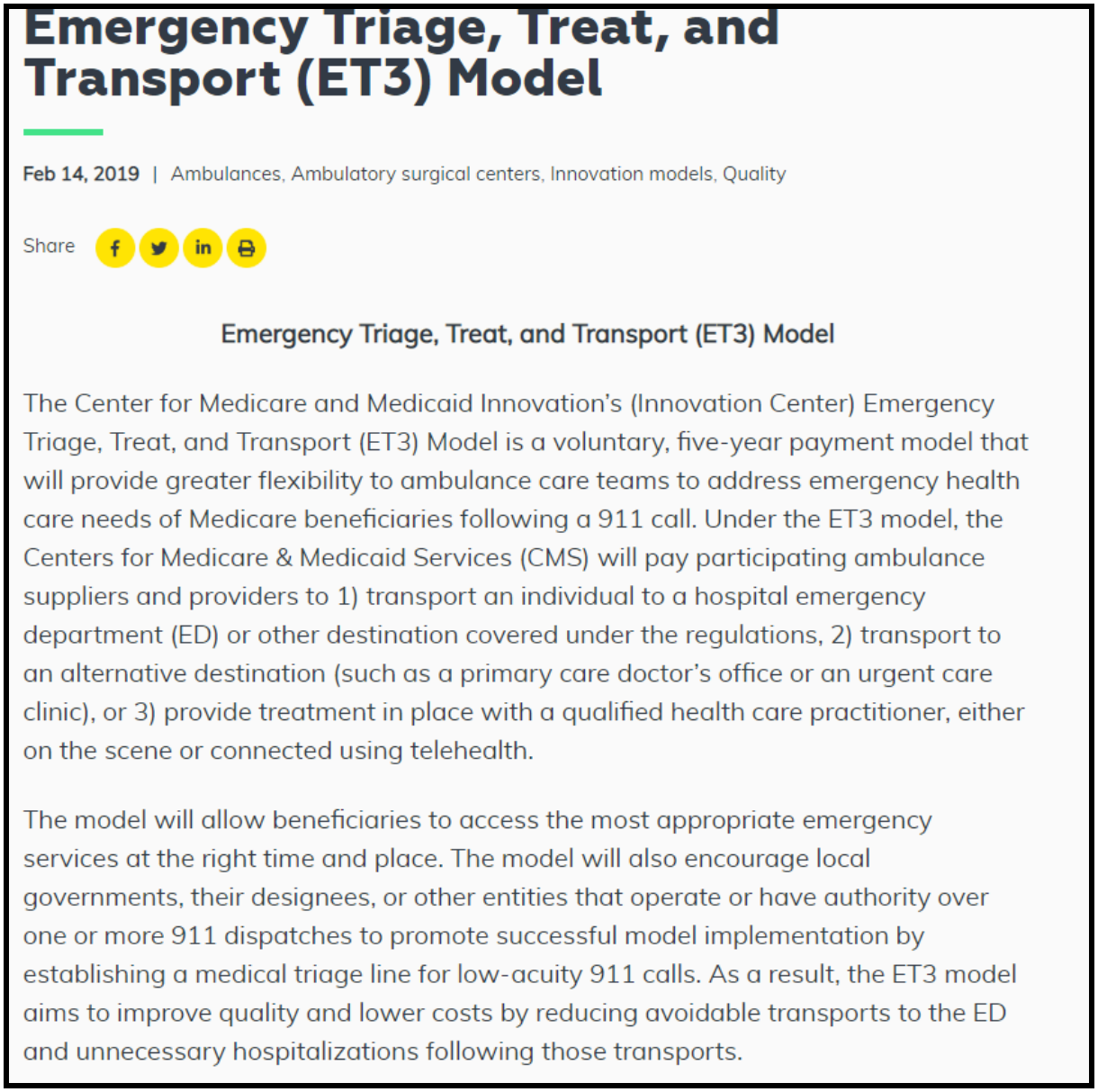
This field displays one of four rates calculated as such for 2019:

1. Rural ground adjusted base rates – (RVU*(.3+ (.7*GPCI)))*BASE RATE* 1.03
2. Rural air adjusted base rates – ((BASE RATE*.5)+(BASE RATE*.5*GPCI))*RVU*1.5
3. Rural ground mileage rates – BASE RATE*1.03
4. Rural air mileage rates – BASE RATE*1.50

The amount payable for the air base rate and l air mileage rate in a rural area is 1.5 times the urban air base and mileage rate.

Source: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AmbulanceFeeSchedule/afspuf.html

Figure 14
HHS Releases New Ambulance Reimbursement Strategy to Allow Non-transport Billing



Emergency Triage, Treat, and Transport (ET3) Model

Feb 14, 2019 | Ambulances, Ambulatory surgical centers, Innovation models, Quality

Share

Emergency Triage, Treat, and Transport (ET3) Model

The Center for Medicare and Medicaid Innovation's (Innovation Center) Emergency Triage, Treat, and Transport (ET3) Model is a voluntary, five-year payment model that will provide greater flexibility to ambulance care teams to address emergency health care needs of Medicare beneficiaries following a 911 call. Under the ET3 model, the Centers for Medicare & Medicaid Services (CMS) will pay participating ambulance suppliers and providers to 1) transport an individual to a hospital emergency department (ED) or other destination covered under the regulations, 2) transport to an alternative destination (such as a primary care doctor's office or an urgent care clinic), or 3) provide treatment in place with a qualified health care practitioner, either on the scene or connected using telehealth.

The model will allow beneficiaries to access the most appropriate emergency services at the right time and place. The model will also encourage local governments, their designees, or other entities that operate or have authority over one or more 911 dispatches to promote successful model implementation by establishing a medical triage line for low-acuity 911 calls. As a result, the ET3 model aims to improve quality and lower costs by reducing avoidable transports to the ED and unnecessary hospitalizations following those transports.

Source: https://www.cms.gov/newsroom/fact-sheets/emergency-triage-treat-and-transport-et3-model?utm_source=NAEMSP+ET3+2.14.19&utm_campaign=NAE

Although insurance billing had been somewhat controversial in the past due to concerns from the public, particularly their perception of "double billing" for a service that they perceived had already been paid for by taxes, research and new information actually shows otherwise.

First, let's address the issue of "double billing." Insurance companies are already charging employer health plans for ambulance services. The revenue is factored into the health premiums passed on to the insured. If a community is not capturing these dollars as a medical provider, the insurance companies are directly profiting from a lack of collections.

In most circumstances, the patient has had very little or no co-payment for the services provided. In fact, services are not being "double billed." Taxes do pay for the apparatus and medical equipment purchases, but EMS insurance revenue covers the services provided, such as a user's fee. This approach is becoming much more popular in communities, as taxes pay for soccer fields and recreational parks, while the players chip in a user's fee for maintenance of the fields.

Other similar sources of revenue are available to the fire companies including billings for structure fires and for Motor Vehicle Accidents (MVA), Both can often be collected from insurance carriers. For the present the consultant recommends against counting on these forms of revenue. Structure fires are scarce and some insurance companies are currently lobbying against MVA billing. Many don't pay, and ill will is created in the community.

REDUCED TURN-AROUND TIME THROUGH TECHNOLOGY ADVANCEMENTS

The amount of times ambulances are unavailable for calls effects the resiliency of the EMS system, adding time for other Southern Berkshire area ambulances to respond from another district or from a neighboring ambulance service through mutual aid. One of the factors that greatly affects the out of service or "turn-around time" is the required patient reporting. Because of the need for reporting that must be relayed to the receiving hospital, the ambulance crew must complete their patient care report prior to leaving the hospital unless they have adopted some of the latest reporting technology. Additionally, changes predicted in the Affordable Care Act will necessitate the need for extracting quantitative data to maintain reimbursement levels though proof of quality service delivery. Some of the key technology advancements related to patient care reporting involve:

- Customizable electronic reporting
- Fax server or electronic email transfer of information to receiving hospital.
- Utilization of software that utilizes bar code or background databases to produce basic patient information
- Bluetooth Technology that connects medical devices to electronic patient care reporting
- Linking dispatch information to the patient care reporting system

With regards to Fax server or electronic email transfer of information to a receiving hospital; it should be noted that 105 CMR 170.345(C)(2) indicates: The EMTs on each transporting ambulance shall leave a copy of the trip record at the receiving health care facility with the patient at the time of transport. The receiving health care facility shall keep such trip records with the patient's medical record. Working with hospitals to enact this recommendation and meet the law is the best course of action.

Another technology advancement that can assist is the addition of AVL. As mentioned in the Communication Center section, this allows multiple units and the closest unit to be dispatched without the dispatcher having to spend time locating and correlation resources to make this occur.

Reduced Turn-Around Times Through Management Practices

During the site visits, interviews revealed some immediate management practices that could be examined to help reduce turnaround time. These items are:

- Tracking and examination of the various time segments of the calls
- Ensuring that Inventories carried on each unit will allow 3-4 calls without returning to the station
- Decentralized medical supply. This will occur if a new deployment model is undertaken.

Consultant Randall Hanifen has observed in numerous EMS operations that paramedics focus on a "stay and play" type of scene operation. This has become increasingly taught at paramedic schools as the number and breadth of interventions have become available to paramedics over the past 15-20 years. However, due to the extended transport times to the region's hospitals, coupled with very few paramedic interventions resulting in a definitive repair to a person's medical status, training should focus on reducing scene times with the exception of definitive care procedures, such as the administration of D50 for Diabetics or Narcan for drug overdoses. The exception to this is a cardiac arrest, which under current research and protocols allows for 20-30 minutes of attempted resuscitation and then field termination. Current research and information indicate no benefit for adult cardiac arrest victims to be transported to a hospital after 20-30 minutes of failed resuscitation.

Tracking and examination of the time segments should include the following segments:

- Dispatch to Responding
- Responding to On-Scene
- On-Scene to Transporting
- Scene to Hospital Times
- At Hospital to Returning from Hospital
- Returning from Hospital to Available

By tracking these time segments and comparing them to acceptable times, as listed in the **Table 12** below, reduction in total out of service time can be reduced.

Table 12
Goals for Time Segments of EMS Calls

Time Segment	Goal Time Interval	SBVAS 2017 Great Barrington Calls Reported Times	SBVAS 2018 Great Barrington Calls Reported Times
Dispatch to Responding	1 Minute during daytime; 2 Minutes at night	0 Minutes 59 Seconds	0 Minutes 55 Seconds
Responding to On-Scene	Varies by Travel Distance	5 Minutes 25 Seconds	5 Minutes 14 Seconds
On-Scene to Transporting	10 Minutes	14 Minutes 46 Seconds	15 Minutes 18 Seconds
Scene to Hospital Times	Varies by Travel Distance	6 Minutes 38 Seconds (Fairview) 34 Minutes 56 Seconds (BMC)	6 Minutes 34 Seconds (Fairview) 34 Minutes 23 Seconds (BMC)
At Hospital to Returning from Hospital	15 Minutes	8 Minutes 7 Seconds (Fairview) 15 Minutes 37 Seconds (BMC)	9 Minutes 16 Seconds (Fairview) 20 Minutes 10 Seconds (BMC)
Returning from Hospital to Available	Varies by Travel Distance	7 Minutes (Est.) (Fairview) 34 Minutes (Est.) (BMC)	7 Minutes (Est) (Fairview) 34 Minutes (Est.) (BMC)
Total Call Time	Travel Time + Fixed Times	43 Minutes 10 Seconds Fairview 105 Minutes 43 Seconds (BMC)	44 Minutes 17 Seconds Fairview 110 Minutes 0 Seconds (BMC)

Note: Reports are calculated from June 1 through May 31 of following year. Reports do not include responses greater than 30 minutes

While there are many ways in which reporting databases produce reports, it is recommended that the reports be adjusted in the following ways and the reports filed and published monthly on their website with an annual summary

- Utilize the time segments in **Table 12**
- Reporting by response district, i.e., Alford, Egremont, Great Barrington, etc.
- Verification of times through radio tapes and mapping software
- Identification of any trends by crew, time, etc. to determine if any management practices can improve the time segments.

Due to the increased unit utilization rate of the SBVAS ambulances because they simultaneously deliver interfacility transports with 1 of the 2 on-duty ambulances, the ambulances commonly make numerous calls prior to returning to the station. This is based on observations during on-site visits. One limiting factor to allowing the back-to-back calls is medical supplies carried on each unit. Employees should be polled to determine possible deficits to the medical supply stock carried on each unit.

Decentralizing the EMS units through the potential deployment model mentioned earlier in the report will necessitate changes in operations, which focus on decentralization of operations. One area is supply restock. Decentralizing the EMS supplies and allowing for restocking of EMS supplies at the station of the EMS unit will allow the EMS unit to remain in their district for additional time. This decentralization of EMS supplies can allow the district chief to examine in-station operations of the EMS crew to ensure Southern Berkshire area EMS agencies maintain the high level of cleanliness and maintenance of the EMS equipment.

Estimated Unit Utilization Times

Utilizing the time segment estimates, we note that 55% of total call volume as reported by Director Hathaway, and note the prediction that 80% of calls would be transported to the Fairview facility. From this we can devise a unit utilization statistic for emergency calls. Because the call volume does not have a normal distribution over a 24-hour period, but instead has the majority of the calls spread over a 12-hour period, we have also calculated the unit utilization rate for only a 12-hour segment. These calculations are in **Table 13** below:

Table 13
Unit Utilization Calculations for 911 calls Handled by SBVAS

Emergency		
Metric	**2017**	**2018**
Total Calls	1851	1942
Time Per Call Fairview in Minutes	43	44
Number of calls to Fairview	1480.8	1553.6
Total out of service Time for Fairview Calls in Minutes	63674.4	68358.4
Time per Call BMC & Other Facilities in Minutes	105	110
Number of Calls to BMC and Others	370.2	388.4
Total out of Service Time for BMC and Others in Minutes	38871	42724
Total Out of Service Time in Minutes	102545.4	111082.4
Total Time Possible in Minutes	525600	525600
Percent of Time	20%	21%
Percent of Time Based on 12 Hours	39%	42%

As we can note, the unit utilization rate is only 39%-42% using the 12-hour segment, which is in the midrange of busy for 1 ambulance by 911 EMS standards throughout the country.

This shows much use on the interfacility transport side, lack of working vehicles, or lack of staffing the 2 ambulances, as personnel described in interviews to create a deficiency of available ambulances at any given time. It is suggested that SBVAS utilize reporting that shows both sides of the operation and how the unit utilization works for these operations. Unit utilization rates in the 50% is not unusual for busier ambulance operations. Additionally, studying concurrent call volume and stacked/mutual aid call volumes will give a better picture of the need for additional ambulances or better utilization of the current units. Further reporting should show when less than 2 staffed ambulances and a shift supervisor occurs due to staffing or equipment deficiencies.

ADAPTING NEW TECHNOLOGY IN AMBULANCE DESIGN; PATIENT AND ATTENDANT SAFETY

Southern Berkshire is mostly up to date with required ambulance safety features but newly developed safety standards related to patient movement should be sought beyond the power cots, as soon as possible to reduce the possibility of worker injury. Various standards dictate the design, construction, and required safety features of an ambulance. The newly developed NFPA 1917, Standard on Automotive Ambulances was derived through the consensus standard process utilized by the National Fire Protection Association, which includes a cross section of organizations and subject matter experts.

Another ambulance construction standard is produced by Commission on Accreditation of Ambulance Services. Both documents focus on construction of ambulances. After reviewing the proposed documents, the consultants can offer this synopsis. NFPA's document will focus more on safety and will add to the cost of the ambulances, but has many subject matter experts and industry representatives, as well as public comment, which attempt to develop a standard that includes the latest technology focused on the end-user of the ambulance.

The CAAS standard is a consensus standard that contains mostly EMS organization, public and private in nature that will examine the ambulance from more of an all-focus approach, as the majority of ambulances sold are not operated by municipalities providing EMS. Thus much of the safety feature of NFPA are not relevant to a patient transfer ambulance that picks up and delivers patients from one medical facility to another.

Based on the above information, the consultants feel that ambulances purchased after the year 2015 should meet NFPA 1917 unless Massachusetts EMS regulations pre-emt this standard. The NFPA document focuses more on scene-based ambulances. As noted prior manufacturers will begin to streamline their construction standard to allow all ambulances to meet all of the standards, as they will not want to maintain multiple design standards. As a note and in full disclosure, consultant Randall Hanifen does hold a position on the NFPA 1021, 1026, and 1500 Technical Committee's, which develop the 1021, 1026, and 1500 series standards.

No matter the standard utilized, Southern Berkshire EMS agencies should attempt to equip ambulances with the latest technology and safety devices, noting that ambulances are often utilized for 10 plus years prior to replacement and technology and safety features

change regularly as more research continues to drive improvements. The consultants note that based on budget, SBVAS has made sensible purchases to increase worker safety. Below are photos of the Lucas 2 device, which provides CPR compression and a power load cot system. Both are on the forefront of new equipment to keep EMS workers safe.

Photo 16
Lucas 2 Automated CPR compression Machine

Photo 18
Powerload Power Cot System

One ambulance manufacturer, Horton, has developed a signature safety system called Horton Occupant Protection System (HOPS) features a system of airbags, seatbelts and progressive foam protection that interact to provide the best in occupant protection. A photo of the airbag portion of the HOPS system is depicted in **Photo 19.**

Photo 19
Horton Occupant Protection System (HOPS)

Another developing feature in ambulance attendant safety is attendant restraint systems. Because ambulance attendants have a death rate 2 times higher than the regular population within vehicle crashes, primarily due to being unrestrained in an accident, manufacturers are developing various types of harness and restraint systems for attendants. The issue with any restraint system is the need for the attendant to be mobile and be able to access different areas of the patient while lying on the cot. This need has led to the development of devices, such as the High Mobility Restraint (HMR), which is depicted in **Photo 20**. This combines a harness and tethering system, which allows freedom of movement until an accident, at which time the restraint pulls the attendant into a restrained position.

Photo 20
High Mobility Restraint System

Mobile Integrated Health

The consultants were asked to examine mobile integrated healthcare as is develops in Massachusetts. Consultant Patrick Meyers prepared the follwong section, which outlines the three models for delivering mobile integrated healthcare.

Background

First designed to address rural healthcare needs, mobile integrated health (MIH) and community paramedicine (CP) programs are becoming a cost-effective way to address numerous gaps in healthcare (Choi, Blumberg, & Williams, 2015). These programs are capable of using specially trained paramedics to address "wellness, prevention, care for the chronically ill, post discharge care, social support networks, and increasing medical compliance for a local population" (Choi, Blumberg, & Williams, 2015, p. 361). One study showed that only 14% of practicing primary care physicians provide healthcare services to 25% of the nation's rural population (Choi, Blumberg, & Williams, 2015). Siddle, *et al* (2017) suggests that there are numerous MIH program structures and that these program structures are designed to fit the need of the community that they serve.
The American College of Emergency Physicians issued a policy statement in 2012 regarding medical direction of MIH and CP programs. In it, they suggest the following:

> CP and MIH programs provide health care through patient-centered, mobile resources that exist in most EMS systems today. The title of CP is not exclusive to care provided by paramedics, but is applicable to any level of practitioner working within his or her scope of practice in this setting.
> CP providers deliver health care by using common skills that are within the education and scope of practice of standard EMS personnel. The care is often delivered in nontraditional roles by redistributing traditional EMS resources to meet the patient's health care needs. MIH integrates CP services with call centers, the medical home, and other existing health care resources to further navigate patients through the complex infrastructure of health care delivery. MIH programs do not replace existing home health resources, but instead educate health care providers to augment care and fill gaps for patients who do not qualify for, or have available to them, other health care resources. (American College of Emergency Physicians (ACEP), 2012, p.692)

Siddle, *et al* (2017) reported an 81.4% decrease in hospitalizations, 74.5% decrease in length of hospital stay (median (IQR)), and 82.7% decrease in ICU length of stay (median (IQR)). Other studies similar to the 2017 Siddle study reveal comparable results. Essentially, the paradigm shift in EMS - from reactive to proactive – identifies and preemptively manages healthcare issues before they turn into an emergency transport (Goldberg, 2014).

The Massachusetts Department of Public Health Bureau of Health Care Safety & Quality's Office of Emergency Medical Services (MDPH-EMS) has developed the framework for three distinct programs.

Table 14
Mobile Integrated Healthcare/Community Paramedicine Options

	Community EMS (CEMS)	MIH	MIH with ED Avoidance
Program Description	A collaborative system that addresses illness or injury prevention through high value public health services in the community.	A system of pre- and post-hospital services that utilizes mobile resources, including EMS Personnel, community paramedics, and other providers to deliver a coordinated continuum of care that supports patients' needs in the community.	An additional component of an approved MIH Program that allows for management of 9-1-1 patients in alternative settings, including outpatient clinics, psychiatric facilities, and the patient's home.
Operations	CEMS programs are operated by a local public health authority in partnership with a primary ambulance service's EMS Personnel.	MIH programs are operated by healthcare entities together with operational partners such as ambulance services, hospitals, health plans/insurers, or physician practices/medical homes.	MIH with ED Avoidance programs are operated by a DPH-approved MIH Program and utilize the primary ambulance service and paramedics with advanced training.
Services Provided	CEMS program applicants may apply to operate one or more evidence-based, illness and injury prevention services from the Defined List of Community EMS Services based on the needs of their community. Applicants may also petition to add a new service to the Defined List of Community EMS Services.	MIH program applicants may propose services that will address identified service delivery gaps in their community. The services should improve quality, access, and cost effectiveness; increase patient satisfaction; improve patients' quality of life; and increase interventions that promote health equity.	MIH with ED Avoidance applicants propose services that are in line with the DPH ED Avoidance Protocol to address identified service delivery gaps in their community. ED Avoidance encounters follow a primary ambulance service response (9-1-1), patient assessment, and consultation with on-line medical direction. Oversight
Oversight	Designated primary ambulance service's affiliated hospital medical director.	Medical director designated by the MIH Program.	Designated primary ambulance service's affiliated hospital medical director.
MDPH Cost	Application Fee: $0.00 Biennial Reg. Fee: $0.00	Application Fee: $1,000 Biennial Reg. Fee: $30,000	Application Fee: $3,000 Biennial Reg. Fee: $70,000

Source: https://www.mass.gov/service-details/learn-about-mih-and-community-ems

However distinct MDPH-EMS defines their programs, the programs should be thought of as inclusive of the one below, and the program administrators should recognize that intended outcome for all three of the programs is a healthier community. When choosing and designing the program, all stakeholders should be aware that even though the program may not be an "ED Avoidance" program by design and/or intent, all three of these programs will decrease the number of ED visits.

Recommended Structure

Consistent with the research, Southern Berkshire county would best be served by a Mobile Integrated Health (MIH) system as outlined in column two of the MDPH-EMS chart. This is the optimal choice for two different reasons. First, it expands on the largely education and prevention role of the 'Community EMS' model, yet does not rely so heavily on medical direction, telemedicine, and alternative transport destination as in the 'MIH with ED Avoidance' model. Second, the registration fees are significantly more cost effective, since the program will yield a similar outcome to that of the 'ED Avoidance' model. The mission of the MIH program in Southern Berkshire County should be to identify and preemptively manage healthcare issues in the region

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Staffing

Because of the relatively large overarching mission of the MIH program, it is recommended that the staffing model be similar to that of the 20178 Siddle study. A paramedic and a social care coordinator. The paramedic is responsible for all medical needs, assessments, medication administration, and medical documentation. The paramedic should also have the ability to treat patients under their existing scope of practice. In accordance with 105 CMR 173.040 A.2.a, the paramedic should also have the option of not transporting patients after rendering treatment. This non-transport decision should be made with approval from the MIH Program Medical Director.

The social care coordinator is responsible for scheduling follow up MIH visits, primary care visits (including paratransport), ensuring the patient is in a safe living and social environment, and arranging for additional services such as dedicated home care, insurance benefits, etc. Social care coordinators are an integral part of the MIH team, ensuring that the patient has the appropriate resources available to them.

It should be noted that the paramedic will not have augmented training or scope of practice as outlined in 105 CMR 173.050, which constitutes an ED Avoidance program. Additionally, when making a transport decision, the paramedic will not have the authority to direct the transporting EMS agency to transport to any alternative destination – another hallmark of the ED avoidance program. All MIH Program patients requiring transport will be transported to the nearest appropriate emergency department. Finally, staffing with any medical provider above a paramedic such as a nurse practitioner, physician assistant, or medical doctor may constitute an ED Avoidance program due to their ability to prescribe and refer to specialty practices and providers.

Equipment & Supplies

The MIH teams should be deployed in marked emergency vehicles that are not capable of patient transport. The vehicles should be stocked to a paramedic level as per state regulations, and should be able to be deployed in all-hazards situations. Four-wheel drive (4x4), moderate axle clearance vehicles (e.g. Ford Expedition, suburban, or other SUV) are preferred as these can be used in any weather condition and will allow for MIH services in both inclement weather as well as disaster operations.

Electronic Prehospital Care Reports (ePCR) software generally will not suffice for documentation purposes. Social care coordinators and paramedics will need ready access to the patient's medical records in order to complete their mission with each patient. The MIH teams should have access to the electronic medical record systems. The MIH team will be required to review orders by prescribing physicians, medication reconciliation records, demographics, allergy information, past medical and surgical history, and other pertinent medical records. ePCR programs are not designed to have this capacity – ePCR programs are designed to document an emergent issue, not the long-term integrated healthcare plan for a patient.

Scope of Practice

Paramedic: State, regional, or local scope of practice, with the ability to treat and release with approval of medical director.
Social Care Coordinator: Standard scope of practice. Should have the ability to request prescription refills from primary care team, order durable medical equipment as prescribed by physicians, evaluate social determinants of health, evaluate safety of patient's environment, ability to schedule appointments on behalf of the patient, and other standard social care and/or case worker practices.

Operations

The MIH team has dedicated hours, generally an 8- or 12-hour shift during the day. Patients are scheduled onto the MIH team schedule, and the MIH team responds to each patient's place of residence as per the schedule.
Some jurisdictions have an overnight on call team. Patients within the MIH System can call the on-call team after hours and have an MIH team respond. True medical emergencies are diverted to the local 9-1-1 system before the MIH team deploys, if necessary.
Patients served include:

- Insurance company referred patients
- Patients recently discharged from the hospital (24-48 hours post discharge)
- Elderly patients
- Newborn children
- High-risk populations
- Functional & Access needs patients (including children)
- Self-referred patients.

See **Appendix 9** for references related to the Mobile Integrated Healthcare section.

The consultants were informed through interviews that SBVAS is applying for a MIH grant from the state to start a program. The consultants feel that in the long term, this is a great

asset to the community and is in line with the new operational model that SBVAS would operate given the long-term business plan. Currently, there are numerous complaints through interviews about the ability, or lack thereof, to provide the current interfacility and 911 service with the personnel and equipment available. It would be advisable for SBVAS Board of Directors and Director Hathaway to engage the stakeholders mentioned throughout this report to determine if this added service is feasible to introduce in the short-term.

RELEVANT NATIONAL STANDARDS

Relevant standards exist for both EMS and fire service delivery. While both may seem independent, many are overlapping, as they are designed to deliver a service to the community in a timely and reliable manner. Both EMS and Fire organizations have many similar components, such as organizational structure, facilities and apparatus, but most importantly, personnel trained to certain levels that deliver both services. In this section we will cover standard for both EMS and Fire organizations, since regardless of the level of consolidation chosen by the region, overlap exists even today. It should be noted that standards are not law, but instead a consensus of many experts related to fire, EMS, and government. While these standards do not carry the weight of law, they are utilized routinely in the legal system as the benchmark for what should occur.

EMS Delivery

Currently the EMS and fire organizations are separate, but the fire departments respond with the EMS agencies. Due to the prevalence of EMS delivery systems residing in fire departments throughout the country, the National Fire Protections Association has put together an Emergency Medical Services and Systems Standard, labelled NFPA 450. It is noted, however, that the standard does cover aspects of all EMS system delivery options ranging from fire department based, to independent agency, to private agency/hospital based. This document outlines the following areas and standards related to the areas:

- System Regulation and Policy
- EMS System Analysis and Planning
- Finance
- Medical Oversight
- Quality Management, Clinical Quality, and Data Reliability
- Public Education, Information, and Relations
- Communications
- Equipment and Facilities
- Human Resources
- Operations

One area noted in the NFPA 450 and NFPA 1710 EMS sections is the time standard. Following in **Table 15**, we review the time segments and their recommendations. This table was noted prior in the report with a comparison of how SBVAS compares to the standard. While is it noted that the geography of the area can greatly affect these time intervals, the dispatching, turnout time, scene time, and hospital times are all time segments in nearly complete control of the EMS organization and its dispatching center.

Table 15
EMS Time Segments Goals per NFPA 450 and 1710

Time Segment	Goal Time Interval
Call Answered by PSAP (Public Safety Answering Point)	30 Seconds or less 95% of the time
PSAP Call Processing	60 Seconds
Dispatch to Responding (Turnout time)	60 Seconds
Responding to On-Scene	4 minutes BLS 8 Minutes ALS
On-Scene to Patient Side	No Standard Varies by community design
On-Scene to Transporting	No Standard Suggest 10 Minutes
Scene to Hospital Times	No Standard Varies by Travel Distance
At Hospital to Returning from Hospital	No Standards, Suggest 15 Minutes
Returning from Hospital to Available	No Standard, Varies by Travel Distance

It is recommended that each current EMS organization begin to conduct an analysis of how their organization meets standard and develop a list of areas for improvement. While this document will discuss areas of improvement for the organizations overall, it is often best to have an internal review that allows buy-in from the personnel, as they have identified the issues and are best suited to develop remedial steps for areas not in compliance. Once these internal audits are developed, a group of the EMS and Fire executives can convene to determine common areas of improvement that can be achieved through collaboration.

Fire Service Delivery

For fire operations sufficient personnel must be available in order to provide adequate fire protection to the community. The Southern Berkshire region Fire Departments can provide adequate minimum fire protection for the community, and through automatic aid can usually comply with two standards which, although not mandatory are considered an "industry standard" and often used to determine the number of firefighters required at emergency scenes:

- The National Fire Protection Association (NFPA) Standard 1500 recommends that a minimum of four persons be available on the fire scene before structural firefighting commences**.**

- The Federal Occupational Safety and Health Administration (OSHA) has determined that fire structures meet the definition of an IDLH (Immediately Dangerous to Life and Health) environment and therefore are subject to the "two in-two out – rule" meaning there must be a minimum two-person rescue team besides the crews committed to structural firefighting. The International Association of Fire Chiefs (IAFC) have endorsed this standard.

With all fire and medic response units available, the Southern Berkshire region emergency service organizations can often meet the initial standards as outlined above, but must rely on automatic/mutual aid, like all agencies of similar size, to provide additional depth to care for escalating needs at the scene of a major fire or emergency. When personnel are thin, this ability to adequately provide adequate initial fire protection is compromised. The chiefs have maintained a good working relationship with nearby neighboring agencies and these can be summoned to bolster the primary agency's forces when they are stretched thin. The providing agency in turn, receives reciprocity often.

In May 2002, the NFPA adopted two new related standards, #1710 and #1720. The former relates to fire departments with an on-duty force, which are not dominant in the Southern Berkshire area, and the latter refers to primarily volunteer departments, which are common in the area. However, as we begin to look towards the future, on duty staffing will be needed to ensure a fast and reliable response, thus we will focus on NFPA 1710 as the standard to work towards. Among other requirements, this standard list "four" (4) persons as the minimum crew size on apparatus. The Southern Berkshire area fire organizations can meet this standard dependent on the availability of volunteers. See **Figure 15** below for a capsule summary of 2016 edition of NFPA 1710.

Figure 15—NFPA Standard 1710 Highlights*

- ✓ **Four (4) personnel per fire apparatus**
- ✓ **First fire unit arrives within 4 minutes 90% of time and the remainder of the assignment within 8 minutes 90% of the time.**
- ✓ **Eighteen to Twenty-nine personnel on first alarm within eight minutes**
- ✓ **Quality and safety parameters**

***In the 2016 Version of 1710 and 1720, needed tasks and the minimum number of personnel to complete the tasks are outlined. The number of personnel above are considered minimums and do not account for rotation of personnel. This calculation does not include High-Rise occupancy response.**

The standards are based on tasks that need performed at a structure fire. It is known that crews could complete more than 1 task, such as extinguishment, then search and rescue,

however, to ensure victims are searched for in a timely manner and ventilation enhances fire extinguishment, these tasks should occur simultaneously, which requires high numbers of firefighters. The breakdown of the needed tasks and personnel to accomplish the tasks based on NFPA 1710 for a Single Family Residential (2000 ft^2) and an apartment building are **Figure 16 and 17.** In Southern Berkshire area, as in most communities the department is unable to comply totally with this standard.

Among the most routine of fires in Southern Berkshire would be a single-family dwelling. Staffing needs, including mutual aid, are shown in **Figure 16** on the next page.

Figure 16

SINGLE FAMILY RESIDENTIAL HOUSE FIRE

2,000 sq. ft. 300 gpm water flow minimum water flow

POSITION	ASSIGNMENT	STAFFING
Incident Commander	Coordinates all on scene operations (Company Officers run command until ranking officer arrives)	1
Safety Officer	Monitor and corrects fireground safety issues	1
Pump Operator	Maintains water flow to attack crews and radio communications	1
Ventilation	Removes heat, toxic gases and smoke improving victim survivability and safer environment for fire crews.	2
Ladder Operator	Operates ladder truck aerial device	1
Primary Search	Rapid discovery and removal from toxic environment ensure highest possible chance for victim survivability without brain damage.	2
Fire Attack	Two hand lines @ 150 gpm each for adequate water flow	4
Fire Attack Support	Connects hydrants, manages supply and hand lines	2
EMS	Renders immediate medical care to rescued victims or injured firefighters	2
SUB TOTAL		**16**
Rapid Intervention Team	(Rescues trapped/injured/lost firefighters)	2
TOTAL		**18**

Figure 17

APARTMENT BUILDING FIRE

3,000 sq. ft. in kitchen/dining room, 25% involved = 500 gpm water flow

POSITION	ASSIGNMENT	STAFFING
Incident Commander	Coordinates all on scene operations (Company Officers run command until ranking officer arrives)	2
Safety Officer	Monitor and corrects fireground safety issues	1
Pump Operator	Maintains water flow to attack crews and radio communications	2
Ventilation	Removes heat, toxic gases and smoke improving victim survivability and safer environment for fire crews.	4
Ladder Operator	Operates ladder truck aerial device	1
Primary Search	Rapid discovery and removal from toxic environment ensure highest possible chance for victim survivability without brain damage.	4
Fire Attack	Three hand lines @ 150 gpm each for adequate water flow	6
Fire Attack Support	Connects hydrants, manages supply and hand lines	3
EMS	Renders immediate medical care to rescued victims or injured firefighters	2
SUB TOTAL		**25**
Rapid Intervention Team	(Rescues trapped/injured/lost firefighters)	4
TOTAL		**29**

ENSURING ADEQUATE RESOURCES

The elected officials in the Southern Berkshire area overall have been supportive of the EMS and Fire agencies and have been willing to fund advancements within a limited to possibly shrinking budget. We anticipate continued support for additional resources commensurate with growth. However, there comes a point when a critical evaluation of how business is conducted must be undertaken. Issues mentioned prior in the report bring us to this crossroad.

One Southern Berkshire area resident speaking with the consultants on our visits discussed taxation with the consultants, and expressed a view likely held by the majority of the residents: "We don't mind being taxed if it is fair to all and used wisely"

At times, community leaders will say, "Tell us what we should have for fire and rescue protection, and we will find a way to pay for it." Unfortunately, there is no easy answer, since it is virtually impossible to separate what a community *should have* and what is affordable. It is not feasible to separate a decision regarding the level of fire and rescue protection from financial concerns, since the two are very much interrelated. Once a fundamental level of EMS and Fire protection is in place, (as is the case in some areas of Southern Berkshire) each additional fire company is of marginally less value than the previously added resource. Where the importance lies at this time is in personnel to staff both EMS and fire units.

In each town within the Southern Berkshire region the first Engine Company provided a major difference between any fire protection or none at all. The second improved response time for some portions of Southern Berkshire and provided "depth." A third engine in like manner, would be valuable, but not as valuable as the second. The fourth engine is of marginally less value than the third, and so forth. The same logic could be employed to analyze the value of additional fire and EMS stations, or EMS units.

The level of fire protection must include "affordability." An extreme example is found on some Native-American Indian Reservations here in the U.S.A. Fire protection consists of several lengths of old fire hose connected to water mains, in the hope that someone will put the hose to use in the event of a fire. They simply cannot afford anything more.

Another example of the interrelationship between budgeting and fire protection can be found in Norwood, Ohio. When a Chevrolet Camaro Plant closed in the City of Norwood, it suddenly had one fire station, when once it had three. The citizens of Norwood saw an across-the-board reduction in all governmental services. At some point, fiscal responsibility imposes a level of EMS and Fire protection that should not be exceeded.

With EMS and fire protection, it is very easy to make decisions based on emotional arguments such as: "if the ambulance saves one life, it will be worth it." It may very well <u>not</u> be worth it if neglected streets (poor signaling, rough pavement, etc.) leads to more traffic fatalities, or if an under-funded police agency leads to more deaths from violent crime.

Consider a community that must choose between the purchase of a new salt truck or a new fire truck. The fire truck might indeed save one life but if a lack of treated streets leads

to a multiple fatality accident, there is a net loss of life due to the purchase of the fire truck. All governmental services should be kept in a balance by elected officials.

Even if one could guarantee that one *could* save a life by adding another EMS unit, most members of society would still want to weight this option against a "quality of life" factor. People *want* aesthetic beauty (parks, for example), and conveniences such as transportation. People are as a society willing to incur some risks to have this quality of life. Limited tax dollars need to be balanced among safety services and other Community needs, especially in light of the fact that some public funds might be expended better elsewhere.

If the Southern Berkshire officials were to introduce a plan that would eliminate 100% of all highway fatalities in Southern Berkshire, it would certainly be more than "saving one life". Therefore, should it be adopted? The solution would be to have no vehicle travel more than 10 miles per hour on any road within its boundaries. Southern Berkshire area residents would likely find this unacceptable. Society members are generally daring and are willing to incur safety risks including occasional accidental fatalities in exchange for mobility in life and aesthetic beauty in our surroundings. Accordingly, citizens are usually willing to spend only limited dollars for fire and rescue protection.

If we were to put a fire and EMS station on every major road in Southern Berkshire, would it save one life? No doubt it would, but the price would be unpaved roads, a complete lack of any other basic services, and a populace taxed into poverty. Ultimately, there comes a decision point where "*the right level of fire protection*" must logically include the cost, and the effect on other government services. There is no equation that will dictate the proper number of fire units, and fire stations unless leaders are also willing to factor in the monetary cost of providing these.

Since the quantity and quality of EMS and fire protection remains then a subjective rather than an objective study, how does a jurisdiction determine what is best for its own citizens? That is, how much should be spent to maintain a balance between adequate fire and EMS protection, and adequate attention to other services provided by the community? One technique is to compare Southern Berkshire with similar communities nationwide, as we will demonstrate under National Staffing Trends, coming next in this study.

Photo 21: Many Resources Needed at Richmond House Fire

REGIONAL COMPARISONS AND NATIONAL STAFFING TRENDS

Southern Berkshire continues to see a decrease in volunteers and increasing median age that will soon pass the normal retirement age of fire and EMS personnel due to the physical nature of the job. As it moves its EMS and fire departments to more cross trained career personnel, the costs will increase, but only by a percentage versus trying to staff separate fire and EMS agencies, which can cause an exponential cost increase. Since staffing is by far the largest item in a fire department budget personnel costs need to be calculated, both for the present, and projected into the future. Allowances must be made for inevitable pay raises and employment costs. Since full-time personnel require salaries, employer pension contributions and health care, their cost to the community is high.

Occasionally, **Fire Engineering**, one of the most respected periodicals in the firefighting profession, assembles valuable statistical data. Among the information provided are the following statistics:

- Employees per 1000 population
- Full-time Paid personnel, on-duty
- Minimum Staffing Requirements
- Minimum Crew per apparatus

Information is given regarding the number of firefighters on duty, members per 1000 population, full-time paid personnel, on-duty, and minimum staffing requirements, crew per apparatus, number of stations and similar statistical data that can be used for comparative analysis across similar jurisdictions. The Consultants chose the North East Region for comparison purposes because it includes not only Massachusetts but adjacent states with similar demographics.

Nationally most departments today provide both fire protection and transporting emergency medical services, so that this average would include personnel for both of these functions.

According to this **Fire Engineering** Report, one statistic, which has remained rather constant, is the average number of fire and EMS department employees per 1000 population. There has been a gradual evolution throughout the United States toward Internal Fire Protection ("Era II"), stronger building and fire codes, and more efforts toward fire prevention and code enforcement. As a result, the frequency and severity of fires have declined nationally. Most Fire Departments have begun providing Emergency Medical Service (EMS), Technical Rescue, Hazardous Material Mitigation and similar services and have maintained their personnel strength. Without the combined service, the costs would outpace what can often be afforded for the call volume and tax base present in Southern Berkshire.

As we seek to "right-size" the fire and EMS department we must remember that a combined fire and EMS service would provide both fire and EMS protection to the area and has continual increases in run volume every year due to two factors:

1. Annual increase in population which has a higher median age.
2. Trend toward increased usage of emergency services by the general population

This can actually help the emergency services in the area two-fold, as placing cross trained paid personnel to staff additional ambulances, it translates to the possibility of more fire protection due to the cross-staffing model.

Table 16 below draws upon demographic data from **Appendix 2** and shows how population has changed in the region over time. Long term demographics are available through a report compiled by Mark Malory, GIS, Data, and IT Manager of the Berkshire Regional Planning Commission located at http://berkshireplanning.org/images/uploads/documents/Berkshire_County_Population_Trends_140909.pdf

Table 16
Historical Population of Berkshire County.

Historical population 3.2% Average decline since 1980, total of 16.2%		
Census	**Pop.**	**%±**
1940	122,273	1.3%
1950	132,966	8.7%
1960	142,135	6.9%
1970	149,402	5.1%
1980	145,110	−2.9%
1990	139,352	−4.0%
2000	134,953	−3.2%
2010	131,219	−2.8%
Est. 2016	126,903 [8]	−3.3%
U.S. Decennial Census[9]		

The **Fire Engineering** Report shows that the number of firefighters per 1000 has consistently remained at about 1.6 since 1984. Using 20,0043 as the base population for Southern Berkshire region and calculating an annual decline of 3.2% we will have about 18,179 residents by the end of 2019. However, as we have noted in previous sections of the report that building is occurring, and many homes are second homeowners that are not counted in the census. Hence, using 21,000 as a population around which to plan, is good due to the business and visitors that come to the attractions, the number of full-time firefighters would be 1.6 x 21,000 = 33.6. This number divided by 3.5 would be the approximate number on duty each day, (Three shifts and a half shift equivalent to cover vacations, sick leave etc.) This would put 10 firefighter paramedics on duty throughout the region today

The Consultant further analyzed fire departments in jurisdictions similar to what the Southern Berkshire region will look like in the not-too-distant future. Using the larger area that includes Richmond, Lee, Lenox, Tolland, and Beckett, the area would include 34, 871 residents. At an annual decline rate of 3.2% the area will have 33,739 residents by, 2019 and the region will have about 28,675 residents by, 2024., revising our on-duty force to 12-13. Research by Patrick Meyers for the Northeast region for populations in the range of 20,000 to 25,000, with the emphasis of 21,000 people were selected and listed in **Table 17** on the next page for a comparative analysis with the Southern Berkshire Region.

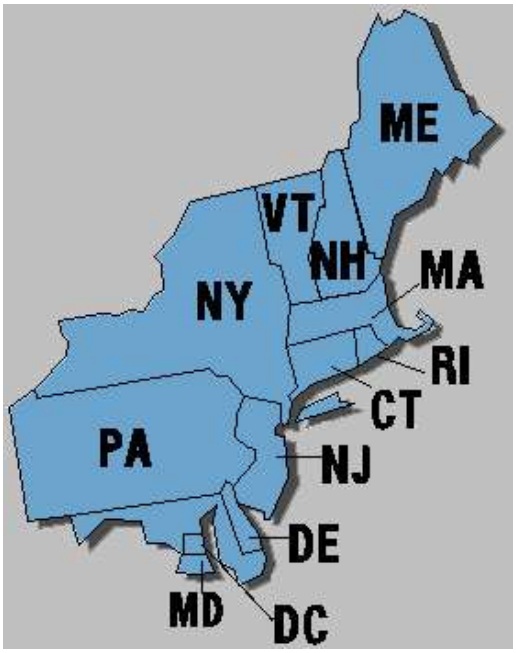


Table 17
North East Region Communities with Populations 20,000-25,000 (Nearest to 21,000)

Town	Population	System Type	Fire based or Stand Alone	# Staffed Ambulances	Staffing model	Area (mi^2)
Stoneham, MA	21,967	paid career	Class 5 engine CFR/all other EMS privately contracted	1 dedicated to municipal 911	double medic	6.7
Ludlow, MA	21,331	paid career	fire based-dual role	3 in svc - 2 always staffed W/ 1 staffed by recall	double medic	28
Gardner, MA	20,496	paid career	fire based-dual role	1 - bls only 2 contracted ALS dispatched out of fire station	BLS is double BLS ALS is Double medic	22
Sandwich, MA	20,416	paid career	fire based - dual role	4	Double medic	45
Marblehead, MA	20,393	paid career	fire based	2 class 5 CFR Engines, all transports by private contract	1 double medic, 1 double BLS provided by contractor.	5
Watertown, CT	21,976	Volunteer	fire based	3 fly cars - transports contracted by AMR	BLS	29
Darien, CT	21,742	Volunteer	Stand-alone	1 staffed, 3 total.	Double BLS, ALS by contracted fly car	23
Portsmouth, NH	21,644	Paid career	Fire based-dual role	2 with 1 in reserve	split BLS/ALS	17
New Hartford, NY	21,992	Volunteer	Fire based supplemental EMS (certified to ALS level), contracted transport	Contracted - no ambulances strictly reserved for 911,	mix of split, double ALS, double BLS	25
Smithfield, RI	21,611	paid career	fire based-dual role	3	double medic	28

*Types of Departments in North Central Region

PAID	7	70%
VOLUNTEER	3	30%
TOTAL	**10**	**100%**

Our **Table 17** reveals several interesting statistics:

- Seven out of 10 departments provide a dual Fire-EMS Role
- Only 2 of the 10 do not conduct patient transport
- All paid EMS systems utilize ALS level
- The average square miles covered are 22.67 mi^2

If in Southern Berkshire the fire, rescue and EMS services were combined into one overarching organization with paid on-duty personnel, there is a great efficiency in having on-duty personnel who can provide fire AND/OR rescue AND/OR EMS service – ***"first emergency first."*** This initial first response force could be supplemented by volunteers when not on station or volunteers who elect to stay on station and can handle the emergency first and leave the paid crew available if warranted. This configuration preserves the volunteer pride while providing a solution when volunteers are unavailable due to other commitments.

According to the regional comparisons, it could be said that the Southern Berkshire region is understaffed for operations personnel that can perform a dual role. Any staffing additions need to be affordable and efficient through cross training. While volunteer recruitment and retention are still highly important, the increasing median age will likely limit a number of citizens from volunteering for a highly stressful manual labor position.

As EMS and Fire Departments, as well as, Town Officials, deliberate on proper fire and EMS protection levels, they often want to find some *measurable* quantitative standard that can be applied in their communities. An example which could be applied in Southern Berkshire would be:

"We want 90% of all residences and business establishment inside the Southern Berkshire County to be within 4 minutes of a responding engine company or paramedic ambulance."

Utilizing time distance analysis and geographic projections the Southern Berkshire region could determine where the fire and EMS stations would have to be located to produce such a result. These station locations could be coupled with desired strength levels on units to provide the "right-size" Department. Even in this case, however, the standard breaks down as soon as one engine or medic unit is already busy on one emergency when a second emergency occurs in the same area necessitating a more lengthy response from another unit. A secondary issue in the very rural region is the cost of trying to accomplish this coverage and staffing standard. Hence, the decision regarding quantity of fire companies and emergency medical service units remains fairly subjective despite the best efforts at quantifying it.

The business plan beginning on the next page looks quantitatively and conceptually to change to organizational structure and match needed staffing levels with the community.

STRATEGIC & BUSINESS PLAN

Currently what is known in the Southern Berkshire region is the following:

1. Decreasing permeant population and possibly decreasing subsequent funding for emergency services, both fire and EMS
2. A decline in the rates of volunteerism for both EMS and Fire Service organizations
3. An Aging population that will increase service needed for both EMS and fire

Current and Predictive Emergency Services Demand

The current organizational structuring and staffing were examined as they exist and might evolve into the future. Professionalism was found among the personnel at all levels and it is a credit that the region's EMS systems do interface well with local on-duty fire agencies, which often co-respond

Staffing, Organizational Structuring, EMS and Fire Station locations, and similar factors were studied in detail. During various site visits Consultants Randall Hanifen and Patrick Meyers interviewed key personnel from the Southern Berkshire's EMS Services, and Fire Department personnel throughout the region, both paid and volunteer. Numerous records and pages of statistical data were reviewed, collated and reduced to summary findings in this report. It is noted that some gaps in available data occurred and are denoted throughout. The Consultant at all times strove for detailed factual data and a broad range of input.

As part of the study, the consultant looked at the Great Barrington Fire Study recently completed, as well as the volunteer departments throughout the rest of region. It is noted that the region suffers from the same trend that is occurring nation-wide, in which the volunteerism in the fire department is declining. The Volunteer and Combination Officer Section of the International Association of Fire Chiefs put together a Blue-Ribbon Report outlining the declining volunteerism in the fire service, which agrees with the consultants observations of the declining number. The report is found at http://peiffa.com/files/misc/VCOS_Blue_Ribbon_Report.pdf .

Coupled with this decline is the decline of the overall permeant citizens in the area and an ever-increasing median age. While some may believe that the current volunteer separate organizations work well, these trendlines will soon translate to an absence of volunteers to answer calls. **Appendix 5** shows how volunteers are becoming scarce and the problem is a national one.

EMS and Fire Departments, operating out of different locations, have served the Southern Berkshire region for many years. Whether the EMS and fire departments remain separate or combine at some point it is guaranteed due to the dedicated people they can continue to be as successful as the numbers allow. Since many departments rely on volunteers, Southern Berkshire must be aware of increasing difficulties in recruiting and retaining volunteers.

If there were no longer a volunteer fire departments here, and Southern Berkshire had to rely on full-time, part-time or per-diem personnel around the clock, the service would be

expensive or the coverage would be sparse. The critical few paid people on duty in the region's EMS and Fire departments are better afforded if they are dual-trained.

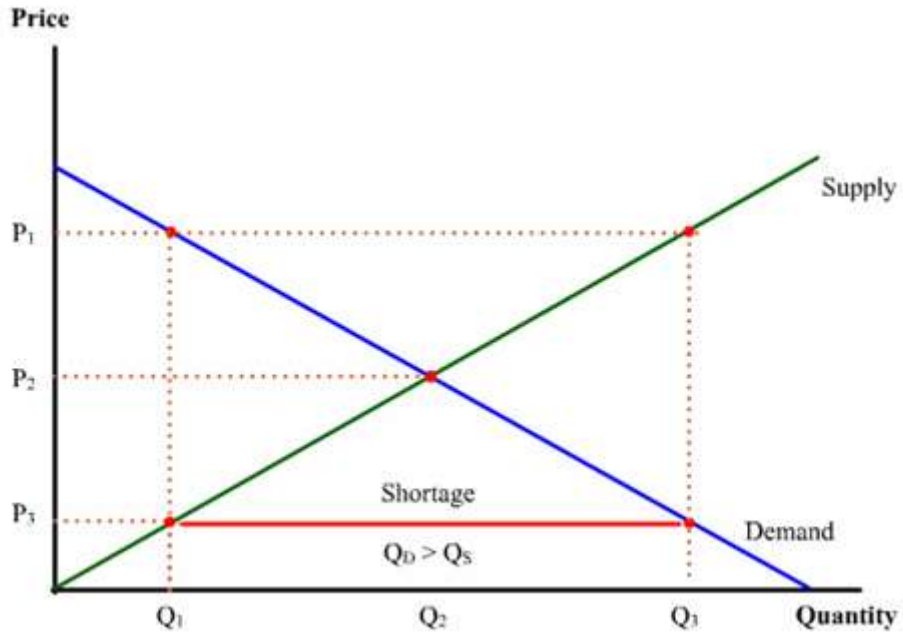
In a volunteer service, two factors are relevant regarding the placement of stations:

1. Location central to the area served
2. Proximity to homes or work places from which volunteers respond.

The Southern Berkshire Region Fire Departments have provided fundamental service throughout their history. While diverse in terms of size, organizational structure, and clientele, some contribute to the Emergency Medical Function throughout the region. A review by the consultant showed that the frequency and severity of structure fires are declining in the region just as they are nationally, but new demands such as Carbon Monoxide alarms, increasing fire alarm incidents, and vehicular accident assists all require the presence of a well-trained quick responding fire department.

Over time, the 17 area departments have undergone various transitions and currently are positioned at a crossroad where their future should be plotted. Most of the departments seem to have experience and enthusiasm among fire department members, including both veteran firefighters and younger personnel. Improvements are always possible.

Figure 18
Typical Supply and Demand Matrix
Fire and EMS Personnel are Bound by This Figure



VARIOUS EMS OPERATING MODELS

The consultants analyzed unique local conditions, which affect the delivery of EMS including unique characteristics that affect upon emergency response and service delivery. There are many positive features making Southern Berkshire a desirable and livable community. The consultants agree that the service is strained in certain aspects and can be improved. Since the strains pertain to the lack of volunteers for fire and EMS service, a national phenomenon, it is best to start the suggested improvements as soon as possible.

As part of the study, the consultants looked at the interface with both the staffed EMS services, volunteer ambulance services, and the volunteer fire departments in Southern Berkshire, which assist on some of EMS runs. It is estimated, based on population statistics, that 80 % of the EMS responses are in the core portion of the towns of Southern Berkshire while 20% are in the rural/remote portions of Southern Berkshire. Like many fire departments those in Southern Berkshire are to some extent involved with pre-hospital emergency medical care, primarily as first responders. The trend, however, is moving towards full EMS service, as the justification for paying firefighters for an otherwise small call volume. The Southern Berkshire area fire departments, one way or another, will assume more and more EMS responsibilities.

In looking at alternative models for providing ambulance transportation, we see that there are numerous possibilities. In **Table 18** we show models used in various jurisdictions

Of the various models presented, here are the observations:

1. Status Quo in Southern Berkshire

This was covered rather thoroughly in various modules for this report. The system is working to some degree but can be improved. Dedicated personnel in both the EMS and Fire departments are delivering services to the residents with a fiscally conservative approach. Equipment, while not the most elaborate is capable of providing Fire and EMS services. The EMS and fire chiefs in the region are making efforts to upgrade equipment as monies become available. Fire Emergency Medical Responders are able to respond with medical assist apparatus located at the fire stations, which can reduce the response times of the limited number of ambulances available within the region. Currently, the system does not take advantage of all EMS certified personnel that exist within the fire departments, as the current practice only allows personnel not employed by the Ambulance service to operate at the EMR level, even though many possess EMT and paramedic certifications.

2. Regional-**FIRE & EMS PAID ORGANIZATION "District" overlaid** with volunteer fire and EMS organizations supporting, which allows EMS transport for emergencies throughout region, while private ambulances handle non-emergency transports (e.g. interfacility)

This system allows the greatest economy of scale. Currently some fire personnel have EMS certifications and vice-versa, and could fulfill both duties, as the need for both fire and EMS services simultaneously proves as a limited number of instances when examining the overall use of both services. Additionally, many of the EMS personnel have expressed an interest in obtaining fire certification. Because of the fact that both fire and EMS services are not needed simultaneously, a "first-emergency-first" model can allow a crew of 2-3 personnel to staff either a fire engine or an ambulance depending upon the call received. This will provide immediate response from on-duty personnel for both fire and EMS emergencies. This provides the highest level of satisfaction to the citizens, as they do not prioritize fire over EMS; their expectation is quick response for both types of emergencies.

In a fire-based system, a tiered approach is an option once the call volume exceeds the "first-emergency-first" model. This will allow on–duty personnel to staff an engine or an ambulance. Because personnel are able to deliver initial care with EMS equipment on the fire engine, followed by arrival of the ambulance to transport the patient to the hospital, a reduction in the number of transporting ambulances is recognized, as opposed to complete duplication of fire and EMS service. Leaving the non-emergency transports to a private EMS service ensures that fire and EMS personnel are available for emergencies, as the public has an expectation of rapid response with significant numbers of personnel to handle their emergencies. Although some critics of this decision state the organization can produce additional revenue by conducting non-emergency transports, the profit portion of the revenue often never comes to fruition once the salaries, benefits, and equipment upkeep are funded. **Moving to this model with current staffing on duty each day in Southern Berkshire could produce up to 3 additional 24 hour staffed ambulances if each town committed to joining the regional organization.**

This model also allows for the current volunteer fire and EMS organizations to continue to exist and takes the routine call volume off of the already strained volunteer force. If the volunteer companies want to make the first alarm in their area, they can staff the station for a period of time and allow the paid crew to assist or take subsequent calls. This model first and foremost serves the citizens in a rapid and reliable manner, but also preserves the pride and long-standing service the volunteer fire and EMS organizations have provided to the area.

3. Regional based EMS system, performing transports for towns; including private and non-emergency transports

While proponents of this type of system state it produces the largest amount of income, a true cost/revenue analysis proves in most cases that the costs outweigh the revenue and the model reduces the likelihood that an ambulance will respond in a recommended amount of time when an emergency occurs. This is often viewed in the region today. With the purchase of the type 3 ambulances in Southern Berkshire to allow personnel to perform emergency procedures, the costs in equipment and replacement costs are increased over private ambulance companies, which utilize the van-style ambulances due to the need for economical vehicles, as opposed to the space to perform procedures. An additional deterrent to this model is the predicted changes to ambulance billing that experts predict will move to a performance or procedure-based payment system. An additional deterrent is the vicinity of the region to other populated areas that patients are transported, which has caused excess mileage on the SBVAS ambulances, requiring costly remounting of the ambulances after

only 7 years. The majority of non-emergency transports do not require interventions or procedures, but rather resemble a taxi service staffed with medical personnel in case the patient status changes.

The consultants recommend model # 2

The consultants recommend model #2 for three primary reasons. Those are:

1. Economy of scale
2. Depth of forces
3. Best coordination of resources during an emergency

The consultants note that some of municipalities already provide fire and EMS service through an organization similar to model #2. Governments recognize the overlap of fire and EMS services that allow one member of the organization to provide both services, gaining an economy of scale, both at the line personnel level and through the supervisory ranks. Because large-scale fire emergencies and large-scale EMS emergencies do not happen simultaneously, personnel can provide reserve forces at either fire or EMS emergencies, thus providing depth in the system. As noted prior, switching to this model could provide additional ambulances and potentially allow the third person of the crew to return to the station and be available for first response while the ambulance in that area is fulfilling the transport of the first call. Lastly, model #2 allows for the best coordination during events that need both fire and EMS services simultaneously, such as auto accidents. Because personnel train together and respond under one command and control structure, responders can operate together more efficiently, thus freeing trapped victims from auto accidents while beginning treatment during the extrication. This is only one example of the many calls, which require fire and EMS force coordination.

Eventually a complete merger of fire and EMS on the regional scale will likely occur, as it did in Nashville TN, Louden County, VA, and Golder Ranch, AZ (formerly Mountain Vista) and countless other organizations throughout the United States. The consultant does not see this happening immediately and notes that it will take coordination from elected officials, EMS leaders, Fire Leaders and the rank and file of all of the organizations. The fire departments themselves must be more uniform in their ability to provide crews. One of the large issues to overcome is the transformation of the private, non-profit EMS Organizations currently providing EMS to an agency serving a large portion of the area.

TABLE 18
EXAMPLES OF ALTERNATIVE DELIVERY MODELS

	Model	Key Features	Example Communities
1	Status Quo in Southern Berkshire	Fire Departments do first response/assist; EMS organizations do all transports, emergency and non-emergency.	Southern Berkshire
2	Status Quo with all ambulances moved into existing County Fire Stations	Quarters shared between firefighting and EMS personnel from two separate organizations	Baltimore County, MA Albany County, NY
3	City or County fire-based EMS transport for emergencies throughout city with private ambulances retaining non-emergency transports (e.g. interfaculty)	City or County handles all emergency EMS; decides on resource usage such as accompanying engine company,	Cincinnati, OH Boston, MA New York, NY (Sherriff-Based)
4	City based EMS system, performing transports for City and County; including private and non-emergency transports	Efficient system which works well where City is central to most of county	Christian County, KY Noted as not allowed by Law in CT and many other states
5	County-fire -based, county-wide using paid departments in city and county for first response	Cooperative inter-local agreement involving Elected officials, fire chiefs and administrators	Spotsylvania, VA
6	Independent operated 'Third Service" 911 system, including transports for Town; private ambulance for non-emergency transports.	Government supervised and funded operation similar to Southern Berkshire Ambulance Service	Williamson County. TN
7	Hospital-Operated EMS transport system serving the entire City and County	Hospital supervised and funded operation	Bristol, CT

These three factors coupled with what comparative areas with many of the same factors have put in place to update their EMS and fire service delivery derives the following end goal:

Create a regionalized fire and EMS service that is combined under one overarching organization to provide cross trained, paid personnel, while preserving the identity and spirit of the individual volunteer EMS and Fire Organizations through recruitment and retention of separate volunteer corps.

This likely seems like a nearly impossible mission based on the history and current configuration of the EMS and Fire service delivery in the region. **This will not occur overnight** and cannot be done in one step. This will be a gradual transition and require many objectives to meet the goal. The large-scale objectives are as follows:

1. Begin mutual and automatic aid within the region for both fire and EMS, to include joint training among the agencies
2. Begin to train fire department personnel in EMR and EMT certification to provide first response and update dispatching procedure/EMS zone service plan to automatically call mutual aid if an ambulance does not respond within 5 minutes.
3. Create a steering committee/executive board of government officials and appoint an emergency services regionalization executive to begin the process of putting the overarching regional paid service in place
4. The steering committee shall adopt a funding model to support the newly created combined service "District"
5. Towns in the region will buy into the regionalized system through formal adoption according to Part 1, Title VII, Chapter 48, Section 61 of the Massachusetts General Laws.
6. A CEO/Fire and EMS Commissioner of the regional service shall be appointed. It is recommended that this person be named a commissioner, as this will allow all current chiefs of organizations to remain the chief of their independent organizations.
7. A staffing and unit location model, such as the one in the business plan is put in place to deliver the on-duty response
8. A staffing and response model for the independent volunteer organizations is developed with input of the chiefs.

As will be noted in the short-term actions, this transition should be driven by an external person or company, as currently the organizational transition would be beyond any current person's legislative authority.

NATIONAL TRENDS COMBINING FIRE AND EMS OPERATIONS

Fire-based EMS is becoming the norm in most parts of the USA and Canada. All across North America in communities large and small this has proven to be an efficient emergency service operation and many communities have adopted the joint fire/emergency

services model. Covering the entire spectrum of community size, jurisdictions like New York City, Cleveland and Lima, Ohio, and Boxborough and Uxbridge, MA all have gone to a joint fire/EMS model. While the current separation of Fire and EMS in Southern Berkshire works, a combination in the future should not be ruled out, as declines in personnel available to volunteer in both fire and EMS organizations exist.

In some communities which have just begun to afford paid on-duty people there is a real dilemma if they have maintained separate fire and EMS services and must decide whether the first paid people should be fire fighters or emergency medical technicians. Where these services are combined, and ambulances and fire vehicles are co-located, the on-duty personnel are free to take the "first emergency first" and the dilemma is solved. Although the cost of a joint firefighter/EMT or firefighter/paramedic is higher than either a firefighter alone or an EMT or paramedic alone, the marginal difference is much smaller than 100% or double cost. It is usually 15 to 20% more to get a dual-trained person.

The fire department resources are being used already and with a change in equipment and a broader time commitment to each response, the transport component can be included without a total duplication of personnel. The additional out-of-service time by personnel needed for hospital transports is off-set in part by fire companies not having to wait as long or as often for an ambulance to arrive.

PROS AND CONS OF REGIONALIZATION: FINANCIAL AND NON-FINANCIAL

Communities facing the possibility of creating a regionalized service, but already cooperating fully, might logically wonder "What is to be gained?" We cover the financial aspects elsewhere, and **Figure 19** following provides an answer regarding the non-financial benefits. This news excerpt was attained during the report, as many communities are at the same crossroads as those in Southern Berkshire.

Figure 19: Similar District Creation in Kentucky

Greenville Fire Chief makes case for tax increase to create fire protection district

- Source: WLKY.com Louisville Channel
- Published: 02/16/2019 08:41 PM

A local volunteer fire department is asking the community to support efforts to increase property taxes in order to establish a fire protection district. Chief Kent Monohan said the Greenville Volunteer Fire Department has seen an increase in calls for service over the last several years, but the number of volunteer firefighters has slowly gone down. As a result, the department has been unable to respond to all of the calls in Greenville, relying on neighboring departments to respond. Advertisement "Unfortunately for us, because of mainly manpower and the finances not to be able to supplement our volunteers, there are times when you drive past our firehouse that there's nobody here to respond to your needs," Monohan said. The department is now working on a plan to transform the department from a volunteer-only operation to a fire protection district with full-time, paid firefighters.

As noted in the example, calls have increased, and personnel decreased in the volunteer organization. This illustrates that when the service to the citizens is placed at the forefront, change for the positive can occur despite many years of history.

Below is another example of an organization transforming to better meet the needs of the citizens. Note in both examples that the change was not to jump from separate volunteer departments to a paid combination system. In the book, Leadership on the Line by Heifetz and Linsky (2002), change management is outlined and research relate to the pace and people's reactions are examined. This book is the basis of the Executive Fire Officer Program and is a must read for any executive involved in this change process.

Figure 20: Lesson from Princeton, NJ

Some volunteer EMS and fire departments in proximity to one another in Southern Berkshire may consider various types of consolidation. Recently voters agreed to unite the Borough and Township of Princeton, already being served by a single Fire Department. The Princeton Fire Department is a client of William Kramer, and changes have been made. During the year 2010, Chief Dan Tomalin made the tough decision to combine the three companies into a single station for response. The largest most central station was chosen and even though volunteers from the two other stations had to travel further, there has been an overall improvement.

According to Fire Official William Drake, "Although apparatus response times have not changed, the net effect has been that the apparatus are arriving on the scene more adequately staffed and are therefore better able to commence operations. For example, our data shows that typical response time for an engine company is approximately 11 minutes (for first engine to arrive). What the data does not show, however, is that prior to single station response, the first arriving engine may have only been staffed by a driver and officer, whereas with the single station response, the first arriving engine is staffed with a driver, officer, and three or four firefighters."

When fire apparatus and emergency medical vehicles are making responses and circulating throughout a community, they provide a tremendous public relations opportunity. There is a certain pride factor among the members of the fire departments and among the community members being served. A large fire/EMS paid overlay with a rather generic name such as "Southern Berkshire" must be cognizant that it could sacrifice some identity for the smaller components. The overall efficiency gains and economies of scale, however that are afforded by a larger organization can override the identity factor of smaller communities within that larger organization.

Uniforms, apparatus and stations can still bear subtitles such as "Great Barrington" and "Sheffield" Fire Trucks and Ambulances are large enough, for example to be labeled "Southern Berkshire Fire-Rescue." with an additional message naming the community where stationed. A few considerations in an overarching paid system include:

- The broader number of employees included in a healthcare system. Since this is among the most expensive of employee benefits, it would make sense to try to lower these costs by having a broader employee base. In Boone County KY, five fire departments have formed a self-funding health care system that would have been unaffordable by any of them as individuals. This is not unlike small businesses that band together and utilizes healthcare brokers to derive savings from larger client bases.
- One possible downside to a merger would be some loss of volunteers who feel primary allegiance to one of the departments more so than to the community as a whole. This large issue is combatted by retaining all volunteer organizations in their current form and overlaying the paid system to supplement and make response when the individual EMS and Volunteer Fire departments are not available.

In creating the dual service paid system, personnel that already are cross-trained would be quite valuable. Hiring current volunteer to at least part-time positions allows personnel with a good grasp of the area to serve the newly created paid organization, thus lowering the learning curve with hiring personnel from outside the area. Within the same or slightly increased total budget as currently exists for fire and EMS, a larger total force would arise and be available for immediate response to EMS emergencies or fires.

There is a small possibility that crews could be tied up on ambulance duty when a fire call is received, and it's also possible that crews could be tied up at a structure fire when one or more EMS calls are received. Contingencies are in place for back-up in such times, just as they exist now for simultaneous structure fires, multiple EMS runs, or both. Ordinarily and probably, they are available for either and this double value is a tremendous asset to the community.

Adequate station staffing (24 hour on-duty coverage within five road miles suggested by ISO) is not affordable throughout Southern Berkshire without also merging with EMS. The Consultants feel that if the two services were ultimately combined there would be enough funding to have an immediate response crew, cross trained in Fire and EMS available 24 hours a day within a reasonable travel distance to population centers within the region.

FIRE DISTRICT ADVANTAGES AND LEGISLATION

In all parts of the country, fire and EMS departments are prepared more than ever to respond automatically into one another's jurisdictions. This has led to the creation of various alliances and mergers, including the creation of fire districts where an overlaid paid force makes sense. Officials in Southern Berkshire County, Massachusetts are justifiably trying to address the immediate Fire and EMS needs with an aim to improving services. Some of the current issues we have covered include shrinking volunteer forces along with fire and EMS agencies which have grown together, but not always in a cohesive manner. Here is where a district overlay deserves serious consideration. On the next page is a one-page excerpt showing how a Fire District is "truly a sign of the times." The story shows how a district is being proposed across numerous jurisdictions, none of which alone can afford on-duty staffing to replace vanishing volunteers.

The "Fire and Ambulance" terminology was adopted by Ohio lawmakers to eliminate confusion when departments without EMS merged with those who did provide this service. This model would also apply to Southern Berkshire County where Separate Fire and EMS agencies would be combined. This form of district provides more latitude than a strict "Fire District." A "joint fire and ambulance district" is independent of the political subdivisions. A new governmental entity is formed whereby borders of political subdivisions are dissolved for fire protection and EMS Service, and the larger "Fire and Ambulance District" becomes its own entity protecting all political subdivisions or parts thereof which have entered the partnership.

Elected officials in each participating community can use a joint resolution approved by a majority of the members of each of the legislative boards to create a joint district. A joint fire district so created is usually given a name different from the name of any participating political subdivision but can include a more generic name, E.g. "Southern Berkshire Fire Rescue District."

The governing body of the joint fire district becomes a board of district trustees or directors, which includes one representative from each political subdivision. Financial, Planning and Legal professionals from the community can round out board membership, thus making it a viable policy setting body. See **Appendix 6** for the Board makeup of the successful Estero Fire District formed in Lee County, Florida.

Two primary reasons often cited for the creation for a fire and ambulance district are:

- Enhance service delivery (***Usually Does)***
- Reduce costs (***Usually Doesn't)***

When Fire Chief David Schmaltz of Defiance, Ohio investigated the formation of a Fire and EMS District that would include the City of Defiance and several surrounding townships, he identified the following positive characteristics:

- Enhanced service delivery
- Revenue and expenses are distributed over a larger area
- Increased flexibility in staffing
- Broader Fire and EMS coverage
- Better response times
- Elimination of redundant or duplicated resources like apparatus, record keeping, and equipment

- Standardized training along with policies and procedures
- Improved Fire Code enforcement and public education
- Insurance savings through ISO
- Increased opportunities for participation (rope, water, HazMat.)

Excerpt Below; Source: WFMJ, Trumbull County, Ohio

Several Trumbull County communities may establish joint fire district

Posted: **February 7, 2019 10:11 AM EST**

By Chris Cerenelli, WFMJ Weekend Today Weather Anchor/Multi Media Journalist

JOHNSTON TWP., Ohio - The small townships and communities of northern Trumbull County are certainly unique. "The lack of volunteers is a national, a state and a local problem," said Chief David Comstock of the Western Reserve Joint Fire District.

But an ever-pressing problem they all face is not so unique. "In 2030 there will be more people over the age of 65 than there will be under 18," Comstock said.

Comstock, also a lawyer, is talking about what he described as a tsunami of EMS calls. There are more of them each year as the population continues to age.

"If you think it's bad now, it's going to get a lot worse," he said. "There's a demand for medical response but they don't always have the EMT or paramedics to do it."

Part of that has to do with more stringent state certification standards and partly to do with pay. A fix for that problem in many communities, including areas of northeast Ohio, is establishing joint districts for EMS, fire, or both.

Wednesday night was the first chance for first responders and residents in Kinsman, Greene, Gustavus, Vernon, and Johnston townships to learn about the pros and cons of a joint district of their own.

"The leaders all have to agree and sign a joint resolution that will be the framework upon which they'll all operate," Comstock said. The questions were legitimate and many. But Comstock, who has helped establish other similar districts in the past, said it's truly a sign of the times.

"If you want that level of service you have to be willing to pay for it. People are understanding the benefit of working together," Comstock said. Creating a joint district would also require residents passing a levy to pay for it all.

Comstock believes it'll be an easy sell since most of the population is getting older and would be the ones benefiting most from the move. There are more meetings with residents and elected officials planned down the road.

One of the benefits of a district is that taxation and service is more evenly distributed throughout the service area, but a board of directors with equal representation could make

things work. While protection is improved overall, it might be less in a village, or less in a township.

For example, let's use the ISO (Insurance Services Office) rating in the following HYPOTHETICAL example: Four adjacent communities form a district; Here are the before and after ISO ratings:
(Lower ratings are better on a 1-to-10 scale)

Prior to a district:		**After District:**	
Village	4	Village	5
Township A:	8	Township A:	5
Township B:	6	Township B:	5
Township C:	6	Township C:	5
AVERAGE	**6**	**AVERAGE**	**5**

In the above hypothetical example, the overall fire protection is improved with the creation of a district while it suffers a one-point degradation in the village. This isn't necessarily a deal breaker, however. City of Defiance City Manager Jeff Leonard, when evaluating the formation of a Fire District with Defiance Township, Richland Township and Noble Township stated:

"We have a sense of Community here. I don't necessarily mind subsidizing our neighbors. I would hope that if Defiance residents are seriously injured in an accident outside the city limits, they would still get quality care."

Some rather vocal residents in more affluent areas will likely disagree with the above statement, believing that all revenue generated in their community should remain there. Presumably they will take their chances outside their zone.

Some drawbacks to a Fire District are:

- Not much savings up front, costs might actually increase
- Who is going to be in charge, however, we have noted a neutral third party will initially be in charge
- Loss of identity by individual departments, but this is solved by keeping all current volunteer departments
- Possible loss of volunteer membership in those communities still using volunteers
- Inability to recruit enough part-time / auxiliary personnel
- Overcoming cultural differences

Districts work well in many areas, as can be seen from the information from Attorney and Fire Chief David Comstock, previous page, who has been instrumental in forming other districts.

Sample Legal Language

Specific legal details that are involved in the formation of a District are provided by ***"Law Writer"*** on the following pages.

LAW Writer® Ohio Laws and Rules

505.375 Fire and ambulance district creation.

(A) (1)

(a) The boards of township trustees of one or more townships and the legislative authorities of one or more municipal corporations, or the legislative authorities of two or more municipal corporations, or the boards of township trustees of two or more townships, may negotiate an agreement to form a fire and ambulance district for the delivery of both fire and ambulance services. The agreement shall be ratified by the adoption of a joint resolution by a majority of the members of each board of township trustees involved and a majority of the members of the legislative authority of each municipal corporation involved. The joint resolution shall specify a date on which the fire and ambulance district shall come into being.

(b) If a joint fire district created under section 505.371 of the Revised Code or a joint ambulance district created under section 505.71 of the Revised Code is dissolved to facilitate the creation of a fire and ambulance district under division (A)(1)(a) of this section, the townships and municipal corporations forming the fire and ambulance district may transfer to the fire and ambulance district any of the funds on hand, moneys and taxes in the process of collection, credits, and real and personal property apportioned to them under division (D) of section 505.371 of the Revised Code or section 505.71 of the Revised Code, as applicable, for use by the fire and ambulance district in accordance with this section.

(2) (a) The board of trustees of a joint ambulance district created under section 505.71 of the Revised Code and the board of fire district trustees of a joint fire district created under section 505.371 of the Revised Code may negotiate to combine their two joint districts into a single fire and ambulance district for the delivery of both fire and ambulance services, if the geographic area covered by the combining joint districts is exactly the same. Both boards shall adopt a joint resolution ratifying the agreement and setting a date on which the fire and ambulance district shall come into being.

(b) On that date, the joint fire district and the joint ambulance district shall cease to exist, and the power of each to levy a tax upon taxable property shall terminate, except that any levy of a tax for the payment of indebtedness within the territory of the joint fire or joint ambulance district as it was composed at the time the indebtedness was incurred shall continue to be collected by the successor fire and ambulance district if the indebtedness remains unpaid. All funds and other property of the joint districts shall become the property of the fire and ambulance district, unless otherwise provided in the negotiated

agreement. The agreement shall provide for the settlement of all debts and obligations of the joint districts.

(B) (1) The governing body of a fire and ambulance district created under division (A)(1) or (2) of this section shall be a board of trustees , appointed as provided in the agreement creating the district. Members of the board may be compensated at a rate not to exceed thirty dollars per meeting for not more than fifteen meetings per year, and may be reimbursed for all necessary expenses incurred, as provided in the agreement creating the district.

(2) The board shall employ a clerk and other employees as it considers best, including a fire chief or fire prevention officers, and shall fix their compensation. Neither this section nor any other section of the Revised Code requires, or shall be construed to require, that the fire chief of a fire and ambulance district be a resident of the district.

Before entering upon the duties of office, the clerk shall execute a bond, in the amount and with surety to be approved by the board, payable to the state, conditioned for the faithful performance of all of the clerk's official duties. The clerk shall deposit the bond with the presiding officer of the board, who shall file a copy of it, certified by the presiding officer, with the county auditor of the county containing the most territory in the district.

The board also shall provide for the appointment of a fiscal officer for the district and may enter into agreements with volunteer fire companies for the use and operation of fire-fighting equipment. Volunteer firefighters acting under such an agreement are subject to the requirements for volunteer firefighters set forth in division (A) of section 505.38 of the Revised Code.

(3) Employees of the district shall not be removed from office except as provided by sections 733.35 to 733.39 of the Revised Code, except that, to initiate removal proceedings, the board shall designate a private citizen or, if the employee is employed as a firefighter, the board may designate the fire chief, to investigate, conduct the proceedings, and prepare the necessary charges in conformity with those sections, and except that the board shall perform the functions and duties specified for the municipal legislative authority under those sections. The board may pay reasonable compensation to any private citizen hired for services rendered in the matter.

(4) No person shall be appointed as a permanent full-time paid member of the district whose duties include firefighting, or be appointed as a volunteer firefighter, unless that person has received a certificate issued under former section 3303.07 or section 4765.55 of the Revised Code evidencing satisfactory completion of a firefighter training program. The board may send its officers and firefighters to schools of instruction designed to promote the efficiency of firefighters and, if authorized in advance, may pay their necessary expenses from the funds used for the maintenance and operation of the district.

The board may choose, by adoption of an appropriate resolution, to have the state board of emergency medical, fire, and transportation services license any emergency medical service organization it operates. If the board adopts such a

resolution, Chapter 4766. of the Revised Code, except for sections 4766.06 and 4766.99 of the Revised Code, applies to the organization. All rules adopted under the applicable sections of that chapter also apply to the organization. The board may remove, by resolution, its emergency medical service organization from the jurisdiction of the state board of emergency medical, fire, and transportation services.

(C) The board of trustees of a fire and ambulance district created under division (A)(1) or (2) of this section may exercise the following powers:

(1) Purchase or otherwise provide any fire apparatus, mechanical resuscitators, or other fire or ambulance equipment, appliances, or materials; fire hydrants; and water supply for firefighting purposes that seems advisable to the board;

(2) Provide for the care and maintenance of equipment and, for that purpose, purchase, lease, lease with an option to purchase, or construct and maintain necessary buildings;

(3) Establish and maintain lines of fire-alarm communications within the limits of the district;

(4) Appropriate land for a fire station or medical emergency unit needed in order to respond in reasonable time to a fire or medical emergency, in accordance with Chapter 163. of the Revised Code;

(5) Purchase, appropriate, or accept a deed or gift of land to enlarge or improve a fire station or medical emergency unit;

(6) Purchase, lease, lease with an option to purchase, maintain, and use all materials, equipment, vehicles, buildings, and land necessary to perform its duties;

(7) Contract for a period not to exceed three years with one or more townships, municipal corporations, counties, joint fire districts, joint ambulance districts, governmental agencies, nonprofit corporations, or private ambulance owners located either within or outside the state, to furnish or receive ambulance services or emergency medical services within the several territories of the contracting parties, if the contract is first authorized by all boards of trustees and legislative authorities concerned;

(8) Establish reasonable charges for the use of ambulance or emergency medical services under the same conditions under which a board of fire district trustees may establish those charges under section 505.371 of the Revised Code;

(9) Establish all necessary rules to guard against the occurrence of fires and to protect property and lives against damage and accidents;

(10) Adopt a standard code pertaining to fire, fire hazards, and fire prevention prepared and promulgated by the state or by a public or private organization that publishes a model or standard code;

(11) Provide for charges for false alarms at commercial establishments in the same manner as joint fire districts are authorized to do under section 505.391 of the Revised Code;

(12) Issue bonds and other evidences of indebtedness, subject to Chapter 133. of the Revised Code, but only after approval by a vote of the electors of the district as provided by section 133.18 of the Revised Code;

(13) To provide the services and equipment it considers necessary, levy a sufficient tax, subject to Chapter 5705. of the Revised Code, on all the taxable property in the district.

(D) Any municipal corporation or township may join an existing fire and ambulance district, whether created under division (A)(1) or (2) of this section, by its legislative authority's adoption of a resolution requesting the membership and upon approval of the board of trustees of the district. Any municipal corporation or township may withdraw from a district, whether created under division (A) (1) or (2) of this section, by its legislative authority's adoption of a resolution ordering withdrawal. Upon its withdrawal, the municipal corporation or township ceases to be a part of the district, and the district's power to levy a tax on taxable property in the withdrawing township or municipal corporation terminates, except that the district shall continue to levy and collect taxes for the payment of indebtedness within the territory of the district as it was composed at the time the indebtedness was incurred.

Upon the withdrawal of any township or municipal corporation from a district, the county auditor of the county containing the most territory in the district shall ascertain, apportion, and order a division of the funds on hand, including funds in the ambulance and emergency medical services fund, moneys and taxes in the process of collection, except for taxes levied for the payment of indebtedness, credits, and real and personal property on the basis of the valuation of the respective tax duplicates of the withdrawing municipal corporation or township and the remaining territory of the district.

(E) As used in this section:

(1) "Governmental agency" includes all departments, boards, offices, commissions, agencies, colleges, universities, institutions, and other instrumentalities of this or another state.

(2) "Emergency medical service organization" has the same meaning as in section 4766.01 of the Revised Code.

Amended by 131st General Assembly File No. TBD, HB 471, §1, eff. 12/19/2016. Amended by OHIO Acts of the 130th General Assembly File No. 7, HB 51, §101.01, eff. 7/1/2013. Effective Date: 03-09-2004; 05-06-2005; 09-21-2006

Once the District taxation is in place, arrangements can be made for staffing. See the inset on this and the following page, noting how the district had the effect of evening the payment for, and the service levels for those affected. Note also the language early in

the article: ***"The recent addition of eight full-time firefighters to the town of Waynesville — at a cost of $530,000 per year — required a 4.75 cents per $100 property valuation tax increase last June."***

Smoky Mountain news *Waynesville, NC:*

Lake Junaluska fire district in the works

Written by Cory Vaillancourt **February 2017**

The recent addition of eight full-time firefighters to the town of Waynesville — at a cost of $530,000 per year — required a 4.75 cents per $100 property valuation tax increase last June.

As Waynesville officials searched for ways to make those hires more financially sustainable, they were again reminded of the widespread inequality in what residents pay for fire protection, something they now seek to address.

About 10 cents per $100 property valuation is added to property tax bills in Waynesville for fire protection; property owners outside the town are assigned to fire districts, where they pay from 6 cents to 11 cents for every $100 in assessed property value.

Residents of the Lake Junaluska Assembly, however, have probably the best deal, aside from a few homeowners outside town limits who paid nothing at all, due to clerical errors or omissions. For years, residents at Lake Junaluska paid a flat fee of just $4 a month per water connection for fire protection from the town.

"It was kind of an unfair playing ground," said Waynesville Fire Department Chief Joey Webb. "You've got some people who were paying $4 per month on their water bill — it doesn't matter if you've got a $100,000 house, or a $500,000 house — you were paying $48 per year. What we're trying to do is make it fair for everybody."

Waynesville Mayor Gavin Brown said that $48 per year amounted to "about $50,000 a year over the last, say, seven or eight or nine or 10 years."

At a June 7, 2016, board of aldermen meeting — right around the time the budget impact of the new firefighters was being debated — Brown and the board doubled that fee to $8 per month, resulting in approximately $51,000 in additional revenue — still a deal, considering the relatively high assessed values of many properties at the assembly.

A resident of Lake Junaluska paying a flat $8 per month is equivalent to what a Waynesville property owner pays on a property assessed at $96,000. "That is not a proportionately fair amount for those residents to be paying," Brown said. "I'm not asking them to repay us, I'm just simply saying going forward they should pay more."

ORGANIZATIONAL STRUCTURING OF DISTRICT

In order to preserve the current volunteer structure, while building a resilience of a paid staff to answer EMS and routine fire calls when volunteers are unavailable, a district must be created which will overlay the current numerous organizations. This district shall provide response from current stations and have a separate organizational structure, as to preserve all current volunteer organizations and allow personnel that have put in numerous hours to retain their position and rank.

From an organizational standpoint, the new structure command staff shall have a fire and EMS commissioner, as Massachusetts law states that every town must have a fire chief and we will maintain these positions. As time passes and attrition occurs, each town can elect whether to maintain a paid or volunteer fire chief or allow the fire commissioner to assume the duties through a Memorandum of Understanding.

Within each crew that will be stationed, the consultants recommend a three-person crew at each duty location to allow a three-person EMS crew that would respond with a fire apparatus or fly car and an ambulance. If a fire call were to occur and the volunteers were not in station, the crew can respond with a fire engine allowing enough crew to mount a quick attack from the exterior, conduct a rescue, and begin interior operations upon arrival of a secondary crew or at least 1 volunteer. Two of the crew members should be firefighter/EMT's and one of the crew members should be a firefighter/paramedic.

To manage the daily operations, one district chief should be on duty and stationed in a central location. This district chief will coordinate the duty crews and their responses, locations throughout the day to ensure the correct location and balance of staffing in the district. Additionally, the 3 district chiefs should have areas of responsibilities that equate to training, EMS, and Support (logistics, IT, etc.). This will allow the fire commissioner to remain active in building relationships in the area, as well as conducting business management functions that will keep the district active. To assist with daily secretarial and administrative tasks, the district should employ one administrative assistant.

Following is an organizational Chart showing the proposed positions in the District Structure:

Figure 21:
District Organizational Chart
Organizational Relationship

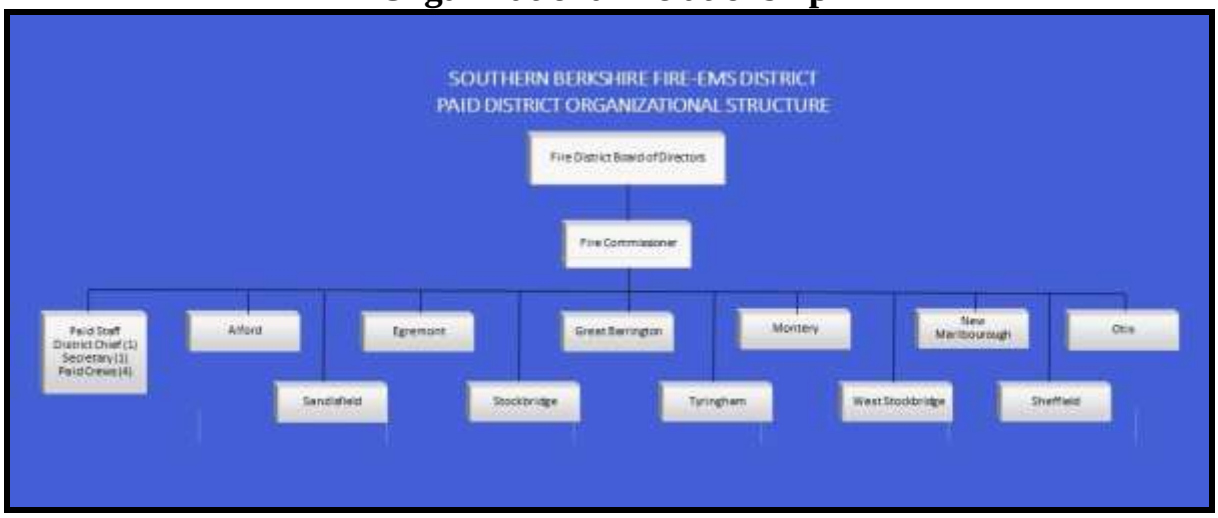
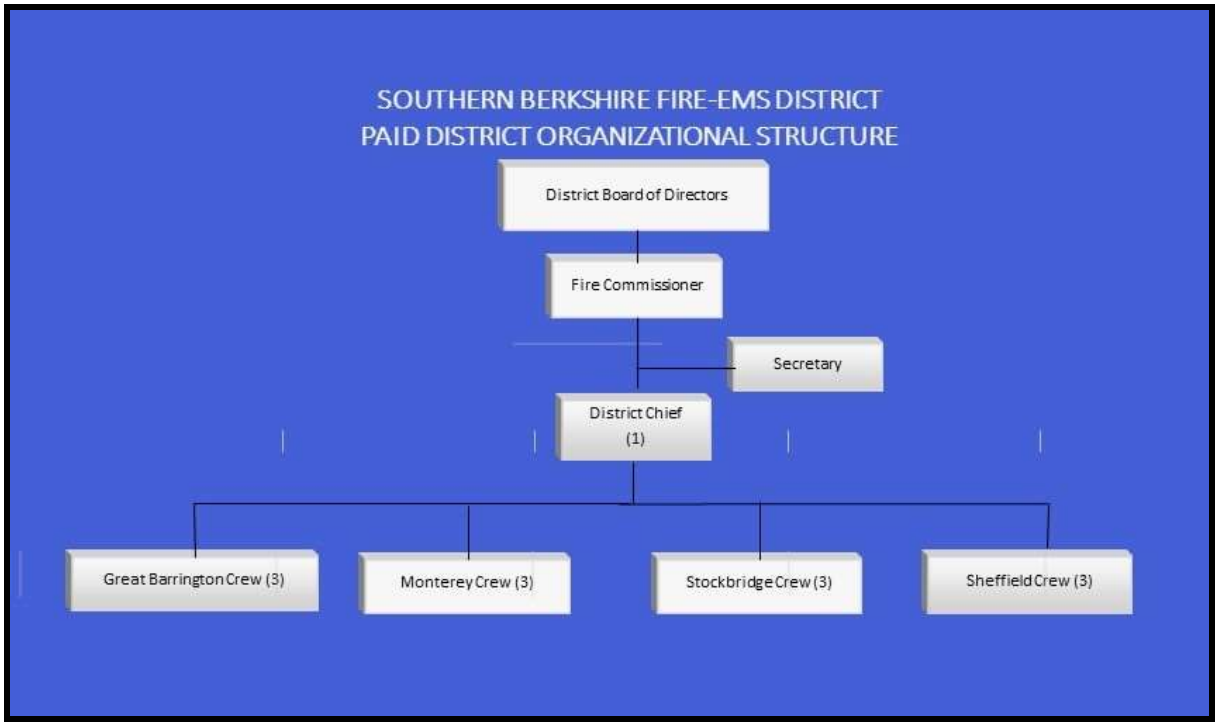


Figure 22:
District Organizational Chart
Paid Staff



RIGHT SIZING THE NEW ORGANIZATION

The consultant has established that the Southern Berkshire EMS system is comprised of well-respected personnel and performs a quality service, but is it the right size? Does it have sufficient personnel and/or EMS stations? Does it have too many of either? While the answers to these questions are subjective, this report provides some objective analytical approaches that will provide guidance for the future.

Elected and administrative officials in Southern Berkshire area and officials at the state level have been supportive of the EMS system and ensuring that it meets the needs of the citizens. The current conglomerate of private and government-based EMS organizations has differing taxing and revenue models that leave certain areas of the region paying noting but having their service availability lessened due to paid interfacility transports. Others are paying substantial contracts for neighboring communities to provide EMS. In the legislative and budgeting sections, we cover this disparity in more detail.

A word of caution: Some will say, tell me what we need, and we will pay the cost. Significantly raising taxes for any reason can have significant negative connotations that can derail any plan for regionalization.

Currently, even though some EMS organizations in the region have multiple units, these units are housed in only one location. With the vast region that is covered, ideally only 1 staffed unit would be in any one location. While there may be multiple calls in any one town, the use of move ups can offset for multiple calls in any one region while reducing the travel distance of calls that arise in all areas of the region covered.

EMS agency executives worked with the consultant to provide data for recent years, showing demand by town, which is shown in **Table 19.** However, this data, which was extracted from multiple reporting systems, was highly inaccurate. However, a breakdown of calls by fire district accurately reflects the number of calls, which is depicted in **Table 20.** The consultants suggest that the implementation manager use a GIS program to build a kernel density of all calls of the agencies by address to verify the suggested locations in the report, which are based on the population centers and by correlation, should equate to the location of the majority of the calls The consultants recommend placing ambulances in the area of population centers of Great Barrington, Sheffield, and Stockbridge. To accomplish this proximity and allow long distances required to service the eastern portion of the region, two variations of staffed stations are shown in **Map 4** and **Map 5** on the following pages.

Table 19
Number of calls by EMS Agency, Year 2017-2018

EMS Service	# of Calls in 2017	# of Calls in 2018
Southern Berkshire Volunteer Ambulance	1851	1942
New Marlboro	90	94
Otis Rescue Squad	NR	NR
Sandisfield Fire Department	100	102
Lee Ambulance	1192	1190
Richmond Fire	176	176
Total	3409	3504

Note: Highlighted are estimations derived from department website.

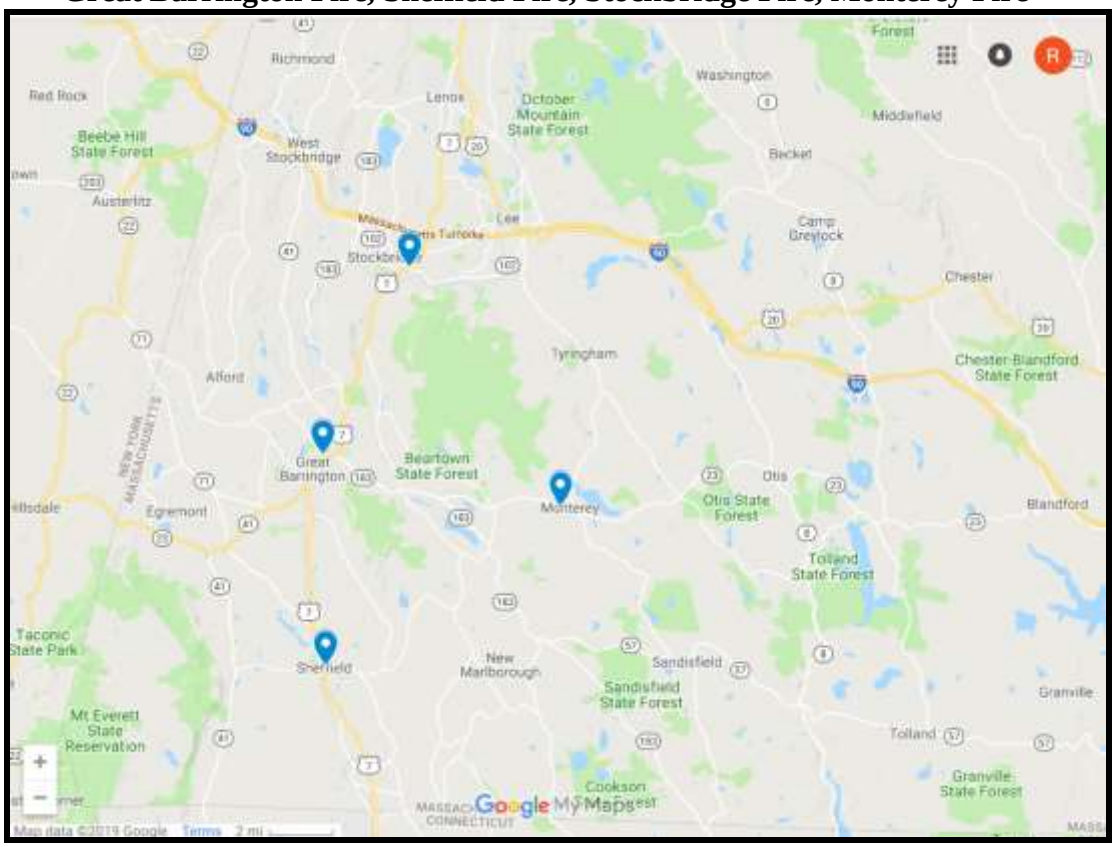
Table 20
Number of calls by Fire District, Year 2017-2018

Southern Berkshire Fire Department Calls				
Town	# of Calls in 2017	# of Calls in 2018	2018 EMS First Response	2016 Fire Totals
Alford	26	32	10	1
Egremont	198	208	107	12
Great Barrington	553	585	119	79
Montery	NR	NR	NR	2
New Marlboro	NR	NR	NR	5
Otis	NR	NR	NR	1
Sandisfield	70		NR	9
Sheffield		140	260	0
Stockbridge	375	375	169	1
Tyringham	NR	NR	NR	0
West Stockbridge	NR	NR	NR	7
Richmond	NR	NR	NR	9
Lee	206	237	N/A	3
Lenox	NR	NR	NR	24
Tolland	NR	NR	NR	0
Becket	NR	NR	NR	0
Total	1428	1577	665	153

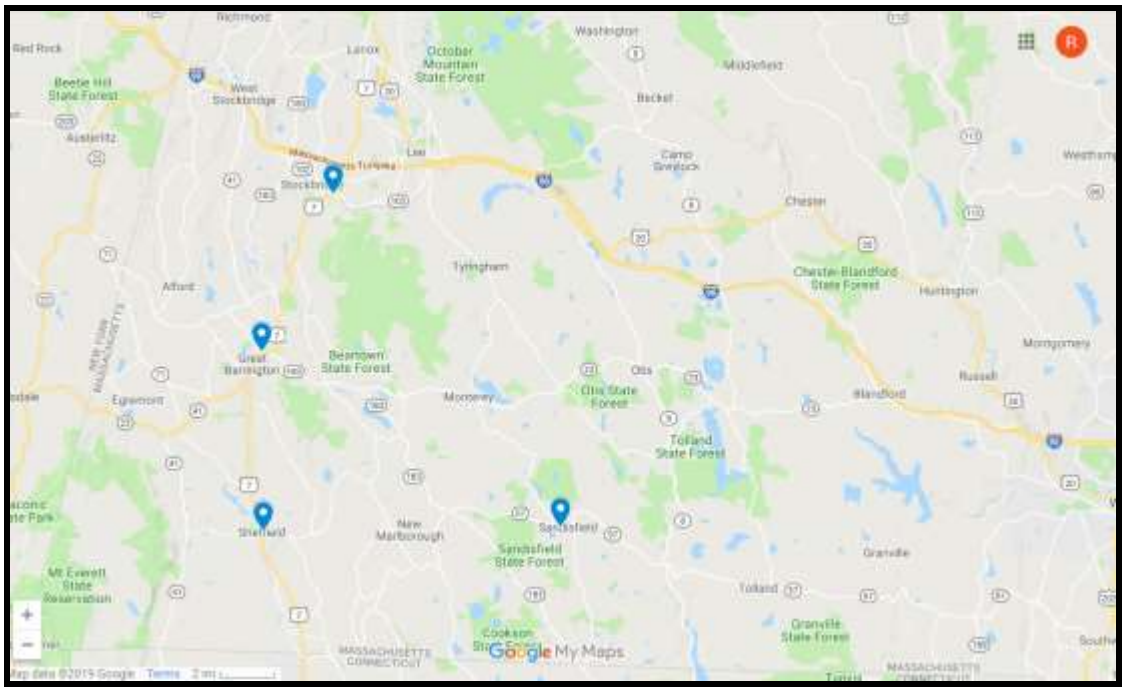
2016 Data source:
https://www.mass.gov/files/documents/2019/03/04/2016%20MFIRS%20Annual%20Report.pdf

NR=Not reported to consultants

Map 4: Proposed Staffed Station Locations (Option 1)
Great Barrington Fire, Sheffield Fire, Stockbridge Fire, Monterey Fire



Map 5: Proposed Staffed Station Locations (Option 2)
Great Barrington Fire, Sheffield Fire, Stockbridge Fire, Sandisfield Fire



It is not feasible to separate a decision regarding the level of fire and EMS protection from economic and financial concerns, since they are very much interrelated. Once a fundamental level of fire and emergency medical protection is in place, each additional fire company or medical unit is of marginally less value than the previously added resource.

In Southern Berkshire, the population density prevents many paid personnel from staffing emergency services, as the share of the cost is spread among the citizens and with fewer citizens per town, the cost per citizen increases. The influx of tourism does provide funding opportunities through entertainment taxes and other forms of taxes that do not burden the citizens, but rather the tourists, and this can cause a significant increase in the need for service, thus balancing the cost versus use.

As we move forward, **Figure 23** shows a decision tree that can help guide growing the organization in the future. While this report and annual reports from the different fire and EMS organizations will contain reams of data, the decision tree can help distil the data and show how to work through a decision regarding taxation and funding.

Figure 23
More $ for Protection? -The Decision Chain

1. Is the tax base and population in Southern Berkshire growing significantly?

   If so, OK

   If not

2. Can Southern Berkshire draw upon surplus funds or a reserve to pay for additional fire/EMS protection?

   If so

   If not

3. Should Southern Berkshire draw upon surplus funds or a reserve to pay for additional fire/EMS protection?

   If so, OK

4. Can priorities be shifted and funds be diverted from other Southern Berkshire projects, programs, or governmental units to provide resources desired for additional fire/EMS protection?

   If so

   If not

5. <u>Should</u> priorities be shifted and funds diverted from other projects, programs, or governmental units to provide financial resources desired for additional fire protection?

   If so, OK

   If not,

6. It would appear that additional expenditures for fire/EMS protection would <u>not</u> be a fiscally sound investment for Southern Berkshire **UNLESS residents vote to provide additional funding through taxes.**

TRANSITIONING

It would be nice to know how long Southern Berkshire can attract and use volunteers, but this is an inexact science. What is known is that they will continue to decline in number. Each department progresses through an evolutionary cycle for its types of staffing. Most departments will transition in the following fashion:

Volunteer → **Combination** → **Career**

In many parts of the country the Fire and EMS services grew up together and are integrated into a single organization. In many localities these two organizations were separate and had their own organizational structure. Integration of Fire services with EMS are becoming an efficient model for many communities. In Southern Berkshire the transport service grew up separately in the form of many separate non-profit and government related organizations, but does provide quality EMS service.

The proper size of a fire department or EMS service, including numbers of personnel and numbers of stations is open to subjective interpretation but there are national standards and comparisons with other cities that will be used to help Southern Berkshire "Right size" its force. Citizens are the ultimate decision-makers as they vote to accept or reject taxes to pay for their own protection. This study should provide guidelines for growth, and a blueprint for the future.

Photo 21
Photo of typical Pumper used throughout Southern Berkshire
Photo courtesy of Great Barrington Fire Dept.

The response data for Southern Berkshire shows that it mirrors national trends with a static demand for actual fires and a leveling of demand overall. Future plans for apparatus, staffing, equipment and training should include attention toward this evolving trend.

Members who are serious about preserving the volunteer fire department should do their part to ensure frequent and timely response to fire alarms and EMS calls. The residents will ultimately determine what they feel are acceptable response times by choosing to approve or reject modest taxation necessary to staff in-station personnel.

Ultimately, many volunteer fire departments, including most in Southern Berkshire, realized that they could no longer adequately serve the public with a strict reliance on volunteers. By having staff on-station, the turnout time (time from the alarm until the first apparatus leaves the station) is minimal. This time does increase when the staff responds from home.

As volunteer firefighters become scarce, Southern Berkshire has options, as follows:

- Increase incentives for volunteer recruitment and retention
- Train and use employees of the towns, such as maintenance and public works personnel, many of whom have Commercial Driver's Licenses.
- Rotate the volunteers through a schedule where they voluntarily pull duty-time. (Some agencies have all volunteer members pull 24 hours of in-station duty a month. This can be divided for member convenience. e.g., 4-hour, 6-hour, 12-hour or 24-hour,)
- Use per-diem personnel for Fire and EMS coverage, even giving volunteers the first opportunity to bid on short shifts for an hourly wage
- Hire additional full-time personnel. While this is an expensive alternative, it is also the most reliable form of coverage.

If "per-diem" is deemed advisable, the consultant recommends use of the volunteers as "part-time" personnel rather than the hiring of outside mercenary-type firefighters, firefighter/EMTs or firefighter/paramedics.. More information on the costs of on-duty personnel will follow later in the report. The evolution of the majority of the fire departments follows a model that begins with a volunteer fire department and adds it first paid personnel to cover times when volunteers are scarce,

Current Employee and Volunteer Transitions

As a district is formed, planning must occur for staffing the district positions. The use of current employees and volunteers in the Southern Berkshire are the best solution to fill newly created district positions. However, it is noted that current employees are part of organizations that are not dual service (fire and EMS), which often allows the personnel to only train in either fire or EMS. The newly created district will be a dual role organization to provide efficiency for the cost. Many personnel will choose to attain the missing fire or EMS certification to hold the position in the district. To ensure that current employees and volunteers have the best chance to fill the positions, the following should occur prior to the full operation of the district

1. Post anticipated positions within the district together with training and educational requirements

2. Encourage current fire and EMS organizations to train and educate their personnel to the positions desired. The current organizations should help fund and facilitate the training and education of their current personnel to the levels needed in the district.
3. Current organizations should undertake certification training programs that align with the minimum training standards of the district personnel so that newer personnel can transition to the district easier and existing personnel can operate side-by-side with district personnel. Training differences have been noted in other areas to be a point of contention between pay levels within an organization or between organization. This will level the playing field.
4. Once the District is formed, district personnel can host training academies to help train current volunteer personnel for future open positions within the district.

The recommendation for different positions within the newly created district and the training and education levels associated with each are outlined in the **Table 21** below:

Table 21:
Recommended Training and Education Levels by Position in Newly Formed District

Position	Fire Certification	EMS Certification	Hazmat Level	Prevention Inspection	College Degree
Fire Chief	Level 2	EMT	Operations	Inspector 1	Bachelors
District Chief	Level 2	Paramedic	Operations	Inspector 2	N/A
Full-Time FF	Level 2	Paramedic	Operations	Inspector 1	N/A
Part-Time FF	Level 1	EMT	Operations	N/A	N/A

Survey of Current Volunteer Recruitment & Retention Programs

If volunteers are to remain a viable part of the fire protection mix in Southern Berkshire attention will need to be given to recruitment and retention.

A publication entitled *Retention and Recruitment for Volunteer Emergency Serves: Challenges and Solutions* written by the National Volunteer Fire Council and the United States Fire Administration were written in May 2007. Included is an excerpt entitled "Retention and Recruitment Root Causes." This excerpt explains some of the challenges to recruiting and retaining volunteers. Some of the challenges are:

- **Time Demands**
- **Training Requirements**
- **Increasing Call Volume**
- **Changes in the "Nature of the Business"-Less social aspects**
- **Changes in Sociological Conditions (in urban and suburban areas)**
- **Leadership Problems**
- **Federal Legislation and Regulations**
- **Increasing Use of Combination Departments**
- **Higher Cost of Housing (in affluent communities)**
- **Aging Communities**
- **Internal Conflict**

Based on current socioeconomic conditions in the area, departments relying on volunteers can expect to see older-aged couples with limited incomes, and residents absorbed with careers and families, and many part-time homeowners that use the housing in the areas as a "summer home". Many of these will be less likely to volunteer.

Recommendation for Recruiting and Retention

Southern Berkshire may wish to consider a supplemental benefit package for Part-time and Volunteer personnel, which in contrast to the full-time costs of health insurance and pension contribution, is not very costly. A large insurance company dedicated to the fire service is VFIS. This company offers group packages with coverage for professional liability, errors and omissions, vehicle fleet insurance, life insurance, and disability supplements.

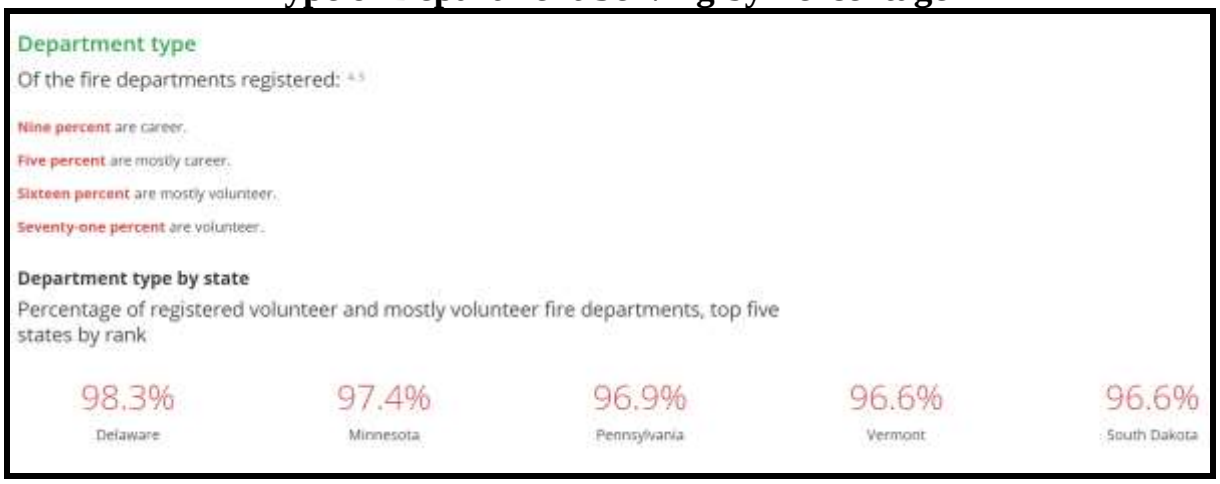
The proper mix of incentives that can be effective will vary with the community. In Southern Berkshire area a task force could be formed to determine the type and the cost of incentives needed to attract and retain volunteers.

Some of the latest recruitment tools offered by the National Volunteer Fire Council are Podcasts, Public Service Announcements for a department's website, and the 1-800-FIRE-LINE. A full description of programs and resources available can be found at https://www.nvfc.org/firefighters/resources/

Additional resources are available from the International Association of Fire Chief's Volunteer and Combination Section, which include volunteer EMS, and can be found at https://www.iafc.org/about-iafc/sections/vcos/resources/retention

Preparations should start now to prepare for on-duty cross-trained EMS and fire personnel. As communities grow, the volunteer emergency service personnel are often not able to keep up with the demands of the community. While there are volunteer fire departments that cover large population areas, 95% of volunteer fire departments cover populations of 25,000 or less according to NFPA's 2015 Fire Department Profile, which is A 2017 publication. The entire NFPA report can be found at **https://www.nfpa.org/-/media/Files/News-and-Research/Fire-statistics-and-reports/Emergency-responders/osfdprofile.pdf** The United States Fire Administration compiles information through the fire department registry based on types of departments in particular areas. **Figure 24** is an excerpt from the most recent statistics.

Figure 24
Type of Department Serving by Percentage



Source: USFA (2019). https://apps.usfa.fema.gov/registry/summary

BEST PRACTICES THROUGH PLANNING

The only way that Southern Berkshire and its EMS and fire Operation will be able to effectively meet the challenges of the future is to prepare, in advance, for evolving challenges. Planning can be done on a daily basis, a weekly basis, a monthly basis, a yearly basis, and multi-year basis.

The Fire Chief's Handbook provides concise directions on how Fire and EMS leaders can mobilize their organizations to prepare for the future:

> "Looking ahead and creating a scheme or method to attain a particular goal or objective is called *planning.* Before any endeavor can be launched, a plan of action must be developed. In the management arena, planning precedes the other four management functions since it is an integral part of each function.
>
> Planning as a function of management affects every level of the organization, from first-line supervisors to top-level commanders. Properly prepared plans assure us of the most successful outcome of any activity, whether it is the daily duties of a firefighting unit or the long-range plans of an entire department." [Source: *Fire Chief's Handbook*, Ch. 6, pp. 230-231.]

The Handbook goes on to neither state that for planning to be effective, it must be done in a vacuum nor be rigid. Planning in a vacuum does not consider the needs of the community, its citizens, the members of the department, and the department itself. Effective planning would involve balancing preserving current volunteer organizations while building resiliency through a paid combined fire and EMS system that is constructed on a regional basis. The flexibility of a plan lies in having alternatives or fallback solutions to problems that may arise after the fact.

The first way to begin planning is to start with a goal statement and then list the steps necessary to accomplish the goal. Plans can be long, intermediate, or short-range. Short-range plans are the most specific and should contain the following information:

- List of tasks to be accomplished
- The people and/or units and their alternatives, that accomplish the tasks
- The resources that will be required, such as materials and equipment
- Time frames and deadlines
- Control and reporting systems

Intermediate plans will be less specific than short-range plans. Intermediate two to three-year plans must allow for changes in personnel, shortfalls in the budget, or changes in department philosophy. Long-range plans of more than three years might be only a broad goal statement. As the time to begin implementing long-range planning nears, development of the plan becomes more and more specific. Component parts of long-range goals become short-range objectives. Common time frames are labeled as follows:

- Short-range ---------- One Year
- Intermediate Range ---------- 2 to 3 years
- Long-range ---------- 3 to 20 years

It is recommended that the regional town leaders look ahead to future challenges that will occur in both fire and EMS organizations. Based on the changing needs within Southern Berkshire region, short-range, medium-range, and long-range plans can be formulated. The town leaders can ensure that it is addressing the issues in advance, rather than reacting to them as they occur. Regardless of the types of problems, complexity of the issues, or nature of the new challenges, the fire and EMS departments can always be assured that it will be ahead of the game, and be in a pro-active, rather than a reactive, stance if it involves itself in an objective based planning process.

While many fire and EMS departments claim to plan, these planning efforts tend to be sporadic and at times non-productive because they lack one of the three primary ingredients, which include:

- Participation
- Objectives
- Review

The reason each of these is important in the future planning process is that the absence of any one will virtually ensure inadequate planning, and will virtually assure that any planning process undertaken remains incomplete. The three components are described as follows:

1. <u>Participation:</u> This simply means that those most closely affected by future decisions should be involved in formulating the plan that will affect them directly. A participatory process ensures that many minds will be brought to bear on critical issues as they are discussed, anticipated, and planned for. Likewise, it will ensure that a "buy-in" will likely occur among key elements in the EMS department, officers of all ranks, and rank-and-file members, if they helped formulate the plans. As a minimum, it is recommended that any future planning process include representatives of:

- Elected Officials
- EMS Organization Executives
- Fire Organization Executives
- Rank-and-File Fire and EMS Personnel
- Hospital Administrative Leadership

2. <u>Objectives</u>: The converting of ideas into objectives is accomplished simply by breaking these ideas into component pieces, by putting target dates on them, and by putting someone in charge of the achievement of these objectives. This is a break-through process, which takes "nice ideas" and converts them into achievable results.

3. <u>Review</u>: If a grandiose scheme of planning for the future is undertaken, and if key members participate in the formulation of meaningful objectives, there is no guarantee that anything will happen, or any goals will be met unless there is an accountability session, or review process where actual results are measured against the objectives set. This can occur quarterly, on an annual management plan, or yearly on a longer-range plan. Regardless, it is a key component of a planning process required to take concepts and convert them into reality.

Participatory Management

While it could be argued that participatory management could undermine the authority of the administrative staff, studies by this Consultant have indicated that just the opposite will occur.

Now and continuing into the future, employees are far less willing to follow blind allegiance and are far more desirous of contributing to managerial decision-making. Management philosophers have pointed out that there are two types of authority that administrative leaders, such as fire and EMS chiefs and fire/EMS officers, possess as follows:

1. Position Authority
2. Acceptance Authority

The first type of authority is that which comes with the bestowing of a title, the awarding of additional bugles on the collar, and the painting of titles on the office doors. There is a certain authority that goes with an administrative office of authority such as that of "Shift Supervisor", "Senior Paramedic", etc., but this is only part of the authority needed to manage employees.

Effective leaders must also have "acceptance authority." That means that they must be respected and accepted by the rank and file before their leadership is effective. The simple bestowing of a title or rank is no longer sufficient. Based on this premise, an EMS Supervisor who allows, in good faith, his or her subordinates to contribute to decision-making or planning will gain this critical "acceptance" factor and will, in fact, strengthen his or her authority base. A simple mathematical equation will show why this is so:

$$TA = PA + AA$$

Total Authority = Position Authority + Acceptance Authority

If a leader allows subordinates to contribute to the planning or decision-making process for the organization, the right-hand component of this equation AA (Acceptance Authority) increases. If that is the case, simple algebra will show that because the right-hand side of the equation increases, the left-hand, TA (Total Authority) factor increases accordingly. Hence, one of the keystone principles in planning for the future is participation by the members of the organization who will be most directly affected by the planning process.

Mark Wallace summarized the key components to keeping a department healthy and happy in his book, *Fire Department Strategic Planning – Creating Future Excellence*, when he described how departments must keep open communications, recognize the interdependence of personnel, use problem-centered work, use management by objectives, use effective decision making, allow each person a piece of the action, encourage individual growth, allow differences to be discussed openly, and to always strive for new ideas.

PLAN 2019 EXAMPLE

Let us consider a list of objectives established in a participatory fashion for the Deerfield Township Fire/EMS Department a few years ago in Warren County, Ohio.

Beginning in October 1998, and continuing through 2019, this department has annually three consecutive retreat sessions where all members of the fire/EMS department are invited to contribute ideas, suggestions, and recommended goals for the fire department. All the grass roots input from these three retreat sessions are collected and massaged by the staff of chief officers in this department. From this, a list of 37 key objectives is established. The first planning session led to 37 objectives

This “Master Plan" includes goals that are broken down into component parts. Time lines are established and individuals who were responsible for their achievement identified. While the nature and types of objectives will vary from one department to another, this process, which holds persons responsible and pegs their actions to target dates, is virtually assured of achieving progress toward the desired goals.

Figure 25 on the next page shows a 2006 status chart used to track the progress of objectives, which continues to this day in an electronic format. The color-coding scheme is as follows:

1. Red – Behind schedule
2. Yellow – Close or not applicable
3. Green – On schedule

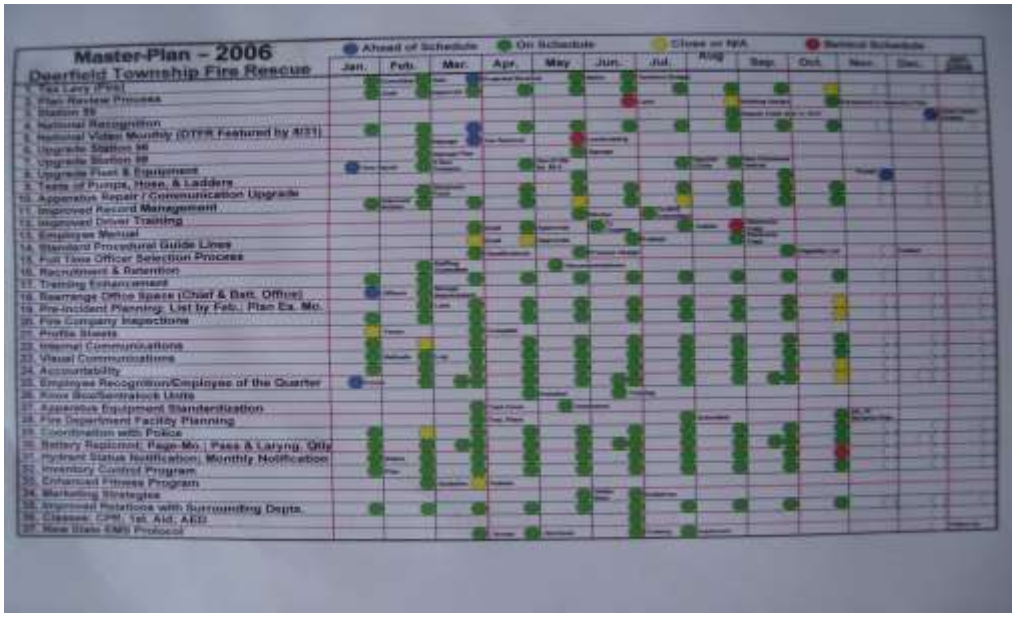
As the chart shows, most of these first ambitious departmental goals were achieved. One can only speculate about how many of these positive achievements would not have materialized in the absence of the annual plan, mapped out in advance. In the past decade, this department has improved its ISO insurance rating from 6 to 3, built two new fire stations, upgraded two others, achieved the "TriHealth" paramedic award for excellence and performed well on all accounts.

While this represents an annual plan, several of the objectives contain component parts of a multi-year plan. One objective addresses a conversion from a combination department to a fully-paid department. While this is a longer-range objective, the first steps were scheduled back in the year 2006 and the next phases were planned in 2007, 2008 and 2009. In this way, longer-range goals and objectives designed to meet future needs over a multi-year period can be incorporated into an annual plan by including component parts of the longer-range objectives. Since the numerous EMS and fire organizations are at a pivotal point in terms of defining the future of EMS and fire service in the County, it can profit from the techniques presented in this section.

CONTINUOUS PLANNING

It is the goal of ***Hanifen and Associates, LLC*** to provide the framework for a strategic plan that the Southern Berkshire region can follow as a guide or "roadmap" for continuing to ensure their success into the future. Because the community growth and dynamics may change the future outlook and services needed by the community, the planning must be cyclical and cumulative.

Figure 25
Photo of Master Plan Status Chart



Developing Safety Services in Southern Berkshire

Among the key services offered by the region's towns are Fire and EMS and they must be coordinated. Earlier in the report, we showed a graphic overlap in the life-saving functions of these two services. As Southern Berkshire evolves, so will the need for Fire and EMS services. Unless the population trends in the region take a drastic correction, the median age will continue to creep up to the point in which most residents will not be of physical condition to volunteer for fire and EMS activities. As we have pointed out in other areas, there is a need for balance between placing fire/EMS stations around population centers and overall travel distance from a fire/EMS station.

As communities develop, the use of *both* fire and EMS services increase. This is due to the increased interaction humans experience with the built environment, which will produce fire alarms, vehicle accidents, and traditional emergency medical service needs. Because the increased demand will include *both* fire and EMS, we show the needed transition towards integration of fire and EMS services, as paying for separate services is often not affordable for a community.

BUDGETING

As we move forward with the maintenance of the current volunteer organizations for fire and EMS, in addition to creating a regionalized paid system to overlay onto the current systems, we must have some budgeting figures to show the creation of the new overlaid "District" approach.

The initial budgeting recognizes that there are certain assets already owned by the towns that would participate in the newly formed district. Some of these assets are stations, fire apparatus, and ambulances. The budget also recognizes that some assets will need purchased, as others are owned by private non-profit organizations.

We start with a section explaining how the current organizations are constructed and if these organizations are municipal funded or privately funded.

RELEVANT FINANCIAL FACTORS IN EXISTING SOUTHERN BERKSHIREEMS AND FIRE ORGANIZATIONS; FUNDING SOURCES

Through interviews, it is determined that each town has its own fire department that is municipal based, but the EMS organization serving each area can be either municipal or private. Taxation sources and levels of funding vary across Southern Berkshire. While there are common funding patterns in the fire organizations, there is variety in EMS, such as Southern Berkshire Volunteer Ambulance Squad providing service to communities without funding from the town, but instead relying on funding from private transports and 911 transport billing. **Table 22** shows the different funding models currently in place within each town for fire and EMS protection. The variation in funding sources causes variation in the funding available for fire and EMS protection. This will allow a starting place for comparison of the transition.

TABLE 22:
SOUTHERN BERKSHIREFIRE FUNDING SOURCE BY TOWN

Town	Fire	Type	Revenue	EMS	Type	Revenue
Alford	Alford	Municipal	Town Gov't	Southern Berkshire Vol Amb.	Private, Non-Profit	Billing
Egremont	Egremont	Municipal	Town Gov't	Southern Berkshire Vol Amb.	Private, Non-Profit	Billing
Great Barrington	Great Barrington	Municipal	Town Gov't	Southern Berkshire Vol Amb.	Private, Non-Profit	Billing
Mount Washington	Mount Washington	Municipal	Town Gov't	Southern Berkshire Vol Amb.	Private, Non-Profit	Billing
Monterey	Monterey	Municipal	Town Gov't	Southern Berkshire Vol Amb.	Private, Non-Profit	Billing
New Malrborough	New Malrborough	Municipal	Town Gov't	New Malrborough Rescue	Municipal	Town Gov't
Otis	Otis	Municipal	Town Gov't	Otis Rescue Squad	Municipal	Town Gov't
Sandisfield	Sandisfield	Municipal	Town Gov't	Sandisfield Fire Department	Municipal	Town Gov't
Sheffield	Sheffield	Municipal	Town Gov't	Southern Berkshire Vol Amb.	Private, Non-Profit	Billing
Stockbridge	Stockbridge	Municipal	Town Gov't	Lee Ambulance/SBVAS	Spilt	Billing
Tyringham	Tyringham	Municipal	Town Gov't	Lee Ambulance	Municipal	Billing
West Stockbridge	West Stockbridge	Municipal	Town Gov't	Richmond Fire/SBVAS	Municipal/ Private	Town Gov't
Richmond	Richmond	Municipal	Town Gov't	Richmond Fire	Municipal	Town Gov't
Lee	Lee	Municipal	Town Gov't	Lee Fire-EMS	Municipal	Town Gov't
Lenox	Lenox	Municipal	Town Gov't	Lennox EMS	Municipal	Town Gov't
Tolland	Tolland	Municipal	Town Gov't	Tolland Fire-EMS	Municipal	Town Gov't
Becket	Becket	Municipal	Town Gov't	Beckett Ambulance	Municipal	Town Gov't

Budgeting for the Future of a Regional District

DISTRCT START-UP CAPITAL COSTS: Below is a sample capital budgeting figures to start up the Regional district. It must be realized that these represent physical facility conversions, rolling EMS stock and hardware. The report makes the assumption that the working relationship will utilize existing fire vehicles, office and bay space, as well as other in-kind donations, as the towns served would only be charging themselves extra if this sharing did not occur. See **Table 23** for estimated projections.

Table 23
Capital Start-up Budget for Regional District

DISTRICT START-UP BUDGET

Line Item	Category	Quantity	Description	Unit Cost	Total Cost	Category Cost
1001	Building	4	Remodel Stations for living quarter (Average)	$500,000.00	$2,000,000.00	
						$2,000,000.00
2001	Vehicles	4	Ambulances	$250,000.00	$1,000,000.00	
2002	Vehicles	2	Staff Vehicles	$60,000.00	$120,000.00	
2003	Vehicle	1	Insurance Premiums	$20,000.00	$20,000.00	
						$1,140,000.00
3001	Equipment	4	Ambulance Equipment	$48,000.00	$192,000.00	
						$192,000.00
5101	PPE	62	Set of Turnout Gear (Coat & Pants)	$2,000.00	$124,000.00	
		31	Fire Helmets	$350.00	$10,850.00	
		62	Fire Gloves	$100.00	$6,200.00	
		62	Fire Hood	$100.00	$6,200.00	
		31	Fire Boots	$350.00	$10,850.00	
						$158,100.00
5201	Uniforms	144	Set of Uniforms	$300.00	$43,200.00	
						$43,200.00
6001	Administration	1	IT network purchases	$100,000.00	$100,000.00	
6100	Adminstation	1	Office Furniture & Supplies	$20,000.00	$20,000.00	
						$120,000.00
7000	Communications	16	Portable Radios	$3,000.00	$48,000.00	
7001	Communications	6	Mobile Radios (With Install)	$5,000.00	$30,000.00	
						$78,000.00
8000	Contract Services	1	General Liability Insurance	$15,000.00	$15,000.00	
8001	Contract Services	1	Legal Counsel Retainer	$50,000.00	$50,000.00	
8002	Contract Services	1	Project Management Fee	$150,000.00	$150,000.00	
						$413,000.00
			Total			$4,144,300.00

PERSONNEL COSTS

As volunteers become scarce in Southern Berkshire County, any affordable model will utilize a combination of personnel already on duty for fire suppression or EMS through the district model. After all, most of the calls in a town are for EMS already, even if the fire department is not transporting. If all new cross trained fire/ambulance personnel were new full-time employees the increase in wages, pension contributions and health benefits would make the new system unattractive to taxpayers and elected officials. An arguable increase in quality would not be enough.

There are creative options, however, including the hiring of part-time personnel who would supplement the full-time personnel. All full-time personnel should be firefighter paramedics so that they can fill all the needs when on shift. The cost breakdown of career and pat-time will be shown later in the personnel salary calculations, but having at least 1 full-time person with each of the 3-person crews can ensure continuity.

The cost of firefighters and ambulance personnel may seem high, but the cost of no firefighters is even higher. If we compare the average personnel costs of fire and EMS personnel throughout the county with law enforcement, we can see that current volunteer firefighters are a bargain. The police personnel budget in Great Barrington as an example is $1,466,217.49, with $71,000.00 being paid by outside contractors. This produces 2 officers on the street and 1 in the station/dispatch center.

Using the proposed daily staffing of (4) 3-person crews that are dual trained and positioned strategically in the region with an on-duty shift commander, titled a District Chief, the following positions exist within the district system based on a 24/48 schedule. The consultants have prepared a tentative pay schedule shown below in **Table 24, 25, and 26.** These tables show entry costs, 3-year tenure costs, and maximum costs. As noted by the salary figures, ***Southern Berkshire is in no position to consider a "Full-time" fire district, as the following calculations show.***

Table 24
PAY CHART FOR FIRE/RESCUE/EMS SYSTEM
AT STARTING PAY RATES

Position	Entry					
	Hourly	Hours/Yr	Salary	Built-in OT	Benefit Rate	Total Cost
Firefighter/Paramedic (Part-Time)	$21.00	1,460.00	$30,660.00		0.60	$49,056.00
Firefighter/EMT (Part-Time)	$16.00	1,460.00	$23,360.00		0.60	$37,376.00
Firefighter/ Paramedic (Full-Time)	$21.77	2,756.00	$59,998.12	$5,093.40	0.85	$115,325.91
District Chief	$23.95	2,756.00	$66,006.20	$5,604.30	0.85	$126,875.13
Fire Chief			$80,000.00		$0.85	$148,000.00
Secretary	$16.50	2,080.00	$34,320.00		$0.30	$44,616.00
Overtime Rates						
Firefighter/Paramedic (PT)	$31.50					
Firefighter/EMT	$24.00					
Firefighter/Paramedic (FT)	$32.65					
District Chief	$35.93					

In Southern Berkshire the predicted cost based on a survey of available firefighter paramedic job in Massachusetts and collective bargaining agreements is approximately $115,326 per person when considering salary plus applicable benefits. As noted, full-time personnel are assigned a 53-hour work week, but are given the 3 hours of overtime weekly to offset the need to cover a 56-hour work week.

Table 25
PAY CHART FOR FIRE/RESCUE/EMS SYSTEM
AT 3 YEAR PAY RATES

Position	3-Year					
	Hourly	Hours/Yr	Salary	Built-in OT	Benefit Rate	Total Cost
Firefighter/Paramedic (Part-Time)	$23.00	1,460.00	$33,580.00		0.60	$53,728.00
Firefighter/EMT (Part-Time)	$19.00	1,460.00	$27,740.00		0.60	$44,384.00
Firefighter/ Paramedic (Full-Time)	$23.58	2,756.00	$64,986.48	$5,519.28	0.85	$124,916.38
District Chief	$25.94	2,756.00	$71,490.64	$6,069.96	0.85	$137,417.15
Fire Chief			$85,000.00		$0.85	$157,250.00
Secretary	$17.25	$2,080.00	$35,880.00		$0.30	$46,644.00
Overtime Rates						
Firefighter/Paramedic (PT)	$34.50					
Firefighter/EMT	$28.50					
Firefighter/Paramedic (FT)	$35.38					
District Chief	$38.91					

Table 26
PAY CHART FOR FIRE/RESCUE/EMS SYSTEM
AT MAXIMUM PAY RATES

Position	Maximum					
	Hourly	Hours/Yr	Salary	Built-in OT	Benefit Rate	Total Cost
Firefighter/Paramedic (Part-Time)	$25.00	1,460.00	$36,500.00		0.60	$58,400.00
Firefighter/EMT (Part-Time)	$20.00	1,460.00	$29,200.00		0.60	$46,720.00
Firefighter/ Paramedic (Full-Time)	$25.40	2,756.00	$70,002.40	$5,943.60	0.85	$134,556.50
District Chief	$27.94	2,756.00	$77,002.64	$6,537.96	0.85	$148,012.15
Fire Chief			$90,000.00		$0.85	$166,500.00
Secretary	$18.00	2,080.00	$37,440.00		$0.30	$48,672.00
Overtime Rates						
Firefighter/Paramedic (PT)	$37.50					
Firefighter/EMT	$30.00					
Firefighter/Paramedic (FT)	$38.10					
District Chief	$41.91					

Table 27
Annual Salary Cost for Entry Year of the 13 On-Duty 24/48 Shift Personnel (4 three-person crews and shift commander) with the Fire Chief working a 40 Hour Week
2 Part-Time and 1 Full-Time per Crew Model

Position	On Duty Per Shift	Number of Shifts	Total Needed	Cost Per Person	Total Cost
Firefighter/Paramedic (Part-Time)	8	3	24	$49,056.00	$1,177,344.00
Firefighter/ Paramedic (Full-Time)	4	3	12	$115,325.91	$1,383,910.94
District Chief	1	3	3	$126,875.13	$380,625.38
Fire Chief			1	$148,000.00	$148,000.00
Secretary			1	$44,616.00	$44,616.00
					$3,134,496.32

Table 28
Annual Salary Cost for Entry Year of the 10 On-Duty 24/48 Shift Personnel (3 three-person crews and shift commander) with the Fire Chief working a 40 Hour Week
2 Part-Time and 1 Full-Time per Crew Model

Position	On Duty Per Shift	Number of Shifts	Total Needed	Cost Per Person	Total Cost
Firefighter/Paramedic (Part-Time)	6	3	18	$49,056.00	$883,008.00
Firefighter/ Paramedic (Full-Time)	3	3	9	$115,325.91	$1,037,933.21
District Chief	1	3	3	$126,875.13	$380,625.38
Fire Chief			1	$148,000.00	$148,000.00
Secretary			1	$44,616.00	$44,616.00
					$2,494,182.58

Table 27 shows that if the total annual cost of placing (4) 3-person crews around the region with one District Chief (shift commander) on duty each day. This table also shows that there are 3 shifts, which equates to a 24 on 48 off schedule which is common for many fire departments. **Table 28** Shows the costs is there are (3) 3-person crews each day in case the district is needed at a smaller staffing level. Both **Table 27** and **Table 28** make the assumption of using 2 part-time personnel and 1 full-time personnel on each crew. However, as this district model is not present in other areas of the region, cost figures were calculated to a more full-time model and the salary calculations for the 2 full-time and 1 par-time per crew are following in **Table 29**

Table 29
Annual Salary Cost for Maximum Year of the 13 On-Duty 24/48 Shift Personnel (4 three-person crews and shift commander) with the Fire Chief working a 40 Hour Week
1 Part-Time and 2 Full-Time per Crew Model

Position	On Duty Per Shift	Number of Shifts	Total Needed	Cost Per Person	Total Cost
Firefighter/Paramedic (Part-Time)	4	3	12	$58,400.00	$700,800.00
Firefighter/ Paramedic (Full-Time)	8	3	24	$134,556.50	$3,229,356.00
District Chief	1	3	3	$148,012.15	$444,036.45
Fire Chief			1	$166,500.00	$166,500.00
Secretary			1	$48,672.00	$48,672.00
					$4,589,364.45

OPERATIONAL BUDGET

While salaries for personnel do constitute the bulk of the costs of paid emergency service organizations, there are many supporting costs related to the delivery of service. **Table 30** and **Table 31** show the total operational budget to include the personnel salaries and benefits. Many of these figures are based on estimated costs in other organizations, as without a similar model with the exact demographics, calls volume and land mass covered, it is difficult to provide an exact match.

Table 30
Operational Budget for Regional District
2 Part Time & 1 Full Time per Crew

2020 Fire District Operating Budget		
0100 INS. HEALTH/LIFE & HRA		
PERSONNEL COSTS W/INCLUDED BENEFITS	3,675,486	
OVERTIME COSTS	367,549	
EMPLOYER PROVIDED MED, DENTAL, LIFE	340,000	
PROPERTY & CASUALTY	90,000	
ACCIDENTAL DEATH & DISABILITY	5,000	
EMPLOYEE ASSISTANCE PROGRAM	2,000	
EMPLOYEE HEALTH (PHYSICALS, WELLNESS)	14,500	
		4,494,535
0200 UNIFORMS COSTS		
UNIFORMS	17,500	
SHOES / BOOTS	3,000	
COATS, WINTER	3,000	
UNIFORM CLEANING	3,000	

ACCESSORIES / ALTERATIONS / REPAIRS	2,000	
TURNOUT GEAR REPAIRS	3,000	
		31,500
0300 FIRE EQUIPT. MAINT. & SUPPLIES		
FIRE EQUIPMENT	20,000	
FIRE EQUIPMENT MAINTENANCE	3,000	
FIRE SUPPLIES	2,500	
SCBA FIT TESTING	2,000	
SCBA INSPECTION + REPAIR	5,000	
BREATHING COMPRESSOR MAINTENANCE	2,000	
HAZMAT MONITORING INSTRUMENTS	3,000	
HAZMAT SUPPLIES / FOAM	1,000	
FITNESS EQUIPMENT	3,000	
FITNESS EQUIPT REPAIR + MAINT	1,000	
TECHINCAL RESCUE EQUIPT & SUPPLIES	3,000	
MAINTENANCE TOOLS & EQUIPMENT	2,500	
		48,000
0400 EMS EQUIPT. MAINT. & SUPPLIES		
MEDICAL EQUIP PREVENT MAINT	6,000	
MEDICAL EQUIPMENT	25,000	
MEDICAL EQUIPMENT REPAIR	5,000	
MEDICAL SUPPLIES	45,000	
		81,000
0500 FACILITY COSTS		
STATION/OFFICE FURNISHINGS	10,000	
FACILITIES SUPPLIES	6,000	
FACILITIES REPAIR / MAINTENANCE	20,000	
EMERGENCY BACKUP GENERATOR MAINT	2,800	
LANDSCAPE / LAWN CARE / PEST CONTROL	3,000	
FIRE CODES / REFERENCE MATERIAL	2,500	
SAFETY SYSTEMS INSPECTIONS	3,000	
		47,300
0600 OFFICE COSTS		

POSTAGE / UPS	1,000	
PRINTING / COPYING	2,000	
PRINTER / COPIER LEASE AGREEMENT	3,000	
OFFICE SUPPLIES	4,000	
OFFICE EQUIPMENT	2,000	
OFFICE EQUIPMENT MAINTENANCE	1,000	
		13,000
0700 FUEL		
FUEL	50,000	
		50,000
0800 VEHICLE COSTS		
VEHICLE MAINTENANCE	50,000	
VEHICLE OUTFITTING COST	5,000	
PUMP / AERIAL / LADDER TESTING	5,000	
		60,000
0900 COMPUTER COSTS		
DESKTOP / LAPTOP	3,000	
OFFICE / TRAINING SOFTWARE	2,000	
SCHEDULING SOFTWARE	4,000	
EMS REPORTING SOFTWARE	7,000	
FIRE REPORTING SOFTWARE	6,000	
		22,000
1000 CONTRACTS		
LEGAL EXPENSES / RETAINER	10,000	
EMS BILLING / MANAGMENT FEES	30,000	
MEDICAL DIRECTOR / CONTROL	10,000	
		50,000
1100 TRAINING & TRAVEL		
TRAINING-CLASSES, CONFERENCES, SEMINARS	20,000	
TRAVEL FOR TRAINING	7,500	
CONSULTING / TRAINING SERVICES	10,000	
ONLINE TRAINING SUBSCRIPTIONS	2,000	
AUDIO / VISUALS, TEXTS, ED. SOFTWARE	5,000	
SIMULATION EQUIPMENT	3,000	
TRAINING EQUIPMENT & SUPPLIES	5,000	

COMMUNITY ED / SAFETY MATERIALS	5,000	
MEMBERSHIPS	1,500	
EMPLOYEE HIRING / SCREENING	15,000	
CPR PROGRAMS	2,000	
PUBLICATIONS / SUBSCRIPTIONS	1,000	
		77,000
1200 UTILITIES		
GAS AND ELECTRIC	60,000	
WATER AND SEWER	6,000	
DATA & TELEPHONE	40,000	
TRASH REMOVAL	3,000	
		109,000
1300 COMMUNICATIONS		
RADIO MAINTENANCE	10,000	
DISPATCH FEES	20,000	
MOBILE DATA COMPS / TABLETS / EMS LAPTOP	8,200	
CELL PHONE / AIR CARD	9,000	
		47,200
1400 AUDITOR / TREASURER FEES		
FEES FOR DISBURSEMENT OF TAX LEVIES	25,000	
		25,000
1500 OTHER EXPENSES		
BACKUP AMBULANCE CONTRACT	50,000	
		50,000
1600 CAPITAL RESERVES		
CAPITAL RESERVES / SET ASIDE	100,000	
		100,000
ESTIMATED TOTAL OPERATING EXPENDITURES =		**$5,305,535**

Table 31
Operational Budget for Regional District
1 Part Time & 2 Full Time per Crew

2020 Fire District Operating Budget		
0100 INS. HEALTH/LIFE & HRA		
PERSONNEL COSTS W/ INCLUDED BENEFITS	4,589,364	
OVERTIME COSTS	458,936	
EMPLOYER PROVIDED MED, DENTAL, LIFE	580,000	
PROPERTY & CASUALTY	90,000	
ACCIDENTAL DEATH & DISABILITY	5,000	
EMPLOYEE ASSISTANCE PROGRAM	2,000	
EMPLOYEE HEALTH (PHYSICALS, WELLNESS)	14,500	
		5,739,801
0200 UNIFORMS COSTS		
UNIFORMS	17,500	
SHOES / BOOTS	3,000	
COATS, WINTER	3,000	
UNIFORM CLEANING	3,000	
ACCESSORIES / ALTERATIONS / REPAIRS	2,000	
TURNOUT GEAR REPAIRS	3,000	
		31,500
0300 FIRE EQUIPT. MAINT. & SUPPLIES		
FIRE EQUIPMENT	20,000	
FIRE EQUIPMENT MAINTENANCE	3,000	
FIRE SUPPLIES	2,500	
SCBA FIT TESTING	2,000	
SCBA INSPECTION + REPAIR	5,000	
BREATHING COMPRESSOR MAINTENANCE	2,000	
HAZMAT MONITORING INSTRUMENTS	3,000	
HAZMAT SUPPLIES / FOAM	1,000	
FITNESS EQUIPMENT	3,000	
FITNESS EQUIPT REPAIR + MAINT	1,000	
TECHINCAL RESCUE EQUIPT & SUPPLIES	3,000	
MAINTENANCE TOOLS & EQUIPMENT	2,500	
		48,000
0400 EMS EQUIPT. MAINT. & SUPPLIES		
MEDICAL EQUIP PREVENT MAINT	6,000	
MEDICAL EQUIPMENT	25,000	

MEDICAL EQUIPMENT REPAIR	5,000	
MEDICAL SUPPLIES	45,000	
		81,000
0500 FACILITY COSTS		
STATION/OFFICE FURNISHINGS	10,000	
FACILITIES SUPPLIES	6,000	
FACILITIES REPAIR / MAINTENANCE	20,000	
EMERGENCY BACKUP GENERATOR MAINT	2,800	
LANDSCAPE / LAWN CARE / PEST CONTROL	3,000	
FIRE CODES / REFERENCE MATERIAL	2,500	
SAFETY SYSTEMS INSPECTIONS	3,000	
		47,300
0600 OFFICE COSTS		
POSTAGE / UPS	1,000	
PRINTING / COPYING	2,000	
PRINTER / COPIER LEASE AGREEMENT	3,000	
OFFICE SUPPLIES	4,000	
OFFICE EQUIPMENT	2,000	
OFFICE EQUIPMENT MAINTENANCE	1,000	
		13,000
0700 FUEL		
FUEL	50,000	
		50,000
0800 VEHICLE COSTS		
VEHICLE MAINTENANCE	50,000	
VEHICLE OUTFITTING COST	5,000	
PUMP / AERIAL / LADDER TESTING	5,000	
		60,000
0900 COMPUTER COSTS		
DESKTOP / LAPTOP	3,000	
OFFICE / TRAINING SOFTWARE	2,000	
SCHEDULING SOFTWARE	4,000	

EMS REPORTING SOFTWARE	7,000	
FIRE REPORTING SOFTWARE	6,000	
		22,000
1000 CONTRACTS		
LEGAL EXPENSES / RETAINER	10,000	
EMS BILLING / MANAGMENT FEES	30,000	
MEDICAL DIRECTOR / CONTROL	10,000	
		50,000
1100 TRAINING & TRAVEL		
TRAINING-CLASSES, CONFERENCES, SEMINARS	20,000	
TRAVEL FOR TRAINING	7,500	
CONSULTING / TRAINING SERVICES	10,000	
ONLINE TRAINING SUBSCRIPTIONS	2,000	
AUDIO / VISUALS, TEXTS, ED. SOFTWARE	5,000	
SIMULATION EQUIPMENT	3,000	
TRAINING EQUIPMENT & SUPPLIES	5,000	
COMMUNITY ED / SAFETY MATERIALS	5,000	
MEMBERSHIPS	1,500	
EMPLOYEE HIRING / SCREENING	15,000	
CPR PROGRAMS	2,000	
PUBLICATIONS / SUBSCRIPTIONS	1,000	
		77,000
1200 UTILITIES		
GAS AND ELECTRIC	60,000	
WATER AND SEWER	6,000	
DATA & TELEPHONE	40,000	
TRASH REMOVAL	3,000	
		109,000
1300 COMMUNICATIONS		
RADIO MAINTENANCE	10,000	
DISPATCH FEES	20,000	
MOBILE DATA COMPS / TABLETS / EMS LAPTOP	8,200	
CELL PHONE / AIR CARD	9,000	
		47,200

1400 AUDITOR / TREASURER FEES		
FEES FOR DISBURSEMENT OF TAX LEVIES	25,000	
		25,000
1500 OTHER EXPENSES		
BACK-UP AMBULANCE CONTRACT	50,000	
		50,000
1600 CAPITAL RESERVES		
CAPITAL RESERVES / SET ASIDE	100,000	
		100,000
ESTIMATED TOTAL OPERATING EXPENDITURES =		**$6,550,801**

EXPECTED REVENUES

While the EMS service saves more lives in a community than any other agency, including the fire department, it is an expensive public service and growing more so all the time. Nonetheless the service does operate in almost every community, large and small, throughout the United States in some fashion. Residents desire EMS service and find ways to pay for it.

Unlike pure fire departments that usually cost the community but have no way to generate revenue, EMS services can generate income both directly and indirectly. Recently the Mayor of Providence, RI announced that his city was launching a new "for profit" EMS service. The primary revenue stream comes from the billing of insurance agencies for transportation fees, ranging up to $2000 for a single patient. However, caution should be exercised, as many examples of for-profit EMS serving 911 service have gone out of business or filed bankruptcy. While a few have remained, many have a balance of the interfacility transports and 911, which is occurring at SBVAS and is causing the 911 service to be strained according to a consensus of onsite interviews.

Example of Private Ambulance in New York Closing without Warning

FULTON COUNTY — The Ambulance Service of Fulton County was forced to shut down at 7 p.m. Friday when the nonprofit determined it could not make payroll or afford to pay for its insurance.

ASFC CEO Roy Sweet said he determined the previous evening that the organization did not have enough money to pay all of its approximately $70,000 bi-weekly payroll. He said there were two other bills also due: a $33,000 workers compensation insurance bill and a $4,500 ambulance insurance bill. He said the combination of expenses combined with revenues coming in less than anticipated have forced the shut down.

Alan Mendelsohn, vice president of the ASFC board of directors, said ASFC had to lay off 55 of its 60 employees Friday.

Sweet, who took over ASFC in 2015 with a mandate to clean-up its management practices after several scandals, including the walk-out of 20 employees, said many factors during the past three years have pushed the organization to the edge of insolvency:

Source: https://dailygazette.com/article/2019/02/08/ambulance-service-shuts-down

Caution! The "Affordable Health Care Act" is still in political flux and could have the effect of reducing the average collection per transport as individuals see tightening and elimination of expenses that can be claimed.

Buck McAlpin, who works with North Memorial Health Care and is lead lobbyist for the ambulance industry in Minnesota states: *"**Anyone who runs an ambulance service knows they are likely to collect only part of what they charge for an emergency trip, said Ambulance services that charge $1,400 for an emergency trip usually are reimbursed $425 or $450 by Medicare or Medicaid, he said***."

The consultant's figures in estimated budgets is very conservative to ensure that overestimations of EMS revenue do not become a funding shortfall. If extra revenues are attained, it is suggested that excess monies be placed in a capital budget. We show that the costs of vehicles and buildings significantly increase over time as compared to other expenses.

Utilizing Director Hathaway's provided revenue numbers, coupled with his estimate that 55% of calls are for 911, the consultants constructed **Table 32**. While this estimate is difficult, as the current SBVAS provides interfacility transport to destinations outside of the region as nearly half of their operation. The table shows a possible estimate of the revenue

created by providing the EMS service through the newly created district. As noted, the calculations estimate a revenue of $2,568, 996.79, which the consultants would recommend reducing to less than $500,000 based on experience in 911 Ambulance service. 911 transports to the closest facility, thus significantly reducing the trip mileage that is represented in the SBVAS revenue estimates. The consultants also recommend that this revenue be used to bolster capital improvement funds, as many of the stations and apparatus will need replaced over the next 10 years and the start-up costs have been kept to a minimum and the volatility of these funds are demonstrated in **Figure 26** below.

Table 32
EMS Revenue Estimates derived from SBVAS Current Revenues

AMB

Southern Berkshire Volunteer Ambulance Squad, Inc - SBA
Financial Summary - 01/01/18 to 12/31/18

	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Totals
Avg Mileage / Transport	14.48	14.52	12.28	12.85	13.46	15.98	13.22	13.6	15.13	12.89	12.11	12.74	13.64
Avg Charge / Transport	$1,605.17	$1,685.25	$1,663.94	$1,711.67	$1,752.42	$1,868.32	$1,898.99	$1,710.57	$1,749.58	$1,743.28	$1,676.06	$1,713.75	$1,735.75
Avg Revenue / Transport	$0.00	$282.91	$488.10	$439.42	$550.66	$462.84	$413.33	$513.64	$557.51	$447.62	$618.11	$454.38	$431.50
A0425 - Ground Mileage (ALS)	2,117.80	2,518.80	1,577.00	1,777.60	1,844.80	3,092.20	2,188.60	2,136.70	1,797.30	2,447.50	1,573.60	1,755.10	24,827.00
A0425 - Ground Mileage (BLS)	1,140.50	1,242.10	1,197.30	1,229.40	1,130.80	1,589.90	1,011.70	1,305.10	941.5	1,805.80	752	1,061.40	14,407.50
A0426 - Advanced Life Support	13	13	16	15	10	19	6	12	11	19	11	8	153
A0427 - Advanced Life Support	88	96	70	82	90	129	92	100	78	139	97	96	1,157.00
A0428 - Basic Life Support	80	58	55	57	53	64	51	65	38	79	51	53	704
A0429 - Basic Life Support Emergent	39	84	73	59	55	61	51	61	45	71	26	44	669
A0433 - ALS LVL2	1	1	0	0	0	0	5	0	1	0	0	0	8
A0434 - SPECIALTY CARE TSPT	0	1	10	16	13	20	37	15	7	22	6	17	164
MISC - PARAMEDIC INTERCEPT	4	6	2	5	0	0	0	0	1	0	1	3	22
Total Charge	$354,742.57	$424,683.00	$356,083.16	$364,585.71	$364,503.36	$510,051.36	$389,292.95	$407,115.66	$302,677.34	$536,930.24	$310,071.10	$344,463.75	$4,670,903.25
Total From Emergency (55%)	$195,108.41	$233,575.65	$195,845.74	$200,522.14	$200,476.85	$280,528.25	$214,111.12	$223,913.61	$166,472.54	$295,311.63	$170,539.11	$189,455.06	$2,568,996.79

Figure 26:
Example of the Volatility of EMS Billing Revenues

Regional EMS agencies face painful cuts in New York

Greg Eisenhut saw a high school soccer goalie hit a goal post and fall to the ground with a probable concussion and possible spinal injury two years ago. An ambulance arrived 50 minutes later, said Eisenhut, board president of Mohawk Valley Ambulance Corps, or MOVAC. "That made me realize that we have issues here. And before we end up taking people with stroke or heart attack to the hospital in pickup trucks or the family car, we better start to think about emergency medical services as part of the trio of emergency safety," he said. Ambulance services face a lot of financial stress that could close agencies and make slow response times more common, Eisenhut warned. That stress could get worse under a cut proposed in Governor Andrew Cuomo's executive budget, according to emergency medical services advocates. The cut affects reimbursements for ambulance patients who are covered by both Medicare and Medicaid.

UTICA OBSERVER-DISPATCH

Source: Daily Dispatch retrieved from https://www.dailydispatch.com/NationalNews.aspx

DISTRICT INTEGRATION WITH VOLUNTEER AGENCIES

Retaining the current volunteer agencies in their current form is key to resiliency of the fire and EMS service in the region. Even if there are more paid crews established than the initial plan outlines, it will still be far short of the needed personnel for a large fire or an MCI. Additionally, since the paid crews are performing dual duties, it is important to allow them to return to a state of readiness at the earliest opportunity to allow the continued performance of the dual duties. Aside from all of the statistical and mathematical reasons, the most important reason for retaining the current volunteer organizations is their track record of strong dedication to the community. While the services are strained and have a need for some paid personnel to offset some of the more routine calls, the volunteer personnel have built the organizations to their current state and are a fabric of the community. To disregard these facts is the worst that any transitioning plan could do and would likely leave the overall service in the region in worse shape than it existed prior to any research and transition activity.

While there are many stories of paid and volunteer personnel not congealing well, it is a mutual respect and understanding of each other's position that will make the homogenous cohabitation of stations and scene occur. Meetings to set boundaries for both groups and expectations of both groups will be needed in the conversion process, as well as bi-annually to ensure all personnel remember that service to the public is the ultimate goal.

One of the best ways to help this positive interaction is to promote part-time and full-time personnel from the volunteer ranks and to provide paid training during the volunteer service to allow personnel to meet the minimum training requirements for the paid positions. This can have a secondary benefit via increased volunteer recruitment and retainment. If personnel can see the career path to full-time employment in their hometown, there are more likely to perform well as a volunteer.

An often-overhead complaint from volunteer personnel is that they will only get to see cold smoke or miss out on critical EMS calls. While this is a very valid complaint, as the paid on-duty crews will respond when the call is dispatched and potentially knock down a fire during incipient stages or treat a trauma patient at an MVA and leave the lesser injured patients for subsequent ambulances, the proper scheduling and operational parameters can lessen these drawbacks. The first and best way to offset these drawbacks is for the volunteer personnel to stay on station and make the calls with or in lieu of the paid staff. Providing a stipend on a per call basis can often allow the volunteer personnel to make nearly as much as the paid personnel during peak call times. A second way is to purchase specialty vehicles for volunteer personnel and allow the personnel to hold a subject matter expert status related to the vehicle, such as a ladder truck. This truck can be reserved for only the volunteer staff, increasing ownership and pride in the vehicle and specialty at a fire scene.

From the EMS side, simultaneous dispatching of the volunteer crew and the paid crew can allow a tiered approach. The paid crew, due to being at the station will reduce a minimum of 5 minutes from the response time, but the volunteer crew can conduct the transport. While this may initially appear as a duplication, this allows the paid crew to return to a state of readiness up to 2 hours earlier in some of the remote areas of the region. The same amount of medical supplies is used with this tiered approach and the only extra expense

is the fuel for the second ambulance which is limited to the travel from the station to the incident and back, which can be a fraction of the overall call travel distance.

Relief from Administrative and Prevention Responsibilities

The presence of on-duty paid crews allows flexibility in duties, as crews will not be answering emergency calls their entire day. This allows time for fire inspections, plans review, preventative maintenance, and numerous administrative requirements that are currently performed by volunteer personnel.

Currently, the responsibility for fire prevention and code enforcement lies at the town level, which requires the town's volunteer and limited paid staff to perform all of the fire code enforcement and fire prevention activities. By training full-time personnel to the fire inspector level, as well as having the district chief trained in plan review, the paid staff can provide relief for these required duties. As the district would be a liaison to each of the town's volunteer organizations, it is recommended that each volunteer agency have a memorandum of understanding between the town, volunteer fire department, and the district to outline the responsibilities and fee collection for the services. This not only relieves volunteer organizations of the time needed to complete these duties, but also provides another funding stream for the district to offset levy costs and/or add additional fire prevention personnel.

Training development is another area that personnel can assist. As it will be important for integration of volunteer and paid personnel, the collaboration of the personnel to develop training programs for both paid and volunteer personnel will enhance the offerings of various training topics, as well as ensure that each other's perspectives are understood through the development. As on-duty crews will have available time, helping with the logistics of training for the area would naturally be a good use of time while on duty. As the district evolves, the offering of academies put together by district personnel can allow current and prospective volunteer personnel to receive the needed training that will allow parity and transition to the paid district positions.

As the district will have a fire commisioner, 3 district chiefs, and a secretary, the completion of some of the administrative tasks, such as incident reporting, training record tracking, and other information tracking can be accomplished by these personnel. The district will need to purchase records management software, which can be upgraded with a few extra licenses to keep track of the volunteer agency's record keeping. This will relieve personnel not being compensated for the extra duties, as well as streamline and increase data validation, as one method of data entry will be enacted. This is an area that is mentioned as being in need of improvement in the short-term goals and would be a good fit for the newly created district in the long-term.

The individual towns and current EMS/fire agencies will ultimately decide through an MOU the division of labor that brings about a collaborative relationship related to duties that serves the citizens in the best and most efficient method.

Short Term Action Items

Integrate Current EMS Certified Personnel in Region's FDs into Ambulance Services to Allow Tiered Approach [Cost: Varies by Interest in Certification Enhancement]

Within the current fire departments in the region are EMT and EMR trained personnel that can provide the first responder role in EMS calls may or may not be able to function with the ambulance services due to roster/affiliation rules provided by the State of Massachusetts. Efforts should be made to incorporate all current EMS certified personnel and train additional personnel interested in taking on the EMR and/or EMR role. Much of the current research shows that quality CPR and defibrillation is the key to increasing the possibility of surviving a cardiac arrest. Many lifesaving techniques are taught at lower level EMS certification levels and should be leveraged as a way to cut down on the time to EMS care for citizens in the region.

Equip and Train Local Volunteers in CPR and AED Use to Allow Quick Response in Remote Area [Cost: $10,000.00]

In the consultant's interview with Dr. Belman, the regions medical director, we found that he was very supportive of placing AED's with citizens and providing more citizens with CPR training. AED's are commercially available from Amazon and other stores, making the possibility of having an AED in close proximity to a person having a cardiac arrest a high probability. In conjunction with the next short-term action, the region can use the true first responders, which are fellow citizens. Because these individuals may live next door rather than responding from 25 minutes away, the time to CPR and defibrillation can be greatly reduced. Coupled with the FD personnel EMS integration mentioned in the previous short-term recommendation, a medical crew minus a transporting ambulance and advanced drug therapy, which provide marginal improvements in outcomes versus CPR and AED use, could be at the patient in a mere fraction of the time the current system affords.

Upgrade Dispatch Technologies to Allow Pulse Point and/or IamResponding to Allow Tiered Response to EMS calls [Cost: $10,000.00 Start up; $8,000.00 Annual]

The prevalence of smartphones allows connecting citizens with first responders during high acuity EMS calls, such as chest pains or cardiac arrest. Pulse Point is a phone app that alerts citizens in the area of the event to the event and provides mapping to arrive at the event and log that they have arrived at the event. This updates all phones that are attached to the EMS event to include the fire and EMS crews. While the remote areas of the region may not allow the phone app to work all of the time, many people connect their phones to their home Wi-Fi when in the home, which would allow the phone app to work when connected. As many who live in rural areas know the area well, they may not need the mapping. Because the software must integrate with the current CAD systems, a set up cost of $10,000 is charged. Due to the size of the population, the annual cost is $8,000. This is a mere fraction of the cost of more ambulances and personnel to staff the ambulance. For further information on PulsePoint, visit https://www.pulsepoint.org/

Work with SBVAS Board of Directors and Operations Manager to Determine Funding Model Pro/Cons and Deployment Locations [Cost: N/A]

It was determined in a review of the records for SBVAS and in numerous interviews, that the organization is in a catch 22 situation. Because the organization does not charge the municipalities for service, they must derive revenue from transports. In the private 501C3 organization, private transports are conducted to ensure a revenue stream, as full and part-time employees must be paid for their presence. This increase in interfacility transports help the financial stability of the organization, but takes away the resiliency of the 911 ambulances, as both services are conducted simultaneously with the 2 on duty crews.

The dual use of the ambulances does not lend well to a multiple station model, as one of the stations would go uncovered for up to 2 hours while an interfacility transport is conducted. The second facility would also increase operating costs that are already outpacing revenues in many recent years. The dual role also places many miles and wear on the current ambulance fleet. Many interviews have identified this as a significant weakness in the system due to frequent breakdowns and increased maintenance costs from aging vehicles.

It is recommended that the board of directors meet to determine their future business plan and how this interacts with the proposed dual trained paid system in the long-term business plan. Their service to the community should not be ignored and any transition should include the board of directors. Open communication and understanding among all parties are best for any transition.

Change Dispatch Protocols to include Local First Responders to be Simultaneously Dispatched with Ambulance Services to Reduce Response Times and Increase Scene Efficiency [Cost: Free]

Due to the vast area covered by the ambulance services and the limited number of facilities from which the ambulances respond, it is recommended to simultaneously dispatch the EMR and EMT trained personnel from the local fire department. Not only will the patient recognize decreased wait time for service, they can more quickly receive any EMR and BLS treatment needed. Fire crews can begin to gather information for the ambulance crew. This practice, as well as training the EMT's and EMR's how to enter data into the patient reporting systems will reduce the out of service time for the ambulance crew. They will not have to delay care or delay data entry, as both cannot be done simultaneously. With the departments operating on the same radio system, updates can be given to the ambulance crew enroute to allow the proper equipment to be brought to the patient, thus speeding the on-scene times. Lastly, many EMS workers are hurt each year lifting patients. While SBVAS has power load cots, many times the patient must be moved to the cot. Having extra personnel to lessen the weight per person will decrease the possibility of injury to EMS workers, reducing workers compensation and potential overtime costs, which can deplete a budget quickly.

Increase Data Collection and reporting to Include Report Creation in both CAD Dispatching Systems to track Out of Service/Unit Utilization of Current EMS Organizations [Cost: Not Available Due to Outcome Driving Cost]

While all organizations involved in the study did an exceptional job providing the consultants with as much information as possible, many of the standard metrics that are reported were either not kept or lacked validity due to a variety of reasons. This is not an issue germane to Southern Berkshire; this is an issue prevalent to many fire and EMS organizations. In the past two decades, much focus has been on data driven decisions, but still many areas have little to no data or statistical information related to raw data. Because the timeframe of the study did not allow statistical inference and data validity checks on reams of data, it is recommended that departments, both fire and EMS have a subgroup in the chief's organization to decide what data is needed and how to collect and analyze the data. This must be done in conjunction with the dispatch centers, since much of the information is extracted from the CAD system and the dispatch center will not want many different types of requests from many different agencies. Thus, it is critical to develop the parameters as a group that includes the dispatch centers. If the GIS resource ESRI Network analyst exists in any government organization, it is suggested to create drive-time polygons for the proposed station locations of the district versus the current model to add the needed data for transitioning.

Utilize IamResponding to Sign Up for Volunteer Shifts to Show When Ambulances are Staffed [Cost: Free]

It was noted in the consultant's travel to many of the fire and EMS organizations, that IamResponding Software was available to include the Great Barrington Dispatch Center. This software allows personnel to sign up for volunteer shifts. Much of the issues surrounding some of the ambulance services, as well as some of the fire departments are the lack of knowing if a crew is going to be available to make a call when the department is dispatched. This unknown can result in multiple dispatches taking up to 15 minutes before another department is dispatched in place of the original department. In addition to limiting to 5 minutes, as mentioned in another recommendation, the use of the software would allow a unit status to be seen in a dispatch center. This could allow the automatic dispatching of a mutual aid department if a crew is not assigned to the department at the time of the call. If a crew is attained by the original department, a disregard can be given to the mutual aid department. This reduces the time in which a patient would wait for a transporting ambulance, but allows the volunteer ambulances to still make calls when available.

Change Practice of 3 Tones Prior to Mutual Aid to 5 Minutes and Dispatch Mutual Aid Automatically for Both Fire and EMS Responses [Cost: Free]

Currently the EMS regional plan calls for up to 3 dispatches in 5-minute increments prior to calling for mutual aid. While there is pride in trying to get a crew to make a call, the ultimate deciding factor on policy should be service to the citizens. Waiting 15 minutes to call for a mutual aid ambulance that will have a travel time of 25 minutes can leave a patient waiting for up to 45 minutes for the arrival of an ambulance. While rural areas will not comply with the 8:59 timeline spelled out in the regional EMS plan, 45 minutes is

unacceptable, when 15 minutes can be eliminated through the IamResponding Staffing app and a policy change in dispatching. Additionally, dispatching the local fire department with EMR personnel can at least begin care.

Increase Dispatch Personnel (Civilian) in Great Barrington to Allow Dispatching as Sole Function to Increase Safety and Validity of Incident Times [Cost: $165,000.00 Annually]

The Great Barrington Dispatch Center is equipped with many of the latest technologies and was staffed with an excellent police officer/dispatcher when we visited. Sgt. Carlotto was very knowledgeable of all the systems and lent many years of knowledge of the town to his dispatching, however, he was the only person staffing dispatch, the window to serve citizens coming to the police station, and watch over inmates, to include feeding the inmates. This triple duty admittedly leaves the dispatch console vacant for periods of time. This can result in delayed 911 answering and not hearing or being able to answer the units on the radio. By placing a civilian dispatcher in the center with the police officer, this can ensure that someone is always present at the dispatch console. While there has been a police officer assigned to this position prior, adding a civilian lowers the cost that would be incurred by hiring another police officer for the role, but allows the current police officer to aid and guide the civilian in case technical or historical information is needed.

Allow EMS Directors to Attend Fire Chief's Meetings and Hold a Monthly Fire/EMS Integration Meeting [Cost: Free]

During the consultant's interviews with the numerous agencies, it appears that everyone involved wants to improve service and deliver the best care to the citizens possible within the budget constraints, but none of the agency executives appeared to meet regularly to exchange ideas that would facilitate this improvement. While fire and EMS have been separated in many localities, the overlap as indicated throughout the report outlines why the agency executives of fire and EMS should have a regular meeting. Due to the already established fire chief's meeting schedule and the fewer EMS agencies, it is recommended that the fire chiefs association invite and allow regular attendance by the EMS executives. Additionally, working groups for fire/EMS integration should be established to implement many of the short-term recommendations and to begin to look at the long-term business plan. Consultant Randall W. Hanifen conducted a dissertation on collaboration in emergency services and found two of the largest attributes to its success are two-way communication and relationship building. This effort can be the springboard for the increased collaboration.

Create a Region-Wide Training Officers Program within the Current Fire Chief's Organization to Coordinate Fire and EMS Training in the Region [Cost: Free]

During the interviews conducted by the consultants, training became a very passionate topic, ranging from EMS training that is only designed to fulfil hour requirements to debates on the proper training levels for firefighters, as the State of Massachusetts does not mandate firefighter 1 and 2 certification. Training is at the core of fire and EMS service and lack of sufficient quality training can be very detrimental to the outcome of an incident.

Training is a double-edged sword in many areas. Throughout the country, EMS has typically mandated continuing education based on a number of hours and in certain topics, while fire training has been much more laxed with initial certification and continuing education requirements being sporadic and wide ranging throughout the country. Either personnel feel that there are no rules, or they feel that all the training is focused on clock hours. A good balance is needed.

Adult education research indicate that people typically learn best if they are performing manipulative skills. While some may learn better in other modalities, typically, fire and EMS is manipulative skill based. Secondly, the adult learner must find the "what's in it for me (WIFM)". If there is not a link from the information to the benefit of the learner, no matter how good the information is presented, retention will not occur.

SBVAS indicated that all of their training is conducted on-shift due to the need to pay personnel for training attended. Many of the fire organizations indicated that they have mixed attendance at their trainings, but most report that the dedication of those attending is great.

One key interview interaction came when an organization that responded with another organization stated they had not seen each other in a training environment in over 2 years and that one organization did not even know most of the people on the other organization. This was an indication that joint training and fire/EMS integration training is needed to allow many of the other short-term initiatives mentioned within that will enhance service delivery.

Another advantage is that while there are debates on the needed level of training, especially on the fire side, departments can begin to share skills. Many times, firefighters in one organization may have an expertise in search techniques, while another department may be more versed in hose movement. Sharing expertise only betters all of the organizations in the region.

This regional cooperation could also ensure that the state fire academy and specialized EMS trainings are delivered in the area to prevent the 2 hours round trip needed to attend the fire academy.

Update Response Tables to Ensure Compliance with NFPA 1710 and 1720 to the Greatest Extent Possible [Cost: Free]

Within the Relevant National Standards section of the report, tables list the personnel needed to complete required task at a single-family house fire and an apartment building fire (commercial/multi-family). While the consultants recognize that even major metropolitan departments may not completely comply with NFPA 1710 and 1720, efforts should be made to track the average number of volunteers that staff each fire apparatus during calls and develop dispatching tables that include enough apparatus and departments to attempt to achieve the staffing levels mentioned in the aforementioned tables. Most firefighters joined for the excitement of attending fires and the consultants have met very few firefighters that did not want to go to a structure fire, thus the willingness of the personnel is present. Fire executives must make the policy adjustments to allow attainment of the needed personnel.

Conduct a Facilitated Meeting of Stakeholders to Start the Collaboration Needed to Implement Business Plan [Cost: $8,000.00]

While many of the actions could be initiated, it is often that without bringing stakeholders together to find similarities in the stakeholders and find common solutions to issues, the inertia created by the report will be lost. Additionally, as the report points out, many initiatives are beyond any one organization. Leadership by one agency for a regional effort can often be viewed in a negative light by other agencies, much like a takeover. Having a neutral third party facilitate the conversations can ensure that a level playing field for all is established and the solutions are the focus. This is similar to the reason that the independent report was sought.

Appoint a Person or Company to Oversee Immediate Actions and Start Business Plan [$100,000.00 Annually]

As noted in the facilitated meeting initiative, the movement to regional problem solving is often best facilitated through a neutral third party that can help transition to the regional leadership. As we noted in the organizational structuring section of the business plan, brining an outside person to serve as the initial Fire/EMS commissioner will help ease any feelings of a takeover, which could occur if any of the current organization leaders are chosen to serve as the commissioner.

Much of the transitional work will involve research and trips to lawmakers to enable a new structure that is not currently in place. While there are some organizations that currently employ a full-time executive in their fire or EMS organization, these personnel are already busy for the majority of their time tending to their own organization, thus leaving little capacity to build an entire organization. Appointing a person or company to lead the plan in the first year will ensure that the proper time and objectivity are given to the transition.

CONCLUSION

Southern Berkshire can move boldly forward with the implementation of new plans and objectives based on the findings and recommendations of ***Hanifen & Associates***, ***Kramer and Associates, and Meyers EM.*** Ideas in this report provide the outline for immediate changes to both EMS and fire organization based on hazard analysis, personnel, apparatus and funding interdependence. Southern Berkshire is a beautiful area, and careful planning is essential to maintaining the existing quality of life in the community. The EMS and fire departments are an integral part of a community's culture.

The Southern Berkshire region can be proud of the fine fire and rescue personnel which have served the region for years. The town selectmen, town managers and leaders in the current EMS and fire departments are commended for their efforts in planning for a strong force. All deserve credit for seeking neutral outside input that will provide objective information that is based on facts, figures, standards, and comparables.

The consulting team agrees that Southern Berkshire is at an opportune time in its history when it will profit by planning and preparing for a new service delivery model. While there is an emotional tie to the current delivery model, the data within shows that other options will allow the new configuration that can meet the current and future needs of fire protection in the Southern Berkshire region, while preserving the rich heritage of the current volunteer organizations.

APPENDIX 1
Consultant Resumes

Randall W. Hanifen, Ph.D.

6538 Red Pine Dr. Liberty Twp. Ohio 45044
513-266-6124 Randall@Hanifen.org

Objective

To provide Clients Customized solutions to meet their emergency service needs.

Certifications

- Fire Officer Designee, Firefighter, Paramedic, Executive Fire Officer Instructor
- Institute of Fire Engineers-Fellow
- NIMS 100, 200, 300, 400, 700, 800b, EMI PDS-EM

Experience

Hanifen and Associates
9/2004-Present

CEO/Principal Consultant
- Conduct strategic planning projects utilizing analytics with fire departments
- Conduct station location analysis with GIS, Budgets and work plans
- Create Labor-Management solutions through collaboration

West Chester Fire-Rescue
2/1998-Present

Shift Captain (Battalion Commander)
- Shift/Battalion Commander for 5 station fire department. Manage a shift of up to 31 mostly career personnel.
- Lead Strategic Planning process. Provide data driven solutions for fire chief.

American Public University System 1/2016-Present

Associate Professor
- Develop and teach graduate level courses in Emergency and Disaster Management Program. Supervise graduate research.

University of Cincinnati
1/2007-Present

Adjunct Professor
- Develop and teach fire science curriculum. Current classes include. Fire and Emergency Services Administration, Disaster Planning and Control, Managerial Issues in Hazardous Materials, and Fire Investigation

Education

Northcentral University

Ph.D. Homeland Security
- Homeland Security Policy and Analysis
- GPA 3.90

Grand Canyon University

M.S. Executive Fire Service Leadership
- GPA 3.87
- Degree based on National Fire Academy EFO Program

Volunteer Work

Ohio Task Force 1
FEMA US&R
5/2002-Present
Butler County IMAT Team

Task Force Leader
- Oversee hazmat team of the task force
- Lead 80-member team during federally declared disasters

Planning Section Chief
- Lead IMAT through planning cycle
- Command groups and divisions under the planning section

International Association of Fire Chiefs

Company Officer Section
- Vice-Chair of Section

Program (FRI) Planning Committee
- Responsible for selection of courses and updates to the Company Officer Leadership Program

Center for Public Safety Excellence
National Fire Protection Assoc.

Fire Officer Peer-Reviewer
- Review candidates for Fire Officer Designation

Fire Officer Professional Standards (NFPA 1021)
- Assigned to Technical Committee as Subject Matter Expert

Publications

Disaster Planning and Control (2009)
IAFC On-Scene (2016)

Associate Author

- Penwell Publications.

Primary Author/Project Manager

- Succession Management for the Fire Service

Professional Affiliations

Fellow-Institute of Fire Engineers (FIFireE)

- Competency based acceptance, only 60 U.S. Members, Only CO in U.S.
- World-wide organization based in United Kingdom

Presentations

West Chester University (2008, 2009, 2010) **Ohio Fire Chief's Conference** (2011)
Working Fire Video (2002, 2005) **IAFC Board of Directors** (2011)
Ohio Township Association (2008); **Ohio GIS Conference** (2009,2010)
International Fire World (2012), **Fire Rescue International** (2013-2016)

Resume -- WILLIAM M. KRAMER

9 Heritage Rd. Phone: (513) 678-2279 Daughter - Cari Ann, Paramedic
Cincinnati, OH 45241 Birth Date: 1-28-44 wmkramer@zoomtown.com

Educational Background

B.S.I.M.	Industrial Management	University of Cincinnati, 1968
B.B.A.	Management	University of Cincinnati, 1968
M.B.A.	Personnel Administration	Xavier University, 1970
M.A.I.R.	Industrial Relations	University of Cincinnati, 1977
Ph.D.	Major: Management	University of Cincinnati, 1977
	Minors: Law & Indust. Rel.	(Ph.D. GPA: 3.78)

Fire Service Background

Volunteer Fire Service: Volunteer Firefighter 1962 - 1969, Green Township; Vice President of FF Association 1967-1969.
Career Fire Service: Cincinnati Fire Division: Firefighter – 1973 to 1981; Lieutenant – 1981to 1983; Captain – 1983 to 1987; District Chief – 1987 to 1993; 1994; Assistant Fire Chief - Feb. 1993; Acting Fire Chief April, 1993 (Chose Directorship at University)
Fire Chief: Indianapolis International Airport, April 1995 - 1998.
Fire Chief: Deerfield Township Fire Department, Warren County, OH October 1998 – January, 2006

Academic Background:

1971 - 1981	University of Cincinnati - Lecturer on Management
1975 - 1981	Xavier University - Assistant Professor of Management
1978 - Present	National Fire Academy: Open Learning Fire Service Program- Editor and Author
1981 - 1982	University of Minnesota - Adjunct Instructor - Open Learning Fire Service Program
1982 - 2008	University of Cincinnati - Associate Professor of Fire Science
2008 - 2009	University of Cincinnati - Professor of Fire Science
1982-1995, 2003-2009	University of Cincinnati Department Head, Director of Fire Science

Publications - Primary Author or Editor:

"A Managerial Analysis of Municipal Fire Departments -- Ph.D. Dissertation – (Cincinnati: U. C. Press, 1977) (N.Y. June 1977)

Article: "Management by Objectives in the Fire Service": **International Fire Chief**; (Washington D.C., May, 1979)

Book: **Disaster & Fire Defense Planning** Course Guide (Washington D.C.; Open Learning Fire Service Program, 1992)

Book: **Political and Legal Foundations of the Fire Threat, Service**, (Lexington, MA: Ginn Custom Publishing, 1992) 1994)

Book: **Advanced Fire Administration** (Lexington, MA: Ginn Custom Publishing, 1992)

Book: **Fire Officer's Guide to Disaster Control** (Fire Engineering, 1992)

Book: **Disaster Planning and Control** (Penwell, 2009)

Co-Author

Article: "MBO Pays Dividends in Three Areas in Cincinnati": **Fire Engineering**

Book: **Managing Fire Services** (Washington D.C.: ICMA, 1979 and 1999)

Book: **Personnel Management for the Fire Service**; (Washington D.C. Open Learning Fire Service Program, 1979)

Book: **Community and the Fire**

(Lexington, MA: Ginn Custom Publishing,

Book: **Fire Chief's Handbook** Fire Engineering Books & Videos, Saddle Brook, NJ, 1997

Article: **Fire Service Staffing** Ohio Township Magazine, 2003

Educational Innovation:

1997- Present: Served as Educational Commentator for two video production companies, Developed program for offering collegiate credit for evaluation of contemporary issues in the Fire Service. **American Heat.** 1988-1997 - **Working Fire**. 1998- Present

Military Background:

U. S. Marine Corps - Captain - Platoon Commander; Active Duty: 1965 - 66; 1969 - 70; Active Reserves: 1966 - 69; 1970 - 1974.

Hall of Fame: 2006: Highest State of Ohio Fire Service Award and Induction into Ohio Fire Service Hall Of Fame

Patrick Meyers

160-04 Crossbay Blvd; #240, Howard Beach, NY 11414
(516) 544-1085 | pmeyers@meyersem.com

PROFESSIONAL WORK EXPERIENCE

President / CEO, April 2018 – Present
Meyers Emergency Management, Inc., Queens, NY

Senior Project Manager, Emergency Management, January 2016 – Present
Greater New York Hospital Association (GNYHA), New York, NY

Emergency Medical Technician, December 2013 – Present
Maimonides Medical Center, Brooklyn, NY

Senior Electronic Medical Records Trainer & Implementation Specialist, May 2010 – October 2014
Maxi Return Services, Staten Island, NY

EDUCATION

Bachelor of Science in Emergency Services Administration, December 2015
Adelphi University, Garden City, NY, GPA 3.688
Honors/Awards: Tau Sigma National Honors Society

VOLUNTEER EXPERIENCE / COMMUNITY SERVICE

Rockaway Theatre Company, April 2014 – Present
Director, Emergency Preparedness
Implemented and organized an emergency operations plan for a community theatre in the Rockaway section of Queens, NY.

BRAVO Volunteer Ambulance Service, January 2014 - Present
Brooklyn, NY
Provided prehospital emergency medical care on a volunteer basis to the Bay Ridge & Bensonhurst communities in Brooklyn, NY.

Ogdensburg Volunteer Rescue Squad, 2004
Ogdensburg, NY
Volunteer EMT in an area of NYS whose fire and EMS services are primarily provided by volunteer agencies.

Potsdam Volunteer Rescue Squad, 2003-2004
Potsdam, NY
Volunteer EMT in an area of NYS whose fire and EMS services are primarily provided by volunteer agencies.

SUNY Potsdam Campus Rescue Squad, 2002-2004
Potsdam, NY
Volunteer EMT in an area of NYS whose fire and EMS services are primarily provided by volunteer agencies.

Potsdam Volunteer Fire Department, 2003-2004
Potsdam, NY
Volunteer Firefighter in an area of NYS whose fire and EMS services are primarily provided by volunteer agencies.

West Exeter Volunteer Fire Department, 2002-2006
West Exeter, NY
Volunteer Firefighter and EMT in an area of NYS whose fire and EMS services are primarily provided by volunteer agencies.

APPENDIX 2
Demographic Information

Great Barrington town, Berkshire County, Massachusetts

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Description	Measure	Source
Population		
Census 2010 Total Population	7,104	2010 Demographic Profile
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates
2017 ACS 5-Year Population Estimate	6,915	2013-2017 American Community Survey 5-Year Estimates
Median Age	44.9	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	1,703	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	89.0%	2013-2017 American Community Survey 5-Year Estimates
Count of Governments	N/A	2012 Census of Governments
Total housing units	3,188	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	56,124	2013-2017 American Community Survey 5-Year Estimates
Foreign Born Population	848	2013-2017 American Community Survey 5-Year Estimates
Individuals below poverty level	5.2%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		
White alone	5,820	2013-2017 American Community Survey 5-Year Estimates

Description	Measure	Source
Black or African American alone	262	2013-2017 American Community Survey 5-Year Estimates
American Indian and Alaska Native alone	10	2013-2017 American Community Survey 5-Year Estimates
Asian alone	108	2013-2017 American Community Survey 5-Year Estimates
Native Hawaiian and Other Pacific Islander alone	0	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	385	2013-2017 American Community Survey 5-Year Estimates
Two or More Races	330	2013-2017 American Community Survey 5-Year Estimates
Hispanic or Latino (of any race)	820	2013-2017 American Community Survey 5-Year Estimates
White alone, Not Hispanic or Latino	5,571	2013-2017 American Community Survey 5-Year Estimates
Veterans	318	2013-2017 American Community Survey 5-Year Estimates

Alford town, Berkshire County, Massachusetts

Bookmark/Save | Print

Description	Measure	Source
Population		
Census 2010 Total Population	494	2010 Demographic Profile
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates
2017 ACS 5-Year Population Estimate	411	2013-2017 American Community Survey 5-Year Estimates
Median Age	61.5	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	N/A	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	98.5%	2013-2017 American Community Survey 5-Year Estimates
Count of Governments	N/A	2012 Census of Governments

Description	Measure	Source
Total housing units	354	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	105,625	2013-2017 American Community Survey 5-Year Estimates
Foreign Born Population	22	2013-2017 American Community Survey 5-Year Estimates
Individuals below poverty level	4.9%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		
White alone	390	2013-2017 American Community Survey 5-Year Estimates
Black or African American alone	5	2013-2017 American Community Survey 5-Year Estimates
American Indian and Alaska Native alone	0	2013-2017 American Community Survey 5-Year Estimates
Asian alone	7	2013-2017 American Community Survey 5-Year Estimates
Native Hawaiian and Other Pacific Islander alone	0	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	0	2013-2017 American Community Survey 5-Year Estimates
Two or More Races	9	2013-2017 American Community Survey 5-Year Estimates
Hispanic or Latino (of any race)	10	2013-2017 American Community Survey 5-Year Estimates
White alone, Not Hispanic or Latino	380	2013-2017 American Community Survey 5-Year Estimates
Veterans	40	2013-2017 American Community Survey 5-Year Estimates

Egremont town, Berkshire County, Massachusetts

Bookmark/Save | Print

Description	Measure	Source
Population		

Description	Measure	Source
Census 2010 Total Population	1,225	2010 Demographic Profile
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates
2017 ACS 5-Year Population Estimate	1,255	2013-2017 American Community Survey 5-Year Estimates
Median Age	54.8	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	N/A	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	94.4%	2013-2017 American Community Survey 5-Year Estimates
Count of Governments	N/A	2012 Census of Governments
Total housing units	1,011	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	61,927	2013-2017 American Community Survey 5-Year Estimates
Foreign Born Population	94	2013-2017 American Community Survey 5-Year Estimates
Individuals below poverty level	4.3%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		
White alone	1,159	2013-2017 American Community Survey 5-Year Estimates
Black or African American alone	29	2013-2017 American Community Survey 5-Year Estimates
American Indian and Alaska Native alone	35	2013-2017 American Community Survey 5-Year Estimates
Asian alone	15	2013-2017 American Community Survey 5-Year Estimates
Native Hawaiian and Other Pacific Islander alone	5	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	6	2013-2017 American Community Survey 5-Year Estimates
Two or More Races	6	2013-2017 American Community Survey 5-Year Estimates

Description	Measure	Source
Hispanic or Latino (of any race)	70	2013-2017 American Community Survey 5-Year Estimates
White alone, Not Hispanic or Latino	1,130	2013-2017 American Community Survey 5-Year Estimates
Veterans	142	2013-2017 American Community Survey 5-Year Estimates

Mount Washington town, Berkshire County, Massachusetts

Bookmark/Save | Print

Description	Measure	Source
Population		
Census 2010 Total Population	167	2010 Demographic Profile
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates
2017 ACS 5-Year Population Estimate	140	2013-2017 American Community Survey 5-Year Estimates
Median Age	58.5	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	N/A	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	98.6%	2013-2017 American Community Survey 5-Year Estimates
Count of Governments	N/A	2012 Census of Governments
Total housing units	133	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	66,607	2013-2017 American Community Survey 5-Year Estimates
Foreign Born Population	9	2013-2017 American Community Survey 5-Year Estimates
Individuals below poverty level	16.4%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		
White alone	125	2013-2017 American Community Survey 5-Year Estimates

Description	Measure	Source
Black or African American alone	0	2013-2017 American Community Survey 5-Year Estimates
American Indian and Alaska Native alone	5	2013-2017 American Community Survey 5-Year Estimates
Asian alone	1	2013-2017 American Community Survey 5-Year Estimates
Native Hawaiian and Other Pacific Islander alone	4	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	5	2013-2017 American Community Survey 5-Year Estimates
Two or More Races	0	2013-2017 American Community Survey 5-Year Estimates
Hispanic or Latino (of any race)	0	2013-2017 American Community Survey 5-Year Estimates
White alone, Not Hispanic or Latino	125	2013-2017 American Community Survey 5-Year Estimates
Veterans	16	2013-2017 American Community Survey 5-Year Estimates

Monterey town, Berkshire County, Massachusetts

Bookmark/Save | Print

Description	Measure	Source
Population		
Census 2010 Total Population	961	2010 Demographic Profile
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates
2017 ACS 5-Year Population Estimate	729	2013-2017 American Community Survey 5-Year Estimates
Median Age	57.5	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	N/A	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	95.5%	2013-2017 American Community Survey 5-Year Estimates
Count of Governments	N/A	2012 Census of Governments

Description	Measure	Source
Total housing units	909	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	58,661	2013-2017 American Community Survey 5-Year Estimates
Foreign Born Population	17	2013-2017 American Community Survey 5-Year Estimates
Individuals below poverty level	10.0%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		
White alone	707	2013-2017 American Community Survey 5-Year Estimates
Black or African American alone	5	2013-2017 American Community Survey 5-Year Estimates
American Indian and Alaska Native alone	0	2013-2017 American Community Survey 5-Year Estimates
Asian alone	5	2013-2017 American Community Survey 5-Year Estimates
Native Hawaiian and Other Pacific Islander alone	0	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	9	2013-2017 American Community Survey 5-Year Estimates
Two or More Races	3	2013-2017 American Community Survey 5-Year Estimates
Hispanic or Latino (of any race)	4	2013-2017 American Community Survey 5-Year Estimates
White alone, Not Hispanic or Latino	706	2013-2017 American Community Survey 5-Year Estimates
Veterans	50	2013-2017 American Community Survey 5-Year Estimates

New Malrboroughugh town, Berkshire County, Massachusetts

Description	Measure	Source
Population		
Census 2010 Total Population	1,509	2010 Demographic Profile

Description	Measure	Source
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates
2017 ACS 5-Year Population Estimate	1,370	2013-2017 American Community Survey 5-Year Estimates
Median Age	57.8	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	N/A	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	93.1%	2013-2017 American Community Survey 5-Year Estimates
Count of Governments	N/A	2012 Census of Governments
Total housing units	1,058	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	73,750	2013-2017 American Community Survey 5-Year Estimates
Foreign Born Population	55	2013-2017 American Community Survey 5-Year Estimates
Individuals below poverty level	4.5%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		
White alone	1,315	2013-2017 American Community Survey 5-Year Estimates
Black or African American alone	16	2013-2017 American Community Survey 5-Year Estimates
American Indian and Alaska Native alone	0	2013-2017 American Community Survey 5-Year Estimates
Asian alone	8	2013-2017 American Community Survey 5-Year Estimates
Native Hawaiian and Other Pacific Islander alone	0	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	6	2013-2017 American Community Survey 5-Year Estimates
Two or More Races	25	2013-2017 American Community Survey 5-Year Estimates
Hispanic or Latino (of any race)	34	2013-2017 American Community Survey 5-Year Estimates

Description	Measure	Source
White alone, Not Hispanic or Latino	1,301	2013-2017 American Community Survey 5-Year Estimates
Veterans	116	2013-2017 American Community Survey 5-Year Estimates

Otis town, Berkshire County, Massachusetts

Bookmark/Save | Print

Description	Measure	Source
Population		
Census 2010 Total Population	1,612	2010 Demographic Profile
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates
2017 ACS 5-Year Population Estimate	1,577	2013-2017 American Community Survey 5-Year Estimates
Median Age	51.7	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	N/A	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	93.2%	2013-2017 American Community Survey 5-Year Estimates
Count of Governments	N/A	2012 Census of Governments
Total housing units	1,695	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	70,048	2013-2017 American Community Survey 5-Year Estimates
Foreign Born Population	62	2013-2017 American Community Survey 5-Year Estimates
Individuals below poverty level	9.2%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		
White alone	1,555	2013-2017 American Community Survey 5-Year Estimates
Black or African American alone	9	2013-2017 American Community Survey 5-Year Estimates
American Indian and Alaska Native alone	5	2013-2017 American Community Survey 5-Year

Description	Measure	Source
		Estimates
Asian alone	0	2013-2017 American Community Survey 5-Year Estimates
Native Hawaiian and Other Pacific Islander alone	0	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	0	2013-2017 American Community Survey 5-Year Estimates
Two or More Races	8	2013-2017 American Community Survey 5-Year Estimates
Hispanic or Latino (of any race)	8	2013-2017 American Community Survey 5-Year Estimates
White alone, Not Hispanic or Latino	1,547	2013-2017 American Community Survey 5-Year Estimates
Veterans	172	2013-2017 American Community Survey 5-Year Estimates

Sandisfield town, Berkshire County, Massachusetts

Bookmark/Save | Print

Description	Measure	Source
Population		
Census 2010 Total Population	915	2010 Demographic Profile
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates
2017 ACS 5-Year Population Estimate	859	2013-2017 American Community Survey 5-Year Estimates
Median Age	50.2	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	N/A	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	91.4%	2013-2017 American Community Survey 5-Year Estimates
Count of Governments	N/A	2012 Census of Governments
Total housing units	703	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	68,636	2013-2017 American Community Survey 5-Year

Description	Measure	Source
		Estimates
Foreign Born Population	31	2013-2017 American Community Survey 5-Year Estimates
Individuals below poverty level	4.1%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		
White alone	818	2013-2017 American Community Survey 5-Year Estimates
Black or African American alone	3	2013-2017 American Community Survey 5-Year Estimates
American Indian and Alaska Native alone	0	2013-2017 American Community Survey 5-Year Estimates
Asian alone	9	2013-2017 American Community Survey 5-Year Estimates
Native Hawaiian and Other Pacific Islander alone	0	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	10	2013-2017 American Community Survey 5-Year Estimates
Two or More Races	19	2013-2017 American Community Survey 5-Year Estimates
Hispanic or Latino (of any race)	18	2013-2017 American Community Survey 5-Year Estimates
White alone, Not Hispanic or Latino	808	2013-2017 American Community Survey 5-Year Estimates
Veterans	98	2013-2017 American Community Survey 5-Year Estimates

Sheffield town, Berkshire County, Massachusetts

Bookmark/Save | Print

Description	Measure	Source
Population		
Census 2010 Total Population	3,257	2010 Demographic Profile
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates

Description	Measure	Source
2017 ACS 5-Year Population Estimate	3,190	2013-2017 American Community Survey 5-Year Estimates
Median Age	51.8	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	450	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	91.4%	2013-2017 American Community Survey 5-Year Estimates
Count of Governments	N/A	2012 Census of Governments
Total housing units	1,737	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	73,953	2013-2017 American Community Survey 5-Year Estimates
Foreign Born Population	129	2013-2017 American Community Survey 5-Year Estimates
Individuals below poverty level	8.7%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		
White alone	3,155	2013-2017 American Community Survey 5-Year Estimates
Black or African American alone	0	2013-2017 American Community Survey 5-Year Estimates
American Indian and Alaska Native alone	6	2013-2017 American Community Survey 5-Year Estimates
Asian alone	0	2013-2017 American Community Survey 5-Year Estimates
Native Hawaiian and Other Pacific Islander alone	0	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	29	2013-2017 American Community Survey 5-Year Estimates
Two or More Races	0	2013-2017 American Community Survey 5-Year Estimates
Hispanic or Latino (of any race)	15	2013-2017 American Community Survey 5-Year Estimates
White alone, Not Hispanic or Latino	3,140	2013-2017 American Community Survey 5-Year Estimates

Description	Measure	Source
Veterans	367	2013-2017 American Community Survey 5-Year Estimates

Stockbridge town, Berkshire County, Massachusetts

Bookmark/Save | Print

Description	Measure	Source
Population		
Census 2010 Total Population	1,947	2010 Demographic Profile
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates
2017 ACS 5-Year Population Estimate	1,980	2013-2017 American Community Survey 5-Year Estimates
Median Age	56.7	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	N/A	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	92.0%	2013-2017 American Community Survey 5-Year Estimates
Count of Governments	N/A	2012 Census of Governments
Total housing units	1,687	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	54,438	2013-2017 American Community Survey 5-Year Estimates
Foreign Born Population	150	2013-2017 American Community Survey 5-Year Estimates
Individuals below poverty level	9.4%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		
White alone	1,866	2013-2017 American Community Survey 5-Year Estimates
Black or African American alone	26	2013-2017 American Community Survey 5-Year Estimates
American Indian and Alaska Native alone	0	2013-2017 American Community Survey 5-Year Estimates
Asian alone	30	2013-2017 American Community Survey 5-Year

Description	Measure	Source
		Estimates
Native Hawaiian and Other Pacific Islander alone	0	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	38	2013-2017 American Community Survey 5-Year Estimates
Two or More Races	20	2013-2017 American Community Survey 5-Year Estimates
Hispanic or Latino (of any race)	81	2013-2017 American Community Survey 5-Year Estimates
White alone, Not Hispanic or Latino	1,823	2013-2017 American Community Survey 5-Year Estimates
Veterans	150	2013-2017 American Community Survey 5-Year Estimates

Tyringham town, Berkshire County, Massachusetts

Bookmark/Save | Print

Description	Measure	Source
Population		
Census 2010 Total Population	327	2010 Demographic Profile
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates
2017 ACS 5-Year Population Estimate	439	2013-2017 American Community Survey 5-Year Estimates
Median Age	59.9	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	N/A	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	97.9%	2013-2017 American Community Survey 5-Year Estimates
Count of Governments	N/A	2012 Census of Governments
Total housing units	320	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	86,250	2013-2017 American Community Survey 5-Year Estimates
Foreign Born Population	16	2013-2017 American Community Survey 5-Year

Description	Measure	Source
		Estimates
Individuals below poverty level	12.5%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		
White alone	423	2013-2017 American Community Survey 5-Year Estimates
Black or African American alone	2	2013-2017 American Community Survey 5-Year Estimates
American Indian and Alaska Native alone	0	2013-2017 American Community Survey 5-Year Estimates
Asian alone	5	2013-2017 American Community Survey 5-Year Estimates
Native Hawaiian and Other Pacific Islander alone	0	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	7	2013-2017 American Community Survey 5-Year Estimates
Two or More Races	2	2013-2017 American Community Survey 5-Year Estimates
Hispanic or Latino (of any race)	14	2013-2017 American Community Survey 5-Year Estimates
White alone, Not Hispanic or Latino	416	2013-2017 American Community Survey 5-Year Estimates
Veterans	39	2013-2017 American Community Survey 5-Year Estimates

West Stockbridge town, Berkshire County, Massachusetts

Bookmark/Save | Print

Description	Measure	Source
Population		
Census 2010 Total Population	1,306	2010 Demographic Profile
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates
2017 ACS 5-Year Population Estimate	1,095	2013-2017 American Community Survey 5-Year Estimates

Description	Measure	Source
Median Age	53.6	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	N/A	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	96.0%	2013-2017 American Community Survey 5-Year Estimates
Count of Governments	N/A	2012 Census of Governments
Total housing units	849	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	76,518	2013-2017 American Community Survey 5-Year Estimates
Foreign Born Population	56	2013-2017 American Community Survey 5-Year Estimates
Individuals below poverty level	7.0%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		
White alone	961	2013-2017 American Community Survey 5-Year Estimates
Black or African American alone	54	2013-2017 American Community Survey 5-Year Estimates
American Indian and Alaska Native alone	24	2013-2017 American Community Survey 5-Year Estimates
Asian alone	6	2013-2017 American Community Survey 5-Year Estimates
Native Hawaiian and Other Pacific Islander alone	4	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	25	2013-2017 American Community Survey 5-Year Estimates
Two or More Races	21	2013-2017 American Community Survey 5-Year Estimates
Hispanic or Latino (of any race)	32	2013-2017 American Community Survey 5-Year Estimates
White alone, Not Hispanic or Latino	954	2013-2017 American Community Survey 5-Year Estimates
Veterans	79	2013-2017 American Community Survey 5-Year Estimates

Richmond town, Berkshire County, Massachusetts

Bookmark/Save | Print

Description	Measure	Source
Population		
Census 2010 Total Population	1,475	2010 Demographic Profile
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates
2017 ACS 5-Year Population Estimate	1,521	2013-2017 American Community Survey 5-Year Estimates
Median Age	58.1	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	N/A	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	94.4%	2013-2017 American Community Survey 5-Year Estimates
Count of Governments	N/A	2012 Census of Governments
Total housing units	930	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	97,917	2013-2017 American Community Survey 5-Year Estimates
Foreign Born Population	51	2013-2017 American Community Survey 5-Year Estimates
Individuals below poverty level	5.1%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		
White alone	1,459	2013-2017 American Community Survey 5-Year Estimates
Black or African American alone	10	2013-2017 American Community Survey 5-Year Estimates
American Indian and Alaska Native alone	3	2013-2017 American Community Survey 5-Year Estimates
Asian alone	23	2013-2017 American Community Survey 5-Year Estimates
Native Hawaiian and Other Pacific Islander alone	0	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	0	2013-2017 American Community Survey 5-Year

Description	Measure	Source
		Estimates
Two or More Races	26	2013-2017 American Community Survey 5-Year Estimates
Hispanic or Latino (of any race)	2	2013-2017 American Community Survey 5-Year Estimates
White alone, Not Hispanic or Latino	1,457	2013-2017 American Community Survey 5-Year Estimates
Veterans	124	2013-2017 American Community Survey 5-Year Estimates

Lee town, Berkshire County, Massachusetts

Bookmark/Save | Print

Description	Measure	Source
Population		
Census 2010 Total Population	5,943	2010 Demographic Profile
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates
2017 ACS 5-Year Population Estimate	5,796	2013-2017 American Community Survey 5-Year Estimates
Median Age	44.5	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	842	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	89.1%	2013-2017 American Community Survey 5-Year Estimates
Count of Governments	N/A	2012 Census of Governments
Total housing units	2,775	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	66,599	2013-2017 American Community Survey 5-Year Estimates
Foreign Born Population	650	2013-2017 American Community Survey 5-Year Estimates
Individuals below poverty level	8.0%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		

Description	Measure	Source
White alone	5,277	2013-2017 American Community Survey 5-Year Estimates
Black or African American alone	82	2013-2017 American Community Survey 5-Year Estimates
American Indian and Alaska Native alone	8	2013-2017 American Community Survey 5-Year Estimates
Asian alone	169	2013-2017 American Community Survey 5-Year Estimates
Native Hawaiian and Other Pacific Islander alone	0	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	239	2013-2017 American Community Survey 5-Year Estimates
Two or More Races	21	2013-2017 American Community Survey 5-Year Estimates
Hispanic or Latino (of any race)	122	2013-2017 American Community Survey 5-Year Estimates
White alone, Not Hispanic or Latino	5,223	2013-2017 American Community Survey 5-Year Estimates
Veterans	472	2013-2017 American Community Survey 5-Year Estimates

Lenox town, Berkshire County, Massachusetts

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Description	Measure	Source
Population		
Census 2010 Total Population	5,025	2010 Demographic Profile
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates
2017 ACS 5-Year Population Estimate	4,994	2013-2017 American Community Survey 5-Year Estimates
Median Age	55.0	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	905	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	96.3%	2013-2017 American Community Survey 5-Year Estimates

Description	Measure	Source
Count of Governments	N/A	2012 Census of Governments
Total housing units	3,021	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	68,492	2013-2017 American Community Survey 5-Year Estimates
Foreign Born Population	558	2013-2017 American Community Survey 5-Year Estimates
Individuals below poverty level	3.8%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		
White alone	4,764	2013-2017 American Community Survey 5-Year Estimates
Black or African American alone	100	2013-2017 American Community Survey 5-Year Estimates
American Indian and Alaska Native alone	0	2013-2017 American Community Survey 5-Year Estimates
Asian alone	91	2013-2017 American Community Survey 5-Year Estimates
Native Hawaiian and Other Pacific Islander alone	0	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	13	2013-2017 American Community Survey 5-Year Estimates
Two or More Races	26	2013-2017 American Community Survey 5-Year Estimates
Hispanic or Latino (of any race)	132	2013-2017 American Community Survey 5-Year Estimates
White alone, Not Hispanic or Latino	4,663	2013-2017 American Community Survey 5-Year Estimates
Veterans	492	2013-2017 American Community Survey 5-Year Estimates

Tolland town, Hampden County, Massachusetts

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Description	Measure	Source
Population		

Description	Measure	Source
Census 2010 Total Population	485	2010 Demographic Profile
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates
2017 ACS 5-Year Population Estimate	666	2013-2017 American Community Survey 5-Year Estimates
Median Age	50.9	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	N/A	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	92.9%	2013-2017 American Community Survey 5-Year Estimates
Count of Governments	N/A	2012 Census of Governments
Total housing units	576	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	90,417	2013-2017 American Community Survey 5-Year Estimates
Foreign Born Population	16	2013-2017 American Community Survey 5-Year Estimates
Individuals below poverty level	7.2%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		
White alone	623	2013-2017 American Community Survey 5-Year Estimates
Black or African American alone	2	2013-2017 American Community Survey 5-Year Estimates
American Indian and Alaska Native alone	1	2013-2017 American Community Survey 5-Year Estimates
Asian alone	6	2013-2017 American Community Survey 5-Year Estimates
Native Hawaiian and Other Pacific Islander alone	0	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	8	2013-2017 American Community Survey 5-Year Estimates
Two or More Races	26	2013-2017 American Community Survey 5-Year Estimates

Description	Measure	Source
Hispanic or Latino (of any race)	7	2013-2017 American Community Survey 5-Year Estimates
White alone, Not Hispanic or Latino	620	2013-2017 American Community Survey 5-Year Estimates
Veterans	56	2013-2017 American Community Survey 5-Year Estimates

Becket town, Berkshire County, Massachusetts

Bookmark/Save | Print

Description	Measure	Source
Population		
Census 2010 Total Population	1,779	2010 Demographic Profile
2017 Population Estimate (as of July 1, 2017)	N/A	2017 Population Estimates
2017 ACS 5-Year Population Estimate	1,852	2013-2017 American Community Survey 5-Year Estimates
Median Age	50.9	2013-2017 American Community Survey 5-Year Estimates
Number of Companies	N/A	2012 Survey of Business Owners
Educational Attainment: Percent high school graduate or higher	93.4%	2013-2017 American Community Survey 5-Year Estimates
Count of Governments	N/A	2012 Census of Governments
Total housing units	1,778	2013-2017 American Community Survey 5-Year Estimates
Median Household Income	75,000	2013-2017 American Community Survey 5-Year Estimates
Foreign Born Population	35	2013-2017 American Community Survey 5-Year Estimates
Individuals below poverty level	6.9%	2013-2017 American Community Survey 5-Year Estimates
Race and Hispanic Origin		
White alone	1,748	2013-2017 American Community Survey 5-Year Estimates
Black or African American alone	27	2013-2017 American Community Survey 5-Year

Description	Measure	Source
		Estimates
American Indian and Alaska Native alone	0	2013-2017 American Community Survey 5-Year Estimates
Asian alone	0	2013-2017 American Community Survey 5-Year Estimates
Native Hawaiian and Other Pacific Islander alone	0	2013-2017 American Community Survey 5-Year Estimates
Some Other Race alone	34	2013-2017 American Community Survey 5-Year Estimates
Two or More Races	43	2013-2017 American Community Survey 5-Year Estimates
Hispanic or Latino (of any race)	77	2013-2017 American Community Survey 5-Year Estimates
White alone, Not Hispanic or Latino	1,717	2013-2017 American Community Survey 5-Year Estimates
Veterans	147	2013-2017 American Community Survey 5-Year Estimates

Source of Demographics: US Census Bureau
https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

APPENDIX 3
Medicare tightening ALS Transport reimbursement

NewsWorks Jan.5, 2015

Medicare requiring pre-approval on ambulance rides to combat fraud in N.J. and Pennsylvania

(Emma Lee/for NewsWorks)

In an effort to crack down on ambulance fraud, the federal government is beginning a pilot program in Pennsylvania and New Jersey to change the way Medicare reimburses rides for non-emergency medical treatment.

The only people who are supposed to qualify for a free ambulance ride to their regular dialysis or cancer treatment appointments are those who really need it: patients who are bed-ridden or have another serious medical problem.

All too often, though, relatively healthy people have been using ambulances, sometimes with the encouragement of a kickback from a transport company. And at $400 for a round-trip, health care consultant Marsha Simon said Medicare's increasing tab has officials upset.

"We have the absurd situation at present that the cost of the ride is more than the cost of the dialysis treatment," she said.By December 15th, ambulance companies in New Jersey, Pennsylvania, and South Carolina will need to get prior authorization before transporting qualified patients who require rides on a regular basis.

Simon said the restriction is likely to cut down on improper billing. But it also may mean patients won't get the care they need."What may look like savings under the line item called ambulance," she said, "is going to end up being greater cost on the line item called hospital."

A much better solution, she said, would have been a pilot program that included a Medicare-funded transportation option for people who may not be able to drive or are unable to afford a taxi, but don't need an ambulance. Alternative transport is available in New Jersey, but only if a patient is enrolled in Medicaid — and no such service exists in Pennsylvania.

The Philadelphia area has been one of the worst offenders for ambulance fraud in recent years, including several high profile arrests. In January the government also issued a six-month moratorium on approving new operators in the region.

If the program is as effective at stamping out fraud as Simon believes, then it's possible some local companies will have to close. “There’s currently 63 non-municipal ambulance providers in Philadelphia alone," said Karen Kroon, the general manager of the American Medical Response ambulance company in Philadelphia. "It seems to me there's way too many for the legitimate number of transports that may be out there."

Her company focuses on transporting patients who are critically ill, and currently is not providing any rides to people who fall under the new regulations, although they have in the past.

"It's a little bit more paperwork, but we're fully prepared," said Kroon. "We have our pre-authorization process in place, and I don't see this having much of an impact on our business at all."

That may be less true of the ambulance providers she sees dropping off patients at the dialysis center across the street from her office.

"Patients walk out the back of the ambulance," she said. "I see it every day."

APPENDIX 4

Reducing All segments of Response time

Reducing Response Times

Now more than ever, fire departments are being held accountable for their response time performance and effectiveness. Can your fire department answer the following questions accurately?

1. How fast do your dispatchers answer and process emergency calls?
2. What safeguards or job aides are in place to help dispatchers send the most appropriate units?
3. How long does it take for firefighters to react and respond to an emergency incident?
4. Are apparatus properly equipped for an efficient and safe response?

Our industry constantly attempts to improve response time, but rarely do we look at all aspects of the equation. Technology can play an important role in improving response times.

Remember that total response time is made up of three distinct components:

1. Dispatch time: Time elapsed from when a call is received at the 9-1-1 center until units are notified.
2. Turnout time: Time elapsed from when units are notified until they are responding.

3. Travel time: Time elapsed from when units respond until they arrive on the incident scene.

Most fire departments have a habit of focusing solely on improving their travel time, because it's traditionally accepted that little can be done to improve the other two components. Firefighters falsely believe that improving response time is made easy by driving faster. This solution rarely has a positive impact; in fact, it can lead to disastrous outcomes.

But using technology as an alternative to improve response times can change all that. Let's take a close look at each of the three components that make up response time.

Dispatch Time

One of the most critical areas in which to decrease response times comes before firefighters ever realize there's an emergency. When dispatchers receive a call for an emergency, it's critical that they identify the nature of the incident and be able to dispatch the most appropriate resources. It isn't uncommon to see technical rescue and hazmat situations downplayed during initial dispatch because dispatchers aren't comfortable with the incident type.

Computer-aided dispatch (CAD) and response interrogation software can help dispatchers recognize those rare, high-risk incidents and send the correct resources the first time. Sending the correct type and amount of resources initially is an excellent example of using technology to be more effective.

Additional technological improvements at the dispatch center can further help improve our performance. Can you imagine a dispatcher who always speaks at the same rate, tone and volume? Today, that is possible with computer-generated voice technology. By establishing a pre-recorded audio database, fire departments can ensure the correct pronunciation of all street names in a response jurisdiction. Even the format of a radio dispatch can be customized based on the incident type, geographic location or other variables. Although the use of "robot voices" for dispatching may sound unappealing or unnatural, it eliminates common errors that can have disastrous consequences.

The use of this technology can shave seconds off the dispatch time. In addition to this tangible benefit, dispatchers are able to handle higher call volume since the radio dispatch becomes “hands free.” The process is simple: A dispatcher processes a call for service, inputs all of the information required into a CAD system and simply presses a button to initiate the dispatch process. Since the “voice” is transmitting the information to emergency response units, the human dispatcher is free to gather additional information from the caller or to perform other duties.

Turnout Time

It’s impossible to improve things that aren’t measured and communicated. If we desire quick responses, we need to explore other ways to help our firefighters respond quicker. Taking an idea from the sports arena, why not place a clock on the wall to indicate how many seconds are left until an established goal is met? Firefighters are more likely to improve performance when they can see, in real time, how they’re doing.

A simple countdown clock is tied to the fire station alerting system. Once an alert is received, the same circuit that opens doors and turns on lights initiates a countdown from 60 to 0 seconds on this clock. The clock should be mounted in a conspicuous location in the apparatus bay. When only 10 seconds remain, a chime is activated on the clock to remind companies to quickly place themselves “responding” with the dispatch center. We have installed these clocks in two stations as prototypes to see if results improve enough to expand the practice to the other five fire stations. Anecdotal evidence demonstrates that the visibility of this device causes positive behavioral change (i.e., quicker turnout time).

Travel Time

Installing computers in fire apparatus is more common today than it has ever been. Departments have a wide variety of options, from adapting laptops to fit in the cab to purchasing customized, in-vehicle computers. Regardless of the hardware chosen, departments should consider using these computers for apparatus status changes. Using mobile dispatch software, firefighters can be responsible for changing their statuses, thus making them accountable for their performance. This frees up the airwaves for additional information that companies may receive while responding.

Computers with touch-screens or easy-access buttons are the best for shaving seconds off of travel times. It will also be important for departments to closely examine the software that will be used to make sure it is “friendly” with a touch-screen environment. Some software programs use icons that are too small and detailed for any measure of accuracy on a touch-screen.

In-cab computers can also contain automatic vehicle location (AVL) devices to track fire department apparatus in real time using GPS. This can provide valuable information and allow dispatchers to notify units that are closest to a received call for an emergency, thus reducing travel times.

Embrace Change … But Use Caution

These technologies can all have a positive impact on improving total response time. Their cost varies—from several hundred dollars for an electronic clock to hundreds of thousands of dollars for automated voice dispatching and mobile computers—but in the grand scheme of customer service, it may be well worth the investment for the improved outcome.

Note: These solutions for public safety problems should ONLY be implemented when they improve and simplify operations—not complicate them. Some equipment vendors have a poor understanding of the environment and culture of the fire service, leading them to think their solutions are more user-friendly than they really are. Be sure to explore what solutions other fire departments have implemented and the lessons they learned to avoid repeating mistakes. Today’s economic conditions demand that we work smarter and are mindful of our budgetary footprint for complex projects. Ideally, your investment in technological solutions should demonstrate to your taxpayers that your department is working harder for their tax dollars.

The bottom line: Technological improvements for our business have only just begun. Embrace the change and look for ways to keep your fire department on the cutting edge of improvement.

Comment Now: **Post Your Thoughts & Comments on This Story**

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  JAKE RHOADES

  Jake Rhoades, MS, EFO, CFO, CMO, CTO, MIFireE, is the fire chief for the Edmond (Okla.) Fire Department and a 21-year veteran of the fire service. Rhoades holds a master's degree in executive fire service leadership. He serves as an elected member on the board of directors for the IAFC Safety, Health and Survival Section and as a principle member of the NFPA technical committee for firefighter qualifications. He is an adjunct instructor for Columbia Southern University. Read Full Bio

- 

  TOM JENKINS

  Tom Jenkins, MS, EFO, CFO, CMO, MIFireE, is the fire chief of the Rogers (Ark.) Fire Department and a 14-year member of the fire service. He has a bachelor's degree in fire protection and safety engineering from Oklahoma State University and a master's degree in public administration from the University of Oklahoma. He also serves as an adjunct professor for Oklahoma State University and Northwest Arkansas Community College. Read Full Bio

APPENDIX 5
National Volunteer Shortage

U.S. Fire Administration
Working for a fire-safe America

INFOGRAM

Volunteer fire departments in recruitment crisis

Posted: Dec. 6, 2018

Seventy percent of firefighters in the United States are volunteers, and national volunteer numbers have been going down steadily for years. With fewer people staffing departments and fewer people committing to the hours of training required for volunteer duty, communities and citizens are more vulnerable.

No state illustrates this decline more than Pennsylvania. In the 1970s, Pennsylvania had around 300,000 volunteer firefighters (http://www.govtech.com/em/preparedness/Report-Funding-Support-Needed-to-Fix-Public-Safety-Crisis-Caused-by-Volunteer-Firefighter-EMS-Shortage.html). Those numbers plummeted to just 38,000 over the past 40 years. Ninety percent of departments in Pennsylvania are volunteer, and it has the highest number of volunteer firefighters in the country. As one state representative said, "We're in a crisis right now."

Volunteer departments across the country are in a crisis. We have an aging volunteer workforce, higher costs to communities as they hire full- and part-time staff, longer response times and more mutual aid calls, and an ongoing struggle to find funding for equipment that keeps increasing in price. Departments face an uphill struggle and some states, like Pennsylvania, are investigating ways to bolster the volunteer force and reduce costs to departments, such as:

- Offering tuition reimbursement and college credit for student volunteers.

Full Infogram contents found at: https://www.usfa.fema.gov/operations/infograms/120618.html

APPENDIX 6
Estero Fire District
Fire Board Composition

Estero Fire Rescue -- Board of Commissioners

The Estero Fire Rescue Board of Commissioners are the only officials elected exclusively by the registered voters living in the Estero Fire District. The Board is comprised of five individuals who oversee the direction of Estero Fire Rescue and ensure the proper use of tax-payer dollars for the operation of the Fire District. Each seat serves a four year term.

The Board is tasked with hiring the Fire Chief and providing the Chief with guidance and oversight. The Board does not take part in the day-to-day operation of the Fire District or the hiring of additional employees. Those responsibilities belong to the Fire Chief.

The regular monthly meetings of the Estero Fire Rescue Board of Commissioners are held at **5:00 p.m. on the second Tuesday of every month.** The meetings are held at Estero Fire Rescue, 21500 Three Oaks Parkway, Estero, Fl 33928.

Commissioners can be contacted via the Estero Fire Rescue administration office: 239-390-8000, 21500 Three Oaks Parkway, Estero, Fl 33928.

Jack Lienesch

Commissioner Jack Lienesch retired in 2000 in Dayton, Ohio after 37 years with General Motors and Delphi Corporation. He held various engineering and management positions with GM including stints at their Research Labs, Chevrolet Engineering, Saturn Corporation, GM Powertrain and Delphi Automotive. Since retirement, he has continued as an independent engineering consultant for several clients.

After moving to Florida in 2004, Jack has been active in Estero, serving on the Community Planning Panel since 2005 and acting as its Chairman since 2008. He also has served on the Bayside CDD board for Pelican Landing and has acted as Pelican Landing's representative to the ECCL since 2010.

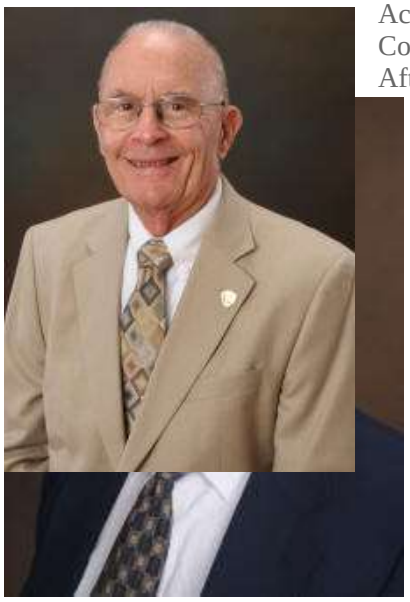
Jack is an engineering graduate of Purdue and Stanford Universities. He has been married to his wife, Kathy Lienesch, for 48 years. They have two children and three grandchildren. He was elected to the EFR Board of Commissioners in November 2014 following former Commissioner Sean James' move from Lee to Collier County.

Term: November 2014 – November 2018

Jeff Maas

Jeff Maas has been Chief Financial Officer for EnviroStruct since 2014. In his position, Jeff oversees the accounting, asset management, finance and human resource activities for EnviroStruct and its related companies.

Jeff brings 30 years of experience in accounting, corporate finance and operations management to his current position. He is also knowledgeable in company merger and integration as well as strategic goal management. In his career, Jeff has worked in public accounting and the following industries – Public Accounting, Transportation, Manufacturing and most recently, Construction.



After graduating from the University of Wisconsin-Madison with a degree in Business Administration, Jeff gained experience in public accounting and private industry in his home state of Wisconsin before moving to Florida in 1994.

Jeff resides in Estero, FL with his wife Bonnie and their two children – Zachary and Madison. Jeff is actively involved in his local church and his children's school.

– Memberships and Organizations:

President – Estero Chamber of Commerce

Board Member – Estero Community Improvement Foundation

Member – Knights of Columbus – Chapter 10498

Prior member – Estero Planning and Zoning Board

James Mendolera

Commissioner Mendolera retired in 2009 at the rank of Captain serving more than 35 years with the E. Cleveland and Mayfield Hts. Fire Departments in Ohio. He held certifications as a Paramedic, Fire Safety Inspector, and Fire Instructor thru 2013 and taught Fire Science at Lakeland College, Mentor, Ohio 1982-84. Commissioner Mendolera holds an AAS Degree in Fire Science from Lakeland College.

Commissioner Mendolera has received two letters of commendation for fire rescues, was the 1999 Lions Club International Firefighter of the Year, and was the 2008 recipient of the Cleveland Clinic EMS Council for Award of Excellence and Distinguished Service Medal for helping in saving the life of a police officer.

He has been a committee member of the E. Cleveland Safety Forces Olde Tymers Nite for the past 20 years raising thousands of dollars through donations for retired police and firefighters and sponsoring events to honor those who have retired. Commissioner Mendolera currently resides in Bella Terra.

Term: November 2014 – November 2018

Dick Schweers

Commissioner Dick Schweers has been on the Board of Estero Fire Rescue since August of 1997 and currently serves as the Board's Chairman. Commissioner Schweers worked for Northern Illinois Gas for 37 years before retiring as a District Superintendent in 1992. During his last 5 years with NiGas, he served as Chairman on the Board of Commissioners of the Lisle-Woodridge Fire Protection District in Northern Illinois. Commissioner Schweers currently resides in Fountain Lakes, is a member of the Estero Historical Society and is past-President and current Secretary of the Notre Dame Club of Southwest Florida.

Term: November 2012 – November 2016

Bill Williams

Commissioner Bill Williams spent 32 years as a City/Town Manager in both New York and Massachusetts. During his tenure, he became certified by FEMA as an Incident Commander and performed the duties of Emergency Management Director for the city. He retired in 2009.

Since that time, Commissioner Williams has served as a member of the Cascades at Estero Homeowners Association Finance committee, was elected Director in 2011, and President in 2012. He has also served as the Cascades representative to the ECCL since 2010 and is currently Co-Chair of the ECCL transportation Committee. This Committee represent all Estero transportation issues for Federal, State, and local system roads and projects.

In 2010, then Lee County Manager Karen Hawes selected Commissioner Williams as one of three civilian members to serve on the County Budget and Taxation Committee. This Committee meets monthly and makes recommendation on fiscal policy to the Board of County Commissioners. In 2012 , Commissioner Williams was appointed as a member of the Citizens Advisory Committee of the Metropolitan Transportation Organization.

He earned a BS and MPA from New York University with a concentration in Management and Finance. He served as an Adjunct Professor of Management at Fordham University, Bronx, NY.

Commissioner Williams has been married to his wife Deborah A. Williams for 27 years, has two sons, and lives in The Cascades.

Term: November 2012 – November 2016

APPENDIX 7
New Ambulance Budget Costs Example

Item Desc.			
Chassis	***QTY.***	**Cost**	**Total**
2019 Horton Ford F-550 Ambulance	1	237,541.86	237,541.86
CAB	***QTY.***		
Boxes of Gloves (S/M/L/XL)	4	7.55	30.20
Traffic Safety Vests	2	31.95	63.90
Spotlight ***works***	1	86.41	86.41
Fire Extinguisher	1	38.00	38.00
EXTERIOR COMPARTMENTS			
Driver's Side Middle			
Pedi Immobilizer	1	592.16	592.16
KED Extrication Vest	1	330.18	330.18
Vac. Splints (S/M/L) with Pump	1	445.96	445.96
Adult Full-Body Vac. Mattress w/ Pump	1	388.16	388.16
Pedi Full-Body Vac. Mattress w/ Pump	1	372.19	372.19
Sager Traction Splints	2	105.92	211.84
Driver's Side Rear			
Hydrant Wrench	1	66.12	66.12
Passenger's Side Rear			
Backboard w/ CID Head Pad	2	238.19	476.38
C-Collar Bags (Navy Blue)	2		
Adjustable C-Collars (Adult)	2	15.69	31.38
Adjustable C-Collars (Pedi)	2	11.32	22.64
Head Blocks w/ Straps	2	84.14	168.28
Backboard Straps	3	33.12	99.36
Scoop Stretcher	1	291.66	291.66
Reeves Stretcher	1	530.00	530.00
Stair Chair w/ Oxygen Bracket	1	3,391.13	3,391.13
Mega-Mover Tarp/Chair	1	15.85	15.85
Passenger's Side Front			
Triage Supply Kit	1	602.16	602.16
Triage Flag Kit	1	119.00	119.00

Triage/Treatment Vests	4		33.00	132.00
INTERIOR CABINETS				
I.V. Drawer				
Blue Chux	3		1.01	3.03
Bench Seat				
Disposable Blankets	2		7.16	14.32
Infant Child Seat	1		430.19	430.19
Infection Control Kit	2		12.16	24.32
Back Wall				
Boxes of Gloves (M/L/XL)	3		7.55	22.65
Sharps Container	1		11.09	11.09
Rear Door				
Box of Gloves (Large)	1		7.55	7.55
Trauma Cabinet-Top Shelf				
Burn Dressings				
Face Mask	2		3.01	6.02
Towel (12 x 12)	2		3.44	6.88
Towel (15 x 20)	2		4.01	8.02
Sterile Burn Sheet (60 x 96)	2		9.22	18.44
Cold Packs	4		1.22	4.88
Hot Packs	2		1.22	2.44
Non-Adhering Dressings	4		0.03	0.12
ACS or HALO Chest Seals	1		5.61	5.61
ABD Pads	8		0.02	0.16
Bandaids	1		3.11	3.11
Oval Eye Pad	4		0.01	0.04
Oval Eye Shield	1		0.04	0.04
Multi-Trauma Dressing	3		2.35	7.05
Trauma Cabinet-Bottom Shelf				
Sterile Water	6		1.03	6.18
2" Tape and 1" Tape	2		0.10	0.20
Trauma Shears	1		0.93	0.93
Cravats	8		1.12	8.96
4" Gauze Rolls	6		0.01	0.06
Kerlix	6		0.04	0.24
4x4's	20		0.03	0.60
I.V. Cabinet-Top Shelf				
IO Drill	1		700.75	700.75
Syringe 30cc	1		0.08	0.08

I.V. Cabinet-Bottom Shelf			
IV Start Kit	1	26.16	26.16
Macro Drip Set (10 drop)	6	1.23	7.38
Normal Saline (500ml)	6	5.63	33.78
LP-15 Paper	1	2.02	2.02
Package of Electrodes	2	5.11	10.22
Adult Combo Pads	1	33.19	33.19
First-In Bag ***see inventory***	1	236.19	236.19
LP-15 Monitor ***see checksheet***	1	33,191.16	33,191.16
Digital Thermometer	1	182.22	182.22
Probe Covers for Thermometer	1	2.61	2.61
Infection Control Cabinet			
Foam Hand Sanitizer	1	1.11	1.11
Disinfectant Wipes	1	3.61	3.61
Biohazard Bags (Small & Large)	4	0.22	0.88
Contaminated Linen Bags (yellow)	2	0.01	0.02
Convenience Bags	4	0.01	0.04
Armboards (Short & Long)	2	0.12	0.24
System 5 B/P Cuff Set	1	305.19	305.19
Underneath CPR Seat			
OB Kit	2	22.61	45.22
Oxygen Cabinet			
Adult BVM	1	5.19	5.19
Pedi BVM	1	5.09	5.09
Adult Non-rebreather Mask	5	1.12	5.60
Adult Nasal Cannula	5	1.11	5.55
Adult Nebulizer	3	1.33	3.99
Pedi Non-rebreather	2	1.01	2.02
Pedi Cannula	2	0.91	1.82
Pedi Nebulizer	2	0.90	1.80
Infant Med. Concentration Mask	1	0.90	0.90
Airway Cabinet			
Suction Tubing w/ Yankauer Tip	2	7.00	14.00
Suction Catheters Sizes 6, 10, 18	3	2.01	6.03
Suction Canisters w/ Lids and Elbows	2	3.09	6.18
ET Tube Holders	2	3.91	7.82
LP15 CO2 Nasal Sampling Line	3	25.33	75.99
Lubricant	4	0.02	0.08
N95 Masks	1	9.81	9.81
Safety Glasses	4	5.43	21.72
Face Masks	1	0.01	0.01

Workstation			
Toughbook Computer with Charger	1	1,392.68	1,392.68
Cell Phone/Charger	1	205.99	205.99
Electric Razor & Charging Base	1	130.16	130.16
Disposable Razor Heads	4	3.13	12.52
Bulkhead Cabinet-Behind Driver			
Traffic Safety Vest	1	35.00	35.00
Soft Restraints	4	3.04	12.16
V-Vac Handheld Suction	1	11.16	11.16
Pediatric Airway Bag	1	317.91	317.91
Bulkhead Cabinet-Behind Passenger			
Boxlight (outside cabinet) ***works***	1	85.19	85.19
Trauma Bag ***with contents***	1	110.16	110.16
Portable Suction ***run diagnostic***	1	691.78	691.78
IV Warmer (sealed)	1	91.33	91.33
Medication Bag			
Adenosine	3	15.37	46.11
Albuterol	5	0.19	0.95
Amiodarone inj	3	1.33	3.99
Aspirin	1	0.54	0.54
Atropine	4	8.96	35.84
Dextrose 50%	2	6.88	13.76
Diphenhydramine	2	0.77	1.54
Epinephrine 1:10,000	8	5.64	45.12
Epinephrine 1:1,000	4	14.05	56.20
Fentanyl	4	1.84	7.36
Glucagen Diagn Kit	2	161.27	322.54
Insta-Glucose	4	2.97	11.88
Ipratropium Bromide 0.02%	4	0.19	0.76
Lidocaine	4	3.67	14.68
Magnesium Sulfate	2	1.49	2.98
Methylprednisolone	1	8.03	8.03
Midazolam	2	0.89	1.78
Naloxone	6	31.02	186.12
Nitroglycerin	1	3.09	3.09
Ondansetron	4	0.57	2.28
Ondansetron	4	0.57	2.28
Prednisone Tablet	3	0.19	0.57
Sod. Bicarbonate 8.4%	2	9.92	19.84
Tetracaine	1	7.93	7.93
			285,487.83

APPENDIX 8
Drone Technology

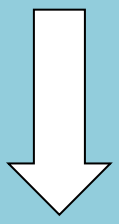
Drones will deliver defibrillators for heart attack victims in Nevada

VIDEO: Drone company Flirtey has received approval from the Federal Aviation Administration to conduct drone delivery flights beyond visual line of sight (BVLOS), allowing for drones to deliver defibrillators to heart attack victims so treatment can begin before paramedics arrive. The new approval enables Flirtey to conduct drone delivery operations with a pilot controlling the flights from a remote location. Beginning in 2020, when 911 is called about a heart attack victim, a dispatcher will send an ambulance while talking through how to use a defibrillator delivered by a drone faster than paramedics can get there.The program will serve the Reno-Sparks-Carson City area. "The City of Reno is proud to partner with Flirtey, the FAA, and our local IPP partners to enable drone delivery of AEDs to Washoe County residents," says Reno Mayor Hillary Schieve. "Public safety is our top priority, and the use of drones to provide life-saving AED technology to cardiac patients will save lives across our community."

KOLO 8 NEWS NOW

Source: Daily Dispatch email blast 3/14/19

APPENDIX 9
References



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