



Beaver Dam Fire Department

Operational Findings & Recommendations

Provided by:



**STRATEGIC
MANAGEMENT
& CONSULTING**

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Glossary

- 1. Accepting Assignment – the service provider agrees to accept the much smaller Medicare-approved amount, as full payment for covered services**
- 2. ALS – Advanced Life Support**
- 3. BLS – Basic Life Support**
- 4. EMR – Emergency Medical Responder**
- 5. EMS – Emergency Medical Services**
- 6. EMT – Emergency Medical Technician**
- 7. EMT-P – Emergency Medical Technician - Paramedic**
- 8. Equalized Value – The estimated value of all taxable real and personal property in each taxation district, by class of property, as of January 1**
- 9. FEMA – Federal Emergency Management Agency**
- 10. Gross revenue – Total amount of ambulance claims billed to Insurance companies, Medicare, Medicaid, and private pay patients, prior to accepting assignment and write-offs**
- 11. MABAS – Mutual Aid Box Alarm System**
- 12. Net Revenue – Actual amount of income expected to be received from the ambulance claims that are billed, after accounting for accepting assignment and write-offs**
- 13. NFPA – National Fire Protection Agency**
- 14. Per capita rate - A tax levied by a taxing authority, based on the population of citizens residing in their jurisdiction**
- 15. SAFER grant – Grant provided by FEMA for ‘Staffing for Adequate Fire & Emergency Response’**





PREAMBLE

This report is a review and analysis of the **Beaver Dam Fire Department**. Strategic Management & Consulting, LLC was contracted by the **Beaver Dam Fire Department** to conduct a study of the Fire Department's future operational needs. The City of Beaver Dam has been studying certain staffing needs and facility improvements necessary for service delivery over the recent past.

The emphasis of this study is to provide the Fire Chief with an overview and assessment of the department's daily operations, by an independent source. Our firm looked at service area, response times and capabilities, and obligations to the City and contracted Townships. As part of the larger picture, we also reviewed the issues regarding the EMS staffing shortages that Dodge County is experiencing. We recognize that there are obstacles within any City in providing the services that citizens have come to expect and rely on—and doing it in the most proficient and cost-effective manner possible.

The following areas were specifically requested to be evaluated.

Future Service Delivery – The Study will review the current means by which service is provided by the Fire & Rescue Department, and project what the future entails for the delivery of those services. This would include review of both Fire and EMS delivery. This item will also address the format by which service is provided—in order to consider various options such as full-time staffing, part-time staffing, paid-on-call staffing, district creation, shared facilities, etc. as applicable to the service listed. The Study will also consider future community growth, collaboration with neighboring communities, and collaboration with Moraine Park Technical College, as well as Industry, and societal trends.



Operational Alternatives – The Study will review current services as a means to make suggestions on the current operational delivery of service alternatives. Essentially, the Study will make recommendations as to possible changes that could be made to current operations that would help streamline service delivery, and align services with best practices, and will make recommendations that would help with Fire and EMS delivery. Lastly, the Study will identify and offer suggestions for other potential collaborations and partnerships that have not been previously considered.

Right Size – The Study will bring together necessary data and demographics to objectively demonstrate the facility needs to support Fire and EMS delivery. The types of data to be reviewed would include, but not be limited to: past call volumes and locations, personnel, equipment, fire apparatus, ambulances, and consideration of adjacent communities, population, geographic growth, response times, and the service responsibilities in relationship to other jurisdictions.

Location – The Study will assist in identifying what is the best and most ideal location in order to establish a Fire/EMS facility, regardless of current land uses and property ownership. The intent will be to create a radius around the suggested point, based upon certain distances to assist in finding suitable sites to locate such a facility. Items taken into account will include response times, paid-on-call response ability, ISO minute coverage maps as available, and all other information as might be applicable. The Study will also review locations based on the idea that the Fire/EMS station facility would be a joint facility, as well as a stand-alone fire station with potential collaboration with Moraine Park Technical College for an EMS / Fire training center. Consideration will also account for the City's growth pattern as it expands through new development and annexations.

Operating Costs – The Study will review, and project operating costs based upon the future staffing projections to be considered.

Garage Space – The Study will review the vehicle and equipment needs for EMS and Fire services over the course of the next 20 years, and how the needs of the Service will coincide with current space availability and possible options for expansion.

Shared Facility – The study will review the feasibility of a shared facility that houses Fire and EMS, Technical College services, and other yet to be identified potential partners. Both the Fire and Rescue department and the College have some different needs regarding their facilities, and the Study will consider whether it is realistic of the City to consider housing both components in one facility.

Rural Contracted Townships – The Study will evaluate the current system of contracted Fire, Rescue, and EMS services to rural Towns surrounding Beaver Dam, and will make recommendations for potential changes in providing service to the surrounding rural areas. Overall, the Study will recommend if it makes good business sense to continue the current model and may offer alternatives to current contracted Town billing processes.





PROJECT OVERVIEW

The objectives of this project were to evaluate the **Beaver Dam Fire Department**. The report will focus on short and long term organizational, administrative, and operational needs. The depth of the report will include findings and recommendations relating to the Governance and Administration, Assessment and Planning, Goals and Objectives, Financial Resources, Programs, Physical Resources, and the potential for future development of models for providing Service as the **Beaver Dam Fire Department**. Other areas not specifically mentioned previously will be reviewed with generalized findings and recommendations where needed.

Findings

Our firm requested significant documentation from the Fire Department, which was readily supplied. The purpose of the request for documentation was to determine where the agency stood in their ability to provide staffing for both EMS and Fire responses, in a reasonable time frame. Things such as Policies and Procedures, Standard Operating Guidelines, State Operational Plan, number of calls per year, mutual aid agreements, medical director information, ambulance State vehicle annual inspection reports for 3 years, wages and payroll, as well as service operational annual budgets were also requested and supplied.

The lead principal from Strategic Management & Consulting, LLC met in person on several occasions with Fire Chief Alan Mannel; Deputy Fire Chief Matt Christian; Captain Paul Hartl; and Lana Letto, Administrative Assistant to interview each on the various aspects of the Department.



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This was an opportunity to provide the firm with whatever information the Department felt would be useful to the consultants. The personnel were asked to look into the future and project when their agency would begin to struggle with staffing issues. We were very satisfied with the cooperation and information gathered during the interviews.

A review of this nature is not intended to uncover, nor solve all the issues that may exist within the Department. However, it is intended to provide recommendations that are based on the information gathered during the review. The recommendations are based on the information gathered, conclusions observed in the review of significant department policies, procedures, call volume, call locations, etc. Those items are believed to be honest and accurate, and recognized EMS practices and standards, throughout the Country.

This report is not prescriptive in nature. In other words, it provides a template for how the current items and issues may be resolved. It is our goal that many, if not all the recommendations will be implemented over time. However, due to a vast array of issues and financial reality, several of the recommendations made will require careful thought and discussion, that may go beyond the scope of this report.

Emergency Medical Services are difficult to provide. Most individuals don't have a working knowledge of how an EMS system works until they become consumers of the services. It has become increasingly difficult to maintain financial balance as well. The aging population and the shift in healthcare access has placed a huge burden on EMS systems. It is believed that these factors will last for the next 20 years and beyond. Further, the lack of qualified EMS personnel is reaching epidemic levels across the Country. This will only make delivery of quality EMS more difficult in the future.

With the seemingly never-ending history of cuts from the Federal entitlement payment programs (that have also been adopted by a large percentage of the insurance industry) there has been a significant impact to entities that are providing EMS service. EMS is one of the three cores of public safety. It has been the only one that has been able to bill for services provided. However, it should not be looked at as a profit center, as the reimbursement is woefully inadequate to provide a positive revenue stream to support the services provided.

Many of the recommendations within this Report are being made with a phased process in mind, to assure successful completion and goal attainment. It will be important to implement recommendations that will allow ultimate success. If certain steps are not implemented, in the proper order, then the entire context of the recommendation may be invalidated. As the recommendations of the report are implemented, a planned evaluation should take place within 6 – 9 months following major areas of implementation, in order to assess the financial aspects, as well as the operational aspects that the change has created.





DEPARTMENT CHARACTERISTICS

Findings

The 2010 census indicates that the City of Beaver Dam has a population of 16,214. That said, the most recent Cost Allocation Report for Equalized Values indicates a population of 16,693. The City of Beaver Dam encompasses an area of approximately 8.17 square miles, of which 6.79 square miles is land, and 1.38 square miles is water. In addition to the City of Beaver Dam, the **Beaver Dam Fire Department** provides Fire, EMS, and Water rescue to five other Townships, which are listed in the sections below.

There are several lists of Municipality names and various numbers below. The first list includes the equalized value charge assessed to the Municipalities that are contracted for Fire service. The second list summarizes the anticipated costs that will be charged to the Municipalities for EMS coverage. The third list extrapolates the information in the first two lists, into the associated per capita rates (based on population) for the Municipalities, as they would apply in 2020.

Equalized Value for Fire Protection

<u>Municipality</u>	<u>Amount Charged</u>
City of Beaver Dam	\$208,521
Town of Beaver Dam	\$54,138
Town of Calamus	\$10,277
Town of Lowell	\$1,414
Town of Westford	\$11,741
Town of Trenton	\$7,007



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EMS Per Call Charge

<u>Municipality</u>	<u># of EMS Calls</u>	<u>Amount Charged</u>	<u>Charge per Call</u>
City of Beaver Dam	1,585	\$1,362,115	\$859.37
Town of Beaver Dam	224	\$192,501	\$859.37
Town of Calamus	32	\$27,500	\$859.37
Town of Lowell	35	\$30,078	\$859.37
Town of Westford	23	\$19,766	\$859.37
Town of Trenton	20	\$17,188	\$859.37

Extrapolated Per Capita Rates

<u>Municipality</u>	<u>Population</u>	<u>Total Charges</u>	<u>Per Capita Rate</u>
City of Beaver Dam	16,693	\$1,570,635	\$94.08
Town of Beaver Dam	4,020	\$246,639	\$61.35
Town of Calamus	731	\$37,727	\$51.61
Town of Lowell	1,202	\$31,492	\$26.19
Town of Westford	701	\$31,507	\$44.94
Town of Trenton	500	\$24,194	\$48.38

By comparison, average per capita rates recorded several years ago for public safety services provided across Wisconsin were:

Emergency Medical Services: \$35.00 - \$45.00

Volunteer Fire Service: \$83.00 - \$87.00

Career Fire Service: \$145.00 - \$150.00

Law Enforcement: \$200.00 - \$235.00

(On a side note: Garbage collection per household in Wisconsin averages \$120 per capita annually.)

The review identified a number of strengths within the Fire Department. The service has dedicated personnel with a passion to serve their community. A cooperative EMS system between the Department and other EMS agencies was formally established in 2013, and appears to continue to be utilized, as evidenced by the Dodge County EMS Association Mutual Aid Pact; the Joint Powers Agreement – County 911 Emergency System; and Intercept agreements between individual EMS Services. **Beaver Dam Fire Department** has several Mutual Aid agreements with surrounding Departments, and they participate in Division 129 of the Mutual Aid Box Alarm System (MABAS).



As the Department has full- and paid-on-call staff, they are at an advantage of being able to provide ALS / Paramedic level assistance to the ambulance services that are transporting patients to the local Hospital. **Beaver Dam Fire Department** already has a number of ALS / Intercept agreements in place with the surrounding ambulance services in Dodge County. An intercept is performed when a BLS service requests ALS assistance from the **Beaver Dam Fire Department**, and the Department sends an ambulance with two (2) Paramedics on the emergency call.

The **Beaver Dam Fire Department** believes that it is in the best interest of their patient to always respond with a minimum of two (2) Paramedics in a Department ambulance. Due to the disparity in the level, expertise, and experience of the EMS personnel from the requesting agency, the patient is best treated with equally credentialed ALS personnel. This allows for more rapid treatment, diagnosis, and outcomes from Paramedics that are normally partnered together with the same capabilities.

Recommendations

- During each Budget process, the City should evaluate the current Equalized Value and related Per Capita Rates for each of the Municipalities, to assure that they are at a level that will provide appropriate reimbursement for the costs associated with the Department providing the Fire, Rescue, and EMS services. Those numbers can be compared to the State averages for similar services.
- A concept that has been shared with the other transporting ambulance services in Dodge County is that of a “Paramedic Response Vehicle” or a “Paramedic Chase Car”. The idea is that a Paramedic is located in a strategic location within the County. The Paramedic would respond to 9-1-1 requests for service in a quick response vehicle that is stocked with Paramedic / Advanced Life Support (ALS) supplies, equipment, and medications. The Paramedic could be credentialed with each of the transporting ambulance services within the County. This idea can be implemented with as few as three (3) Paramedics working 24-hour shifts.

When requested by the local ambulance service, the Paramedic would respond to the scene to provide any of the following services, in theory:

- ALS / Paramedic skills and interventions that the patient situation dictates. However, there are certain advanced life support skills that can only be performed when two Paramedics are on scene together.



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- If the ambulance service was short-staffed for that particular call, they could utilize the credentialed Paramedic as part of the legal crew.

The benefits of this program include:

- There is a Paramedic fully dedicated to respond to requests for assistance—specifically for ALS / Paramedic type calls.
- The Paramedic staff can serve as the “second” person to a local ambulance unit, making a legal EMS crew.
- The volunteer EMS services will still need to maintain and provide EMT’s for the 9-1-1 calls, in order for them to respond in the transporting ambulance, and partner with the incoming Paramedic.

Funding for the “Paramedic Response Vehicle” or a “Paramedic Chase Car”—in addition to other ideas in this Report that can be implemented—may come from any combination of the following:

- Funding could be provided through the creation of a County EMS agency.
- Funding could be provided through a County EMS sales tax. (A referendum would need to be passed.)
- Funding could be provided with contributions from each of the participating communities that wish to participate in this program.
- As the **Beaver Dam Fire Department** already has “ALS / Intercept agreements” in place with several of the surrounding EMS services (in which a fee is charged for their response) the current agreements can be updated and modified as needed, to include the parameters associated with a “Paramedic Response Vehicle” or “Paramedic Chase Car” type response.

The current fee structure of the agreement should be reviewed, to assure that all the costs associated with the response are covered, to include vehicle wear and tear, fuel, medications and equipment utilized, as well as staff wages during the response, overtime costs, and backfill costs.





OPERATIONAL OVERVIEW & RECOMMENDATIONS

The primary objectives of this report are to evaluate the **Beaver Dam Fire Department** and make recommendations for the Department's short and long term organizational, operational, facility, equipment, vehicle, and administrative needs.

Overall, **Beaver Dam Fire Department** is doing a good job of maintaining standards in providing high quality patient care. The Department's personnel display professionalism and are very dedicated to the service.

The Department regularly staffs the station as follows:

- Fire Chief, Deputy Chief, and Administrative Assistant, Monday through Friday.
- Three rotating 24-hour shifts, including a Shift Captain, five (5) full-time staff, a Paid-on-Call (POC) Lieutenant, and seven (7) Paid-on-Call (POC) staff per shift.

The Department utilizes the following equipment for Emergency responses:

- (4) ambulances
- (3) engines / pumpers
- (1) ladder / aerial / platform truck
- (3) administrative vehicles
- (1) grass / brush truck
- (1) hovercraft
- (1) six-wheeler / UTV
- (1) boat
- (1) tender / pumper
- (1) support / utility vehicle
- (1) Haz Mat unit (County-owned)



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The four ambulances are further described as follows:

<u>Unit #</u>	<u>Year</u>	<u>Current Mileage</u>
1251	2016	33,656
1252	2012	60,694
1253	2019	3,328
1254	2009	83,700

There is good spacing between the ambulances, with regards to the year of manufacture, as well as the miles that are put on them for 9-1-1 calls, and inter-facility transfers. All the vehicles (EMS, Fire, and Rescue) are housed in one building, which is also where the Administrative offices, dayroom, and facilities are located for the full-time staff to reside and respond from, while on-shift. The established projected vehicle replacement process is working well and should be continued with the same parameters.

In 2017, the Department responded to the following:

- 328 Fire calls
- 1,960 EMS calls
- 272 inter-facility transports
- 152 intercepts
- 2,712 total call volume

In 2018, the Department responded to the following:

- 341 Fire calls
- 1,974 EMS calls
- 416 inter-facility transports
- 145 intercepts
- 2,876 total call volume

In 2019, the Department responded to the following:

- 341 Fire calls
- 2,023 EMS calls
- 312 inter-facility transports
- 146 intercepts
- 2,831 total call volume

In 2018, the total call volume increased by 164, of which a significant portion were inter-facility transports. In 2019, the total call volume decreased by 45 calls, however, the emergency calls increased overall.



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During our review, we learned that due to staffing configurations, and multiple calls taking place at the same time, that many of the inter-facility transport requests from the Hospital were not able to be taken by **Beaver Dam Fire Department**. Though we are not able to determine exact numbers, the information presented indicates that upwards of 250 to 300 inter-facility transport requests were not able to be taken by the **Beaver Dam Fire Department** this past year.

Of the four (4) ambulances that are available, there are only two (2) ambulances that are staffed by full-time crews on a daily basis. The other two ambulances are used when there are multiple EMS calls at the same time, and/or when there are inter-facility transport requests—and they are covered when full-time staff are called back on overtime, or when Paid-on-Call staff respond to requests that have been paged.

In reviewing the numbers related to multiple calls occurring at the same time, and comparing that situation to calling staff back in to respond to 9-1-1 calls and inter-facility transport requests, it is our position that this type of model can present potential staffing and response problems. In 2017, there were 354 times that the first two ambulances were out on calls at the same time, and in 2018 that number increased to 425 times. In 2017, there were 47 times that three ambulances were out on calls at the same time, and in 2018 that number was 46 times. In 2017, there were 12 times that all four ambulances were out on calls at the same time, and in 2018 that number was 7 times. The crews were able to respond to the multiple emergency calls, utilizing the staff in the station as well as calling in additional employees (full-time and Paid-on-Call staff) for assistance.

In addition to the crews that respond to the EMS calls on the ambulance, the remaining staff at **Beaver Dam Fire Department** are utilized to respond to Fire and Rescue calls, as well as back-up ambulance calls. Typically, full-time staff are called in to man the station when there are multiple calls in a row, or for when there are additional inter-facility transport requests. If there are not enough full-time staff available to come back to cover the calls, the Paid-on-Call staff are paged to respond. We have been told that over the past several years, it has been more difficult for the Department to backfill the ambulance during the summer months—as staff are busy with family and other commitments during that time period, so not as many inter-facility transfers were taken as could possibly have been.

In addition, over the past few months backfilling even during the weekdays appears to be more of a problem than usual. It is also our understanding that though there are three shifts of Paid-on-Call crews, the commitment level of the Paid-on-Call staff vary for a variety of reasons. Some of the Paid-on-Call staff respond to pages for additional assistance, while others do not.



Regardless of the commitment level, it does not appear that the Paid-on-Call staff are currently being utilized for the maximum benefit of the model that has been developed. This finding is an area of concern. Currently, there is no guarantee of the number of off-duty and paid-on-call staff that are likely to respond to any given emergency.

In the past year, there were 325 times that personnel were called back to work on overtime to assist with covering Fire / EMS calls. There were 208 times that personnel were called back on overtime to work to perform Inter-facility transfers, and there were another 239 times that personal were called back on overtime to be at the station, in order to meet the minimum staffing requirements.

Inter-facility transfers have steadily increased at **Beaver Dam Fire Department**—most significantly in 2018. The increase in the inter-facility transports in 2018 was due in part to the ability of several part-time staff that were available throughout the day to perform the transfers. Since then, those part-time staff have accepted full-time positions elsewhere, and are no longer available to perform the inter-facility transports.

Many services have come to accept the fact that even though they are not required to perform this type of call, they have come to understand that this type of call can pay a much higher reimbursement rate, depending on the level of the inter-facility transport. It is expected in the EMS industry that due to the increase in the aging population, that requests for inter-facility transfers will continue to increase as well.

With consideration to the finding above that clearly outlines a very fragile and unsustainable staffing model and safety environment, a deeper look into staffing was warranted. One of the most important tasks performed by any fire department is conducting fire inspections. In fact, there are regulations in place at the State level requiring the Department to do so. The extensive reduction in fire related losses—both financially and building losses—can be directly attributed to a robust inspection program. The Department does not have a dedicated position of Fire Inspector at this time, however, there are staff on each shift that are trained / certified to perform fire inspections. Because of the increase in call volume for emergencies, and the continual amount of call backs to fill vacancy voids, the fire inspections being performed by the current full-time staff are suffering, resulting in a delay of the required two inspections per facility per year being completed.

Based on the various interviews, the relationship with the Beaver Dam Community Hospital is good. This past year Marshfield Clinic took over and is now providing operations of the Beaver Dam Community Hospital through a new affiliation agreement.



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It is anticipated that the relationship will improve to some degree as Marshfield Clinic has stronger EMS relationships throughout the regions that they have a main footprint in. Therefore, it is our belief that an increase in inter-facility transfer requests will continue to rise as the population aging continues.

Performing inter-facility transfers for the local Hospital helps to build positive relationships, as well as can bring in additional revenue to the Department. In 2018, the revenue related to inter-facility transports was \$206,036.00. The expenses for those calls was \$103,607.00, leaving a net income of \$102,429.00.

The scheduling model would support the staffing of a third full-time ambulance to respond to 9-1-1 calls 24/7/365. The staff should cross-trained as Firefighter / Paramedics, so that they can be used for any type of Fire, Rescue, or EMS response. The additional staff could also be used when needed for inter-facility transports.

If the Department performed an additional 250 inter-facility transports each year (less than one per day) there would be an anticipated increase in revenue of no less than \$93,750.00. That number is based on the assumption that all 250 transports were for Medicare recipients, in which the actual revenue / income per Medicare call last year to **Beaver Dam Fire Department** averaged \$375.00 per trip. If some of the inter-facility transports happen to be for patients that have Commercial insurance, then the predicted income would increase.

Regarding active Fire calls, NFPA 1710 recommends a minimum of 15 firefighters (which can include the fire officer) at a LOW hazard response. The minimum recommended response numbers go up from there, as the hazard increases. So, with the current daily shift staffing at Beaver Dam Fire Department—including the Paid-on-Call staff, the Chief and Deputy Chief, and those staffing the ambulance—the Department is just meeting the minimum response requirement needed for response to a fire scene. If someone calls in sick, or if the ambulance is busy on another 9-1-1 call, then the Department would not have enough staffing on a fire scene, without calling in additional staff on overtime, to meet the NFPA standards. Should a secondary Fire, Rescue, or EMS call come in during an active Fire call, the Department would need to call Mutual Aid from a neighboring service to cover the additional emergency call. Currently, each time an ambulance is pressed into service for a 9-1-1 EMS response, the fire side of the Department does not have an adequate number of personnel to provide an interior attack for a structure fire.

Currently a regionalized approach to providing EMS in Dodge County, including Beaver Dam, has not been embraced. However, as staffing shortages continue in rural areas this concept needs to be investigated and active work needs to start on the development of



this response model. Waupun has expressed concerns about response times to their community and have reached out to neighboring departments to discuss the possibility of sharing resources. The dynamics of developing agreements of this kind do take time, and with the understanding that financial resources will need to be committed at a level not previously seen in rural areas.

Recommendations

- Schedule a third ambulance to be staffed full-time 24/7/365. The staff should be cross trained as Firefighter / Paramedics, so that they can be used for any type of Fire, Rescue, or EMS response. The additional staff could also be used when needed for inter-facility transports. If the budgeted cost of each additional personnel is \$75,000 annually, the total cost would be \$450,000 in wages and benefits annually, for two crew members on the ambulance each day, times three 24-hour shifts.
- There is a great potential to better utilize the Paid-on-Call staff for response to emergencies and inter-facility transfers. Consideration should be given to increase the amount that is paid for the Paid-on-Call staff to be on-call / on-duty. In light of an increase in reimbursement, the Department could then increase the requirement of those that are signed up for the shift, to stay within a 5- to 10-minute response time during those shift / time periods. As well, the Department could increase the minimum pay per hour, for those that 1) respond to the station to backfill, or 2) actually respond on an emergency call.

Training and minimum standards for the Paid-on-Call staff needs to be provided and enforced, as there is an expectation that the Paid-on-Call staff should perform to the same high standards as the full-time crew on Fire calls, Rescue calls, EMS calls, and Inter-facility transfers. Though there will be an anticipated bump up in the pay for the Paid-on-Call staff for coverage, responses, and training, it is expected that the overall Budget will balance out (or even decrease) as the need to call in full-time staff will diminish, resulting in a decrease in the overtime budget line item.

- Consideration should be given to hiring a full-time Fire Inspector position for the purpose of completing the required Fire inspections. The Fire inspector should be a Firefighter / Paramedic, who can be called back to assist with back fill, fire scene operations, and EMS calls. This will greatly enhance the efficiencies and serve to provide additional safety within the community.



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- Consideration should be given to hiring a full-time Training Chief, for the purpose of coordinating Fire, Rescue, and EMS training within the Department. The Training Chief should be a Firefighter / Paramedic who can be used to assist with back fill, fire scene operations, and EMS calls.

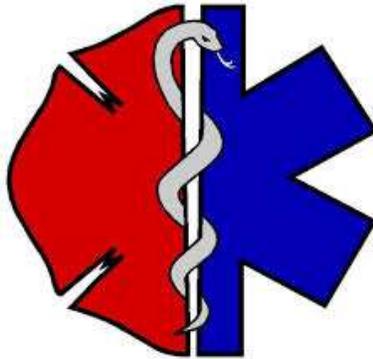
- Additional staffing has been discussed and considered for EMS calls, as well as to meet the minimum number of personnel requirements for fireground operations. The FEMA program of Staffing for Adequate Fire and Emergency Response Grants (SAFER) was created to provide funding directly to fire departments and volunteer firefighter interest organizations to help them increase or maintain the number of trained, front-line firefighters available in their communities. The goal of SAFER is to enhance the local fire departments' abilities to comply with staffing, response, and operational standards established by NFPA 1710. **Beaver Dam Fire Department** should investigate the options associated with the SAFER grant, to determine if they are eligible, and able to apply for that funding.

- Regionalization needs to be investigated sooner rather than later. The expense of a regional response model can take on different levels as the system grows into a full response model. Regionalizing can be accomplished by the pooling of personnel and equipment in a given area, such as the Northwest corner of the County.
 - One model could include a response from a North side location (on Ganske Road) ideally West of Hwy 151. Response times would be in the 10-to 15-minute range. The areas outside of Beaver Dam would have to share only in the additional personnel that would be required to staff one ambulance and the total cost of all of the services provided now. This would also serve to reduce the response times to the growing area on the North side of Beaver Dam, where the Industrial Park and expanding Retail footprint is located.

 - We believe that the Department should strongly encourage Waupun Fire Department to seek the training necessary to establish an EMR program within their department, for the deployment of a rapid medical response to begin treatment prior to the arrival of the ambulance.

 - The same model type could be considered in Fox Lake, Randolph, and other agencies, at some point in the future—should the volunteer resources no longer be sustainable to provide services to those communities.





UNDERSTANDING THE CONCEPT OF PROVIDING EMS

Below are some of the key components of what makes up an EMS system. It is not intended to be an all-inclusive full understanding of intricacies of an EMS system, rather it is merely provided to provide certain base-level understanding.

- Conceptually, it is helpful to understand that an EMS system is an extension of the hospital Emergency Department and has become the method for entry into the healthcare system. Many individuals don't have family physicians and believe that by calling EMS they will have that provided for them.
- Specifically, the authority to provide patient care comes through the service Medical Director.
- EMS is considered a "Critical Workforce", one of the core public services—along with fire-protection and police service—and is vital for residents and visitors of Beaver Dam.
- The delivery of EMS is designed to ensure appropriate and reasonable medical care and transportation for the sick and injured.
- EMS systems must be designed for rapid deployment of the right resources when initial information regarding the nature of the illness or injury suggests that a potentially serious condition exists.
- The deployment plan is based on a community's capabilities to provide the financial support needed for qualified personnel and critical infrastructure elements such as multiple station locations, equipment, ambulances, etc. This financial support is derived from policy decisions made by the City Council and the Police & Fire Commission.



- The deployment plan is developed and executed by decisions made by the Medical Director, the Fire Chief, and the City Administration. Execution of the deployment plan is centered around support from the Police & Fire Commission.

Findings

As part of the process of performing a review of an EMS provider, it is important to find out what the community perception is of the Department and more importantly, what the expectations are from the citizens. Various “man on the street” solicitations were made while gathering information while in the community. The following are comments and questions that were made:

- There was concern about long response times to the northern parts of the City. There are certain geographic challenges that Beaver Dam needs to consider during a process like this. The lake itself represents a barrier because of the need to go around it, which results in a delay in response time.
- What are other surrounding areas doing for staffing?
- Is staffing a global issue or just unique to this area?
- Why aren't pre-arrival instructions offered to people that call 9-1-1, especially in life threatening situations?
- What can be done to encourage interest for more EMR's in some of the more rural locations in the service area?
- What can be done to raise the interest / awareness level for the youth in the community?
- Are there community partners that can help share the effort to recruit, maintain, and share services to benefit everyone?

The opportunity to engage with community members to ask questions about the service provided and how the service is required to be provided by State and other regulatory entities was interesting. It created an opportunity to clear up misconceptions of how things are perceived, versus how they really are.

There are many opportunities for the community to become involved. It was not part of this review to seek out organizations, groups, or entities to negotiate agreements. However, many cooperative efforts could reap rewards if investigated and pursued.



Recommendations

- Open a dialog in each contracted community on how community members can support the service with providing EMR's in their respective areas.
- Collaborate with the Technical College and local High School administrators to establish an EMT (and/or Fire training program) in the local High School. The Wisconsin Department of Workforce Development has created a grant program in which both the High School student--and the District where they attend--can receive funds for successful completion of EMT classes and Firefighter I classes.
- Review the current Cadet program that is in place, to determine if there are areas that could be expanded, in order to continue attracting interested students—and future employees. Students from this program could be directed to take the High School EMT and Firefighter I classes, and students in the High School classes could be directed to participate in the Cadet program.
- Approach the Hospital to discuss the possibility of cooperatively funded positions with EMS and hospital sharing resources, especially for expanding the inter-facility transport program.
- Open a dialog with the Sheriff's Department to discuss providing pre-arrival instructions to responding EMS units. Once thought to be a liability if pre-arrival instructions were provided, it is now viewed as a liability if they are not provided. (The Wisconsin State EMS office has just approved simple, easy to use, medical certified instructions. The instructions cover some of the true medical emergencies with very little training and no certifications to maintain.) This is not a formal "Priority Dispatch" program. However, it provides a valuable resource to the dispatchers for assisting 9-1-1 callers in an emergency.





GOVERNANCE & ADMINISTRATION

Findings

Beaver Dam Fire Department is an organization that was established in the late 1860's due to an outcry from the community after several devastating fires. Over the years there was a gradual process to bring full-time personnel to the department. This was done as regulations, call volume, and department needs continued to grow. In 1973, three additional firefighters were added to the ranks for a total of nine full-time personnel. Three more full-time firefighters were added in 1979, for a total of 12 full-time staff, and in 1997, three Firefighter / EMT positions were added, to make a total of 15 full-time staff.

In 2015, one person was added to the Department for a total of 16 shift staff, plus two Chief positions, for a total of 18 full-time staff. In 2016, one person was added to the department for a total of 17 shift staff, plus 2 Chiefs, for a total of 19 full-time staff. And finally, in 2018, another person was added to the department for a total of 18 shift staff, plus 2 Chiefs, for a total of 20 full-time staff.

The governing authority for the Department is the Optional Powers Police & Fire Commission, and the Beaver Dam City Council. There are communication processes in place between the Commission and the Fire Chief and the City Council and the Fire Chief. This process establishes a method to guide the Department in high level policy making, planning, and the department's vision and mission. There is also a Joint Contract in place for Rural Fire, Rescue, and EMS, between the City of Beaver Dam, and the Beaver Dam Community Fire and Rescue Association.

The current Beaver Dam model of providing ambulance service is preferred to other models within Wisconsin, where each individual Township, Village, City may otherwise provide those services. With the current lack of personnel throughout Wisconsin, consolidation, mergers and the such are beginning to take place. The **Beaver Dam Fire**



Department model already provides a consolidated model that is the most fiscally efficient model currently available.

The relationship between **Beaver Dam Fire Department** and the City of Beaver Dam administration is on solid ground with good communication processes in place. The relationship with the hospital is also on solid ground. The hospital states that the **Beaver Dam Fire Department** provides quality patient care for the patients that it delivers to Marshfield Clinic-Beaver Dam Hospital and likewise for the patients that are transferred to other medical facilities by **Beaver Dam Fire Department**. The **Beaver Dam Fire Department** Medical Director and Medical Control Physicians are readily available, which provides for immediate feedback on medical issues.

Beaver Dam Fire Department is strictly regulated by State Statute and Administrative Rule. These regulations govern the personnel, training requirements, vehicle requirements, licensure of the service and personnel and medical oversight approval. This is all accomplished in the form of an Operational Plan that is required by Administrative Rule DHS 110, to be reviewed and updated on an annual basis.

There are no specific recommendations in Governance & Administration to be made at this time, due to the general County and State regulations that are in place.



PHYSICAL RESOURCES

Findings

As stated earlier, all vehicles, equipment, and staff are operating out of one building, which is located at 205 South Lincoln Avenue, in Beaver Dam. Though the building can hold the equipment in one place, there has been numerous concerns expressed about response times to the Northern portion of the City, where there have been a growing number of emergency calls.

NFPA 1710 Guidelines state that the turnout time for a fire or special operations response should be 80 seconds (1 minute, 20 seconds). Travel time for the arrival of the first engine company should be 240 seconds (4 minutes). Travel time for the arrival of the second company should be 360 seconds (6 minutes). Since much of the travel time within the City of Beaver Dam is in residential areas, and is along streets that have stop lights or stop signs, it would be reasonable to predict that an emergency vehicle should be able to drive to emergency scenes within a 1.5 mile radius of the current station within 4 minutes. A map of the City of Beaver Dam with a circle highlighting a 1.5 mile response radius is included in Appendix A of this Report.

Based on the NFPA 1710 Guidelines—with a response time and driving distance in the established parameters—it would be prudent to consider the placement of a sub-station / training facility in the Northern portion of the City. Based on the current Joint Contract in place for Rural Fire, Rescue, and EMS, a new agreement would need to be negotiated, that would change the way in which fire vehicles currently respond to calls.

As well, it would make sense to house an additional engine at the new facility. The Department should spec out a new vehicle, that should include the capability of interfacing



Beaver Dam Fire Department
Operational Findings and Recommendations

in both the City (where hydrants are utilized) as well as the Township setting (where there are no hydrants and drafting of water is needed). The new apparatus would then replace the current rig, which can then be placed as a reserve engine.

Rather than just build a building to house vehicles, equipment, and staff, the Department should consider a type of facility that could be collaborated with the Technical College (or other entity) in which many different types of Fire, Rescue, & EMS training (including initial and continuing education, and CPR, ACLS & PALS classes) could occur at the facility, which would reduce the need to send personnel to other training sites—therefore saving in travel, overtime, and back filling the stations while staff are away training.

Due to the lack of a full-time position to perform and coordinate training within the department, currently it is virtually impossible to host training in the Department, to outside agencies. The Department currently provides training sessions on a regular basis to its staff. However, once again, due to the lack of overall staffing numbers and the frequent occurrence of multiple calls and staff call backs, the training is fragmented.

The addition of a new dedicated Training Chief level staff would greatly enhance the maintenance of training requirements. This position could develop and guide the department through the process of establishing itself as a Training Center for Fire, Rescue, and EMS, which in turn would allow for a revenue stream to come into the Department—instead of going out of the Department. It should be noted that the lack of an individual that is primarily focused on training and education, and fulfillment of recertification requirements, etc., can prove to be very costly if required credentials of the Firefighters and Paramedics lapse.

Some Departments have built new stations, in which there is dormitory space included within the building. The dormitory space can be included to accommodate and serve as a recruitment tool for Resident Fire & EMS programs, and/or Explorer programs.

The United States Department of Agriculture (USDA) has several Rural Development programs which offer flexible, inexpensive funding, in order to improve rural communities. They provide direct loans and grants for many projects including health care, public safety, and public services.

A Federal grant has just been made available, called the Rural Emergency Medical Service Training and Equipment Assistance Program (REMSTEP).

This grant program seeks to fund eligible entities that propose to develop improved EMS in rural areas. The funding can be used for several purposes, including recruiting and training EMS personnel.



Recommendations

- After evaluating the area, in relation to NFPA 1710, the current call volume, current station location, and issues related to the lake, it is our recommendation to consider building a combination of a Sub-station / Training facility / Resident Intern program in the area of Ganske Road, ideally West of Hwy 151.
- Begin discussions with the Technical College regarding interest in a shared Training facility.
- Investigate the implementation of a Resident Intern program within the new facility.
- Review the Joint Contract in place for Rural Fire, Rescue, and EMS, and make needed modifications to the agreement, in order to provide the most efficient vehicle responses to the City and the Townships.
- Spec out a new engine, that is capable of interfacing in both the City (where hydrants are utilized) as well Townships (where there are no hydrants and the drafting of water is needed).
- Hire a Training Chief level position to manage the current Department training, as well as to begin the process for development of a stand-alone training division.
- Research the grant and low-interest loan opportunities related to the USDA Rural Development programs, as a partial funding source for the proposed building.
- Research the REMSTEP grant opportunities, related to recruitment and training.



SUMMARY RECOMMENDATIONS

Concluding Statement

The Fire, Rescue, and EMS service provided by the **Beaver Dam Fire Department** should be complimented for the population size that it serves. The **Beaver Dam Fire Department** is well respected in the immediate community—as well as the County—and is frequently called upon to provide its expertise in assisting agencies throughout the County. It appears that there is an expectation that is perceived by the rural departments that the **Beaver Dam Fire Department** will assist as able, to work towards response models that are good for all.

Recommendations for Immediate Action

- Schedule a third ambulance to be staffed full-time 24/7/365. The staff should be cross trained as Firefighter / Paramedics, so that they can be used for any type of Fire, Rescue, or EMS response. The additional staff could also be used when needed for inter-facility transports.
- Hire a full-time Fire Inspector position for the purpose of completing the required Fire inspections, in addition to being available for when multiple calls occur, as well as call-back situations.
- Hire a Training Chief level position to manage the current Department training, as well as to begin the process for development of a stand-alone Training division, who can also be available to assist when multiple calls occur.
- A referendum needs to be developed and supported within the City of Beaver Dam, to fund the proposed new full-time positions for the third ambulance, the Fire Inspector, and the Training Chief.
- Reach out to the Townships to discuss the implementation of EMR groups to areas in which there is an anticipated long response time. The Department should assist the EMR groups with items such as training, Medical Direction, protocols, and operational plans and licensing.



Beaver Dam Fire Department
Operational Findings and Recommendations

- The Department should consider collaborating with the neighboring volunteer EMS agencies to establish service agreements and personnel needed. If it is determined that a dedicated unit is needed, funding would need to be generated to support the Department's budget. A stepping-stone approach could include the implementation of a "Paramedic Response Vehicle" or a "Paramedic Chase Car".
- Begin discussions with the School District and the Technical College to discuss the implementation of EMS & Fire training in the local High School.

Recommendations for Short-term Consideration

- Pursue the implementation of the "Paramedic Response Vehicle" or "Paramedic Chase Car".
- Pursue the options related to funding, from contributions from the participating municipalities in the "Paramedic Response Vehicle" or "Paramedic Chase Car" program.
- Begin discussions with the Technical College to discuss the concept of a combined Training Facility and Sub-station. There will need to be changes to the current method in which the Technical College provides classes, such as locations, instructor assignments that make geographical sense, investment in hands on classroom simulation, etc.
- Review the Joint Contract in place for Rural Fire, Rescue, and EMS, and make needed modifications to the agreement, in order to provide the most efficient vehicle responses to the City and the Townships.
- Spec out a new engine, that is capable of interfacing in both the City (where hydrants are utilized) as well Townships (where there are no hydrants and the drafting of water is needed).
- Begin collecting information and documents that will be needed to apply for the following grants and/or loans.:
 - ~ FEMA Staffing for Adequate Fire and Emergency Response Grants (SAFER)
 - ~ USDA Rural Development programs
 - ~ REMSTEP grant funding



Recommendations for Long-term Consideration

- Evaluate the Immediate and the Short-term recommendations that were put in place for successes and effectiveness, and then make any necessary modifications.

- Research other grants or funding sources that are available for Municipalities to build stations and hire additional staff.

As with any Study from an outside agency, the information can be overwhelming and seem as though the tasks necessary for change are unattainable. The goal of Strategic Management & Consulting, LLC is to provide you with realistic recommendations. Understanding that most organizations can barely keep up on a day-to-day basis, we are prepared to offer an implementation management services agreement to assure that recommendations will have a better opportunity for being completed.

As the information in the Report is contemplated, please keep an open mind in the following statement. ***“You can’t expect things to change by doing what you have always done...as you will only continue to get the same results”.***

Strategic Management & Consulting, LLC wishes **the Beaver Dam Fire Department** the best, as they commit to working on new models of providing high quality EMS, Rescue, and Fire protection to the residents of their community.



APPENDIX A

1.5 mile radius response map, in 4 minutes travel time

