

**The Financial Feasibility of Consolidation Between
The City Fire Departments of
Mt. Healthy and North College Hill**

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An applied research project submitted to the Ohio Fire Executive Program

October 27, 2009

CERTIFICATION STATEMENT

I hereby certify that the following statements are true:

1. This paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.
2. I have affirmed the use of proper spelling and grammar in this document by using the spell and grammar check functions of a word processing software program and correcting the errors as suggested by the program.

Signed: _____

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Abstract

In a time period when fire/rescue departments are being asked to produce more for less, the trend to consolidate resources in an effort to control spending, reduce the duplication of service, increase efficiency, while continuing to offer a high level of service is becoming more applicable. A common problem facing departments today is the rising cost of operations. We are being asked by our city officials to do more with less. Firefighting and Emergency Medical Services are the main and most important reason why we are at the station.

The Mt. Healthy and North College Hill Fire Departments are neighboring departments that are located in southwest Ohio, Hamilton County. The city officials met in 2006 to talk about the possibility of consolidating. The city officials are looking for ways to save the tax payer money. Consolidation is one way this could be accomplished.

The purpose of this research Paper is to explore the financial feasibility of Mt. Healthy Fire Department and North College Hill Fire Department consolidating and forming a joint fire district. Answers were sought for the following questions:

1. What will the cost be to operate the consolidated Fire District as Full-time/Part-time?
2. How can the current tax base sufficiently support the consolidated Fire District?
3. What would the first year operational cost be versus its long term operational cost?
4. How can consolidation improve the operations and service delivery of the two departments?

The methods used to obtain information and the answers to these questions used descriptive and evaluative research methods. Data was collected through personal interviews and surveys with other cities and townships in Hamilton County. A letter was sent to the Hamilton County Auditor's Office. Other data was collected through reports from other fire departments that have completed a study on consolidating with another department,

published articles relating to consolidation, and the annual budget reports for the City of Mt. Healthy and North College Hill.

The process for this research project required information to be gathered from the two fire departments for the purpose of developing a projected budget. This project utilized Microsoft's Excel spreadsheet program for the development of this project. The research had to obtain information from the county auditor for the purpose of developing a tax levy amount for this project.

The researcher recommends that the two city officials should pursue the feasibility of consolidation between the Mt. Healthy and North College Hill Fire Departments.

Introduction

Statement of the Problem

The city officials of Mt. Healthy and North College Hill had expressed interested in consolidating their two fire departments. The officials from both cities did not have definitive financial and historical information regarding the costs and benefits of consolidation, which limits any planning to proceed with consolidation.

Purpose

The purpose of this research paper was to explore the financial and operational feasibility of the Mt. Healthy Fire Department (MHFD) and North College Hill Fire Department (NCHFD) consolidating and forming a joint fire district. The following research questions were posed:

1. What will the cost be to operate the joint fire district as a combination full-time and part-time department?
2. How can the current tax base sufficiently support the Joint Fire District?
3. What would the first year operational cost be versus its long term operational cost?
4. How can consolidation improve the operations and service delivery of the two departments?

The research employed for this research project was descriptive and evaluative methodology. Data was collected through; personal interviews with other city, township, and county officials. Additional data was collected through reports from other fire departments that have completed a study on consolidating with another department, published articles relating to consolidation, and the annual budget reports for the City of Mt. Healthy and North College Hill.

BACKGROUND AND SIGNIFICANCE

Background

The two cities are located in Southwest Ohio, Hamilton County, with North College Hill on the northern border of the City of Cincinnati (see map, Appendix A). Both cities have a middle class, blue collar population, which takes pride in their communities. The two cities are predominantly bedroom communities covering approximately 1.8 square miles each.

The City of Mt. Healthy was established in 1817 and the settlers named the small community Mt. Pleasant. But there was a problem with the name because there was a community in the city of Cincinnati that possessed the name of Mt. Pleasant. In 1850, the southwest area of Ohio found itself in the grasp of a Cholera epidemic. The small community of Mt. Pleasant survived the epidemic and the citizens started to call the village Mt. Healthy. Eventually the city adopted the name Mt. Healthy. North College Hill was settled in 1916, named because it was settled north of a community of Cincinnati named College Hill.

In 1898, the Village of Mt. Healthy established The Mt. Healthy Volunteer Fire Department. In 1971, the City of Mt. Healthy established a volunteer Emergency Medical Service (EMS) Department, which was a separate organization from the fire department until 1994, when the two departments merged. In 1995, the fire department passed a fire and EMS levy; that generated money to hire part-time personnel for day-time shift coverage during the week. Over the years, it became very difficult for the department to recruit and retain volunteers to cover various hours of the day. Because of this, the fire department approached the tax payers to hire firefighters and Emergency Medical Technician (EMT) that would staff the station 24-hours a day. On April 1, 2005, the citizens approved another fire and EMS levy that allowed the fire department to implement the part-time plan with three part-time personnel on station 24-hours per day, seven-days a week.

The Village of North College Hill established the North College Hill Volunteer Fire Department in 1919 and started providing EMS service in 1946. In 1993, the department encountered insufficient number of volunteer personnel to answer incidents during day-time hours. The city officials were able to find funding in the general fund to provide the part-time personnel during day-time hours. Over the years the department's volunteer staff began dwindling, and Chief Mike Lotz approached the city officials about staffing the station with part-time personnel around the clock. In 2003, after passing an income tax increase, the department was approved to hire part-time personnel to meet the staffing needs.

In 2006, Jerry Thamen, City Manager for the City of North College Hill approached Bill Kocher, Safety Service Director for the City of Mt. Healthy to discuss consolidating the two city fire departments and forming a joint fire district. Both cities have experienced financial challenges and city officials believed that consolidation could be a cost effective way to provide services without redundancy.

Significance

The significance of this project is that it provides evidence that the consolidation of the two departments could provide a cost savings to the tax payers for the two cities, provide more personnel on station and help with current manpower issues. Fire department members and policy makers from both cities need to decide rather or not to support consolidating the two departments; it is about what is best for the citizens of the two cities.

LITERATURE REVIEW

Combining companies, businesses or departments has been going on for years. Whether it is called a merger, consolidation, or partnership, it is done to make the company stronger or more efficient. There are two reasons for consolidation; service and money. The questions the two

departments need to ask when considering consolidation need to be evaluated in terms of a positive or negative impact on one or both of these areas (Hagstrom, 1999 p. 8).

Fire departments are now looking at consolidation to cut costs or improve the services that they provide to their citizens. Fire departments are just like any other business. They have to pay attention to what the consumers of their services want. The fire service and private industry are facing the same problems, cost must be kept to a minimum, but the quality and productivity must increase (Haney, 1998, p. 5). Our citizens are expecting the city officials to be accountable for spending their tax dollars, while increasing the quality of safety in their community.

In view of the fact that simultaneous alarms (fire or EMS) will drain available forces, fire departments may indicate that changes are needed. The importance of good attack force management leads many communities to examine alternatives; one alternative that could improve response without exceeding the financial capability is consolidation (Granito and Dionne, 1988, p. 120).

Citizens of Mt. Healthy and North College Hill hold the city's politicians and fire administrations accountable on how their tax dollars are being used. "Taxpayers demand to know how their tax dollars are being spent, and they want to know if there are better ways of providing the same government services" (Federal Emergency Management Agency [FEMA], 1998, p. 15).

Citizens of a community will pay only so much for the services provided to them. The citizens of a community want a cost effective operation that is going to be there when they need them. The consolidation of several departments into a single entity may provide one of the most efficient and cost effective means of providing fire and emergency medical services. Fire departments are able to save money by eliminating duplicated functions such as management, fire prevention and inspection, training and communications. "Consolidation may be thought of as the ultimate version of cost sharing, on a larger, more permanent scale (FEMA, 1999, p. 2-39).

Across the United States, fire departments are being asked to take on more responsibilities. They are required to handle hazardous material responses and technical rescue responses, while taking care of the day-to-day operations of firefighting and EMS details. With the increasing roles, growth, rising cost, and demand for increased services, it has stretched the decentralized system and has led the fire service to increase their cooperative efforts (Office of Program Policy Analysis and Government Accountability [OPPAGA], 2001, p. 2).

Adding additional tasks without increasing funding and personnel makes it difficult for all departments, especially for the smaller departments. While fire departments can only work within the budget they receive from city officials, payroll is the majority of the fire department's budget, the International City Managers Association (ICMA) in 1988 reported that; "Understaffing of fire departments is a nationwide problem" (p. 119). A study was conducted to determine the effectiveness of fire companies based on staffing. This international organization of leaders recognizes the importance of a properly staffed fire department. Granito Dionne stated that,

Fire suppression operations have three basic functions: rescue; support functions such as ventilation, forcible entry; and the application of water. If about 16 trained firefighters are not operating at the scene of a working fire (within the critical time period), then property loss and injuries are significantly increased. As firefighting tactics were conducted and judged for effectiveness [the study found] that; a five person company was 100% effective in firefighting; a four person company was 65% effective; and a three person company was 38% effective (1988, pg. 119-120)

The importance of travel time has been established by the National Fire Protection Association (NFPA) 1710: Standard for the Organization and Deployment of Fire Suppression Operations,

Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments. The standard states that:

A fire department shall set standards for response times. It is recommended that the first arriving engine company arrive on the scene of a fire suppression incident in four-minutes or less and eight-minutes or less travel time for the deployment of an initial full alarm assignment (4 engines; two ladder trucks; one EMS unit; and an incident commander) at a fire suppression incident. It continues to state that “a minimum of four on-duty firefighters shall be staffed on an engine company” (National Fire Protection Association [NFPA], 1710, 2010 Edition, p. 1710-15). In regards to EMS, NFPA, 1710 recommended that:

A first responder with Automatic External Defibrillator (AED) or higher level capability at an emergency medical incident shall arrive four minutes or less, eight-minutes or less travel time for the arrival of an Advanced Life Support (ALS) unit at an emergency medical incident, and where this service is provided by the fire department provided a first responder with AED or Basic Life Support (BLS) unit arrived in four-minutes or less travel (NFPA, 1710, 2010 Edition, p.1710-15). The jurisdiction of the fire department will set a standard response time.

The fire service has grown from an all volunteer “men’s club” to a business atmosphere, be it volunteer, part-time or full-time. In today’s fire service, management is a critical part of day- to-day operations. It is most important for the firefighter and EMT to have firm management for the day-to-day operations. The influence of politics or seniority will not guarantee that a firefighter will be promoted to an officer’s position. Today’s hazards such as light weight construction and requirement for quality training will require the fire service to “provide a new type of leader – a more capable fire officer” (Hamm, 1990, p. 29). observed that,

Firefighting has become more multifaceted and being promoted to an officer is no longer influenced by politics, time on the job, or luck. With the increase of fire hazards; such as new light weight construction, the requirement for better trained firefighters in fire fighting operations will require the fire service to provide a new type of leader – a more capable fire officer (1990, p. 29). Cater viewed leadership as a, Critical element in the provision of any service irrespective of profit or not-for-profit organizations and stressed that leadership is the “lubricating oil for the operational machine”. Without effective leadership, the service delivery machine will eventually slow and come to a halt. (Cater, 2007, p. 29)

The biggest emphasis is put on saving money. “The greater benefit is actually in the increased efficiency in service for the customer” (Ellis. 2000, p.27). “It is important to remember that a consolidated system that allows your agency to offer better service for the same money is, in effect a cost saving” (Hagstrom, 1999, p.10). The citizens of the community need to realize that increasing services for the same price, is just as beneficial as reducing the cost and maintaining the same level of service.

The more manpower there is the more equipment that can be staffed. For example, fire departments that share resources have greater flexibility in meeting their staffing needs; “they have access to combined labor pools to cope with firefighter absences and to staff vehicles” (OPPAGA, 2001, p.6)

This increase in resources allows the smaller departments to provide services that they would not have been able to provide to provide individually. “The regionalization of services can often provide us with the competitive edge we need to maintain or enhance the service levels provided to our communities in the most cost effective manner” (Bruegman, 1994, p.44).

The firefighters on each department will see benefits in consolidation. The number of apparatus available to respond to calls and the number of personnel on the scene will increase. This increase will make operations safer and more efficient. “Firefighters benefit from improved response by an improved command structure and ability to put more firefighters on the fire scene sooner” (Ellis, 2000, p.21). The number of short staffed responses will be reduced with the increase in apparatus and manpower.

Increased services and reduced costs are the biggest benefits to consolidation. Efficiency of operations and safety at emergency scenes benefit the fire department personnel. The more efficient the fire department operates the better it can provide the services expected from the citizens of the community.

PROCEDURES

In conducting this research, the current issue of consolidation between MHFD and NCHFD was evaluated using information derived from both past and current literature reviews on topics associated with consolidation, interviews with key people, budget reports, and case studies involving other fire departments who are presently involved in or who have been involved in a consolidation in the past. The goal was to look at the financial feasibility of a merger between the two departments by looking at the common factors associated with a consolidation experienced by other departments, and then look at specific areas of interest in the Hamilton County area. The research was focused on issues that prompt consolidation, such as financial issues, operational and personnel issues. Every effort was made to keep an open mind and attempt to understand the logic behind the positions expressed by the agencies and individuals identified in their search. The on-line card catalog of the Learning Resource Center (LRC) at the National Fire Academy (NFA) was used to search for materials pertaining to fire

department consolidation. Further, the search engine www.Google.com was utilized also to search for materials pertaining to fire department consolidation.

Copies of the budgets from MHFD and NCHFD were used to find a baseline cost to operate the two departments annually. The two budgets were analyzed to compare similar line items and what can be added together and what could be eliminated. The two budgets together were at \$1,150,376.50 for 2007. Figure 1 shows the two budgets revenue.

Figure 1. The Two Fire Department's 2007 Budget

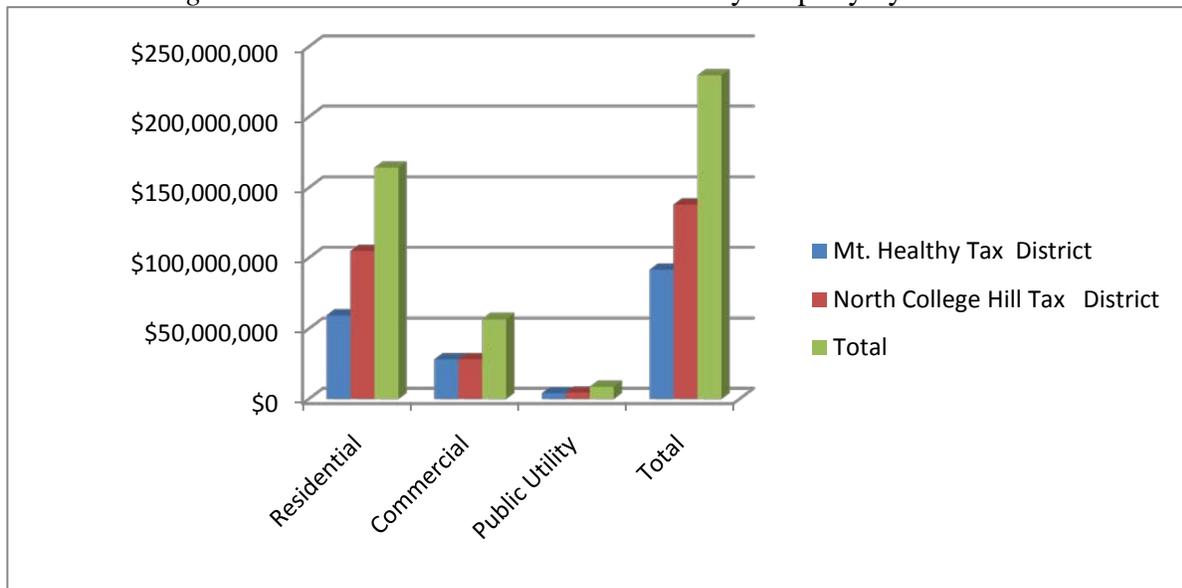
Mt. Healthy Fire Department 2007 Budget			
10% Rollback State	\$25,691.90		
2.5% Rollback	\$5,166.91		
Homestead Tax – State	\$2,510.33		
Public Utility Reimbursements	\$3,659.09		
Miscellaneous Income	\$2,899.13		
Reimbursable Inv	\$2,542.65		
Personal Property Tax	\$39,414.18		
Delinquent Personal Property	\$22,940.72		
Levy Real Estate Tax	\$335,847.22		
Manufactured Home	\$378.93		
Delinquent Manufactured Home	\$147.83	North College Hill 2007 Budget	
Transfer from General Fund	\$60,000.00	General Fund	\$649,177.61
Total	\$501,198.89	Total	\$649,177.61
			Total \$1,150,376.50

Interviews were conducted with local departments within the Hamilton County area that have consolidated fire departments and are of similar size to the purposed consolidation.

Interviews were conducted by phone, interviewing Chief Don Newman of the Deer Park Silverton Joint Fire District and Tom Driggers of the Little Miami Joint Fire District. These interviews were conducted in March of 2009 and questions asked were; what is your annual operations budget, how do you receive your funding, and what is the square mileage that your district covers? The same two questions were posed to city fire departments that are of similar

size to the proposed consolidated fire department. The cities sizes ranged from 1.2 square mile to 5.3 square miles. Surveys were sent out to local departments within Hamilton County to find information on salaries and benefits for both career and part-time personnel. Ten similar sized departments were used to determine the average salaries and benefits. The ten departments' salaries were divided in two categories; full-time and part-time. Then these categories were divided into two other categories; starting salaries and top-out salaries. The ten salaries were added together and divided by ten, giving the average salary for full-time staffing and starting and top-out salaries (see Appendix B) and average salaries for part-time, starting and top-out salaries (see Appendix C).

Figure 2. Valuation of Real and Public Utility Property by Tax District



Tax District	Residential	Commercial	Public Utility	Total
Mt. Healthy Tax District	\$59,227,990	\$28,209,190	\$4,159,910	\$91,597,090
North College Hill Tax District	\$105,078,100	\$28,382,400	\$4,559,730	\$138,020,230
Total	\$164,306,090	\$56,591,590	\$8,719,640	\$229,617,320

Copies of the budgets from MHFD and NCHFD were used to find a baseline cost to operate the two departments annually. The two budgets were analyzed to compare similar line items and what can be added together and what could be eliminated. The two budgets together were at \$1,150,376.50 for 2007.

Definition of Terms

Advanced Life Support (ALS) – its medical care provided by paramedics trained to assess a patient’s condition, administer drugs, defibrillate and provide advanced airway management prior to transportation to the hospital.

Assessed Tax Valuation – The total assessed monetary value of all structural components making up a political subdivision or district used to establish the anticipated revenues per each millage that would be generated by a tax levy.

Automatic External Defibrillator (AED) – An external computerized defibrillator designed for use in unresponsive victims with no breathing and no signs of a pulse. The AED captures the victim’s electrical signal through adhesive electrodes placed on the victim’s chest and analyzes the victim’s heart rhythm, identifying shockable rhythms. If a shockable rhythm is identified, the AED automatically charges to a preset energy level and provides voice prompts for operation. The AED will prompt the user to push a button and deliver the shock to reset the heart rhythm to a normal heart rhythm.

Basic Life Support (BLS) – Is a level of care provided to patients. BLS does not include extensive medical supervision or treatment, including the use of drugs and invasive procedures.

Cholera epidemic – an acute intestinal disease often fatal that is fast spreading.

Consolidation – Combining of business activities: the bringing together of businesses or business activities into a single unit.

EMT-I – Additional training in order to provide some level of advanced life support, such as the initiation of IV lines, advanced airway techniques, and administration of some medications beyond those the EMT-B is permitted to administer.

Emergency Medical Services (EMS) – A company of a minimum of two EMT's that respond to and assist in transporting medical and trauma victims to medical facilities for further treatment.

EMT-B – Considered the minimum level of certification for ambulance personnel.

Engine Company – responsible for securing water source, deploying fire hose, conducting search and rescue operations, and putting water on the fire.

Full-time personnel – A circumstance where an employee is paid an hourly rate or salary with additional benefits.

Incident Commander – The person in charge of the incident site who is responsible for all decisions relating to the management of the incident.

Joint Fire District – A fire suppression group or area, made up of two or more former political subdivisions.

Ladder Company – specializes in forcible entry, ventilation, roof operations, search and rescue, and deployment of ground ladders.

Millage – A term used to define the amount of money that an operating levy would provide

Operations budget – A budget passed annually by city council and is the primary fund to support the day-to-day operations for the fire department.

Paramedic – Additional training that allows relatively invasive field care, including initiate advanced airway procedures, initiation of IV lines, and administration of a variety of medications.

Part-time personnel – A circumstance where an employee is paid an hourly rate or salary, but usually not provided additional benefits.

Quint - a fire service apparatus that serves the dual purpose of an engine and a ladder truck. A quint performs five functions: pump, water tank, fire hose, aerial device, and ground ladders.

Safety Service Director – Chief administrative, executive, and law enforcement officer of the city. He or she shall be responsible to council for the administration of all City affairs placed in his or her charge by the City Council.

Tax Base - The sum of taxable activities, collective value of real estate, and subject to tax within a community,

Volunteer firefighter – A person that works as a firefighter for little or without pay.

General fund - In Governmental Account, fund used to account for all assets and liabilities of a nonprofit entity except those particularly assigned for other purposes in another more specialized fund. It is the primary operating fund of a governmental unit. Much of the usual activities of a municipality are supported by the general fund.

RESULTS

Question #1: What will the cost be to operate the consolidated Fire District as a Full-time and Part-time Department?

The estimated operations budget for the first year of the consolidated fire department will be \$1,558,126.00 (see Appendix D). A comparison of the 2007 budget of MHFD and NCHFD combined budgets of \$1,150,376.50 shows a \$407,750 increase for the first year estimated operation budget. The consolidated fire departments personnel will consist of; 1-full-time chief, 1-full-time secretary, 1-full-time fire inspector that will be scheduled 40 hour a week. Three-full-time shift supervisors will be scheduled to work a 24 hour off 48 hours shifts and a total of seven part-time personnel on duty per day, for a total of eight personnel on duty per day. The first year

cost to employee these personnel would cost \$512,002.00 for the full-time staffing (see Appendix E) and \$770,004.00 for the part-time staffing (see Appendix F). These costs include salaries and benefits. The day-to-day operations were estimated to cost around \$276,120.00 (see Appendix G).

Question #2: How can the current tax base sufficiently support the consolidated Fire District?

Based on the information obtained by the Hamilton County Auditor, the valuation of real and utility property is (\$229,617,320.00). By dividing the valuation of real and public utility property by 1,000, the result is the annual estimated revenue of (\$229,617.32). The result is divided by 1,000 because taxes are calculated on a “per thousand” dollars of taxable value. The annual estimated revenue is equal to one mill. When the annual estimated revenue (\$229,617.32) is divided by the estimated operation budget (\$1,558,126.00) a total at 6.79 of mills is calculated (Rhodes, 2009).

The County Auditor stated that a one mill levy will cost an owner of a \$100,000.00 house \$29.68 annually. To find the property tax on a \$100,000.00 home, the millage (6.79) is multiplied by \$29.68 and the cost of \$201.53 property tax per year is obtained. This can be broken down to \$16.79 per month, \$4.20 per week, or \$.60 a day (Rhodes, 2009).

Question #3: What would the first year operational cost be versus its long term operational cost?

Based on an increase of three percent per year, the budget will have an estimated increased cost of \$233,718.90 in five years. This will bring the budget to \$1,791,844.90 per year (see Appendix H).

One option to offset this increase is the income received from medical billing. In 2008 MHFD brought in \$160,028.00 and NCHFD brought in \$121,418.00 for a total of \$281,446.00. The two departments provide basic life support (BLS) with MHFD providing an intermediate level of care. Intermediate care provides advance life support (ASL). An EMT-I can perform

most procedures that paramedics can provide; the only care that an EMT-I cannot provide is the administration of cardiac drugs for non-breathers. There is a difference in what the departments can charge for BLS and ALS. MHFD charged \$325.00 for a BLS transport and \$600.00 for an ALS transport. NCHFD charges only for BLS transports at a rate of \$325.00. NCHFD made 274 ALS type details, charging only \$325.00 per detail. An increase of \$75,350.00 to the EMS billing could have been collected if NCHFD provided ALS services. The estimated income for the two departments could have been \$356,796.00. If the consolidation were to happen, the annual income from EMS billing could be much higher if the department were to become a paramedic department. According to our medical billing company, paramedic services can charge \$700.00 per ALS transports; this is \$100.00 more than an EMT-I transport charges. The EMS billing should be able to offset the increased cost of the 15 percent increase over a five year period.

Medicare shows an annual increase of two to five percent per year for transport charges. The transport charges are updated that equal to the percentage increase in the consumer price index. The resulting percentage is referred to as the ambulance inflation factor (2009, p. 3).

Question #4: How can consolidation improve the operations and service delivery of the two departments?

“The consolidation of several departments into a single entity may provide one of the most efficient and cost effective means of providing fire and EMS” (FEMA, 1999, p.2-39).

Consolidation may reduce the administrative personnel and add to the personnel providing the services, in turn increasing efficiency. Consolidation is usually looked at to reduce costs.

Hagstrom stated that,

Most reasons to consolidate fall into two categories – services and money. Therefore, most of the questions your agency will ask when considering consolidation need to be

evaluated in terms of a positive or negative impact on one or both of these areas (1999, p.8).

Fire departments need to also look at how it will affect the level of services provided. The biggest emphasis is put on saving money. “The greater benefit is actually in the increased efficiency in service for the customer” (Ellis, 2000, p.27). “It is important to remember that a consolidated system that allows your agency to offer better service for the same money is, in effect a cost saving” (Hagstrom, 1999, p.10). The citizens of the community need to realize that increasing services for the same price, is just as beneficial as reducing the cost and maintaining the same level of service.

The more manpower there is the more equipment that can be staffed. For example, fire departments that share resources have greater flexibility in meeting their staffing needs; they have access to combined labor pools to cope with firefighter absences and to staff vehicles” (OPPAGA, 2001, p.6)

This increase in resources allows the smaller departments to provide services that they would not have been able to provide to provide individually. “The regionalization of services can often provide us with the competitive edge we need to maintain or enhance the service levels provided to our communities in the most cost effective manner” (Bruegman, 1994, p.44).

The firefighters on each department will see benefits in consolidation. The number of apparatus available to respond to calls and the number of personnel on the scene will increase. This increase will make operations safer and more efficient. “Firefighters benefit from improved response by an improved command structure and ability to put more firefighters on the fire scene sooner” (Ellis, 2000, p.21). The number of short staffed responses will be reduced with the increase in apparatus and manpower.

Increased services and reduced costs are the biggest benefits to consolidation. Efficiency of operations and safety at emergency scenes benefit the fire department personnel. The more efficient the fire department operates the better it can provide the services expected from the citizens of the community.

DISCUSSION

After researching the issue of consolidation, it was found that many of the same issues, problems, and possible solutions were found in other departments that have or will occur between the Cities of Mt. Healthy and North College Hill. Many common advantages were discussed such as elimination of duplication of service, cost savings, increased efficiency, resources, standardization of training and operational guidelines, to name a few. With increased demands for more service, the current level of service will or may not meet citizen's future demands for fire and EMS service. Although mutual aid agreements are in place, the next step in the upgrading of service levels may be consolidation.

The literature review shows that there are benefits in the form of increased services. "Most reasons to consolidate fall into two categories - services and money" (Hagstrom, 1999, p.8). The two cities need to look at which area or areas that they believe can be improved by consolidating.

The citizens will determine how much they are willing to pay for services the fire department provides based on their perception of the risks involved. If they don't believe that there is a big concern for fire protection and EMS services in their community, they may not be willing to pay a lot of money for these services.

A community expresses its assessment of its overall fire risk through the resources it is willing to commit to its fire department. If the fire department is unable to perform its fire control mission, the community's fire risk balance could be compromised. The fire chief

is responsible for: managing the community's fire risk, providing a set of services that are part of the risk management system (the service delivery mission), and ensuring the department can perform its mission at all times. (FEMA, 1996, p. 8)

The benefit of consolidation may not be in the form of cutting costs but in the improvement of the level of services provided. An increase in the amount of equipment and manpower for the same cost is improving the service. "It is important to remember that a consolidated system that allows your agency to offer better service for the same money is, in effect a cost saving" (Hagstrom, 1999, p. 10). More manpower and equipment increases the capabilities of the fire department.

Consolidation of MHFD and NCHFD could increase the capabilities of both departments. The increase in capabilities will allow for the departments to send adequate equipment to responses even when one or two units are already on another call. "Often, in smaller agencies the loss of one piece of equipment or the absence of one person can create a service crisis, influencing the ability of the agency to properly carry out the emergency mission" (ESCI, 2003, p. 163).

The fire department will benefit from this increase in services. Crews responding to calls with a reduced response have to prioritize tasks due to the lack of equipment and manpower. "Who benefits from maintaining the status quo? Surely not our customers — the taxpaying citizen who use the service and pay the bills. Certainly not the personnel working on the street trying to make an inferior system operate functionally" (Schaper, 1998, p.63).

One very important recommendation for the City in its future negotiation or for any emergency response units considering a consolidation effort is this; a very detailed formula for cost sharing is crucial. In all of the consolidations that were studied there was in place a detailed plan or formula for determining cost shares. Whether based on past

budgets, valuation, call volume or any other factor, cost sharing has to be a detailed part of any consolidation agreement to avoid future discord between the consolidated parties (Drake, 2002, p.33).

While evaluating the study results, it seems that there are strong advantages to consolidation in terms of developing a good working relationship with neighboring communities. While most departments have not consolidated with another organization, those that have suggested a strong working relationship, expanded services, and cost control as the main advantages to consolidation.

RECOMMENDATIONS

The research shows that consolidation of the two departments will cost the owner of a \$100,000.00 home \$201.53 a year. Mt. Healthy has a current tax levy for the Fire Department. The levy tax on a \$100,000.00 home for one year cost the home owner \$130.00 a year. The consolidation will have an increase cost of \$71.53 a year for Mt. Healthy tax payer. While North College Hill does not have a levy for the Fire Department, it could help the city to have more revenue for the other departments that operate in the city.

With the additional cost of \$71.53 a year, the current tax base in Mt. Healthy should be sufficient enough to support the Joint Fire District. The property owners of North College Hill will have the most cost investment if they were to support the Fire District, because they don't pay any property taxes specifically for fire protection.

The research has shown that there will be an increase in cost to operate the Fire District from the first year versus the long term. The research shows an increase of \$233,718.90 in five years. This cost can be covered by the revenue we would take in with the EMS billing. As of 2008 the two departments brought in \$281,446.00 of medical billing. Medical billing has a

history of two to five percent increase a year. This percentage is set by Medicare's Ambulance Inflation Factor (Medicare, 2009).

In reviewing this research paper it shows that consolidation is one way of improving service. Fire departments have successfully consolidated throughout the United States in an effort to reduce costs and improve services. One major issue that both departments are facing is the day-to-day supervision; between the two departments we have five 12-hour shifts without any supervision. The Joint Fire District could employ three full-time supervisors that would bring day-to-day stability to the department. With the Joint Fire District having an eight-person crew per day, we would be able to have two EMS units out on a detail and have four personnel back at the station to staff an engine or quint.

One obstacle that would hinder the Joint Fire District is building a new fire station, but state and federal grants are available, for the purpose of building a new station.

It is my recommendation that the officials of the two cities proceed to further investigate the feasibility of a Joint Fire District of Mt. Healthy and North College Hill Fire Departments.

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Appendix A

Map of Mt. Healthy and North College Hill

Appendix B

Average Salaries for Part-Time Staffing

Fire Departments	Firefighter/Medic	
	Starting Salary	Top-out Salary
Fire Department 1	\$15.00	N/A
Fire Department 2	\$13.00	N/A
Fire Department 3	\$12.00	\$16.00
Fire Department 4	\$12.00	\$16.00
Fire Department 5	\$14.00	\$15.00
Fire Department 6	\$13.00	\$14.00
Fire Department 7	\$13.00	\$16.00
Fire Department 8	\$15.00	\$16.00
Fire Department 9	\$15.00	N/A
Fire Department 10	\$13.00	\$14.00
Average Pay	\$13.50	15.29
	Firefighter/EMT	
	Starting Salary	Top-out Salary
Fire Department 1	\$14.15	N/A
Fire Department 2	\$12.59	N/A
Fire Department 3	\$11.47	\$12.28
Fire Department 4	\$10.63	\$14.59
Fire Department 5	\$10.28	\$14.51
Fire Department 6	\$10.00	\$14.51
Fire Department 7	\$10.93	\$11.87
Fire Department 8	\$12.50	\$13.00
Fire Department 9	\$10.50	\$11.00
Fire Department 10	\$10.49	\$11.92
Average Pay	\$11.35	\$12.96

Appendix C
Average Salaries and Benefits for Full-Time Staffing

Full-Time Staffing	Salary	Pension	Insurance/Benefits	Total
Chief 40 Hours	\$72,000	\$17,280	\$10,537	\$99,817
Clerk 40 Hours	\$32,000	\$7,680	\$10,537	\$50,217
Captain Unit 1	\$64,480	\$15,475	\$10,537	\$90,492
Captain Unit 2	\$64,480	\$15,475	\$10,537	\$90,492
Captain Unit 3	\$64,480	\$15,475	\$10,537	\$90,492
Fire Inspector	\$64,480	\$15,475	\$10,537	\$90,492
Top-Out Salary and Benefits				
Chief 40 Hours	\$79,827	\$19,158	\$11,000	\$109,985
Clerk 40 Hours	\$35,478	\$8,514	\$11,000	\$54,992
Captain Unit 1	\$69,242	\$16,618	\$11,000	\$96,860
Captain Unit 2	\$69,242	\$16,618	\$11,000	\$96,860
Captain Unit 3	\$69,242	\$16,618	\$11,000	\$96,860
Fire Inspector	\$69,242	\$16,618	\$11,000	\$96,860

Appendix D
First Year Budget

Start Out Pay and Benefits	
Operations	\$276,120.00
Full-Time Total Salary	\$512,002.00
Firefighter/EMT 3 per day	\$296,964.00
Firefighter/Medic 4 per day	\$473,040.00
Total	\$1,558,126.00

Appendix E
Full-Time Staffing

Full-Time Personnel	Start Salary/Benefits
Chief	\$99,817.00
Clerk	\$50,217.00
Captain	\$90,492.00
Captain	\$90,492.00
Captain	\$90,492.00
Fire inspector/Medic	\$90,492.00
Total	\$512,002.00

Appendix F
Part-Time Staffing

One Part-Time Firefighter/Medic Shift per year	\$13.50 x 24 hours	One Part-Time Firefighter/EMT Shift per year	\$11.30 x 24 hours
	\$324.00 x 365 days		\$271.20 x 365 days
Total	\$118,260.00	Total	\$98,988.00
Personnel per day	x 4	Personnel per day	x 3
	\$473,040.00		\$296,964.00
		Total \$770,004.00	

Appendix G
Operations Budget

Gas and Electric	\$24,000.00
Phone Service	\$5,800.00
Water	\$2,400.00
Internet Service	\$1,500.00
Vehicle Fuel	\$2,400.00
Insurance vehicle/bldg/liability	\$14,000.00
Uniform Allowance	\$10,500.00
Trans.- Mileage	\$500.00
Seminars / Training	\$9,500.00
Public Education	\$1,000.00
Dues to Professional Org	\$450.00
Communications - Hamilton City	\$36,000.00
Communications - Cell phones	\$3,000.00
Communications - Pagers	\$1,860.00
Communications - Maintenance	\$12,000.00
Maint - vehicles	\$10,000.00
Maint of Buildings	\$8,000.00
Maint of office equip	\$2,000.00
Maint of computer equip	\$300.00
Maint of equipment - Other	\$1,500.00
Insurance - Casualty	\$6,000.00
Hepatitis Shots	\$400.00
Vol Dependents Fund	\$600.00
Contracted Serv - Other	\$18,000.00
PEAP	\$2,610.00
Fire Hydrants	\$6,000.00
Workmen's Comp Charges	\$19,000.00
Auditor & Treasurer Fees	\$9,000.00
Dretac Fund - County	\$900.00
Stationary and Supplies	\$1,000.00
Postage	\$300.00
Parts and Supplies	\$3,000.00
Medical Supplies	\$25,000.00
Medical Waste	\$500.00
Purchase of office equipment	\$2,000.00
Purchase of other Equipment	\$10,000.00
Subscriptions & References	\$400.00
Incidentals	\$500.00
Cleaning Supplies	\$4,200.00
Capital improvement	\$20,000.00
Total	\$276,120.00

Appendix H
Budget Increase by 3%

Full-Time Staffing		Part-Time Staffing			
Chief	\$109,985.00	One Part-Time	\$15.29	One Part-Time	\$12.96
Clerk	\$54,992.00	Firefighter/Medic	x 24 hours	Firefighter/EMT	x 24 hours
Captain	\$96,860.00	Shift per year	\$366.96	Shift per year	\$311.04
Captain	\$96,860.00		x 365 days		x 365 days
Captain	\$96,860.00	Total	\$133,940.40	Total	\$113,529.60
Fire Inspector	\$96,860.00	Personnel per day	x 4	Personnel per day	x 3
Total	\$552,417.00		\$535,761.60		\$340,588.80

Operations	\$300,000.00
Full-Time Total Salary	\$552,417.00
Firefighter/EMT 3 per day	\$340,588.00
Firefighter/Medic 4 per day	\$535,761.00
Total Increase	\$1,728,766.00