A COST-EFFECTIVENESS ANALYSIS FOR CONSOLIDATING THE CODE ENFORCEMENT SERVICES OF GOSHEN FIRE DEPARTMENT WITH GOSHEN BUILDING DEPARTMENT

FIRE SERVICE FINANCIAL MANAGEMENT

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ABSTRACT

The problem for the research was buildings were becoming fire traps in the City of Goshen because the Chief Fire Inspector only conducted 60 fire code inspections in 1999 due to the numerous functions that were delegated to his position in the Fire Prevention Bureau. The city administrators refused to increase staffing levels in The Fire Prevention Bureau, so the Chief Fire Inspector could have increased the number of fire code inspections throughout the city.

The purpose of this research was to analyze the cost-effectiveness of consolidating the code enforcement services of Goshen Fire Department with Goshen Building Department. The analysis had to comply with several criteria which were established as a guide for the research.

The research was to utilize the evaluative research methodology by analyzing the cost effectiveness of consolidating code enforcement services in the City of Goshen while providing a literature review of related professional journals. Three research questions were formulated to direct the research toward a resolution for Goshen Fire Department's problem.

1. Did the State of Indiana have any governmental entities that have successfully consolidated their code enforcement services?
2. Would the consolidation of code enforcement services be cost-effective for Goshen, Indiana?
3. Would consolidation of code enforcement services diminish the workload for the Chief Fire Inspector?

Procedures for the research included two interviews with previous Chief Fire Inspector's from Goshen Fire Department; personal communications with Goshen's Fire Chief, Building Commissioner, and Goshen General Hospital's Head of Maintenance; literature review; and a

cost-effective analysis. These research procedures provided conclusive results.

The results of the research concluded that consolidation of Goshen's code enforcement services was a cost-effective solution that complied with the criteria that was established for the research to achieve. The recommendations were reflected by the results that were accomplished in the research process.

The recommendations were to consolidate the code enforcement services immediately, and evaluate the effectiveness of the consolidation after one year of operation. Consolidation of the code enforcement services was cost-effective and improved customer relations in the City of Goshen.

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INTRODUCTION

The Goshen Fire Department has not been able to provide an efficient and effective fire prevention program for the citizens of Goshen because of the significantly high personnel turnover rate in its Fire Prevention Bureau. The Fire Prevention Bureau has experienced four different Chief Fire Inspectors in the past five years (Goshen Fire Department, 2000a). The previous Chief Fire Inspectors have either retired or resigned from the position because of their frustrations, or burn out from the numerous tasks they were required to perform (Chief Fire Inspector B, personal communication, January 16, 2000).

The problem is buildings are becoming fire traps in the City of Goshen because the Chief Fire Inspector only conducted 60 fire code inspections in 1999 due to the numerous functions delegated to his position in the Fire Prevention Bureau. The city administrators refuse to increase staffing levels in the Fire Prevention Bureau, so the Chief Fire Inspector could increase the number of fire code inspections throughout the city (Goshen Fire Department, 1999a).

The purpose of this research is to analyze the cost-effectiveness of consolidating the code enforcement services of the Goshen Fire Department with the Goshen Building Department. This analysis must consider several criteria which have been established to guide this research. Consolidation of both department's code enforcement services must increase the number of fire code inspections conducted throughout the city by 50%, and reduce the Chief Fire Inspector's workload in a cost-effective manner without increasing the Fire Prevention Bureau's personnel staffing level.

This research will utilize the evaluative research methodology and provide a literature review to analyze the cost-effectiveness of consolidating both of the code enforcement services

in Goshen. This research will answer three research questions that will enhance the outcome of this research.

1. Does the State of Indiana have any governmental entities that have successfully consolidated their code enforcement services?
2. Will this consolidation of code enforcement services be cost-effective for Goshen, Indiana?
3. Will the consolidation of the code enforcement services diminish the workload for the Chief Fire Inspector?

The three research questions will guide this research toward resolving Goshen Fire Department's staffing shortage and infrequent fire inspection dilemma. The analysis must comply with the parameters that have been established for this research. Fire code inspections must increase by 50%, but the Chief Fire Inspector's workload must be reduced without hiring additional personnel.

BACKGROUND AND SIGNIFICANCE

Goshen Fire Department

Goshen Fire Department currently has three fire stations that are located within 13.45 square miles of the city limits (Goshen Engineering Department, 1999). These three stations are staffed by 48 fire suppression personnel which staff three paramedic ambulances and three engine companies (Goshen Fire Department, 2000b). Goshen Fire Department protects 30,000 residents within the city limits, and contains more than 800 buildings which include businesses, churches, nursing homes, hospitals, schools, and manufacturing facilities (Goshen Engineering

Department, 1999). The Chief Fire Inspector for the City of Goshen has the responsibility of inspecting all of these 800 buildings in the city on an annual basis (Goshen Fire Department, 1999b).

Chief Fire Inspector's Responsibilities

The Chief Fire Inspector and the Fire Chief are the only two members of the Goshen Fire Department on an eight-hour shift which operates five days per week for a total of 40 hours (Goshen Fire Department, 1999b). The Chief Fire Inspector was responsible for inspecting 60 buildings for fire code violations, investigated 153 fires for cause and origin, and provided public fire safety education to 2,500 school children in 1999 (Goshen Fire Department, 1999a). These numerous tasks performed by the Chief Fire Inspector created many fire code violations in buildings that were ignored for many years. Example: Goshen General Hospital has not been inspected for fire code violations since 1986 (H. Wilfong, personal communication, February 4, 2000).

The Fire Prevention Bureau does not have any secretarial support assigned to assist the Chief Fire Inspector with his duties. The Chief Fire Inspector must answer the telephone, type letters, type envelopes, and research fire codes by himself. He must also transport fire investigation pictures to the developer, and fire investigation evidence to the laboratory for analysis. These numerous tasks have frustrated or overworked the previous three Chief Fire Inspectors during the past five years because two of these previous Chief Fire Inspectors retired after one and one-half years in the Fire Prevention Bureau. The third Chief Fire Inspector resigned after one year in the Fire Prevention Bureau, yet he requested to be reassigned to a shift for fire suppression duty (Chief Fire Inspector B, personal communication, January 16, 2000).

On January 1, 2000, a new Chief Fire Inspector was appointed to the Fire Prevention Bureau. This newly appointed individual becomes the seventh to attempt to survive the Chief Fire Inspector's position.

History of the Chief Fire Inspector's Position

The Chief Fire Inspector's position has been a very visible function in the City of Goshen since the early 1950's. There has only been a total of seven Chief Fire Inspectors in the history of the Goshen Fire Department. From these seven Chief Fire Inspectors, five have been appointed since 1970 and four have since retired or resigned from this position. The Chief Fire Inspector's position was created to prevent the numerous fires that were occurring in the City of Goshen during the late 1940's and early 1950's. The Chief Fire Inspector's function was to curb the numerous fire losses that were occurring to buildings destroyed by fire. These fire losses were attributed to numerous fire code violations. During this time, there were approximately 50 buildings that were occupied by hospitals, schools, businesses, and manufacturing facilities in Goshen (Goshen Fire Department, 1988).

Goshen Fire Department's current staffing shortage required the Chief Fire Inspector to become a fire investigator and public fire safety educator. These functions have expanded over the years, but the city administration refused to hire additional staffing for the Fire Prevention Bureau (Chief Fire Inspector A, personal communication, January 16, 2000).

In 1999, the Chief Fire Inspector requested a part-time secretary, so he could spend more time doing inspections. The city administrators refused to hire any additional personnel (Goshen Fire Department, 1999c).

This refusal to hire additional staffing has forced the current Chief Fire Inspector to

analyze the cost-effectiveness of consolidating the Fire Prevention Bureau with the Goshen Building Department. This consolidation would utilize the three secretaries, employed by the building department, to support five inspectors instead of four. The building department's inspection computer software would enable the Fire Prevention Bureau to develop a building occupancy data base to be utilized by both departments. Numerous advantages appear to suppress the disadvantages, however, the costs of consolidation must be considered. These issues must be researched and investigated during the cost-effectiveness analysis.

Cost-effectiveness analysis was first explained in the Fire Service Financial Management course held at the National Fire Academy. The Fire Service Financial Management course is an elective course provided during the third year of the Executive Fire Officer Program (United States Fire Administration, 1998).

The issue of cost-effectiveness analysis appeared in the *Fire Service Financial Management Student Manual* on page sm-6-14. The process to perform the cost-effectiveness analysis is to analyze all alternatives that will accomplish the goals of the Fire Prevention Bureau within the set parameters, and compare these alternatives to each other while utilizing different measurements (United States Fire Administration, 1997).

The Goshen Building Department issued a total of 50 million dollars worth of building permits to contractors building inside Goshen's boundaries in 1999. Since the first of the year, the Goshen Building Department issued approximately half this number of building permits in the first three months of 2000. This increase in building permits exhibits the growth which is occurring in Goshen (Goshen Building Department, 2000).

This growth increases the work load of the Fire Prevention Bureau significantly. Since,

Goshen is located in North Central Indiana, between Chicago and Detroit, the population growth potential is unlimited. The construction growth in Goshen increased the building department's personnel to four inspectors (Goshen Building Department, 2000). The future of the Goshen Fire Department's Fire Prevention Bureau hinges on acquiring additional staffing to decrease the workload of the Chief Fire Inspector and increase the number of fire code inspections.

LITERATURE REVIEW

The number of resources revealed during the research process was very limited. Most of the literature that was disclosed was not current, so the majority of information reviewed in the research process will result from personal communications; personal interviews; sources that explain the procedure for cost-effectiveness analysis; Goshen Fire Department's documents and records; articles with evidence to support consolidation; and Executive Fire Officer Program research papers with examples of governmental entities that have consolidated.

Personal Interviews

Personnel interviews were conducted during January 16, 2000 with two previous Goshen Fire Department Chief Fire Inspectors. The first Chief Fire Inspector will be identified as Chief Fire Inspector A, and the second Chief Fire Inspector will be identified as Chief Fire Inspector B. The individual's identities must be protected because of the employment status of Chief Fire Inspector B and the information that was released during the personal interviews.

Chief Fire Inspector A served in the Chief Fire Inspector's capacity for one and one-half years during January 1997 to June of 1998. His duties during this time required him to perform fire inspections, fire investigations, public fire safety education, emergency preparedness,

hazardous materials recognition, and safety and health functions for the city. Chief Fire Inspector A was only able to allow eight hours per week to each of these tasks, but that eight hours a week depended on whether he conducted a fire investigation. A fire investigation could consume

16-24 hours per week of the Chief Fire Inspector's time (Chief Fire Inspector A, personal interview, January 16, 2000).

Fire investigations were Chief Fire Inspector A's favorite part of the position. He did not enjoy the fire inspections, as well as the emergency management or hazardous material functions. Chief Fire Inspector A did not enjoy letting the different functions go uncompleted. This gave him a feeling of incompleteness. This feeling of incompleteness forced him to attempt to change his position description and develop a plan to hire additional personnel to perform the many functions he was assigned. He did not have the Fire Chief's blessing, so his plans to implement change in the Fire Prevention Bureau failed. Chief Fire Inspector A was against consolidating the code enforcement services of the building and fire departments (Chief Fire Inspector A, personal interview, January 16, 2000).

Chief Fire Inspector B was assigned to the position for one and one-half years after Chief Fire Inspector A retired. The duties of Chief Fire Inspector B's were identical to Chief Fire Inspector A, however, the time spent on each function varied considerably (Chief Fire Inspector B, personal interview, January 16, 2000).

Chief Fire Inspector B delivered many public fire safety programs for the schools, and public organizations. During 1999, 2,500 children were instructed on the topic of fire safety. Public fire safety education was Chief Fire Inspector B's favorite function, yet fire investigations

were his least favorite function (Chief Fire Inspector B, personal interview, January 16, 2000).

The one major change which he tried to institute was to hire a secretary or additional person to decrease the number of functions he had to perform. This request for additional personnel did not meet with the Fire Chief's approval, so the request failed. Consolidation was out of the question for this Chief Fire Inspector (Chief Fire Inspector B, personal interview, January 16, 2000).

Personal Communications

On January 2, 2000, Mike Leasor, Building Department Commissioner of Goshen was asked his opinion about consolidating the building department with the fire department's code enforcement services. He was able to visualize several advantages for his department if consolidation would occur. He would have an individual in his office with a college degree, communications would be enhanced between the two code enforcement service entities, and his department would have accessability to the data on business building construction. Mike Leasor saw several advantages for the fire department in this move as well (M. Leasor, personal communication, January 2, 2000).

The Fire Prevention Bureau would have access to a comprehensive computer building inspection program, the Fire Prevention Bureau's proximity would be closer to town, and the citizens would have access to two departments at one location. A single location where building construction permits could be obtained, or citizens could communicate with inspectors about code enforcement regulations (M. Leaser, personal communication, January 2, 2000).

Fire Chief John Alheim, was excited about the consolidation idea. A meeting with the current Chief Fire Inspector, Mike Leasor, and the Fire Chief occurred on January 14, 2000. Fire

Chief John Alheim, was jubilant about this idea because the Fire Inspection Bureau would gain secretarial assistance and could utilize the building department personnel without increasing fire department staffing levels. The Fire Chief gave this idea his blessing (J. Alheim, personal communication, January 14, 2000)

With the Fire Chief's blessing, the consolidation of code enforcement services between Goshen Building Department and Goshen Fire Department have a significant advantage over the plans and requests that were introduced by Chief Fire Inspectors A and B.

During a telephone conversation with Harold Wilfong on February 4, 2000, he stated that Goshen General Hospital had not been inspected for more than 14 years. He had no record of inspection since 1986 (H. Wilfong, personal communication, February 4, 2000).

The two personal interviews and the three personal communications were the stimuli to pursue the research in the professional literature to identify the successes and failures of other governmental entities that have consolidated their code enforcement services.

Governmental Entities That Have Consolidated

Allan M. Woo (1994) wrote a research paper for the Executive Fire Officer Program (EFOP) requirements about several governmental entities which successfully consolidated their building departments with their Fire Inspection Bureaus. Mount Prospect, Illinois Fire Department is a fire department similar in size to Goshen Fire Department. Mount Prospect saved more than $171,000 dollars, reduced management positions, provided uniform code interpretations, completed plan reviews more efficiently, and created more flexible work loads for the inspectors as they became cross trained in other inspection functions

A negative result from the consolidation of code enforcement services revealed the fire

department became code enforcers instead of code consultants. This new image of the fire department seen as code enforcers could become a public relations nightmare (Woo, 1994).

Woo (1994) revealed that the State of Indiana consolidated the Building and Fire Prevention Departments to formulate the Department of Fire Prevention and Building Safety. The consolidation of these two state departments provided the resources, which enabled the updating of building codes in Indiana, decreased the duplication of plan reviews, upgraded training, and increased personnel in the Fire Marshal's staff by 100% and the building inspection staff by 20%.

Karen Bass (1992) revealed in her Executive Fire Officer Program research paper that many departments throughout the country have consolidated their building departments with their Fire Inspection Bureaus. St. Paul, Minnesota; Arlington, Texas, Lewisville, Texas; Tucson, Arizona, Daytona Beach, Florida; and Champaign, Illinois all consolidated their building and fire departments into one code enforcement service. Steve Zaccard, Fire Marshal of St. Paul, Minnesota when interviewed by Karen Bass stated.

> Instead of the city having ten inspectors doing Certificate of Occupancy renewal inspections who cannot enforce the fire code, and eight fire code inspectors, we now have eighteen inspectors doing Certificate of Occupancy renewal inspections and the same eighteen inspectors doing fire code inspections (Bass, 1992, p. 10).

Evidence to Support Consolidation

Richard T. Conrad and Ronny J. Coleman (1996) write in their article, *Searching for the Solution: Closing the Gap Between Building and Fire Officials*, that the building codes and fire prevention codes are becoming a single code. These two separate codes accounted for two

separate departmental functions in previous years. They explain that the training each official pursued was significantly different, however, these career paths are now becoming similar in the plan review and building construction areas. The different career paths and educations obtained by the building and fire inspectors resulted in differences in code interpretations, so the builder, contractor, and developer became confused with the two different sets of standards enforced by the building and fire department inspectors.

Conrad and Coleman (1996) believe cooperation must be achieved by the building and fire departments, so plan reviews, maintenance practices, and occupancy changes enhance the builders and developer's efforts to meet these regulations. The builders and developer's compliance efforts reassure inspectors that buildings will not fall down nor burn and ensures a community's growth.

> Model codes have away of leveling the playing field in an entire community if not in the entire state, and degree to which the building and fire officials work to implement that code becomes more important to a community's economic vitality (Conrad and Coleman, 1996, p. 7).

The State of Indiana has enacted one of these model codes. In the Indiana Administrative Code (1998), the Department of Fire Prevention and Building Safety was legally promulgated. This law adapted the Uniform Fire Codes, Uniform Building Codes, and Uniform Mechanical codes which are to be enforced by the building and fire departments throughout the State of Indiana.

Charles Werner (1991) explains that many departments are consolidating because of the duplication of services, and the majority of building codes are related to fire safety. "It is

estimated that 75 to 80 percent of code enforcement is fire and life safety related" (Werner, 1991, p. 10).

Werner (1991) identified personnel reductions and improvement of customer service as two reasons that his department consolidated. He believes a third benefit would result from the fire department becoming more active in reviewing plans for the construction and renovation of buildings. The fire department was eliminated from this process prior to consolidation of the building and fire departments.

Buster Scholl (1995) explains the reasons for consolidating the building department's function with the fire department was because of dwindling resources, demands for more services, and the request for both departments to enforce numerous codes and ordinances. These codes and ordinances enforce zoning, sign, vehicle abatement, housing, animal control, and fire regulations.

With these increased responsibilities, the consolidation of the two departments allows for personnel to retain their employment. When building construction slows, the inspectors can perform fire inspections. These employees must be cross trained in order to enforce both building and fire codes (Scholl, 1995).

Scholl (1995) identifies this cross training and dual responsibility as the foundation for a comprehensive model code enforcement program. The training and dual responsibilities enhance the communications efforts between the inspectors, citizens, and other groups of individuals involved in the code enforcement process, "Communicating new methods, procedures, and approaches enhances the code enforcement official's ability to handle ever increasing numbers and types of cases" (Scholl, 1995, p. 26).

Documents From the City of Goshen

This research required the utilization of many documents from the City of Goshen. The extensive literature and information disclosed in various documents from three departments in the city were reviewed. These documents were recovered from the fire department, engineering department, and building department. Documents located at the Goshen Fire Department were the Goshen Fire Department 1999 Annual Report; Goshen Fire Department 2000 Retirement Roster; Goshen Fire Department Personnel, Station, and Apparatus Assignment List for the Year 2000; Goshen Fire Department History; Goshen Fire Department Chief Fire Inspector and Fire Chief's Position Descriptions; Goshen Fire Department Mission Statement, and two request reports for additional personnel that were authored by Chief Fire Inspector B (1999) and Chief Fire Inspector A (1998).

The 2000 Retirement Roster identified the number of individuals that have retired from Goshen Fire Department. These individuals names, ranks, or positions were exhibited on the roster as well (Goshen Fire Department, 2000a).

The Goshen Fire Department's Personnel, Station, and Apparatus Assignment List for the Year 2000 exhibited the type of apparatus each member was assigned to, and the station they were to be located at for six months. This list contains all the names and ranks of each individual on the Goshen Fire Department, as well as the station and apparatus assignment for each individual. This roster identifies the individuals that work on a 24-hour shifts, as well as the people who work on eight hour shifts (Goshen Fire Department, 2000b).

The Goshen Fire Department's Mission Statement provided an area of focus for the goals and objectives the department is attempting to accomplish. This Mission Statement identified

the numerous services the Goshen Fire Department supports. The department provides fire suppression, rescue, prevention, investigation, emergency medical services, and public education services to the citizens of Goshen. There are 48 individuals that contribute to three of these services while only one person is responsible for the other three. That one individual is providing prevention, investigation, and public education services to the citizens (Goshen Fire Department, 1993).

Goshen Fire Department's History has been recorded and updated from time to time on typed letterhead from the Fire Chief. The author is unknown and the dates of origin and updates are unknown. However, the one update was identified around 1988 by the previous Fire Chief's letterhead. The history of the department explained how the Fire Inspection Bureau was organized and how many inspectors have been appointed to this position previously (Goshen Fire Department, 1988).

Goshen Fire Department's Chief Fire Inspector and Fire Chief's position description provided a listing of the responsibilities delegated to the Chief Fire Inspector. This position description identified the authority the Chief Fire Inspector has in the Fire Prevention Bureau's change process. The Fire Chief must approve any significant change to the bureau (Goshen Fire Department, 1999b).

There were three fire department reports that were utilized in this research for consolidating the building and fire department code enforcement functions. First, Chief Fire Inspector B (1999) submitted a request to the Fire Chief and Mayor for additional personnel in the Fire Prevention Bureau. This report identified several statistics and the numerous functions assigned to the Chief Fire Inspector's position. This report requested that a secretary be hired, at

a minimum, to relieve the Chief Fire Inspector of the various office tasks that he performed daily (Chief Fire Inspector B, 1999).

The second report was authored by Chief Fire Inspector A (1998) which requested additional personnel for the Fire Prevention Bureau. This report had statistics, a daily time line of the numerous duties performed, and the time that was consumed by the Chief Fire Inspector accomplishing these duties (Chief Fire Inspector A, 1998).

The third report was the Goshen Fire Department's Year End Report for 1999. This report disclosed that 60 buildings were inspected, 153 fires were investigated, and 2,500 school children were provided with fire safety education information in 1999. This report described the number of dollars lost due to fire damage, and the number of fires that occurred in the City of Goshen during 1999. These numbers are increasing from previous years (Goshen Fire Department, 1999a).

Statistics were disclosed by Goshen Engineering Department's data base. These statistics presented this research with the number of buildings which require inspection, the estimated number of population, and the number of square miles within the city limits of Goshen (Goshen Engineering Department, 1999).

Goshen Building Department provided the dollar amount of building permits issued in 1999, the number of building permits issued in 2000, and the number of inspectors employed by the building department. This resource produced information about the growth occurring in Goshen, and the growth of the building department (Goshen Building Department, 1999, 2000).

Cost-Effectiveness Analysis

This research discovered two resources which explained the process of how to perform a

cost-effective analysis. These two sources were consulted, and the information they provided were utilized during this research. The National Fire Academy's, *Fire Service Financial Management Student Manual*, presents a brief explanation of how to calculate the costs of alternative solutions in an overhead transparency program which is supplied in the back of the manual (United States Fire Administration, 1997).

The next resource consulted was, *The Public Administration Workbook*, written by Mark W. Huddleston (1996). This source was utilized in a Master's Degree course from Oklahoma State University. Huddleston (1996) reveals a way to compare several alternative solutions to a problem situation. This comparison is completed in several tables on several different pages in chapter 16. Huddleston's (1996) form of analysis will be utilized in this research.

Miscellaneous Resources

The *Executive Fire Officer Program Operational Policies and Procedures Applied Research Guidelines*, published by the United States Fire Administration (1998) for the National Fire Academy, were consulted during this research to identify the third year elective programs for the Executive Fire Office Program (EFOP) completion requirements. The Fire Service Financial Management course is a third year elective for the EFOP (United States Fire Administration, 1998).

Summary

The personal interviews conducted on the two previous inspectors identified several issues that were vital to this research. They revealed that they did not have the Fire Chief's support in requesting additional personnel from the Mayor, nor did they have the Fire Chief's support to diminish the number of functions that were performed by the Chief Fire Inspector.

The personal interviews established several alternative solutions for the cost-effectiveness analysis. These two interviews were critical to this research because the Chief Fire Inspectors disclosed what went wrong in their administrations. Their mistakes will provide guidance to this research, so their mistakes are not repeated.

The personal communications between the Fire Chief and Building Commissioner revealed support to begin the consolidation process. This support differs significantly from the support exhibited from the previous Fire Chief toward the two previous Chief Fire Inspectors. This support base appears to be flowing from Goshen's Mayor. The numerous advantages disclosed during the personal communications provided several objectives to select alternative solutions for the cost-effectiveness analysis.

The three previous EFOP research papers revealed numerous city's that have consolidated their building and fire department's code enforcement services successfully. Advantages and disadvantages were presented in three EFOP research papers, but the one case history of Indiana established the promulgation of a law that was completed to form the Department of Fire Prevention and Building Safety.

The Indiana case history adapted a law that recognized several national codes and standards that were to be utilized by all of Indiana's building and fire inspectors. This law secured the future of consolidation in Indiana because the Indiana codes were identified as a model code system (Woo, 1994).

Conrad, Coleman, Werner, and Scholl directed this research in a positive direction. These authors endorsed the consolidation issue because they encountered several similar situations in their career paths. Their endorsements directed this research with support from

nationally acclaimed authors in the field of fire prevention and building code management.

The foundation of this research was the statistics and reports discovered within Goshen Fire Department documents. The reports which requested additional personnel contained statistics that were instrumental in substantiating the personal interviews of the past Chief Fire Inspectors. These requests for additional personnel are now a permanent record, and cannot be disputed by the Mayor or City Council members. These requests for additional personnel support the plea for additional employees to relieve the Chief Fire Inspector from his numerous functions.

The two resources that were consulted on how to effectively perform a cost-effectiveness analysis provided an important role in this research. These two sources provide information and examples that were necessary for the comparison of alternative solutions in this research. The literature review that was conducted encompassed several personal interviews, personal communications, journal articles, EFOP research papers, Goshen Fire Department documents, and sources on how to conduct a cost-effectiveness analysis. The information contained in these resources were vital to the success of this research.

PROCEDURES

The idea for this research was developed during a promotional interview for the Chief Fire Inspector's position on December 23, 1999. Fire Chief John Alheim, wanted an individual in the Chief Fire Inspector's position to reorganize the Fire Inspection Bureau. This newly promoted individual would assume the assignment of significantly increasing the number of fire inspections for the year 2000. Fire Chief Alheim stated, "I want the Fire Inspection Bureau's

operation to become more efficient in conducting fire inspections within the City of Goshen" (J. Alheim, personal communication, December 23, 1999).

After the new Chief Fire Inspector was appointed on January 3, 2000, several individuals were consulted for their advice about the changes that should be administered to enhance the efficiency of the Goshen Fire Department's Fire Inspection Bureau.

Mike Leasor, Goshen Building Commissioner, was consulted in a personal communication on January 3, 2000. Several ideas were obtained from this conversation about how to provide a more effective and efficient code enforcement service to the citizens of Goshen. He mentioned several advantages for consolidating the two code enforcement departments (M. Leasor, personal communication, January 3, 2000). These advantages were later disclosed to Fire Chief John Alheim. Mike Leasor was consulted because he is very knowledgeable about code enforcement management.

Fire Chief Alheim, was informed of the advantages and disadvantages in consolidating the two departmental services in a personal communication on January 14, 2000. Fire Chief Alheim, was very excited about the possible solution to a major problem. The solution was to enhance the effectiveness of the Fire Prevention Bureau without increasing the personnel level for the Goshen Fire Department by consolidating Goshen Fire Department and Goshen Building Department's code enforcement services. Simply, the Chief Fire Inspector might have found away to increase the number of fire inspections performed on an annual basis (J. Alheim, personal communication, January 14, 2000).

A personal interview was conducted on two previous Chief Fire Inspectors for the Goshen Fire Department on January 16, 2000. The personal interview questionnaire was

developed after many discussions with the Goshen Fire Department's staff, Fire Chief, and Building Commissioner about changes that could be implemented in the Fire Prevention Bureau to increase the effectiveness of the inspection program. These conversations were held with various individuals during the authors time on a 24-hour shift in December of 1999. These conversations were then analyzed, so a list was developed by the author of questions to ask the two previous Chief Fire Inspectors (see Appendix A).

The personal interview consisted of 10 questions constructed to reflect the two Chief Inspector's length of time spent in the position, assigned duties, time spent on each function, attitude towards each task, change to the organization that they attempted, how they attempted to achieve the change, support for the change they received from the Fire Chief, success of the change, and their thoughts on consolidating the Building Department with the Fire Prevention Bureau.

These personal interviews were conducted on the two previous Chief Fire Inspectors, so the new Chief Fire Inspector could get an idea of what the past Chief Fire Inspectors did incorrectly when they attempted to implement their ideas for change into the Fire Prevention Bureau. It was imperative not to continue this mistake deployed by the previous Chief Fire Inspectors into the next Fire Prevention Bureau's administration.

Harold Wilfong, Head of Maintenance for Goshen General Hospital, telephoned the Goshen Fire Department's Fire Prevention Bureau to request a fire inspection for Goshen General Hospital. During the conversation, he stated that he did not have any record of fire inspections performed at the hospital since 1986. This personal communication was held on February 4, 2000. This personal communication emphasizes the need to reorganize the Fire

Prevention Bureau in the Goshen Fire Department (H. Wilfong, personal communication, February 4, 2000). The hospital is required to be inspected annually by the State of Indiana (675 Indiana Administrative Code, 1998).

During the two weeks of February 7 through 18, 2000, the research topic, purpose, problem statement, and three research questions were developed. A literature review was performed at the National Fire Academy's Learning Resource Center to identify the current literature on the topic of consolidation between fire service and building code enforcement services this literature was utilized to identify the advantages, disadvantages, successes, and failures of the Fire Departments that had consolidated with building code enforcement services in cities throughout the United States.

A second literature review was performed to identify the procedure for conducting a cost-effectiveness analysis. This literature review was completed by utilizing the author's personal library. This second literature review was conducted during the week of February 21, 2000. The results established a guideline to follow for this research to identify the cost-effectiveness of consolidating the code enforcement services of Goshen's Building Department and Fire Prevention Bureau.

The cost-effectiveness analysis was started on March 1, 2000 and completed on March 10, 2000. To initiate the cost-effectiveness analysis four alternative solutions were developed from the personal communications, personal interviews, and literature reviews that were conducted. The four alternative solutions were hire an additional fire inspector; hire a secretary; hire a secretary and an additional fire inspector; or consolidation of the building and fire department's code enforcement services.

After these four alternative solutions were established, the cost-effectiveness analysis was initiated. The process for this cost-effectiveness analysis was designed from Mark W. Huddleston's (1996) example that he exhibited in his book, *The Public Administration Workbook*. Huddleston (1996) provided four tables that identified the cost-effectiveness analysis procedures to the reader. This research utilized the format of Huddleston (1996), but the author created topics and categories specifically for this research analysis.

Table 1, Initial and Maintenance Costs of Alternative Solutions, estimated the initial costs, maintenance costs, and total costs for the alternatives. This table was completed for the four alternative solutions after compiling the estimated costs for salaries, office equipment, office supplies, and a new vehicle for the additional fire inspector (Huddleston, 1996).

Table 2, Opinion Costs, reveals the opinions of the department's staff, Mayor, and citizens of Goshen then places a numerical value or cost on these opinions. The number zero equals an opinion of low expense while 100 equals an opinion of high expense. These expenses or costs resulted from the personal communications, personal interviews, and literature reviews that were conducted during the research. Many of these opinions were communicated by the participants that were questioned or contacted during the research process (Huddleston, 1996).

Table 3, Analysis of Weighted Costs, combines the initial and maintenance costs with the Table 2's, Opinion Costs, together. These costs are exhibited as weighted costs because the analyst divided the initial costs and maintenance costs by 10,000, so the numbers were easier to work with. The next step identified the column which impacted the alternative solution significantly by placing a number two in the column. A number one was placed beside the remaining categories. If these categories were equal, a one was to be placed in all the columns.

The number two designated that the number in the column was to be multiplied by two, as well as the columns with the number one was to be multiplied by one. These rows were to be summed for a total number in the far right column. This chart provides a weighted costs or total for Tables 1 and two with a weighting by the analyst (Huddleston, 1996).

Table 4, Analysis of Effectiveness, presents an estimation of the number of inspections that could be performed if the alternative solution was implemented. The number of estimated inspections is divided by the total costs for each alternative solution from Table 3. Table 4 presents the effectiveness of the four alternative solutions by exhibiting a cost per each inspection performed by each alternative solution (Huddleston, 1996).

During the month of May 2000, the research data was formulated and complied into a rough draft copy. This rough draft copy was then corrected and finalized during the first week of June 2000.

Limitations

This research was very effective in providing significant information to formulate a decision as to which alterative solution should be implemented in the Goshen Fire Department, however, several limitations prohibited this research from disclosing complete and accurate results.

The personal interviews were conducted on just two previous Chief Fire Inspectors because they were the only remaining survivors. The other previous Chief Fire Inspectors are deceased. This limitation resulted in a bias of the two Chief Fire Inspectors because they followed each other in succession of time and served under the same Fire Chief. If a Chief Fire Inspector from another decade could have been interviewed, perhaps an objective opinion could

have resulted.

The Mayor should have been questioned about his opinion towards the four alternative solutions for a more accurate representation of opinion costs in Table 2. Also, the citizens of Goshen should have been surveyed to reveal their opinions about the four alternative solutions. These surveys would have significantly increased the accuracy of Table 2's results of opinion costs.

The literature review provided several articles on the consolidation topic, but these articles were several years old. If they would have been less than a year old, society's trends and fire department trends would have been reflected more accurately. The literature that was researched did not document the failures of those departments that consolidated several years prior to this research. Revealing the failures of those departments which consolidated would have provided the Goshen Fire Department with situations to avoid.

Goshen Fire Department's historical rendering of departmental facts and Mission Statement were accounted for, however, they were significantly outdated for this research. If these two documents were recently revised, the accuracy of the history and mission of the Goshen Fire Department would have been appropriately portrayed

Definition of Terms

COST- EFFECTIVENESS ANALYSIS: A procedure for evaluating alternative solutions which accomplish a defined objective. Alternatives are compared to each other to identify which alternative will accomplish the task at the lowest cost.

FIRE INSPECTION: This is a function performed by the Chief Fire Inspector. The fire inspection is a procedure to alleviate all observed fire hazards in a building.

FIRE PREVENTION BUREAU: A division of the Goshen Fire Department responsible for fire investigation, public fire safety education, and fire inspections.

FIRE INVESTIGATIONS: This is a process utilized to determine the origin and cause of a fire.

PUBLIC FIRE SAFETY EDUCATION: The public relations tool utilized by the Goshen Fire Department to educate adults and children about the danger of fires, and the need for emergency escape plans in their homes and businesses.

CONSOLIDATION: Combining Goshen Building Department's code enforcement functions with Goshen Fire Department's code enforcement functions to develop one centrally located code enforcement unit for the City of Goshen.

CODE ENFORCEMENT: This is a procedure to inspect all buildings to ensure compliance with the applicable mandated building, fire, and safety codes.

ALTERNATIVE SOLUTIONS: These are ideas that could possibly solve the Goshen Fire Prevention Bureau's staffing shortage and inspection performance dilemma.

COSTS: A numerical number to signify the importance of a topic or category. This numerical value is utilized to establish a low or high for comparison purposes during analysis.

RESULTS

1. Does the State of Indiana have any governmental entities that have successfully consolidated their code enforcement services?

Many fire departments have consolidated with their perspective building departments, according to Allan M. Woo (1994). However, Woo (1994) writes about the consolidation of two departments in Indiana, the Fire Prevention Department and Building Safety Department. These two departments were consolidated to formulate the Department of Fire Prevention and Building Safety. The consolidation increased personnel to the Fire Marshall's staff by 100%, and increased the building inspection staff by 20%. Several other significant advantages resulted from this consolidation of the two departments in Indiana.

The consolidation of Indiana's Department of Fire Prevention and Building Safety was the only documented case that was revealed in the literature review process for this research. The answer to research question number one is, yes, there is a governmental entity in Indiana that has successfully consolidated their code enforcement services.

2. Will the consolidation of code enforcement services be cost-effective for Goshen, Indiana?

Results of the Cost-Effectiveness Analysis is contained in Tables 1 through four. These tables provide information that must be explained individually.

Table 1, exhibits the initial costs, maintenance costs, and total costs for the four alternative solutions which were revealed in the personal communications with the Building Commissioner and Fire Chief; personal interviews with two previous Chief Fire Inspectors; and the literature review that was conducted at the National Fire Academy. These costs include the

salaries, office supplies, office equipment, and a new vehicle for the additional Fire Inspector to drive (see Appendix B). The initial costs provide for a new firefighter to be hired to allow for the promotion of a current firefighter to the newly created Fire Inspector's position of Captain. These costs are calculated by utilizing the salaries of employees within Goshen Fire Department for the year 2000. The maintenance costs include fuel, servicing, and maintenance of the current Chief Fire Inspector's vehicle, as well as the future Fire Inspector's vehicle. Office supplies will double from the quantity currently utilized by the Chief Fire Inspector.

The secretary's salary was based on the salary currently payed to secretaries in the City of Goshen for the year 2000. The additional appropriation for the secretary included a computer and various office equipment. Table 1, presents consolidation of the building and fire department code enforcement functions as the least expensive to implement. The alternative solution that is most expensive to implement is hiring a secretary and an additional fire inspector.

Table 2, Opinion Costs, presents the opinions of the department's staff, Mayor, and citizens of Goshen. These opinion costs were derived from the comments displayed in the personal communications with the Building Commissioner, Fire Chief, personal interviews with the two previous Chief Fire Inspectors, and the literature review that was conducted at the National Fire Academy. These opinion costs are reflected in Table 2 by numerical numbers that identify a minimal expense for implementing the alternative solution, a low number. The highest numbers are interpreted as negative opinions, or an individual visualizes the alternative solution as a significant financial burden for the city to implement.

The Mayor is against any alternative that will increase the city's financial burden. The numbers 90, 75, and 100 reflect the Mayor's attitude or opinion costs. The department's staff would like to see any of the alternative solutions implemented. The citizens are against increasing the budget significantly, but they realize additional personnel are required. The citizens expect the city to operate as effective and cost-efficient as possible, so the citizen's taxes will remain low.

Table 3, analyzes the four alternative solutions by combining the Economic Impact or initial costs and maintenance costs totals with the opinion costs. These four categories from Table 1 and two are weighted according to which column is most relevant to the major participants in the decision making process. The economic impact column is the most prominent column because the expense of each alternative solution is the most critical factor in the decision-making process for Goshen's administrators. The hiring of a secretary and an additional fire inspector presents the most substantial costs while consolidation of the building and fire department's code enforcement services are the least expensive.

In Table 4, the four alternative solutions are compared to each other after dividing the total costs of the weighted costs from Table 3 by the number of inspections each alternative solution is predicted to achieve. These numbers are divided to reveal the cost per inspection. The cost per inspection establishes the cost-effectiveness of each alternative solution. The greatest number of inspections predicted to be performed for the least costs are accomplished in the alternative solution of consolidation of the building and fire department's code enforcement services. This alternative solution provides a cost of $.04 per inspection because the consolidation would result in a combined department of five inspectors that would be enabled to conduct fire inspections and building inspections with three secretaries supporting the duties of these inspectors.

These five inspectors are predicted to conduct 400 inspections per person annually. These inspections do no include re-inspections, plan reviews, or other code enforcement functions.

This cost-effectiveness analysis is supported by St. Paul, Minnesota's Fire Marshall, Steve Zallard:

> Instead of the city having ten inspectors doing Certificate of Occupancy renewal inspectors who cannot enforce the fire code, and eight fire code inspectors, we now have eighteen inspectors doing Certificate of Occupancy renewal inspections and the same eighteen inspectors doing fire code inspections (Bass, 1992, p. 10).

The Cost-Effectiveness Analysis is supported by the financial savings experienced by Mount Prospect, Illinois Fire Department when they consolidated their fire and building department's code enforcement services. Woo (1994) wrote that Mount Prospect, Illinois saved

$171,000, reduced management positions, provided uniform code interpretations, and created more efficient plan reviews with their consolidation endeavor.

Consolidation is a very cost-effective alternative according to the cost-effectiveness analysis. The four tables provide this evidence quite clearly. Yes, consolidation of the code enforcement services for Goshen, Indiana will be cost-effective.

3. Will the consolidation of the code enforcement services diminish the work load for the Chief Fire Inspector?

Werner (1991) provides statistics which reveal that 75-80 percent of the inspections completed in the country are fire or life safety related. If 75-80 percent of code enforcement is fire prevention related tasks, then inspectors could easily be cross trained to perform fire inspections, as well as building construction inspections.

Scholl (1995) considers the dual responsibilities and cross training as the foundation for a comprehensive model code enforcement program. This model code enforcement program involves cooperation between two code enforcement agencies to eradicate the duplicate codes and inspections.

Conrad and Coleman (1996) believe a standard model code will enhance the areas of plan review, maintenance practices, and occupancy changes for the convenience of the builders, developers, and inspectors. With this type of model code system and cross training of personnel, the Chief Fire Inspector could engage in five fire inspections at one time. The five inspections would result in a 400% increase in the number of fire inspections that are currently completed each day. At the rate of five fire inspections an hour occurring, fire inspections in the City of Goshen could be completed in less than six months. Completion of all fire inspections in Goshen in less than six months would diminish the work load for the Chief Fire Inspector dramatically. The turn over in personnel in the Fire Prevention Bureau would decline, along

with the frustration that the Chief Fire Inspector has about completing his immense work load. These frustrations were revealed in the personal interviews with the two previous Chief Fire Inspectors. These frustrations were manifested in the Chief Fire Inspectors in less than two years in their position.

DISCUSSION

The results of the cost-effectiveness analysis exhibited insight into the Mayor's view point why he was against the hiring of additional personnel for the Fire Prevention Bureau. The Mayor was evidently aware of the initial costs and maintenance costs to hire additional staffing, which would increase the number of inspections that occurred in the city. The cost of $171,000 to hire a secretary and an additional fire inspector are substantial for a city the size of Goshen. However, the cost of consolidating the building and fire department's code enforcement services are significantly lower for justification to the Mayor and City Council. Table 4 disclosed, each inspection conducted by consolidation would only cost $.04 per inspection, as compared to the $.86 per inspection to hire only a secretary. The alternative solution of consolidation is a $.82 savings per inspection. This savings was documented by Allen M. Woo. Woo (1994) explained that Mount Prospect, Illinois saved $171,000 by consolidating the building and fire department's code enforcement services. The financial reductions resulted from reduced management positions, efficient plan reviews, flexible workloads for the inspectors, and uniform code interpretations. The reduction of duplication and redundancy were eliminated from the building and fire department inspectors training and career paths.

Conrad and Coleman (1996) identified that the two career paths for inspectors were

considerably different, but the two separate codes enforced by inspectors are now becoming a single code. This single code is a regulation which eliminates fire and life safety hazards.

Werner (1991) wrote, "It is estimated that 75 to 80 percent of code enforcement is fire and life safety related" (Werner, 1991, p. 10). He believes that the consolidation of code enforcement services benefit the fire department review process and improves customer service.

Customer service was also recognized by Conrad and Coleman. Conrad and Coleman (1996) commented that the cooperation between code enforcement services would enhance a community and develop a code that would provide for a prosperous economy.

These sentiments were reflected by the personal interviews conducted on the two previous Chief Fire Inspectors for Goshen Fire Department. The two Chief Fire Inspectors never performed a cost-effectiveness analysis. If they would have, they might have discontinued their attempt to hire additional personnel for the Fire Prevention Bureau. Without the support of the Fire Chief, their program to hire additional personnel was doomed.

The fire investigations and public fire safety functions must be reassigned to two separate individuals which work 24 hour shifts. This reassignment of these two functions would allow the Chief Fire Inspector to concentrate on developing a comprehensive fire code inspection program that would include reviewing plans for construction and renovation of buildings. The fire department was eliminated from this process prior to the consolidation (Werner, 1991).

The current Fire Chief has given his support to the consolidation initiative, as well as the Building Commissioner. These two individuals have the ear of the Mayor, so an indirect blessing has been delivered for the consolidation to occur.

The research performed resulted in a literature review process that revealed journal

articles that supported the continuance of the consolidation process. Although, in the literature review procedure a few disadvantages were disclosed about the consolidation process, but the advantages of consolidation outweighed the disadvantages of consolidating the building and fire department's code enforcement services.

Results of the cost-effectiveness analysis and literature review supports the author's initiative to consolidate the code enforcement services of the building and fire departments. The consolidation of Goshen Building Department's code enforcement service with the Goshen Fire Department's code enforcement service is an inexpensive alternative solution to hiring additional personnel for the Fire Prevention Bureau's function of performing fire inspections. The Fire Chief desired a Chief Fire Inspector that would provide an efficient and effective Fire Prevention Bureau. The consolidation of the building and fire department is an inexpensive option according to the cost-effectiveness analysis. The$.04 per inspection is a minimal cost for conducting fire inspections. The $.04 per inspection provides: "Communicating new methods, procedures, and approaches which enhances the code enforcement officials ability to handle ever increasing numbers and types of cases" (Scholl, 1995, p. 26).

The consolidation would allow for the fire inspectors to cover for each other, so the fire inspections could be completed in less than six months. With these increased responsibilities, the consolidation of the two departments allow for personnel to retain their employment because when building construction slows, the inspectors could perform fire inspections (Scholl, 1995).

The results of this research conclude that consolidation of the building and fire department's code enforcement services will increase the number of fire code inspections by 50%, and reduce the Chief Fire Inspector's workload without increasing the Fire Prevention

Bureau's staffing level. The literature review, personal communications, personal interviews, and cost-effectiveness analysis confirm this conclusion.

RECOMMENDATION

Based on the results of this research, the consolidation of the code enforcement services for the Goshen Fire Department and Goshen Building Department must be initiated immediately. The consolidation of these two department's code enforcement services could increase the number of fire code inspections conducted throughout the city, and reduce the Chief Fire Inspectors workload in a cost-effective manner without employing additional personnel in the Fire Prevention Bureau.

The number of inspections would increase from 60 per year to over 800 per year (Goshen Fire Department, 1999a). This number of inspections would allow for all buildings in the city to be inspected for fire code violations in less than six months. The buildings in the City of Goshen would no longer be fire traps, and the numerous functions assigned to the Chief Fire Inspector would be manageable. However, the numerous functions delegated to the Chief Fire Inspector must be decreased, so the Fire Prevention Bureau could operate effectively, efficiently, and in a cost-effective manner. A criteria requested from the new Chief Fire Inspector by the Fire Chief during the promotional interview (J. Alheim, personal communication, December 23, 1999).

Goshen Fire Department should perform an evaluation of the consolidated code enforcement services after one year of operation. This evaluation should focus on the operational efficiency in conducting fire code inspections, plan reviews, and other code enforcement functions. This evaluation should be followed by a business owner survey that

would access their response to consolidating code enforcement services. The business owner's survey would identify the customer satisfaction that exists from the consolidation of code enforcement services. The builder, contractor, developer, and business owner should not receive two different sets of code enforcement standards. Double standards should be eliminated in the consolidation process (Conrad and Coleman, 1996).

There are three recommendations the author of this research has for "Future Readers" that may wish to repeat this research. First, a personal interview with the Mayor would be vital to future research. Because the Mayor's opinions could be accurately portrayed in the calculation of the opinion costs.

Second, a survey should be conducted on a random sample of citizens living in Goshen. This survey would reflect a closer representation of the citizen's of Goshen attitudes in the opinion costs tabulation in Table 2.

Third, each member of Goshen Fire Department's staff should be personally interviewed about their feelings towards the consolidation of the code enforcement services. The personal interviews would contribute to a more reliable measurement of opinion costs.

These three recommendations would enhance the results of the cost-effectiveness analysis significantly. The figures from the analysis would exemplify a more precise picture of the true opinion costs of individuals in Table 2.

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APPENDIX A

GOSHEN FIRE DEPARTMENT

Personal Interview Questionnaire for Previous Chief Fire Inspectors

1. How long did you perform the Chief Fire Inspector's duties for the Goshen Fire Department?
2. What were your official duties while you were assigned to the Chief Fire Inspector's position?
3. How much time did you spend on each function delegated to the Fire Prevention Bureau?
4. What function did you enjoy most about the Chief Fire Inspector's position?
5. What function did you enjoy least about the Chief Fire Inspector's position?
6. What single major change in the Fire Prevention Bureau did you attempt to accomplish?
7. How did you attempt to accomplish this single major change in the Fire Prevention Bureau?
8. Did the Fire Chief support your initiative to achieve the change in the Fire Prevention Bureau?
9. Did your initiative achieve change in the Fire Prevention Bureau succeed?
10. What are your thoughts on consolidating the code enforcement services of the Goshen Fire Department with the Goshen Building Department?

APPENDIX B

CATEGORY'S ITEMIZATION FOR TABLE 1

Initial Costs and Maintenance Costs

Alternative Solution	Initial Costs	Maintenance Costs
Hire an Additional Fire Inspector	**$40,000 Benefits and Wages**	**$35,000 Salary**
	$25,000 Additional Vehicle	**$ 1,500 Fuel**
	$ 3,000 Promotional Costs	**$ 2,500 Office Supplies**
	$ 5,000 Equipment and Furniture	**$ 1,000 Vehicle Service**
	$ 1,000 Office Supplies	**$ 500 Education**
	$74,000 *Total*	**$40,500 *Total***
Hire a Secretary	**$24,000 Salary**	**$24,000 Salary**
	$ 5,000 Furniture and Equipment	**$ 2,500 Office Supplies**
	$ 1,000 Office Supplies	
	$30,000 *Total*	**$26,500 *Total***
Hire a Secretary and an Additional Fire Inspector	**$104,000 *Total***	**$67,000 *Total***
Consolidation of the Building Departments with the Fire Department's Code Enforcement Services	**$ 1,500 Moving Expenses**	**$ 0**
	$ 1,500 *Total*	**$ 0 *Total***