BUILDING AND FIRE CODE ENFORCEMENT IN BILLINGS: RECOMMENDATIONS FOR REFORM

by

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ABSTRACT

National building and fire codes are sophisticated technical guidelines, based on research and professional consensus, that reduce the risk of the loss of property and human lives. However, municipal code enforcement systems are often inadequate. This has led to major catastrophes and an unnecessarily high incidence of fire losses in the United States.

Local governments have established multiple departments and agencies to perform code enforcement. Duplicate performance of tasks is confusing and costly. It also creates conflict and gaps in the enforcement process since responsbility is divided amongst several departments. A lack of professionalism and education of code officials and inspectors decreases the credibility and quality of enforcement, thereby increasing exposure to liability for local governments. Enforcement programs have neglected public information programs and the lack of evaluation studies produces inflexibility. The ineffectiveness of local code enforcement programs creates a high risk to lives and property within a community.

Inflation has reduced the buying power of tax dollars, thereby limiting the funds for governmental programs. Increasing demands for governmental services, particularly those associated with the safety of citizens, and limited funding have prompted many communities to adopt alternate code enforcement systems to assure continued safety for the community. A consolidation program has been instituted in some communities. Consolidation may include the use of generalist and/or specialist inspectors, evaluative studies, and public information programs, whereby reduction in costs can occur.

The potential for life and property losses due to noncompliance with building and fire codes exists in Billings. Development and implementation of an alternate enforcement system with some characteristics of consolidation could create a system to provide safety and responsiveness to the needs and growth of Billings.

Chapter 1

INTRODUCTION

Governments at all levels in the United States attempt to diminish life and property losses associated with faulty building construction by administering and enforcing building and fire codes. Despite this prevention effort, however, the country continues to be a leader in the world in the number of fires occurring per capita.[1]

Code violations and careless acts by people are major contributing factors to the occurrence of fires and subsequent losses. One possible reason for this is that citizens' responsibilities for fire prevention have been minimized because of the assumption of responsibility for fire suppression by government. It is possible also that code enforcement itself has been lax, or disorganized, because it is not a top priority for government, largely for the same reasons. Fire suppression is of greater importance to municipal officials than prevention.

The theme of this paper is that loss of life that could be prevented by adequate enforcement of building

and fire codes is not tolerable in our society. Existing fire codes and seventy-five percent of the Uniform Building Code are designed to assure life safety.[2] If this is the case, then the actual problem is to assure that the codes are enforced effectively. Continued unacceptable loss of life within buildings and the potential for similar losses in Billings, Montana prompts this analysis and proposal for reform. After a brief introduction to the evolution of fire and building codes, this paper will describe and assess the code enforcement system of Billings. The need for change will be demonstrated by identification of factors within this code enforcement system that are similar to those in other communities where large life and property loss fires have occurred and where the losses were attributed to inadequate enforcement of codes. Based on this, recommendations will be made that give promise of reducing the risk of similar disasters in Billings with greater efficiency and effectiveness.

Chapter 2

HISTORY OF CODES AND ENFORCEMENT

Investigations of fires and their causes provide us history lessons for the prevention of future losses. Present building and fire codes are actually built upon analyses of past major life and property losses. A brief historical discussion of the development and enforcement of codes will provide familiarity and understanding of the current problems with enforcement.

EARLY BUILDING AND FIRE PREVENTION LAWS

Laws designed to control building structures and prevent losses have varied in degrees of complexity and vigor of enforcement throughout history. The earliest known building law was adopted by Hammurabi, founder of the Babylonian Empire. Hammurabi's Law stated, "If a builder has built a house and his work is not strong, and if the house he has built falls in and kills the householder, that builder shall be slain."[3] Whatever the extent of the damages, the law provides for proportional similar losses inflicted on the builder.

Hammurabi's Law provided retribution but did not provide a means for preventing losses. Later efforts to assure safety within buildings and during their construction revolved around actual prevention of losses. These were most often a response to the serious fire losses that had occurred. In the 17th and 18th centuries, for example, Europe and Colonial America experienced numerous and severe fire losses attributable to combustible dwellings and chimneys, and improper disposal of hot ignition sources (i.e. ashes, smoking tobacco). This led to the adoption of appropriate building laws to prevent further losses. For example, in the 1670's, the German Empire adopted an ordinance requiring all fireplaces and chimneys to be rebuilt with or enclosed by tiles of stone. Also in the 1600's, London adopted a building law requiring fire barriers to be constructed throughout sections of the city. Due to lax enforcement of this law, however, London experienced a fire in 1666 which destroyed almost two-thirds of the city.[4] Devastating fires caused by the excessive use of combustible construction materials destroyed entire towns in Colonial America. On July 4, 1866, in Portland, Maine, a fire destroyed a triangular section of the city nearly

a half mile long.[5] And on October 8, 1871, a fire destroyed 17,500 buildings and killed 250 to 300 people in Chicago.[6] On the same day in Peshtigo, Wisconsin, the entire town was destroyed by fire, except for one building under construction.[7] These and similar catastrophes led to acceptance of the principle that government should regulate building construction and enforce fire prevention measures.

In Colonial America, New Amsterdam (later known as New York City) was one of the most progressive cities in the adoption of building and fire laws. In 1625, it adopted the first building law which specified the types, locations, and roof coverings for houses. The first fire prevention regulation was adopted in 1647 prohibiting smoking in the streets and storage of more than six pounds of gunpowder in a single building. This was followed by a law prohibiting the construction of wooden or plaster chimneys. It was in New Orleans, however, that the first law requiring inspections of places of public assembly was adopted in 1867. The use of laws and codes to effectively curtail life and property losses, particularly fire-related losses, has gained momentum throughout the years since the adoption of the first building law.[8]

THE HISTORY OF CODE ENFORCEMENT IN BILLINGS

Fire and building laws began to emerge in the City of Billings in the late 1800's. A Committee on Fire Protection, composed of two aldermen, was established in 1885.[10] The Committee was responsible for assuring enforcement of building and fire-related ordinances by presenting recommendations to the City Council. In 1888, they reported to the Council that certain buildings within Billings were unsafe and a nuisance. The Council declared the buildings a nuisance and ordered them removed from the city.[11] In 1896, an ordinance was prepared by the Council whereby a permit had to be obtained from the City Council before a building could be constructed or moved within the city limits. The purpose of this ordinance was to limit the location of hazardous buildings, such as coal sheds.[12] In 1897, the Committee on Fire Protection was changed to the Fire, Water and Lights Committee. In 1904, the Committee became involved in life safety within buildings. The Fire Chief and the Committee were requested by the Council to coordinate inspections of the Opera House and make recommendations on life safety problems.[13] This Committee was the first effort by the City of

Billings to control fire and life safety hazards in buildings.

The Fire Department was involved in enforcement of city building and fire laws. The Department performed inspections and provided advice to the Council. The Fire Department originally began as the Voluntary Hook and Ladder Company in 1883 but was permanently replaced by a paid fire department in 1918.[14] Originally the development and enforcement of fire and building laws was the responsibility of the Fire Department, but this responsibility was shifted to the Engineer's Department in the early 1900's. Later, in the mid-1900's, the Building Department was formed to administer and enforce building laws.[15] In 1943, the Fire Prevention Bureau was established to provide training to firefighters, to perform inspections of buildings, and to modernize city fire-related ordinances.[16] Throughout the history of Billings, the responsibility for enforcement of building and fire-related codes and ordinances has been shifted several times between local government departments. This culminated in the present system of multiple departments.

As discussed, the first building and fire laws were not adopted codes, but city ordinances developed by the City Council and its committees. In 1959, the National Building Code, developed by the National Board of Fire Underwriters, was adopted by the city. The Uniform Building Code was later adopted by the Montana State Legislature to replace all local codes.

This chapter has provided a brief historical sketch as a basis for a more thorough description and analysis of the current code enforcement situation in Billings.

Chapter 3

CURRENT CODES AND ENFORCEMENT SYSTEMS

Several building and fire codes have been developed at the national level to promote life and property safety within buildings by establishing minimum requirements for construction and design of buildings. These codes are enforced primarily at the local governmental level through building and fire departments. This chapter introduces these briefly as an introduction to a more detailed description of the code enforcement system in Billings.

BUILDING AND FIRE CODES

A building code is a systematic collection of technical requirements for building construction developed through research primarily at the national level. Codes provide uniformity and technical sophistication for guiding safe building construction.

The first nationwide building code, the National Building Code, was developed in 1905 by an insurance association, the National Board of Fire Underwriters, to effectively deal with the increasing occurrences

and complexity of the fire problems in rapidly growing population centers. "The Board had formed in 1866 in response to a fire in Portland, Maine destroying a large portion of the city."[9] The National Board of Fire Underwriters later evolved into the American Insurance Association and is still publishing the National Building Codes and providing assistance to insurance companies in loss prevention activities.

Three different building codes, with accompanying fire codes, have been adopted throughout the nation. These are adopted by federal, state, and local governments, but the majority of enforcement activity occurs at the city and county levels. The actual code chosen varies with regional differences in climate and typical construction materials. The western portion of the country, for example, uses the Uniform Building Code, published by the International Conference of Building Officials. Southern states use the Southern Building Code, published by the Southern Building Code Congress. In the eastern portions of the United States, governments use the Basic Building Code, published by the Building Officials and Code Administrators International. The organizations producing these codes are composed of groups or individuals throughout the country

involved in building safety research and enforcement of building and fire codes, such as local fire marshalls. Additional codes published by these organizations or other safety organizations that are used to supplement the building and fire codes include the Electrical, Plumbing, Housing, Mechanical, Abatement of Dangerous Buildings and National Fire Codes.

The Uniform Building Code has been adopted in states throughout the west, including Montana. Information and research from organizations and individuals involved in safety has been collected and analyzed to form the basis for the codes. Research includes analyses of past fires with life and property losses. The Uniform Fire Code, companion to the Uniform Building Code, was developed with cooperation between the International Conference of Building Officials, California Fire Chiefs Association, and the Western Fire Chiefs Association. The Western Fire Chiefs Association's membership is composed of fire chiefs and fire marshalls from local communities throughout the western states. Research information for the codes is obtained from national organizations, such as the American National Standards Institute and the National Fire Protection Association.

PRESENT CODE ENFORCEMENT SYSTEMS IN MONTANA

Federal, state and local government agencies and departments are involved in code enforcement within the state of Montana. The federal government inspects its own buildings and those federally financed using a federal building code derived from the national codes cited above. The state level performs inspections of buildings owned or financed by the state and public institutions (e.g. schools) using the Uniform Building Code. Local (city and county) levels of government in Montana perform the majority of code enforcement activities using the Uniform Building Code which covers all privately owned buildings and local government buildings.

ADMINISTRATION OF THE CODE BY THE STATE

In the 1950's, the State of Montana Department of Administration adopted the Uniform Building Code and established the State Building Department to enforce these codes. The code replaced all local building laws and ordinances to provide consistency and uniformity throughout the state.

The Uniform Fire Code adopted by the State of Montana is administered through the State Fire Marshall's Office. There are six Deputy Fire Marshalls who

perform inspections of state buildings and buildings in areas not provided with local enforcement programs. The Deputy Fire Marshalls provide assistance in code enforcement and arson investigation to local fire departments.

ADMINISTRATION OF THE CODE BY THE BILLINGS BUILDING DEPARTMENT

Local Montana governments, including Billings, have been certified by the State Building Department to enforce the Uniform Building Code within their community. This transfers responsibility for enforcement from the state to the local level, minimizing state participation.

As illustrated in Figure 1, the Billings Building Department is supervised by the Building Official and is responsible for the majority of code enforcement activities in new construction and alterations in buildings. Inspectors perform inspections and enforcement activities and the Building Official handles difficult or appealed cases with minimal participation by the inspectors. The Department is located within the Community Development Department, headed by a director.

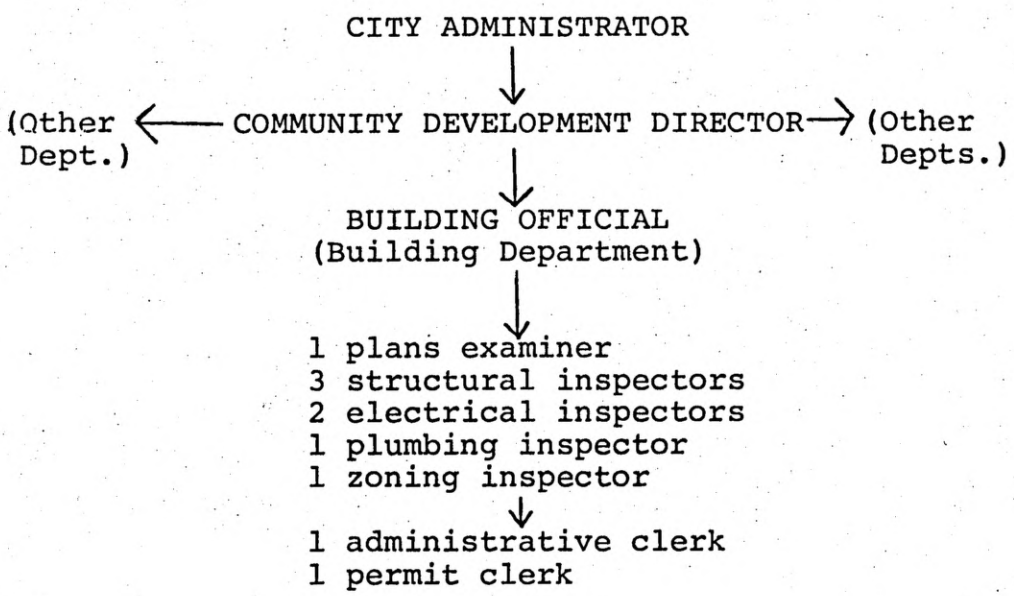
Inspectors consist of one plans reviewer, one plumbing, one zoning, two electrical, and three

structural inspectors. Within the past year, all inspectors were required to be certified with the International Conference of Building Officials. Extensive training in the codes was provided by a certified International Conference of Building Officials' instructor, the city plans examiner.

The Building Department utilizes a permit system to enforce codes in new and existing buildings. When building permits are obtained for building construction or alterations by local contractors or citizens, inspections are scheduled. The initial inspection activity is the review of building plans for compliance with the codes. Any violations of the codes are referred to the architect or building owner so that the violations can be corrected before construction begins. The plans are approved and construction is permitted once noted potential violations have been corrected. Continuing inspection activity includes frequent onsite inspections by several inspectors to assure that construction is proceeding according to the building plans and that no other violations of the codes occur. Occasionally, existing buildings will be inspected if complaints are received.

Figure 1

PRESENT STRUCTURE OF THE BILLINGS BUILDING DEPARTMENT



Occasionally, the Fire and Health Departments are requested by the Building Department to perform inspections of buildings under construction; however, no feedback is necessarily provided to these departments regarding compliance and correction of violations.

The Building Department has several methods to prevent occupancy of the building if code violations are not corrected. In new construction, stop work orders can be issued or certificates of occupancy denied. Only the Building Department is required to sign-off on certificates of occupancy. In existing buildings, vacate orders can be issued and/or buildings demolished. If code compliance is still not achieved, the case can be taken to the Board of Appeals and the courts by either the Building Department or building owner. This process can be lengthy and complicated delaying enforcement of the codes, allowing hazardous buildings to exist, and thereby increasing the risk of fires and losses occurring in the community.

A team approach, with inspectors from the Building, Fire and Health Departments, has recently been used to perform inspections of existing buildings. This approach has consolidated and coordinated the code enforcement process. The authority for compliance is increased since the various departments combine their methods for

enforcement; e.g. vacate orders issued by the Building Department and citations issued by the Fire Department. This methods has resulted in the successful removal of older, hazardous buildings within Billings.[18]

ADMINISTRATION OF THE CODE BY THE BOARD OF APPEALS

Cases not complying with the codes can be presented to the Board of Appeals by the Building Department or building owners. The creation of the Board of Appeals is mandated by the Uniform Building Code. The Board is a seven member panel nominated by the Mayor and confirmed by the City Council. The Board consists of an architect, an engineer, a builder/developer, a plumbing contractor, an electrical contractor, and a member of the public selected from the community. Board members are not required by the codes to be trained, certified, or even experienced in the area of codes and code enforcement.

The Board decides if non-compliance with the codes can be justified due to differing interpretations of the codes or the use of alternate construction methods and materials. Under the present system, an outline and explanation of the case and recommendations are presented by the Building Official followed by the objections and/or alternate proposals presented by the

building owner or his representative. The Board then discusses the case with the Building Official relying upon the information and expertise of the Building Official for their decision. No other governmental department, such as the Fire Department or individual inspectors, are involved in the process.

ADMINISTRATION OF THE CODE BY THE BILLINGS FIRE DEPARTMENT

While the Building Department is primarily responsible for code enforcement in buildings under construction and alterations in existing buildings, the Fire Department is responsible for code enforcement in existing buildings.

Code enforcement is centralized through the Fire Prevention Bureau located in the Fire Department with the Fire Chief as the administrator. In the Bureau, the administrator is the Fire Marshall, who is assisted by one Assistant Fire Marshall and one inspector. These three employees perform the more difficult inspections, such as special hazards (for example an explosive manufacturing building), and site plans review, while all other inspections are performed by the firefighters.

The Fire Prevention Bureau provides the firefighters with assistance, informal supervision and training

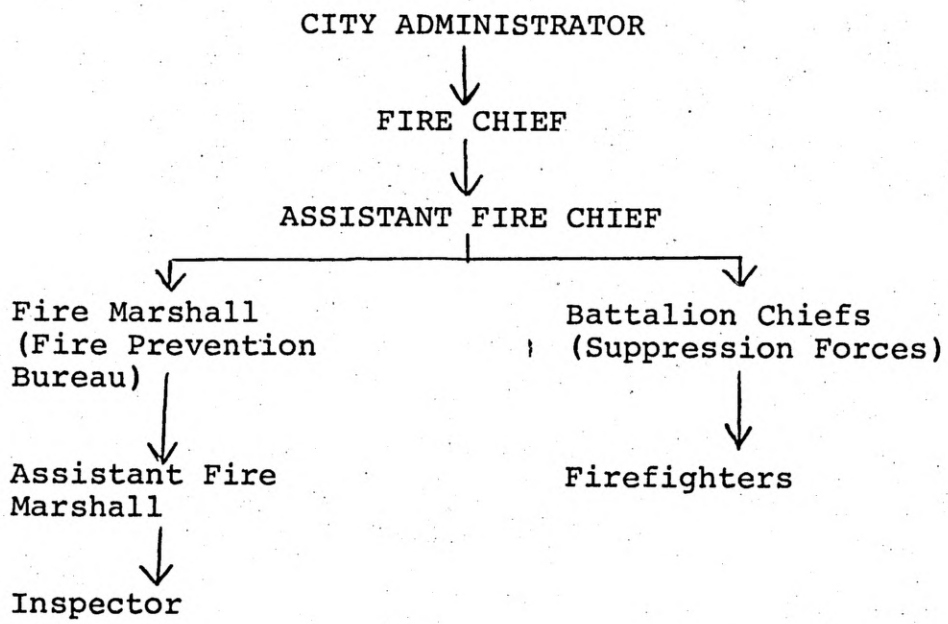
in codes. Most communication between the Fire Prevention Bureau and the firefighters is informal, directed through the Battalion Chiefs who supervise the stations, rather than the Fire Chief. Both the Bureau and the Battalion Chiefs are supervised by the Fire Chief through whom formal policies are enforced.

Non-compliance with codes is enforceable through issuance of citations by the inspector. Citations provide an automatic fine with a notice to appear in court which is similar to traffic citations. Cases can be appealed to the courts by the building owner or the Fire Department.

The Fire Prevention Bureau is responsible for the quality and consistency of the inspections performed by firefighters, but there are no formal means of evaluating and supervising inspections by the Bureau at this time. However, a new inspection form that may help has been developed by the Bureau. The form will be used by the firefighters when performing inspections. Specific hazardous areas and related codes are listed on the form. A copy of the inspection form will be retained by the Bureau after an inspection has occurred and the form completed. This may be an indirect means for controlling the quality and consistency of inspections.

Figure 2

PRESENT STRUCTURE OF THE BILLINGS FIRE DEPARTMENT



Training of firefighters in code enforcement is contained within the basic introductory self-study firefighter course that is provided by the Fire Department. Additional training has been limited to courses offered by the Fire Prevention Bureau staff. Extensive training and use of the Uniform Fire Codes as a reference guide for inspections by firefighters has been minimal.[19] Without familiarity with the codes, developed through training and use, inspectors may miss important violations.

OTHER DEPARTMENTS AND AGENCIES INVOLVED IN THE CODE ENFORCEMENT PROCESS

The Building and Fire Departments provide the main inspection forces for Building and Fire Codes enforcement, although this enforcement of the codes may occasionally overlap with other departments' responsibilities, such as those of the Health or Planning Departments. Cases appealed to the courts will involve attorneys and judges who are not experienced or familiar with the codes and who are forced to depend upon the Building Official or Fire Marshall for expert advice. Attorneys employed by the City for code compliance cases do have private practices which may create a conflict of interest due to representation of other clients.

SUMMARY

Code enforcement is a complex system with interaction, cooperation, and conflict between various departments from all levels of government. The Uniform Building Code and its companion, the Uniform Fire Code are adopted as the statewide standard for buildings in Montana. City and county Building and Fire Departments are the main enforcers of the Codes. The current multi-departmental enforcement system in Billings has promoted a fragmented code enforcement system which may have increased the potential for code violations. The next chapter deals with this and other potential problems which could originate from the present code enforcement system within Billings.

Chapter 4

POTENTIAL PROBLEMS IN BILLINGS CODE ENFORCEMENT

The basic problem to be examined in this paper is the continued unacceptable loss of life and property, due to fires or other hazards within buildings, which are preventable through local governmental enforcement of building and fire codes. The analysis includes an examination of the potential causes for such losses in Billings. Factors to be examined include enforcement system fragmentation, lack of evaluative studies, minimal use of informational and outreach programs for citizens, and a lack of professionalism and training of personnel. Ineffective code enforcement increases the potential for losses and tort liability for local government officials who are responsible for code enforcement.

LOSS ANALYSIS

The United States continues to experience one of the highest fire rates in the world, despite a constantly increasing emphasis on fire prevention and suppression efforts. Not all fires and resulting

losses can be prevented by the enforcement of codes, but the comprehensiveness of the codes does provide the means to significantly reduce losses. The ability of the codes to prevent losses is dependent, however, upon the enforcement process. "If the law consists merely of paper rules, it cannot serve its avowed function, which in the case of building and fire codes is to protect life and property."[20]

Despite sophisticated technical codes and multiple enforcement efforts, life and property losses continue to occur within buildings. New York City has more fires than all European capitals combined and also has the largest and most expensive fire department in the world.[21] According to current fire statistics collected by the Federal Emergency Management Agency, the United States leads the world in number of fires based on population. In 1978, there were approximately 2,700,000 fires reported. Estimating unreported fires, the number increases to 30,000,000 in 1978.[22] This is approximately 4.5 fires per 1,000 persons for reported fires. Other statistics include 8,100 deaths (excluding 164 firefighters' deaths) and 32,000 civilian injuries in 1978 in the United States. There was more than $5 billion worth of property losses.[23]

Statistics in Billings are reflective of the national statistics which indicate an increasing occurrence of fires. In 1979, there were 520 reported fires with a property loss estimated at $1,431,697. The previous year's statistics were 403 reported fires with a property loss of $565,029. In 1979, there was approximately 8 fires per 1,000 people compared to 4.5 fires for the national figure.[24]

ANALYSIS OF PAST LOSSES

Many past major fires with losses have been attributed to a lack of complete enforcement of the codes at the local governmental level. Some have resulted in liability suits filed against local governmental departments and personnel with verdicts of negligence.

> Casualties in fires where many (ten or more) people die appear to be highly preventable. Most of these deaths were attributed to (1) lack of sprinklers, the lack of adequate wood wall paneling in nursing homes, (2) the presence of open stairways in hotels and apartment buildings, and (3) insufficient, blocked, or poorly marked exits, and overly combustible interior finish in restaurants and lounges.[25]

The above mentioned causes of losses are preventable through enforcement of building and fire codes which contain specific requirements regarding these hazards.

Numerous losses from past fires have been attributed to inadequate code enforcement. Larger, well-known losses include the MGM Grand Hotel in Las Vegas and the Beverly Hills Supper Club in Kentucky. The Beverly Hills Supper Club "continued to operate although many of the code violations were known by the insurer, operators, and owners and were noted as concerns as a matter of record in the Fire Marshall's Office."[26] Although litigation at this time prevents complete disclosure of code violations within the MGM Grand Hotel, it was common knowledge that a hole had been cut in a two-hour fire casino wall, and that this contributed significantly to the spread of the fire. This violation occurred while an employee of the Clark County Building Department was at the scene.[27] Another large loss fire was the Holiday Inn in Greece, New York, in 1978. Paul Teague attributes the losses to the lack of enforcement of legally adopted codes and standards allowing the existence of major hazards such as highly combustible interior finish and no enclosures of stairwells.[28] These large fires and their losses are significant examples of the major impact on building safety produced by the code violations.

The potential for losses within Billings, similar to those previously mentioned which were attributed to a lack of code enforcement, can be examined by determining if there are buildings within Billings which do not meet the minimum code requirements for existing buildings. From undocumented private conversations with officials, building owners, private citizens, and contractors, it seems that there are numerous buildings in Billings which do not or did not meet the requirements of the Building Code at the time of construction nor do they now meet requirements. A report in the Billings Gazette suggests that a local hotel was allowed to operate despite major code violations such as a faulty and inoperative fire alarm system and inadequate enclosure of a stairwell.[29] John Degenkolb, a nationally known expert in building safety, performed inspections of several buildings in Billings. It was reported that code violations, such as inadequate ventilation systems, inadequate construction materials, and inadequate enclosure of stairwells, were noted in several local buildings.[30] A liability suit against the City of Billings was filed based on negligence from a failure to enforce the codes when a local motel improperly installed a ventilation system. The system was inspected by both the Building and Fire Departments,

but occupancy was not denied and a guest suffered injuries when toxic fumes were vented into his motel room.[31] There is controversy at this time regarding the occupancy of the county courthouse, particularly the use of the eighth floor as jail facilities. Code violations have been noted by the State Fire Marshall and an insurance agency safety representative.[32] Reports indicate that buildings do exist in Billings that do not meet the minimum requirements of the Building and Fire Codes. This creates a potential for fire and losses similar to those experienced in other buildings throughout our nation which were thought to have provided safety and comfort to people.

Pamela Powell questions whether communities and their citizens can continue to assume the high risks associated with ineffective code enforcement systems. Fire becomes a tragedy that many cannot escape when code violations exist in buildings where the occupants assume safety exists. Fire losses attributable to code violations continue to occur in communities where the conditions that produced past fire losses, such as in the MGM Grand Hotel and Beverly Hills Supper Club, are thought to no longer exist.[33] The potential for similar losses in Billings will be examined

based on an assessment of the adequacy of the code enforcement system. Factors affecting the adequacy include departmental fragmentation, lack of evaluative studies, minimal public outreach and information programs, and lack of professionalism and training of inspectors and administrators.

FRAGMENTATION OF LOCAL GOVERNMENTAL CODE ENFORCEMENT DEPARTMENTS

Fragmentation of code enforcement activities at the local governmental level increases program costs and the potential for life and property losses by diminishing responsibility and minimizing communication and coordination between local governmental departments. The Institute for Local Self Government attributes increased costs to redundancy within fragmented systems.[34] Coordination and communication are important to overcome the fragmentation and to achieve goals. If fragmented departments work against each other because of differing procedures, enforcement, interpretation of codes, and other factors, the efforts of one department can be undermined or deleted by the efforts of the other departments. "When the departments are separate, the potentials for duplication of effort and bureaucratic delay are great."[35] This can occur when fire code violations noted by the Fire Department are not

enforceable because occupancy by the Building Department is permitted.

A fragmented system creates confusion and uncertainty regarding areas of responsibility for involved departments. The Management Information Service characterizes present local building and fire code enforcement systems within many local communities as fragmented, uncoordinated, and having overlapping authority and responsibility.[36] The Billings Building Department, for example, will occasionally perform inspections of existing buildings, although this is supposedly the responsibility of the Fire Department. After construction, when occupancy has been permitted, responsibility for code enforcement shifts to the Fire Department, although the Fire Department has no familiarity with the building, its construction, or past violations. This confusion regarding areas of responsibility is illustrated in the motel case where a suit was filed. Both the Building and Fire Departments were cited for contributing to the loss, although initially the construction project was the responsibility of the Building Department with the Fire Department performing inspections after the ventilation system had been enclosed by construction.[37] The uncertainty regarding areas of

departmental responsibility for code enforcement increases the potential for the existence of code violations thereby increasing the potential for losses.

LACK OF EVALUATIVE STUDIES

Many local code enforcement programs, including that in Billings, have existed throughout the years without guidance from evaluative studies. "Until recent years, little has been done to measure the effectiveness of fire prevention efforts."[38] It is difficult for a program to achieve its goals if no direction for growth is determined by analysis of the factors which affect it.

> We have attempted to solve our fire problem with more laws and inspections but we are pursuing it blindly without questioning the results. Our fire prevention activities are largely trial and error. They are not based upon formal research or analysis of the real causes of fires and the effectiveness fo fire prevention methods.[39]

Evaluative studies provide a means by which the productivity of a program can be analyzed and determined.

CITIZEN OUTREACH AND INFORMATION PROGRAMS

Public outreach and information programs within a code enforcement system are usually minimized or neglected although the actions of the public can diminish significantly the effectiveness of an

enforcement program. William Clark recalls his conversation with a rural fire chief who stated that his records showed a reduction in the number of fires as the distances from the fire department increased. The fire chief noted that "people ten miles from the fire station seemed to practice better fire prevention because they realized how long it would take the fire department to get there."[40] People do play an active role. A detailed analysis performed by Factory Mutual System to determine the contributing factors for past fire losses experienced by their insured concluded that "over two-thirds of them were caused by the 'human element' - people making mistakes, neglecting important responsibilities."[41] "People problems" were negating much of the progress gained through underwriting, engineering and research.

Other sources of data on fire losses illustrate the impact of the public's actions on fire prevention efforts. The Federal Emergency Management Agency collects and analyzes fire statistics from all regions of the country. Careless acts and misuse account for the majority of losses. In 1978, four out of five residential heating unit fires were due to improper installation. Nearly three-fourths of all cooking fires were caused by people misusing their cooking

equipment. Smoking ranked as the fourth major cause of residential fires, with cigarettes involved in nearly eight out of ten fires.[42] In most cities, "poor housekeeping accounts for the largest class of structural fires."[43] Statistics within Billings are similar to the national figures. In 1981, 38% of fires were due to negligence or careless acts and 39% were due to arson.[44] National and local statistics illustrate the impact of people's actions on fire prevention programs, including code enforcement. An enforcement program cannot minimize losses if public outreach and informational programs are not used to constructively alter the actions of people towards the use and practice of fire prevention activities.

Without public outreach and informational programs, code enforcement programs can produce the disastrous effect of reducing people's awareness and responsibility for prevention of fires and losses. A public attitude of the individual versus the city government may also be fostered without cooperation and communication. Oftentimes uninformed occupants of a building assume that safety has been provided by the building owner under the supervision and authority of the local Building and Fire Departments, as in the MGM Grand Hotel and

Beverly Hills Supper Club fires, which can endanger occupants' lives if disaster does occur. Fires in the MGM Grand Hotel and the Beverly Hills Supper Club occurred in popular clubs, modern facilities that "appeared - at least to the casual observor - to offer safety and comfort to the traveling public."[45] Unfortunately, most fires are caused by inappropriate acts of people, such as misuse or arson. Communities which perpetuate the existence of poor fire prevention habits among its citizens, through a code enforcement system devoid of public outreach and information programs, also perpetuate the potential for large life and property losses.

MINIMAL TRAINING AND PROFESSIONALISM OF PERSONNEL

Building and fire code inspectors and officials throughout the nation lack professional qualifications, thus reducing the credibility and effectiveness of the entire system.[46] The codes cannot be adequately enforced without trained, qualified inspectors and officials. The Federal Emergency Management Agency stated in its publication Code Enforcement, "An uncoordinated regulatory system and inadequately trained personnel provide poor service which is confusing, slow and costly."[47]

Until the past year, the Billings Building Department inspectors were not required to be certified by the International Conference of Building Officials. This certification or any other training or qualifications in building codes or safety are not required for the Building Official or the Community Development Director although these two individuals are the representatives for appealed cases.

The Billings Fire Department inspection staff consists of the firefighters, the Fire Chief, and the Fire Marshall. Experience and education in codes within the Fire Department is usually limited to basic fire training manuals and on-the-job training for firefighters. Both the current Fire Chief and the Fire Marshall do have previous experience and education in code enforcement although it is not required within the job description.

INEFFECTIVENESS RESULTING FROM OTHER PARTICIPANTS

Other departments and agencies involved in the code enforcement process in Billings also create inconsistencies in application and enforcement of the codes. The Board of Appeals and the courts have the authority to alter Building and Fire Departments' decisions regarding code violations. The members of the Board and the courts, whose

experience and education in codes is minimal, rely upon the Building Official, Community Development Director, Fire Marshall and Fire Chief for interpretation of the codes. It is important, therefore, that these personnel are qualified in the codes and their enforcement.

TORT LIABILITY

A serious consequence of poor quality inspections and enforcement is tort liability against city officials. Due to the abolition of the legal doctrine of sovereign immunity within many states, including Montana, governments are exposed to the potential for liability. This change and other related changes in liability laws within the past five years has increased the probability of successful suits against local governments for negligent code enforcement.[49]

The concept of sovereign immunity is not widely used in the United States today. Its use was based on the false interpretation of an English case reinforced by a fear of excessive liability claims against government.[50] It is based on an English case, Russell vs. Men of Devon, and the idea that the "King can do no wrong." In the case, the plaintiff, Russell, sued all the male inhabitants

of the unincorporated county of Devon for damages caused to his wagon by the disrepair of a public bridge. The plaintiff was unsuccessful because the county was not incorporated as a governmental body and, therefore, could not be sued as such.[51] In the United States, governmental bodies, such as counties or cities, are usually incorporated governments; therefore, this English case is dissimilar to liability cases in the United States. Today, most states, including Montana, are subject to tort liability, but with some restrictions, such as limits on dollar amounts.

States which have eliminated protection against liability based on the sovereign immunity doctrine have employed other defenses, such as the public duty doctrine and ministerial versus discretionary duties. The public duty doctrine is based on the concept of a duty owed to the public but not to one individual in particular. Under this doctrine, a plaintiff must prove that a duty performed by a government employee was specifically owed to the individual and not to the public in general.[52] The application of this doctrine can result in inconsistencies due to the unclear distinction

between duties owed to the public in general and those owed to an individual. Chief Judge Desmond, New York Court of Appeals, predicted that the "majority's public/individual duty distinction (i.e. public duty doctrine) would produce exceptions, interpretations and inconsistencies galore."[53]

The distinction between discretionary and ministerial duties has also been used as a governmental defense against liability. Under this doctrine, liability can only be allowed for negligent performance of ministerial duties. Ministerial duties are those duties which are routine and mandated. Those duties which cannot result in liability are termed discretionary because they require judgement by the employee.[54] The difference between ministerial and discretionary duties is oftentimes blurred, and this results in inconsistencies in application. The distinction has been criticized as "confusing, unjust, difficult in application and as nothing more than a convenient device for extending the areas of non-liability."[55]

The public duty doctrine and ministerial versus discretionary duties doctrine have been used by governmental departments as defenses against liability.

"This fear of crippling judgements as a basis for denying relief is legally improper and factually unsound."[56] These doctrines have denied citizens their rights for protection against negligent performance of duties by government employees and have encouraged poor quality inspections.[57]

SUMMARY

The analysis of fire statistics, past losses, and possible existence of buildings with code violations within Billings and throughout the nation indicates that there is a potential for life and property losses due to inadequate enforcement of building and fire codes. The present system within Billings and numerous communities is fragmented among several local departments and this probably reduces the effectiveness in code enforcement.

> Many fire professionals maintain that numerous problems in fire safety stem not from the codes but from enforcement. They contend that while many communities have already enacted sufficient building and fire codes to ensure at least a moderate level of fire safety, the fire problem remains unabated because these codes are inadequately enforced.[58]

It is suggested here that inadequate enforcement is largely related to the types of problems found in the current system in Billings.

Several communities have recently instituted alterations within their code enforcement system including the use of evaluative studies. The next chapter will present some of the major alterations and their use within the Billings code enforcement system.

Chapter 5

PROPOSED INSPECTION AND ENFORCEMENT REFORMS

As previously examined, the Billings code enforcement program maintains the potential for life and property losses within buildings due to inconsistent and fragmented enforcement of the Building and Fire Codes. Due to similar inadequacies within their code enforcement system, other local governments have been instituting reforms. Consolidation is one frequently applied reform which has increased productivity for those communities utilizing it.

CONSOLIDATION

Some local communties throughout the country have consolidated similar code enforcement activities in order to provide continued services and increased productivity. Analyses of these systems indicate that a greater level of productivity has been realized that can be attributed to the centralization of the code enforcement activities.[59] Consolidation centralizes inspection and code enforcement clerical activities, thereby "...eliminating many organizational conflicts

over priorities and differences in procedures and decreasing costs by eliminating duplicated clerical work and inspections.[60]

The Institute for Local Self Government classifies consolidation into several categories.[61] "Nominal consolidation" is the placement of departments with similar responsibilities under one administrative head. "Functional consolidation" is the combining of one or more duties with the retention of separate departments. "Selected consolidation" is the cross-training of a particular class of employees, such as firefighters, in all code enforcement activities but retention of separate departments. "Partial consolidation" is the creation of a third force trained in all code enforcement activities with or without retention of separate departments. A "totally consolidated" system is one that relies on a single agency for administration and operation of code enforcement.

Some of the communities adopting a consolidated system have introduced the changes gradually to reduce the resistance to change by employees and other involved individuals and to assure continuance of enforcement activity. The institution of a "nominally consolidated"

system within Billings would allow the gradual introduction of consolidation by placing the Building Department and Fire Prevention Bureau under the supervision of one administrator. This would reduce clerical costs, eliminate existing duplication of inspection activities and provide complete building histories. Building histories would combine the Building Department's inspection reports performed during the construction of a building with the Fire Department's inspection reports performed after the building is occupied. These histories would increase the information available to inspectors since the information is no longer limited to one department's usage. It would also eliminate difficulty in ascertaining code violations and enforcement follow-up throughout the life of the building.

In a "nominally consolidated" system, the Billings Building Department and the Fire Prevention Bureau would be placed under the administration of the Community Development Director or the Fire Chief. In the Billings system, there are several major considerations which favor the placement of enforcement activities under the administration of the Fire Chief.

Although economic considerations must be included within an enforcement system, they should not be prioritized over life safety. The choice between economics and life safety is made by the community through local governmental policies, including decisions regarding the structure of its enforcement departments. The selection of life safety as the priority in code enforcement favors the Fire Chief as the administrator since the basic underlying goals and functions of the Fire Department revolve around life safety. Fire suppression activities intimately link firefighters to life safety and the consequences of inadequate code enforcement, since their lives, as well as other lives, are jeopardized during a fire. "To fire service personnel, unlike the general public, the danger of fire is not an abstraction; it is real."[62]

The centralization of code enforcement activities under the administration of the Fire Chief provides a ready, available source of manpower for inspections through the use of firefighters. Firefighters currently perform inspections of existing buildings, but their knowledge and experience is limited. Utilizing them as generalist inspectors would increase their experience and promote the provision of adequate

training. The ICBO certified instructor in the Building Department provides an available source for this training. Current inspectors in the Building and Fire Departments could be used as specialist inspectors to provide assistance and advice to the firefighters, perform difficult inspections and plans review, and provide follow-up for appealed cases. This increase in quality and extensiveness of training could help reduce the current deficiencies in the training and experience of the firefighters and provide additional benefits, such as pre-fire planning. Pre-fire planning denotes a knowledge of a building's structure and use prior to the occurrence of a fire. If a fire should later occur in this building, the firefighters are better equipped and prepared to suppress the fire armed with this previous knowledge of the building.

An important consideration for selection of the administrator for code enforcement activities is the position's recruitment qualifications. An administrator with education and experience in the codes and their enforcement is better equipped to represent the codes before the Board of Appeals, courts and local administrators and politicians. The administrator

is also qualified to assume the duties of the Building Official or the Fire Marshall if either position is vacant. Previous experience and education with codes and their enforcement increases the possibility that enforcement of the codes will not be neglected nor become a low priority to the administrator. Although not currently required by job descriptions, the Fire Chief does have experience working with codes.

ADOPTION OF EVALUATIVE STUDIES

The adoption of a consolidated system or any other alternative cannot be effective without including evaluative studies to direct development of the program toward achievement of goals and objectives. Continuous and relevant evaluative studies are a means of assessment by which the code enforcement program can be evaluated for effectiveness and efficiency and redesigned to be productive. "Fire incident data lets the manager know what the problems are, if there are seasonal influences and what is the relationship between certain levels of types of inspection."[63] Elimination of a haphazardly managed code enforcement program can be achieved through guidance from evaluative studies.

PUBLIC OUTREACH AND INFORMATION PROGRAMS

Shifting responsibility for building safety to

the private sector can increase the potential for compliance with the codes by increasing public awareness and participation. The creation of public information programs can produce a positive attitude toward enforcement. It also may decrease the liability exposure for government.

Numerous methods can be used to produce a shift in responsibility, although adoption of a method should follow research and study to assure adequacy and feasibility. The main emphasis of a public program should be education of the public and positive actions to increase the public's interest and participation. An illustration would be a smoke detector advertising campaign which educates the public about the value of detectors. Economic incentives to install fire suppression systems, such as sprinklers, increase the probability that such efforts will be undertaken. These incentives can be applied to numerous other safety equipment and protection systems. The neglect to include public information and outreach programs within a code enforcement program can undermine any achievements which may be made.

APPLIED CONSOLIDATION PROGRAMS

Consolidation is a recent alternative to ineffective,

fragmented, duplicated code enforcement systems. Milwaukee, Wisconsin; Phoenix, Arizona; and Rialto, California; have successfully instituted consolidation.

Code enforcement in Milwaukee is consolidated in the Building Department and has resulted in reduced costs and better coordination for city departments. Cross-training of inspectors and data processing/ computerization are an integral part of the enforcement system. Alex LeGrand, Inspector of Buildings in Milwaukee, delineated the benefits produced by consolidation.

> Our experience with consolidation of inspection services has confirmed the reason for such consolidation, namely: it increases, with less personnel, the actual coverage that the city has of all types of code violations; improvements in operation made by any section of the department become available to the entire department; unnecessary duplication of inspections are eliminated; a uniform policy of enforcement methods improves the effectiveness of enforcement; cross-training of inspectors has led to some integration of functions into one type of inspector, some of which were formerly performed by several types of inspectors and a process which may be further extended.[64]

Economic savings have been realized from the consolidated enforcement system in Phoenix which utilizes firefighters as generalist inspectors.

> After five years of operation, program evaluation has found the consolidation quite successful in meeting rising demands for service while holding the budget line steady. Phoenix attributes an estimated annual savings of $750,000 per annum as a result of this program.[65]

Rialto, California, adopted consolidation to provide a more economic system than the previous one. Economic savings have resulted, but greater benefits occurred. These benefits are "reduction of redundancy, a tremendous increase in the cooperation between the fire prevention and building personnel, and the reduction of confusion in counterproductive work when two agencies are doing the same job."[66] Rialto placed its Building and Safety Department and the Fire Prevention Bureau under the jurisdiction of the Fire Chief renaming it the Building and Fire Safety Division. The Departments are independent but all work is coordinated. Information and data collected from numerous communities with consolidated systems illustrates consolidation has been effective for producing productive code enforcement systems.

SUMMARY

A "nominally consolidated" code enforcement system within Billings can be achieved through the centralization of the Building Department and the Fire Prevention Bureau under the Fire Chief. The location of code enforcement activities within the Fire Department promotes safety as the number one priority. Present manpower can be efficiently used by training firefighters as generalist inspectors. Present Building Department and Fire Prevention Bureau inspectors could then be utilized as specialist inspectors. An important factor for quality code enforcement is continual training and certification of inspectors. Administrators with experience and education in building and fire codes and their enforcement would be qualified to interpret the codes and effectively enforce them. A consolidated code enforcement program is a productive alternative to the present Billings system which allows hazardous buildings to exist, thereby increasing the risk to the safety of citizens.

Chapter 6

SUMMARY

With establishment of governmental code enforcement programs, communities have relied upon local governmental departments to provide safety in buildings, unaware that conflict and reduced accountability have jeopardized safety through a lack of complete enforcement of the codes. Building and fire code enforcement within Billings reflects the multi-departmental, fragmented code enforcement systems which are prevalent throughout the country. Code enforcement is also jeopardized by the lack of adequate training and experience of code enforcement personnel including administrators. The system has unresponsiveness due to its haphazard development without guidance from evaluative studies or public input. A lack of enforcement of codes allows hazardous situations within buildings to exist creating a high risk for life and property.

A "nominally consolidated" enforcement system within Billings would centralize the Building and

Fire Prevention Bureau with supervision from the Fire Chief, thereby, providing a gradual introduction. Placing departments at the same location and sharing a clerical staff produces economic and productive gains for the local government. The selection of the Fire Chief as the administrator provides several benefits, including the consideration of life safety as the number one priority for enforcement and increased training and professionalism of inspectors and firefighters. The use of firefighters as generalist inspectors can be used to reduce deficiencies within their experience and training. The inclusion of evaluative studies and public outreach and information programs within a "nominally consolidated" system provides an alternative to the present fragmented and costly system within Billings.

BIBLIOGRAPHY

American Insurance Association, News Brief, September 1982.

Appy, Meredith and Rosemary Conway, "Loss Control Education in the Workplace," Fire Journal, March 1983, p. 56-65.

Bahme, Charles, "When Is Your Inspector Liable?," Fire Command, February 1977, p. 21-23.

Banks, Jerry, "Selected International Comparisons of Fire Losses, 1979-1980," Fire Journal, January 1983, p. 36-65.

Bell, James, "Halfway House Fire Washington D.C. Kills Ten," Fire Journal, March 1980, p. 45-53.

Billings City Council, Minutes of Meetings, 1885-1967.

Billings City Ordinances, 1901-1918.

Billings Fire Department/Chamber of Commerce, Fire Prevention Progress 1943-1967, 1967.

Billings Fire Department, Billings Fire Department Annual Report 1979, January 1980.

-------, Billings Fire Department Annual Report 1981, January 1982.

Billings Gazette, May 9, 1982.

-------, May 10, 1982.

-------, November 2, 1982.

Billings Municipal Code, July 1981.

Bills, David, "A Report: Indiana Building Code Enforcement Survey 1979," Research and Innovation in the Building Regulatory Process, June 1980.

Clark, William, "Our Fire Prevention Failure," Fire Command, December 1972, p. 22-23.

Degenkolb, John, "Building and Fire Codes," International Fire Chief, May 1981, p. 10-11.

Demers, David, "Ten Die in Greece, New York, Hotel Fire," Fire Journal, July 1979, p. 25-30

-------, "Familiar Problem Cause 10 Deaths in Hotel Fire," Fire Journal, January 1980, p. 52-56

Duncan, Jerry, "Jury Says Chief, City Responsible in Hotel Fire," Building Standards, May-June 1979, p. 10-14.

Ely, Robert, "Building and Fire Codes: The Political Problems," International Fire Chief, May 1981, p. 16-18.

-------, Director Fire Services, Kirkland, Washington, correspondence with Ralph Crawford, Fire Chief, Ypsilanti, Michigan, August 17, 1979.

Federal Emergency Management Agency, Code Administration Resource Directory, December 1981.

-------, Fire in the United States, 2cd Edition, July 1982.

Federal Emergency Management Agency/United States Fire Administration, Management and Enforcement of Fire Codes, November 1979.

-------, Code Enforcement and Fire Protection: Program Planning and Evaluation, February 1982.

Fire Marshall Bureau, State of Montana/Department of Justice, Annual Report 1980, July 1981.

-------, Fire Codes of Montana, January 1982.

Hoebel, James, "CPSC Projects Involving Residential Auxiliary Heating Equipment Fires," Fire Journal, March 1983, p. 45-47.

Institute for Local Self Government, Alternatives to Traditional Public Safety Delivery Systems, September 1977

-------, "Public Safety Inspection Consolidation #6," Public Safety Delivery System Clearinghouse Bulletin, April 1980.

International City Management Association, Managing Fire Services, 1979.

International Conference of Building Officials, Uniform Building Code, 1979 Edition

-------, Uniform Building Code, 1982 Edition

International Conference of Building Officials/ Western Fire Chiefs, Uniform Fire Codes, 1979 Edition.

Jones, Jon, "1981 Multiple Death Fires in the United States," Fire Journal, July 1982, p. 68-85.

Kushnir, Anatolij, "Tort Liability: Municipal Liability For Negligent Inspections," Municipal Attorney, June 1978, p. 17-21.

Management Information Service, Code Administration and Enforcement: Trends and Perspectives, August 1982

McCann, Larry, Fire Marshall, personal interview, Billings, Montana, February 10, 1983.

Montana Revised Codes Annotated, 1981

National Center for Productivity and Quality of Working Life, Managing Inspections for Greater Productivity, Winter 1977.

National Commission on Fire Prevention and Control, America Burning: A Report to the President of the United States, Washington, D.C., 1973

National Fire Academy, Fire Prevention Support, June 1980.

-------, Mini-maxi Code Concept Keeps America Burning, September 1981.

-------, Merging of Fire and Building Inspection Services, December 1980.

National Fire Protection Association, "Fire at the MGM Grand Hotel," Fire Journal, March 1981, p. 33-36.

-------, "Investigation Report on the Las Vegas Hilton Hotel Fire," Fire Journal, January 1982.

-------, "Learning by Remembering," Fire Journal, November 1982, p. 59-73.

-------, "Twelve Die in Fire at Westchase Hilton Hotel," Fire Journal, January 1983, p. 11-56.

Novotny, Joe, Building Inspector, personal interview, Billings, Montana, August 19, 1982.

Powell, Pamela, "Lest We Forget," Fire Journal, November 1982, p. 3.

Purdie, Roger, Fire Chief, A Break with Tradition: A Building and Fire Safety Division, A Report on Consolidation of the Building and Safety Department with the Rialto Fire Department, Rialto, California.

Sellers, Gary, "State Tort Liability for Negligent Fire Inspection," Columbia Journal of Law and Social Problems, 1977.

Society of Fire Protection Engineers, Beverly Hills Supper Club Fire, September 1977.

Swersey, Arthur, et al., Fire Protection and Local Government: An Evaluation of Policy Related Research, September 1975.

Teague, Paul, "Making Codes Effective," Fire Journal, July 1979, p. 3.

-------, "Boarding Homes Fires," Fire Journal, March 1981, p. 3.

Wright, Kathyrn, Billings, The Magic City and How It Grew, 1953.

FOOTNOTES

1. Federal Emergency Management Agency, Fire in the United States, 2cd Edition, July 1982, p. 8.

2. Federal Emergency Management Agency/United States Fire Administration, Management and Enforcement of Fire Codes, November 1979, p. 4.

3. International City Management Association, Managing Fire Services, 1979, p. 10.

4. ICMA, p. 13.

5. ICMA, p. 15.

6. ICMA, p. 16.

7. ICMA, p. 16.

8. ICMA, p. 12.

9. ICMA, p. 16.

10. Billings City Council, Minutes of Meetings, 1885-1967.

11. Billings City Council, Minutes.

12. Billings City Council, Minutes.

13. Billings City Council, Minutes.

14. Billings City Council, Minutes.

15. Billings City Council, Minutes.

16. Billings City Council, Minutes.

17. Statement by Joe Novotny, Building Inspector, Billings Building Department, in a personal interview, August 19, 1982.

18. Statement by Joe Novotny.

19. Statement by Larry McCann, Fire Marshall, Billings, Montana, in a personal interview, February 10, 1983.

20. Society of Fire Protection Engineers, Beverly Hills Supper Club Fire, September 1977, SFPE Bulletin Reprint 77-1, p. 6.

21. FEMA, Fire in the United States, p. 8.

22. FEMA, Fire in the United States, p. 8.

23. FEMA, Fire in the United States, p. 8.

24. Billings Fire Department, Billings Fire Department Annual Report 1979, p. 21.

25. FEMA/USFA, Management and Enforcement, p. 7.

26. SFPE, p. 6.

27. National Fire Academy, Merging of Fire and Building Inspection Services, December 1980, p. 12.

28. Paul Teague, "Making Codes Effective," Fire Journal, July 1979, p. 3.

29. Billings Gazette, May 10, 1982, p. 1A and 8A.

30. Billings Gazette, May 10, 1982, p. 1B and 2B.

31. Statement by Larry McCann.

32. Billings Gzette, November 2, 1982, p. 1A and 10A.

33. Pamela Powell, "Lest We Forget," Fire Journal, November 1982, p. 3.

34. Institute for Local Self Government, Alternatives to Traditional Public Safety Delivery Systems, September 1977, p. 10.

35. ICMA, p. 207.

36. Management Information Service, Code Administration and Enforcement: Trends and Perspectives, August 1982, p. 35.

37. Statement by Larry McCann.

38. ICMA, p. 172.

39. William Clark, "Our Fire Prevention Failure," Fire Command, December 1972, p. 23.

40. William Clark, p. 23.

41. Meredith Appy and Rosemary Conway, "Loss Control Education in the Workplace," Fire Journal, March 1983, p. 56-57.

42. FEMA, Fire in the United States, p. 38-52.

43. Federal Emergency Management Agency, Code Enforcement and Fire Protection Program Planning and Evaluation, February 1982, p. 135.

44. Billings Fire Department, Billings Fire Department Annual Report 1981, January 1982, p. 11.

45. Pamela Powell, p. 3.

46. Management Information Services, p. 7.

47. FEMA, Code Enforcement, p. 92.

48. Interview with Larry McCann.

49. FEMA, Code Enforcement, p. 2.

50. Management Information Service, p. 307.

51. Management Information Service, p. 307.

52. Gary Sellers, "State Tort Liability for Negligent Fire Inspections," Columbia Journal of Law and Social Problems, 1977, p. 322-323.

53. Gary Sellers, p. 326.

54. Gary Sellers, p. 341-342.

55. Gary Sellers, p. 342.

56. Gary Sellers, p. 329.

57. Management Information Services, p. 45.

58. Management Information Services, p. 35.

59. Institute for Local Self Government, p. vii.

60. Management Information Service, p. 39.

61. Institute for Local Self Government, p. x.

62. Management Information Service, p. 27.

63. FEMA, Code Enforcement, p. 134.

64. National Center for Productivity and Quality of Working Life, Managing Inspections for Greater Productivity, 1977, p. 7.

65. Institute for Local Self Government, p. 49-51.

66. Roger Purdie, A Break with Tradition: A Building and Fire Safety Division, A Report on Consolidation of the Building and Safety Department with the Rialto Fire Department, p. 7.