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ANNUAL REPORT

OF THE

FIRE DEPARTMENT

FOR THE PERIOD

JANUARY 1, 1990, TO DECEMBER 31, 1990

BOSTON, FEBRUARY 1, 1991

HON. RAYMOND L. FLYNN,
Mayor of Boston.

DEAR MR. MAYOR:

I submit herewith the annual report of the Boston Fire Department for the period January 1, 1990 to December 31, 1990.

The replacement of fire apparatus has reached the one hundred percent status with the arrival of four 110′ aerial ladder trucks in June of 1990. The average age of apparatus is now under five years.

The auxiliary divisions maintain their high level of upgrading and significantly support our fire suppression companies. The on duty strength in any twenty-four-hour period remains close to 300 firefighters and officers.

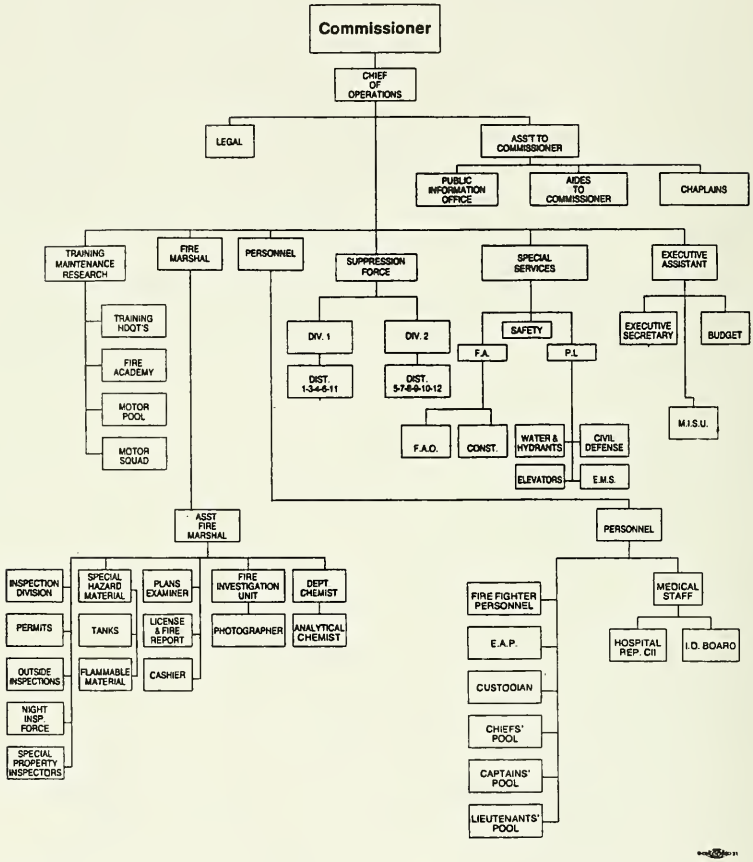
Your continued and active support is sincerely appreciated by me and the entire membership of the Boston Fire Department.

Respectfully submitted,

MARTIN E. PIERCE, JR.,
Fire Commissioner/Chief.

BOSTON FIRE DEPARTMENT

Organization



HEADQUARTERS STAFF

Fire Commissioner, LEO D. STAPLETON

Chief of Operations, Deputy Chief,
JOHN D. WHITE

District Chief, Assistant to the Commissioner,
JEREMIAH J. DONOVAN

Executive Assistant to the Commissioner,
GERARD J. HORGAN

Department Medical Examiner, ALAN W. JENEST, M.D.

Deputy Fire Chief in Charge Personnel Division,
JOHN A. LOCKHEAD

Deputy Fire Chief in Charge Fire Prevention Division,
FIRE MARSHAL MARTIN FISHER

Deputy Fire Chief in Charge Special Services Division, Director of Civil Defense, NINO N. TRAMONTOZZI

Deputy Fire Chief in Charge Training, Maintenance and Research Division, MARTIN E. PIERCE

Superintendent of Fire Alarm Division,
ROBERT J. MCCARTHY

Chaplains, REV. MSGR. JAMES J. KEATING, Catholic
RABBI IRA A. KORFF, Jewish
REV. EARL W. JACKSON, JR., Protestant

HEADQUARTERS DIVISION

1) Executive Assistant's Office
2) Public Information
3) Accounting
4) Budget/Fiscal Office
5) Executive Secretary's Office
6) Management Information Systems
7) Payroll

EXECUTIVE ASSISTANT'S OFFICE

The Office of the Executive Assistant's first line of responsibility is to the Fire Commissioner/Chief of the Boston Fire Department. The office assists in the administration of the Department and makes recommendations for plans and policies. The Executive Assistant acts as the Commissioner's liaison with various divisions of the Fire Department, City of Boston Departments, and state and federal agencies.

Commissioner/Chief Leo D. Stapleton completed his goal of replacing the entire fleet of apparatus with the acquisition of four new 110′ Aerial Ladder Trucks which were placed into service in June 1990.

Boston's version of the final four ladder trucks were placed in service in Charlestown at Ladder Company 9, in Jamaica Plain at Ladder Company 10, in West Roxbury at Ladder Company 25, and in Hyde Park at Ladder Company 28. This brought the final replacement figures to thirty-three (33) Engine Pumpers, twenty-one (21) 110′ Aerial Trucks, two (2) Rescue Companies, one (1) 95′ Aerial Tower Unit and one (1) Air Supply Truck.

The Marine Unit's new quarters will be available for operation before the end of 1991. The on duty force for suppression continues to hover near 300 firefighters per shift.

The Executive Assistant's Office oversees the work of all civilian employees. These divisions include the Executive Secretary's Office, Accounting, Management Information Systems, and Payroll. Civilian personnel primarily work at Headquarters and assist Department members and the general public.

The Office of the Executive Assistant is responsible for the operating budget and all capital bonding monies invested in the department. The operating budget for the fiscal year 1990 was $85,510,887. Personal services encompassed the biggest part of the budget — $79,071,467.

BUDGET EXPENDITURES

	FY 1989	FY 1990
Total Personal Services	$73,516,905	$79,071,467
Total Contractual Services	2,578,899	2,584,000
Total Supplies and Materials	1,957,210	2,279,000
Total Current Charges and Obligations	867,514	1,024,420
Total Equipment	667,550	552,000
Grand Total	$79,588,078	$85,510,887

PUBLIC INFORMATION

The Public Information Office serves as a connecting link between the Boston Fire Department and the people living and working in Boston.

Most surveys and requests for information are directed to this section. Research materials and information are gathered for documentaries, newspaper or magazine articles, radio, and television programs. The Office acts as a liaison to the Greater Boston Fire Safety Council, a group of Greater Boston business people whose efforts assist the Boston Fire Department in fire safety education. Arrangements are made to provide fire prevention and fire safety materials to interested parties.

Departmental swearings-in, promotional ceremonies and award presentations are coordinated. This section cooperates with the Department Chaplains, the Church Committee, and the Honor Guard in the preparation of dedications, memorials, funerals, and other spiritual functions.

HEADQUARTERS

The Boston Fire Department Headquarters Division consists of five (5) sections under the direction of the Executive Assistant to the Commissioner. These sections insure that the Department is operated in an efficient manner.

ACCOUNTING

The Accounting Office is responsible for all fiscal expenditure forms and requests forwarded from the Boston Fire Department Budget Office. These include service orders, non orders, requisitions, purchase orders, change orders and contracts.

Records are kept of all transactions, expenditures and charges as they occur. Balances are posted daily. The section is in constant communication with City Hall Departments such as Auditing, Budget, Purchasing and Treasury and vendors to secure information concerning payments, purchases and deliveries, account coding, and other changes.

BUDGET/FISCAL OFFICE

The Budget Office is responsible for overseeing fiscal reports generated by the Department, including projections, monthly progress reports, spending plans, and changes as well as information on the Mayor's priority goals.

Requisitions, service orders, non orders and contracts are reviewed and either approved or changes recommended. Quarterly meetings were held with program managers to review their expenditures and measurements.

Annual budget requests for the Boston Fire Department are sent to this Office. The budget is then reviewed by the top level managers of the Department. The Fire Commissioner, when satisfied with the fiscal year's budget, submits it to the Mayor for approval.

The budget contained fifty-one (51) measurement criteria and goals. Items measured include tracking the number and types of inspections done on a monthly basis by the Fire Prevention Division, reducing the number of incidents the Fire Department responds to, and reviewing the average response time to an incident.

EXECUTIVE SECRETARY'S OFFICE

The Executive Secretary's Office maintains all personnel records, accounts and reports pertaining to the Department.

This section acts as the conduit for all matters relating to the personnel system including salary adjustments, the hiring of new employees, all firefighter indemnifications, civil service matters relative to appointments, and promotions.

The staff interprets collective bargaining agreements that may result in step rate increases, vacation allowances, posting of vacancies, worker's compensation, bonuses, leaves of absence, and retirements.

Motor vehicle accidents, damages to department property, third-party payments, and charges to the Massachusetts Turnpike Authority for departmental services are coordinated with the City of Boston Law Department.

The personnel budget for each division of the department is prepared yearly.

MANAGEMENT INFORMATION SYSTEMS UNIT

The Management Information Systems Unit (MISU) coordinates the electronic data processing operations of the Boston Fire Department. These operations include the development and maintenance of computer applications at Headquarters and Fire Alarm.

This past year the MISU developed and implemented the Hazardous Material Reporting System. The Boston Fire Department was one of the main contributors toward the development of this new standard for hazardous material reporting that will be used by over 13,000 fire departments across the nation.

A new minicomputer, a Wang VS-65, was installed in Fire Headquarters to replace the an processor. This new computer will allow the Headquarters Divisions to utilize a full range of office automation applications.

Department expenses were reduced by replacing an older printer with a new Genicom 4440 line printer. This change not only expands the printer's capabilities, but it will also result in significant savings over the life of the printer.

The MISU continues to expand its microprocessor applications. The past year has seen the addition of Desktop Publishing and Harvard Graphics to support the needs of its members.

PAYROLL

The Payroll Division's responsibility is to ensure that Department personnel are paid accurately and on a timely basis.

Employees are assisted in making decisions on payroll deductions and medical and insurance options.

A separate holiday payroll was initiated which enabled the City to meet the thirty (30) day payment as required by the Local 718 contract. An acting out or grade and step rate file for each employee was created and is maintained on the Wang network at Headquarters.

On receipt of subpoenas and insurance claims, this division does the necessary research of employees' payroll records.

PERSONNEL DIVISION

1) Administration
2) Medical Examiner's Office
3) Selection Unit
4) Personnel Assignment
5) Employees Assistance Program

PERSONNEL DIVISION

The Personnel Division is divided into the following sections: Administration, Medical Examiner's Officer, Selection Unit, Personnel Assignment and the Employees Assistance Program (EAP).

ADMINISTRATION

The Administration section is responsible for liaison with various departments including: the Department of Personnel Administration, Local 718, the Law Department, and other departments and local unions throughout the country. This division investigates charges and grievances and follows them through at Labor Relations and Arbitration. A member of this office attends all Civil Service disciplinary hearings, Selection Unit appeals, M.C.A.D. cases, and court cases concerning the Boston Fire Department.

MEDICAL EXAMINER'S OFFICE

The Medical Examiner's Office handled 3,524 personnel contacts which included office visits, physicals, hepatitis B and flu shots. The total number of Medical Indemnification forms processed was 1,770. This section is responsible for the security and maintenance of medical files for the Department. The Hospital Representative made numerous visits to hospitals to see members who have been admitted.

SELECTION UNIT

This unit is responsible for scheduling numerous examinations and tests including: medical tests, strength/agility tests with the State, physicals, screening interviews, and fingerprinting. Public lotteries are held to place candidates on a list with tied marks. Each person's application is reviewed and an in-depth background investigation is conducted. The Department of Personnel Administration is contacted on all matters regarding hiring procedures. The Selection Unit acts as a liaison with medical facilities for drug testing purposes and also arranges drug tests for all Fire Fighters on Probation. Fire Departments across the country are contacted to compare hiring procedures.

PERSONNEL ASSIGNMENT

This Office is responsible for the assignment of all Pool and Acting Officers. These vacancies occur due to vacations, injured leave, department business and other circumstances. All promotions within the Department are coordinated with the Commissioner's Office, Executive Secretary's Office, and the Department of Personnel Administration. The assignment of all vacations within the Department is coordinated with the Deputy Chiefs in Divisions 1 and 2. The unit orders, assigns and distributes all badges, hat devices, and lapel devices. Forty (40) firefighters were appointed in 1990 to the Boston Fire Department.

EMPLOYEES ASSISTANCE PROGRAM (EAP)

The Boston Fire Department/Local 718 EAP is a joint venture between the Department and Local 718. Its primary purpose is to assist the membership in addressing problems in the areas of: substance abuse, marital, legal, stress and financial. These services are also offered to a member's family and retirees.

The EAP staff maintains services 24 hours a day, 7 days a week. The location of the EAP is at the Long Island Hospital. It is staffed with one officer and three firefighters who are certified in the EAP field.

The staff addresses every fire house and fire college on an annual basis. Each new drill class is spoken with. Many smaller departments have been assisted in establishing EAPs. The BFD/Local 718 EAP is responsible for assisting and establishing the International Association of Fire Fighters' Committee on EAPs.

FIRE PREVENTION DIVISION

1) General Inspections
2) License and Permit Section
3) Special Hazards
4) Special Occupancies
5) Night Inspection Division
6) Plans Examiner
7) Fire Prevention Records
8) Fire Education
9) High Rise Sprinkler Retro Fit
10) Needless Alarm Reduction Program
11) Chemist
12) Fire Investigation Unit

FIRE PREVENTION

The Fire Prevention Division consists of many sections. The following contains a brief overview of each area.

GENERAL INSPECTIONS

The District Inspectors inspect smoke detectors for the sale of one- to five-family houses under Chapter 148 Section 26F. They resolve complaints in their districts, review permits and licenses, and issue abatements for violations.

The inspectors follow up on abatements that are sent in from the field. Non compliance cases and code violations are resolved through court action if necessary. Other City departments are no-

tified when a situation is observed that should be brought to their attention through Form 65s. The Fire Marshal meets with the Inspectional Services Department Commissioner regularly to resolve conflicts.

Due to more efficient usage of personnel and consolidation of various inspectional services activities, eight staff positions where phased out and personnel were used to fill needs elsewhere. This occurred with no reduction in assignments for the Fire Prevention Division.

LICENSE AND PERMIT SECTION

The License and Permit Section is responsible for conducting inspections of facilities, businesses, and construction sites where Fire Department permits are required. Permits are necessary for such activities as the storage and handling of flammable and combustible liquids, gasses, and solids; the construction or alteration of any structure; placement of dumpsters; the handling of asbestos; welding or cutting operations; the use, storage or handling of explosive materials; and the installation or subsequent impairment of fire protection or suppression systems.

As a direct result of aggressive permitting by this section, especially where construction and demolition take place, the fire incidence at construction sites has gone from common every day practice to nil. A construction site has not required more than one alarm since Rowe's Wharf in 1986.

A major part of making and keeping construction sites safe has been solving the winter heating problem of these sites. This solution has involved substitution of steam and/or diesel in place of both random and universal use of propane to heat buildings open to the weather. This has been accomplished through the permitting process, and again active and aggressive enforcement.

This section inspects licensed properties and serves as the Fire Commissioner's designee for the City as an appointed member of the Committee on Licenses.

This office is involved in the ongoing restructuring and expansion of the permit and license system and utilizes its expertise to develop codes and procedures to respond to complex fire-related problems and hazards. As part of this, the Boston Fire Department Fire Prevention Code has been amended to reflect current thinking and practices.

SPECIAL HAZARDS

527 CMR 9.00 mandated changes for underground storage facilities including requiring double walled tanks and piping, and

the retrofitting of old tanks with containment manholes, overfill and cathodic protection. Quick lube centers fall under the same regulations. Underground storage tanks continue to be a large part of the work schedule. All installers of underground tanks in Boston must have a G-12 license issued by the Board of Examiners.

A joint venture with Boston Gas will see the first Compressed Natural Gas (CNG) facility opened in the spring of 1991. Sixty (60) Boston Gas vehicles will operate using this fuel. Plans are also in the works to operate some refuse vehicles with natural gas.

Self-service gas stations are now the responsibility of local Fire Departments. This involves the approval of plans through the final inspection before they are allowed to operate. A yearly inspection then follows.

New permits have been developed which will provide more information on hazardous materials. These hazardous materials range from flammable liquids, solids and gases to chemicals such as oxidizers, corrosives, poisons, anhydrous ammonia and chlorinated solvents. A sub-issue in this overall permit program is the issue of hazardous materials in laboratory settings.

An aggressive education and inspection program has been implemented in the area of laboratory safety. The Safety Directors of the 25 largest educational, medical, and research facilities in the city attended several Boston Fire Department seminars to make sure that they understood the guidelines they would be required to follow concerning the requirements for storage and warning signage in laboratories. The NFPA Diamond Warning Systems, as well as biohazard and radiation warning signs, help fire fighters to better understand the materials involved. They can then take the proper precaution to protect life safety.

SPECIAL OCCUPANCIES

Company officers in the field complete quarterly inspections of hospitals and schools. Fire Prevention Inspectors assist them due to the complexity of the occupancies involved. Abatements are reviewed to insure that a location has complied with the Fire Department's findings. Consultation and suggestions are made concerning new construction or modifications to existing structures. Fire education for a specific occupancy is provided to assist the management in preventing fires.

There are a number of different occupancies, that due to their size and potential life safety hazard, require special knowledge and are assigned full time inspectors by the Boston Fire Department. These include hospitals, hotels, schools, nursing homes, day care centers, and laboratories. Legally mandated, routine inspections are made to insure code compliance, as well as a review of Fire Department responses to these locations.

NIGHT INSPECTION DIVISION

The Night Inspection Division inspects approximately 1,600 facilities with a capacity of fifty (50) or more people. All places of assembly are inspected quarterly. Places of assembly in hotels and theatres are inspected on a monthly basis. The busier night clubs are inspected weekend nights for overcrowding and other violations. These events include concerts, live theater, the Boston Garden, Fenway Park, the Hynes Auditorium, and college arenas.

The Fire Department has traditionally had a difficult time inspecting occupancies that are usually only operational or inhabited during non-business hours. In an effort to address this problem, the Night Division will begin in 1991 to inspect homeless shelters, lodging houses and group homes. This will lead to a projected 1,200 additional inspections.

PLANS EXAMINER

The Boston Fire Department Plans Examiner provides a comprehensive review of building plans to insure compliance with State and City codes. These codes include the Massachusetts State Building Code, the Massachusetts Fire Prevention Regulations, Chapter 148 of the Massachusetts General Laws — better known as the Fire Prevention Laws, Fire Prevention Order 87-2 (Boston Fire Alarm Regulations) and the Boston Fire Department's Fire Prevention Code.

Items reviewed include locations and requirements for fire hydrants, Fire Department vehicular access, automatic sprinkler systems, fire alarm systems, and hazardous material storage. Proper installation of these items provides safer buildings for occupants and fire fighters.

Meetings are held with building owners to discuss fire prevention strategies. Technical assistance is given to other City and State agencies. Involvement prior to building construction insures building designs are consistent with the Boston Fire Department's goal of protecting life and property.

The Boston Fire Department Plan Examiner reviewed approximately 1,000 building permit applications, 400 sprinkler permits, and attended over 500 job meetings relating to construction operations and Building and Fire Code Appeal hearings during 1990. The Plans Examiner's main duty is to insure that construction operations and fire protection installations comply with all applicable State and City codes.

The Department is currently involved in a ten (10) year program that requires all buildings seventy (70) feet or over in height to be fully sprinklered. The Plans Examiner has a vital role in this program to insure that building and sprinkler designs are consistent

with the Department's goal of protecting the lives and property of Boston's citizens.

Another section of plans review is the review of fire alarm systems that are connected to Fire Alarm or to a central station. Fire Alarm personnel assigned to the Fire Prevention Division review plans and perform inspections. In 1990, 352 plans were examined, 440 on-site inspections were performed and 61 boxes were tied into central stations or Fire Alarm through master boxes.

FIRE PREVENTION RECORDS

This section interacts with the public during business hours. They assist fire victims, citizens applying for permits and licenses, and provide research on inquiries.

Company commanders are notified when inspections for certain occupancies are required. Data, including inspection dates, is recorded for each occupancy.

The records section is responsible for the collection or disbursement of Fire Prevention Division fees. Fees for permits, licenses, smoke detector inspections, fire reports, and other miscellaneous items are collected daily. In 1990, $1,147,701.19 was collected.

Fire Department records are stored on microfiche for future needs. Fire reports, fire alarm dispatch slips, arson reports, chief's reports, emergency medical reports, morning reports, abatements, permits, licenses, underground storage tanks, complaints, and interagency forms are among the documents that have been transferred to microfiche.

The use of microfiche has made it easier to access old records and make copies of them. This system provides a legally acceptable document for court cases and the public. After discussions with the city archivist, it was decided, that microfiche records would be stored more efficiently and safely if there were two sets. One set is stored at Headquarters for easy access and the other set is stored at the city archives.

FIRE EDUCATION

The Office of Fire Education is responsible for promoting public awareness of fire safety and prevention.

Fairs, community meetings, senior groups, health care facilities, schools, group centers, summer camps, tours, organizations, businesses, and day care centers are used to promote fire education. Fire Department personnel share an understanding of the principles involved with fire safety.

Fire education covers topics such as smoke detectors, fire extinguishers, escape planning, smoking, and cooking safety. Individ-

uals are encouraged to pass this information onto their family, friends, and neighbors.

In 1990, the Fire Prevention Division continued its efforts in fire safety and has taken further steps by promoting fire safety through new modes of education.

1) Public service announcements were given to radio stations and newspapers.

2) Ten billboards were donated by Ackerly Communications with the message "Change Your Clock Change Your Battery".

3) Posters of various sizes were distributed throughout the city to be posted in store fronts and work places.

4) Posters were displayed in Post Offices and Turnpike Toll Booths.

5) City Printing printed 3,000 coloring books on fire safety that were distributed in schools. A significant savings (80%) was made by reproducing them rather than buying from private distributors.

6) Activity sheets for children were distributed to every grammar school in the city during the regularly scheduled February and October inspections.

7) Boston Municipal Cable Channel 22 broadcast over fifty hours of fire safety information during October.

HIGH RISE SPRINKLER RETROFIT LAW

A serious fire at the Prudential in January 1986 led to a High Rise Sprinkler Law which was passed and signed into law in the Fall of 1987. It is officially known as Massachusetts General Law — Chapter 148 — Section 26A½.

The wording of the law was questioned and a legal opinion was sought on the condominium issue. Attorney General James Shannon ruled favorably on this issue in the Spring of 1988.

The owners of high rise buildings received literature about the law and were required to make decisions regarding the sprinklering of their building. The compliance enforcement has met with great success. All "classic" high rise buildings (15 or more stories) are either fully sprinklered and alarmed or actively engaged in the process. The few buildings that are behind schedule will receive correspondence informing them of possible court action if they do not comply with the law.

When all work is completed by 1998, the threat of a "towering inferno" will then be effectively eliminated in the City of Boston. It is not known at this time how the economy will affect the ability of these buildings to pay for the retro fit. In the absence of any changes to the law, the Boston Fire Department will continue to enforce all of its requirements.

NEEDLESS ALARM REDUCTION PROGRAM

The Needless Alarm Reduction Program (NARP) started on September 1, 1987 with the institution of Fire Prevention Order 87-2. Its intent was to reduce the number of responses of Boston Fire Department personnel and apparatus to needless alarms. Alarm system malfunctions caused by sprinklers, smoke detectors, and heat detectors at properties with central stations and master boxes are addressed by this program.

An ordinance requiring mandatory fines for needless fire alarm responses was passed unanimously by the Boston City Council in 1988. This legislation became an integral part of the Needless Alarm Reduction Program and became effective January 1, 1989.

Numerous locations have made significant improvements to their safety systems, relocated smoke detectors, and decreased their sensitivity. Engineers, facility managers, and fire safety officials have all helped make an impact on needless alarm reductions.

The fine process has made it financially prudent for many property owners to address their problem rather than continue to pay fees to the City.

The Boston Fire Department has led the nation in addressing the needless alarm program at central station locations. However, Fire Prevention Order 87-2, and City of Boston Ordinance Title II, Chapter 4 addressed only alarm systems that sent a signal to a non-local site (mandatory for residential over 25 units). Local alarms (under 25 units) had not been addressed. In 1990, the Department reviewed industry literature and used its engineering expertise to begin to address the needless alarm problem at local alarm sites.

As a first step to gather information needed for this study, the Boston Fire Department became the first Department in the nation to distinguish in its reporting system separate coding for local alarms. Information will be gathered in 1991 on local alarm problems with the intent of finding solutions. These problems will be studied while working toward a continued reduction in needless alarms.

CHEMIST

The duties and responsibilities of the Chemist include the development and implementation of regulations based on the Fire Prevention Code, Article IX, Decorations, Furnishings and Interior Finish, and Article XX, Hazardous Materials and the establishment of an analytical laboratory to support fire investigation. The Chemist participates in ongoing programs in the Fire Prevention Division, the Training, Maintenance and Research Division and the Special Services Division.

FIRE PREVENTION LABORATORY

The establishment of the Fire Prevention Laboratory was accomplished in accordance with the order of the Fire Commissioner following the mandate of the Mayor in February 1984. The Laboratory is operated under the direction of a full time professional forensic chemist. Laboratory reports and the testimony of the Senior Analytical Chemist are accepted in criminal cases prosecuted in Suffolk County. The Senior Analytical Chemist has responded to major fires to assist the Fire Investigation Unit in its selection of material for analysis. This Laboratory has enhanced the ability of the Fire Department to successfully investigate and prosecute arson cases.

CONTROL OF DECORATIONS, FURNISHINGS, AND INTERIOR FINISH

The Department Chemist has continued the development and implementation of controls on combustible building contents under the authority of Article IX of the Fire Prevention Code.

The regulations for upholstered furniture have received national recognition and have played a major role in the development of standardized full scale test procedures. These new tests are the focus of a national effort to control furniture in hotels, hospitals, entertainment facilities and other regulated occupancies.

A potential fire hazard in hospital bedding was uncovered and investigated in 1989. Hospitals were contemplating the use of foam pads of substantial size on top of mattresses to reduce the incidence of bed sores. Tests were performed with pads and hospital mattresses and the potential fire hazard of the pads was confirmed. It was further determined that some of the mattresses routinely used by hospitals constituted a fire hazard. The existing regulation for mattresses for hotels and dormitories was extended to hospitals. The foam pads used in hospitals are regulated and the use is substantially reduced.

In addition to classification of materials by performance of fire test, considerable effort was expended to inform and communicate with architects, designers, purchasing agents and sales organizations the importance of the Fire Department regulations and procedures for compliance.

HAZARDOUS MATERIALS

Fire Prevention concerns include the Laboratory Safety Program, the Regulations Controlling the Transportation of Hazardous Materials, and the permit/license controls for the storage and use of hazardous materials.

Training, Research, and Maintenance activities include being responsible for the specifications used to procure protective clothing and equipment and field evaluations of newly developed protective clothing. The Chemist takes part in the special training exercises conducted for fire companies and chief officers who respond to major hazardous materials incidents. He serves on committees designated to prepare Standard Operating Procedures for hazardous material incidents.

Participation with Special Services involves the Title III, Superfund Amendments and Reauthorization Act and serving as the Right-To-Know person on the Local Emergency Planning Committee. The Chemist is currently designated as the Acting Municipal Coordinator for the Massachusetts Right-To-Know law.

The Department has a technical specialist on-call for response to hazardous material incidents. Five (5) members of the fire fighting force have the technical expertise and training to handle these emergencies.

FIRE INVESTIGATION UNIT

The Fire Investigation Unit responded to 987 incidents during 1990, an increase of 218 responses from 1989.

The breakdown is as follows:

Incendiary	389
Suspicious	222
Cause given	193
Undetermined	48
False Alarms	54
Threats/Attempts to Burn	59
Public Service	10
Miscellaneous	10
No Ignition Factor	2
	987

The above resulted in the following:

Arrests	64
Court Cases	193
Convictions	102

Assistance is also given to Fire Prevention Inspectors when requested. A great deal of time is spent delivering subpoenaed material to various courts.

The Unit sometimes receives requests for its presence at neighborhood meetings due to a devastating fire or a series of fires. The ability to have Spanish speaking and minority members of the Unit present at fire education meetings has greatly increased communication.

The Major Case Unit (MCU) continues to be a very effective tool in investigating major/suspicious fires. Their dedication to the job has helped to solve many cases. Staying with a case helps to bring a successful conclusion to many unsolved incidents. The Bureau of Alcohol, Tobacco and Firearms (ATF) assists on many of these cases.

The Photo Unit responds to fire scenes, accidents and other emergency calls. They cover Department functions and dedications. The photographers take pictures of code violations to assist Fire Prevention and produce videos of training, drills and other events.

The Auto Arson Investigation Unit (A.A.I.U.) had a successful year with thirty-five convictions. Insurance companies refused many claims based on the Unit's investigations.

The City of Boston had 1,533 vehicle fires during 1990, representing a 17.2 percent reduction from 1989. This is the fourth consecutive year that a substantial decrease in the total number of vehicle fires occurred.

The breakdown of vehicle fires is as follows:

Incendary	85
Suspicious	854
Undetermined	202
Accidental causes	392
	1,533

All vehicle fire cases were reviewed. This led to further investigation in 217 incidents and of these 58 cases were brought to court for criminal prosecution. To date, 33 of the cases have been successfully prosecuted.

The reduction of vehicle fires has been the direct result of the implementation of the Auto Reporting Law and the combined efforts of the Fire Investigation Unit, the Boston Police detectives, and the Auto Arson Investigation Unit. The continued investigations of vehicle fires will lead to a further reduction.

A Juvenile Firesetters Program has been established through the efforts of this Unit, the Fire Education Office and Children's Hospital. The hospital will handle referrals for juvenile firesetters and keep the Unit informed as to their status. This gives the juveniles an opportunity to receive treatment and not acquire a court/criminal record.

The same economic conditions that were present in the late 1970s and early 1980s are reappearing. It seems there is now a trend toward more fires in small businesses — Mom & Pop stores, cleaners, restaurants, etc. They are closely monitored to see if any trends develop. Foreclosure notices are reviewed on a regular basis.

TRAINING MAINTENANCE & RESEARCH DIVISION

1) Department Training Program
2) Field Evaluation of Safety Equipment
3) New Equipment
4) Research and Evaluation
5) Servicing and Repair Programs
6) Harzardous Material Training Program
7) Driver Safety and Training Program

TRAINING, MAINTENANCE & RESEARCH DIVISION

The primary functions of the Training, Maintenance, and Research Division are:

1) To initiate and supervise the job development of the fire fighter, commencing with the probationary period and continuing throughout their career.

2) To become involved in research programs designed to improve fire fighting techniques, fire fighting apparatus and equipment, and protection of fire fighters; to prepare specifications for new fire apparatus; and to test and evaluate new tools and appliances before recommending their use in the Department.

DEPARTMENT TRAINING PROGRAM

The recruit training for 1990 had one (1) drill class. This class commenced on April 25, 1990 with forty (40) members and graduated June 29, 1990. A total of nine (9) weeks of intensive training was held at the John A. Martin Fire Academy, Moon Island. Every member who satisfactorily completed the drill school is now in an assigned company. In addition to the training of new recruit classes at the Fire Academy, a constant program of instruction and drills are held at both the company level and at the Academy.

The portable maze, which was put into operation in 1988, continues to move to the various districts throughout the city so that all members can fulfill their drill requirements on the Scott 4.5 - S.C.B.A., for the 1990 calendar year.

Drills on the S.C.B.A. respiratory protective equipment were conducted by the training officers with every fire company in the city. These drills are a basic review of the Standard Operating Procedures, covering care, maintenance and operation of 4.5 air masks.

Drills were conducted with the MBTA and various fire companies at the Mattapan MBTA yard (P.C.C. vehicles) and the Cleveland Circle yard (L.R.V.s). The Dewey Square MBTA Station (South Station) was also used.

Foam drills were conducted throughout the city, keying in on the "Around the Pump Proportioner."

All engine companies continued to drill on hydrant assist valve operations, drafting procedures and basic engine company evolutions. Ladder companies, including the Tower Company, were drilled on the ladder pipe operations and the raising and lowering of ground ladders.

Rescue Survival Suit drills were conducted with various companies from July through October. These drills were held at Jamaica Pond, Charlestown - off Pier 4, and Constitution Beach, East Boston. Drills are held on a seven day a week schedule at facilities such as the Tobin Bridge, the Callahan and Sumner Tunnels, the L.N.G. facility and Logan Airport.

There is an ongoing program for steam cleaning apparatus, as well as lubricating same, and checking for details. This is conducted at the Fire Academy by the Maintenance Division. Hydrostatic testing of all cylinders is an ongoing process and every air cylinder is hydrostatically tested every three years.

Fire College for all company officers and acting officers was conducted at Memorial Hall, Fire Headquarters. Subjects covered included structural hazards, lightweight trusses, vehicle hazards, liquefied flammable gases, hazardous materials, Personnel Division matters, Fire Prevention and the Hazardous Material Reporting System.

The C.P.R. First Responder Course was conducted for all members of the Department, along with an E.M.S. and Infectious Disease Seminar.

FIELD EVALUATION OF SAFETY EQUIPMENT

Fifteen (15) sets of Morning Pride Turn Out Gear and Bristol Turn-Out Gear were evaluated. Summer and winter shirts from Tops Manufacturing were tested. Numerous Pride Elk Fire Flex Gloves were evaluated.

NEW EQUIPMENT

New Emergency One Aerial Ladders were placed in service at Ladder Companies 9, 10, 25, and 28. Members were trained on their operations by the Training Division. All ladder companies in the City are now equipped with Emergency One vehicles.

Ladder tip strobe lights were placed on each ladder truck in the Department. Rescue Company One and Two received new glass cutting tools and Engine Company 55 received a new Ice Rescue Suit and accompanying line. A FYR float went to Engine Company 9 and twelve (12) new Rabbit Tools (hydraulic door openers) were distributed throughout the Department. The extrication tools were continually updated.

RESEARCH AND EVALUATION

Evaluation of various types of Bunker pants, coats and shirts are ongoing. Anti fog devices for Scott face pieces (Facepiece Appliquay) continue to be evaluated. Testing of Kohler lights and various nozzles and Personal Alarm Devices (P.A.L. .5) are currently in process. Class A foam systems have been given to Engine Companies 5 and 16 to be evaluated.

SERVICING AND REPAIR PROGRAMS

A service and repair program is conducted by this division on all fire fighting equipment, tools, and appliances at our repair facilities at Headquarters and the Fire Academy.

HAZARDOUS MATERIAL TRAINING PROGRAM

Under Title III, there are mandatory training requirements for fire personnel which involve a minimum of 24 hours per year for all members of the fire fighting divisions and 40 hours per year for members of special response teams. Training guides have been issued to each company and video tapes to each district for distribution to companies on a monthly schedule to meet the required drill period.

DRIVER SAFETY AND TRAINING PROGRAM

Driver training was scheduled by the District Fire Chiefs for companies in their districts during weekend day tours. Training is given to any fire company upon the recommendation of a Deputy Chief following an accident hearing. All new recruits received driver training at the Fire Academy beginning with the class of March 1989.

FIRE FIGHTER PROTECTIVE CLOTHING ISSUED

Fire Boots	297 pair
Fire Coats	187
Work Gloves	1,708 pair
Leather Helmets with eye shields	68
Fire Rated Trousers	1,674
Fire Rated Summer Work Shirts	1,692
Winter Sweat Shirts	1,685
Tyveck Suits	48
Haz-Mat Protectable Rubber Gloves	72 pair

DRESS UNIFORMS/SHIRTS ISSUED

Officer D/B Sack Coats	10
Fire Fighter Sack Coats	52
Dress Trousers	122
Navy Blue Serge Bell Caps	61
White Bell Caps	41
White Short Sleeve Dress Shirts	332
White Long Sleeve Dress Shirts	178
Light Blue Short Sleeve Dress Shirts	314
Light Blue Long Sleeve Dress Shirts	12
Navy Blue Short Sleeve Shirts with Fire Alarm logo	108

SPECIAL SERVICES DIVISION

1) Planning and Logistics
2) Safety Operational Unit
3) Fire Alarm Section

SPECIAL SERVICES DIVISION

The Special Services Division consists of three sections: Planning and Logistics, Safety Operational Unit, Fire Alarm Dispatch and Construction.

PLANNING AND LOGISTICS SECTION

The Planning and Logistics Section is responsible for five (5) specific areas in the Department.

1) Liaison
2) Emergency Medical Services
3) Underwater Recovery
4) Local Emergency Planning
5) Office of Civil Defense

LIAISON

During 1990, continued negotiations were carried on with the planning team of the Central Artery, Third Harbor Tunnel (CA/T) and the Central Artery North Area (C.A.N.A.) projects in order to address the fire and safety concerns brought about by the use of these Tunnels, Interchanges, Vent Buildings and Roadways. Negotiations have also continued with the Massachusetts Department of Public Works (MDPW) on the relocation of the New Northern

Avenue Bridge and the associated adjustments to the water supplies for fire fighting due to the loss of access to this area by our fire boats.

Continued cooperation with all city and other governmental agencies regarding the interactions with the Boston Fire Department are progressing to insure that the citizens of the city are given the best possible services available.

EMERGENCY MEDICAL SERVICES

The Emergency Medical Services Office of the Boston Fire Department continued to train and retrain members of the department in the mandatory "first responder" courses during 1990. Thirty-three (33) new Emergency Medical Technicians (EMTs) completed Department training and then were tested and certified by the State Office of Emergency Medical Services (O.E.M.S.).

This section continued to assist department companies by resupplying expendable materials used by the Fire Department at accident and other emergency scenes when fire personnel are first on scene and awaiting the arrival of Health and Hospitals E.M.S. personnel.

The Emergency Medical Services Section has also participated in seminars and critiques concerning communicable diseases, trauma related incidents and other valuable information related to emergency assistance to persons injured or stricken and in need of immediate emergency care while waiting for transport to a medical facility.

UNDERWATER RECOVERY TEAM

The Underwater Recovery Team (U.R.T.) has been in transition within the department wherein three members have attended a course to become instructors for Public Safety (S.C.U.B.A.) Divers. This unit will now be training members of our Rescue Companies in Search and Rescue Dive techniques in order to give the department an added dimension in the possible rescue of persons trapped in a vehicle underwater or other type of drowning incident.

The Underwater Recovery Team continues to assist in the search and recovery of persons drowned and vehicles immersed in the harbor, ponds or rivers. They are involved in a program to survey the piers and wharfs looking for submerged objects. This should allow the Department's Marine Units and the Massachusetts Port fire boat to travel safer in the harbor.

LOCAL EMERGENCY PLANNING

The Local Emergency Planning Committee (L.E.P.C.) has continued to upgrade the local emergency plan for the City of Boston. The annual meeting of the Boston L.E.P.C. was held on December 12th 1990, at 1000 hours in Memorial Hall, Boston Fire Headquarters.

There was good attendance at the meeting at which the Title III, Special Hazard Inspector explained the modified procedures used to enable the L.E.P.C. and the Fire Department to gain compliance with the provisions of the Superfund Amendment Reauthorization Act (S.A.R.A.). He also showed a copy of the new pre-incident plans issued to the District Fire Chiefs for each district and the Deputy Fire Chiefs for their respective divisions. These plans are used by the incident commander. A demonstration of the Computer Aided Management of Emergency Operations (CAMEO), currently in use by the L.E.P.C., was given by the L.E.P.C. Administrative Assistant/Senior Programmer.

The Boston Fire Department responded to 738 incidents that involved hazardous materials during 1990.

OFFICE OF CIVIL DEFENSE

The Office of Civil Defense maintains contact with Federal and State Offices of Civil Defense, as well as the general public and business community. Radiological monitoring and testing is provided when needed within the city and is coordinated with the Police Department for the rotation and calibration of the 860 Radiological Monitoring Survey Meters.

The Emergency Operations Center (E.O.C.) at City Hall is being moved to larger quarters to accommodate the expanded roles of the other city departments which work with the Civil Defense Agency. These quarters will allow for expanded staffing and better communications between all the city departments and any State and/or Federal agencies during times of crisis.

Two new Radio Officers were appointed for the Civil Defense City Emergency Radio System. The Packet Radio System was tested and operational during the last drill.

Records and reports are submitted on a quarterly basis to the Federal and State Offices of Emergency Preparedness.

Participation in "disaster drills" involve various city departments and allows an opportunity to coordinate emergency planning.

SAFETY OPERATIONAL UNIT

The Safety Unit, under the direction of a Deputy Fire Chief has four District Fire Chiefs assigned, one to each working group

whose responsibility is to respond to all working fires and above, monitor the water supply and fire fighting evolutions at all incidents and the proper use of protective equipment and tools and appliances in an effort to reduce personal injuries and loss of time.

This section field tests safety equipment and investigates all accidents both personal and vehicle to determine if they were caused by defective equipment or procedures.

After any major incident they review the procedures and recommend any changes that would make a safer environment for fire fighters to work in.

FIRE ALARM SECTION

The Fire Alarm Section is responsible for the installation, maintenance and operation of the vast emergency communications network incorporated by the Boston Fire Department. This is accomplished through the activities of four (4) subsections: Operations, Radio Shop, Construction, and Inside Wiremen.

FIRE ALARM OPERATIONS

The Operating Force of the Fire Alarm Section dispatched apparatus to 45,380 incidents during 1990, of these 43 were working fires and 62 required transmission of multiple alarms.

A Wang computer at Fire Alarm Headquarters was more fully utilized by adding the following enhancements:

1) A special file was created for a more efficient retrieval of high rise buildings referenced by the nearest street fire box. This enables the dispatchers to quickly ascertain the necessity of dispatching the additional units required to complement a full "Hi-Rise Response" to an incident.

2) In compliance with Federal Law Sara Title III Community-Right-to-Know Law, a file containing all qualifying facilities was created which allows dispatchers to immediately inform responding units of any pertinent information regarding a listed location. This should provide a high degree of safety for all personnel involved with a hazardous chemical incident.

3) A program was developed for the Scuba and Metro Haz-Mat teams to provide a constant status and response procedure for all team members.

A voice communications recording system reproducer was procured from the Dictaphone Corporation for use in the Operations area. The major feature of this unit is the ability to play back recorded audio tapes achieving a high quality reproduction of all messages during an incident. These cassette tapes are used extensively within the Department for fire investigations, training and critiques.

Additional facsimile machines were installed in the Personnel Division of Headquarters and the two fire fighting division headquarters. This completes a means for providing an efficient method of transferring an extensive amount of information within all divisions of the Department.

The Fire Alarm Operations area received a major facelift during 1990. The entire upper area was replastered and painted restoring the architectural beauty of the Bulfinch-type ceiling. Also, an acoustical, moveable wall system was installed accomplishing a two-fold purpose, one being the quieting effect within the area, and secondly providing partitioned offices for the Chief Operator, plans examining and data processing.

Fire Alarm Headquarters was toured by over three hundred attendees from the annual conference of the Associated Public Safety Communications Officers (APCO) which was held in Boston. These visitors came from all over the world representing many facets of public safety communications. Their comments were extremely complimentary regarding the condition of this facility and its operation.

Fire Alarm personnel are involved with nationally recognized associations concerned with the many facets of public safety communications by serving on various committees, attending seminars and participating in sponsored workshops. These activities afford the members an opportunity to keep abreast of the many advancements in emergency communications technology such as Computer Aided Dispatch systems, Enhanced 9-1-1 and fiber optic cable applications.

FIRE ALARM CONSTRUCTION

A new GMC Aerial Bucket/Line Truck was put into service enabling the extensive replacement of overhead cable and the underground and overhead multi-conductor cable throughout the city.

Back Bay	385,000 feet
Brighton	24,000 feet
Dorchester/South Boston	218,000 feet
Hyde Park/Roslindale	16,000 feet
Roxbury	166,000 feet
Total footage of conductors:	809,000 feet

The relocation of the fire alarm cable and test post was completed at Dorchester Avenue and West Fourth Street due to bridge reconstruction.

Over 1,500 repairs were made to street boxes during 1990. These repairs include replacing box sections, light extensions, locks, terminal strips and painting.

Four additional Emergency Voice boxes were installed and seventy master/auxiliary boxes were connected to the municipal system resulting in a total of 1,151 master boxes and 1,354 street boxes in the system. Over 5,800 box tests were recorded, meeting the requirements of the NFPA standards.

Fire Alarm personnel attended numerous meetings for the Central Artery/Third Harbor Tunnel project which involved reviewing map layouts and recommending procedures for Federal, State, City and other agencies for new and reconstruction projects concerning the relocation of Fire Alarm equipment.

RADIO SHOP

The Radio Shop is responsible for the installation, maintenance and testing of all wireless communication equipment and associated electronic hardware utilized by this Department.

Voice pager units were issued to all District Fire Chiefs set on the radio dispatch channel which is activated simultaneously when any fire apparatus is dispatched in their district. This procedure allows the Chief to be immediately informed of an incident and eliminates the necessity of alarm operators making additional calls for notification.

Radio Shop personnel were involved in a number of maintenance and upgrading projects. They relocated radio and public address system equipment to allow more efficient operation and easier access for maintenance, participated in a cooperative effort with telephone company personnel for upgrading radio loop circuits, did periodic testing of fire subway radio systems and revamped the fire house alerting systems by replacing electron tubes with a solid state integrated circuit built by shop personnel.

Activities	
Issued new portable radios	35
Service to amplifiers and speakers	145
Repairs and adjustments to paging units	182
Repairs to portable and mobile radios	340
Installed new radio equipment	36
Issued replacement batteries for portable radios	36
Repaired electronic sirens	22

INSIDE WIREMEN

The Inside Wiremen are responsible for the installation and maintenance of all electrical wiring and the associated apparatus and appliances including the internal Centrex telephone system of the Department.

The expanded use of computers within the Department required the installation of cable and peripheral equipment at Fire Department facilities. A complete new speaker system was installed at Engine 51's quarters, Engine 54's house was rewired and the boiler room at Headquarters was completed.

A "Gentran" emergency generator transfer switch, which allows a more efficient means of transferring from Edison power to the backup generator, was installed at three fire houses. A new "ship to shore" power exchange unit was installed at the Marine Unit.

Motion actuated security lights were placed in strategic positions in the parking lot of Fire Alarm Headquarters.

STATISTICS

TOTAL RUNS PER COMPANY

ENGINE	TOTAL RUNS	LADDER	TOTAL RUNS	MISC.	TOTAL RUNS
2	903	1	950	CU1	303
3	1,355	2	1,397	HO1	587
4	1,607	4	3,249	HO2	604
5	1,249	6	2,307	HO3	111
7	2,126	7	2,408	MU	203
8	806	9	1,005	RO1	1,688
9	801	10	2,195	RO2	2,145
10	1,762	11	1,831	TC	1,931
14	2,316	14	2,361	W12	185
16	1,443	15	3,033		
17	1,483	16	1,922		
18	1,549	17	3,051		
20	692	18	1,826		
21	2,186	19	1,044		
22	1,622	21	907		
24	2,351	23	2,571		
28	1,629	24	1,814		
29	1,542	25	1,288		
30	952	26	3,452		
32	621	28	1,336		
33	2,628	29	2,252		
37	3,081				
39	1,416				
41	2,193				
42	1,944				
48	1,057				
49	390				
50	873				
51	700				
52	1,908				
53	1,708				
FB	81				
55	719				
56	689				

NOTE: This report tallies only responses to the scene of an incident. Covering is not recorded here.

COMPARISON OF INCIDENT TYPES

Type	Description	1989 Total	1989 % of Incs.	1990 Total	1990 % of Incs.	+/-
100	Fires or Explosions	6,604	14.3	6,354	14.0	- 250
200	Overpressure Ruptures	17	*	17	*	
300	Rescue/EMS Calls	6,170	13.3	6,865	15.1	+ 695
400	Hazardous Conditions	6,064	13.1	5,723	12.6	- 341
500	Service Calls	6,593	14.3	6,443	14.2	- 150
600	Good Intent Calls	2,886	6.2	3,262	7.2	+ 376
700	False Alarms/Calls	17,884	38.7	16,674	36.7	- 1,210
800	Natural Disasters	10	*	5	*	- 5
900	Other Situations	37	.1	37	.1	
		46,265		45,380		- 885

* No Significant %

FIVE INCIDENT TYPES WITH THE MOST OCCURRENCES

1990

Rank	Type	Description	Total	% of Incs.
1	710	False Alarm - Box	6,662	14.7
2	430	Food on Stove	3,003	6.6
3	733	Smoke Detector Device Operated — No Fire	2,578	5.7
4	321	Medical Assist	2,461	5.4
5	592	Public Service	2,460	5.4

1989

1	710	False Alarm - Box	6,471	14.0
2	733	Smoke Detector Device Operated — No Fire	3,348	7.2
3	430	Food on Stove	2,981	6.4
4	731	Alarm System Malfunction — Smoke Detector	2,743	5.9
5	592	Public Service	2,382	5.1

COMPARISON OF ALARM LEVELS BY MONTH

WORKING FIRES AND MULTIPLE ALARMS COMBINED

MONTH	1989 TOTAL	1989 YTD	1990 TOTAL	1990 YTD
January	12	12	8	8
February	8	20	6	14
March	14	34	11	25
April	7	41	11	36
May	9	50	6	42
June	2	52	6	48
July	6	58	6	54
August	3	61	8	62
September	4	65	9	71
October	7	72	10	81
November	9	81	9	90
December	16	97	15	105

COMPARISON OF ALARM LEVELS

	1989	1990
Working Fires	41	43
Second Alarms	34	47
Third Alarms	9	6
Fourth Alarms	7	6
Fifth Alarms	2	1
Sixth Alarms		1
Seventh Alarms	1	
Eighth Alarms	1	1
Ninth Alarms	2	
	97	105

RANKING OF WORKING FIRES AND MULTIPLE ALARMS COMBINED BY DISTRICT

1990

RANK	DISTRICT	WORK	MULT	TOTAL
1	7	6	13	19
2	8	9	6	15
3	5	6	6	12
4	1	2	9	11
	9	6	5	11
6	6	1	7	8
	11	2	6	8
8	10	4	3	7
9	4	3	3	6
10	3	1	4	5
11	12	3		3
		43	62	105

1989

RANK	DISTRICT	WORK	MULT	TOTAL
1	11	6	11	17
2	7	8	7	15
3	3	5	7	12
4	5	1	8	9
	6	3	6	9
6	1	2	5	7
	4	4	3	7
	12	4	3	7
9	9	2	4	6
10	8	4	1	5
11	10	2	1	3
		41	56	97

MUTUAL RESPONSES

TOTAL RESPONSES TO	CITY/TOWN
96	City of Chelsea
65	City of Somerville
38	Town of Brookline
31	Town of Dedham
24	City of Cambridge
24	City of Quincy
20	Town of Milton
17	City of Revere
13	Town of Winthrop
10	City of Newton
4	City of Everett
2	City of Lynn

CITY OF BOSTON PRINTING SECTION