FIFTH

# ANNUAL REPORT

## IDAHO FIRE STATISTICS

JANUARY 1, 1986 - DECEMBER 31, 1986


**DEPARTMENT OF INSURANCE**

ANTHONY J. FAGIANO
Acting Director

W. K. "BILL" WALLIS
State Fire Marshal

*State of Idaho*
**DEPARTMENT OF INSURANCE**

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# FIFTH ANNUAL REPORT
# by
# IDAHO STATE FIRE MARSHAL

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PART I

## ANNUAL REPORT FROM THE STATE FIRE MARSHAL

This year's annual report will not include the history of this office or an itemized statement of our finances, goals and objectives as has been done in previous annual reports. In the interest of not being too repetitive, I will try to relate to the readers of this report how I see the fire problems in Idaho and what could possibly be done about them in the future.

The fire service, throughout the nation, is changing rapidly. We have been asked to do more with fewer resources than we have ever had in the past. In order to meet this challenge most fire officials have seen only one method of coping. That being to prevent fires before they happen. As fire officials, we know how to do this, but there are many obstacles in the way to overcome. Public apathy, political pressures, the economy, budget restraints, and the traditions found in the fire service itself, are but a few. I have experienced the erosion of some of these obstacles, but they will be with us, in some degree, for some time in the future. Our course, however, is clear. Prevention is the future and prevention must be placed in a higher priority in the fire delivery system. A lot of people think of prevention as the simple items taught during fire prevention week. Rake up the leaves, get rid of the trash, don't play with matches, etc. I agree this all plays a part, but it doesn't even scratch the surface of what we are truly dealing with. Prevention, in the real world, deals with every aspect of human behavior. We live in a combustible world and consume vast amounts of energy. When we combine the two, fires occur. We will never accept to live and work in such a bleak non-combustible world, made of concrete and steel, where there is nothing that will burn, and I hope we never do. It wouldn't be very pleasing to the eye and would be very uncomfortable indeed. Therefore fire prevention practices have to become the norm in order for us to be successful. People have to be persuaded to change their unsafe habits and accept known prevention practices, especially those practices found within the model fire and building codes. These codes have been built, over the years, from the fire experience we have had in the state and in the nation. Still there are many people who cannot see the worth of this experience. They tend to beg off in the interests of saving money, economic development, government intervention or other excuses. What is disregarded by these people and some local governments, is that good fire and building code enforcement provides and protects the community as a whole. In other words better buildings are erected, protecting the consumer, and safer structures protecting the occupants. The codes also serve the community in providing lower insurance rates for all its citizens, as the building risks are lowered via code application. Everyone in a community will conceivably pay more for their fire insurance if there are

buildings that do not meet the fire-safety standards. Insurance companies set their rates based upon a given building but also upon the larger risks in a community.

Successful fire prevention has several ingredients and includes proper fire codes and enforcement, public education programs, sound engineering practices, and the fortitude to see them through all the above mentioned obstacles. Some fire departments are progressing well with prevention in Idaho, but most still have a long way to go. It is my job to try to get us there. I feel we have come a long way since this office was created and I believe the annual report reflects this, as you will soon see.

Some other things that have been accomplished since my last report include the fire sprinkler contractors regulation, the arson investigative vehicles, and the new arson investigator for the Southeastern portion of the state. To elaborate a little, the fire sprinkler regulation provides that every sprinkler contractor doing business in the state must be licensed by my office. In order to license he must show proof of his qualifications to design and install sprinkler systems. He must also show some financial stability by proof of liability insurance and be bondable. His hydraulic calculations and plans for installation must be approved by my office before installation. This regulation has been one of the best ways I have been able to assist the local fire department in providing something most cannot provide for themselves. The three arson investigative vehicles have been placed into operation and located in Coeur d'Alene, Pocatello and Boise. They are equipped with the latest investigative tools and can be used by local fire, police and sheriff personnel. We hope it will aid in every jurisdictions fight against this most costly crime. Again we are attempting to provide what most local jurisdictions cannot for themselves. The new arson deputy in the Southeast is the fulfillment of the staff I projected for Idaho some time ago. I am hopeful he will be found useful by our fire and police agencies in that portion of the state. This rounds out our staff to three deputies working fire prevention and three working arson.

New items of concern for the fire service that will impact us all are the two Environmental Protection Agency's (EPA) hazardous materials response plus the flammable liquid underground storage tank programs. These are much needed programs in our state but, as with many federal programs these days, are coming with very little financial support. It is too early to describe what exactly the impacts will be, but we should know shortly. I am involved on the planning committees of both of these programs as the representative for the fire service. I will need all the input and cooperation from the fire departments I can muster in order to represent them well.

Another item of concern that I feel has been detrimental to the efforts of good fire prevention practices, is the lack of a state-wide building code. As many of you know building code adoption is strictly optional, by local authorities, in Idaho. As a result we are seeing some very substandard buildings being erected in some areas. In some cases fire safety standards that are well known throughout the country are entirely neglected. It is not unusual to find a brand new building that could be closed because of fire code violations. We must make an effort to turn this around or we are going to pay for our neglect in the future.

There are some other items I feel could be an improvement with some legislative action. A better fireworks law containing enabling legislation for county-wide or even multi county-wide fire protection for some areas of the state, engineering support at my office for the use of the fire services, consolidation of some state safety services, and a sound fire and life safety public education program at the state level. In order to keep this report as brief as possible I will not explain these items in detail, but I will be happy to talk to any of the readers of this report about any or all of them at any time.

My overall view of the fire problems in Idaho is one of concern but also one of knowing we are progressing. Prevention efforts have gone up to a very high level when you compare what we were doing before the enactment of this office. For example we have over 350 fire personnel certified as fire inspectors, compared to just a dozen or so four years ago. I am sure this has had an impact and I believe the fire statistics bear this out. I also believe we have had an impact on the arson problem, but we haven't yet had this program in effect long enough to really evaluate the results of our efforts.

In closing, I want to thank all the fire personnel and especially the fire chiefs who have cooperated and advised me in furthering the goals of fire prevention and arson control in Idaho. We are gaining in this most noble cause.

**Bill Wallis**
Idaho State Fire Marshal

DISTRICT I
FIRE PREVENTION
JIM MACKLIN
DEPUTY STATE FIRE MARSHAL

During 1986, three Uniform Fire Code classes were conducted resulting in 4,470 student contact hours. Three Basic Fire Prevention classes were conducted with 1,788 student contact hours. Four Fire Investigation classes were conducted, resulting in 3,188 student contact hours. Total contact hours 9,446.

I participated in the tour of the residential sprinkler trailer with the Fire Marshal and the Director of Fire Service Training, visiting eight cities and the State Fire School in Pocatello.

During the later part of the year, I began the development of an Automatic Sprinkler Inspection course. Seventeen major inspections were conducted, five were public schools, resulting in one closure. Eight residential buildings were inspected at the University of Idaho, in cooperation with the University and a survey team made up of architects, engineers, and fire protection engineer. This resulted in an eight to ten year project with a cost of several million dollars to bring the buildings up to meet the Uniform Fire Code.

Fire prevention problems in District I were a little different in 1986 from 1984. The important thing I see happening, is that problems are now being identified at the local level and solutions worked out at that level. I see this trend intensifying in the future. I sincerely believe it's the result of an education and information concept started by the State Fire Marshal's Office. However, there are many unique problems to be solved that we must be a part of by continuing to respond to the needs of the fire service. The arson situation should begin to turn in our favor with the arson investigator and the investigative van now in service.

DISTRICT II
FIRE PREVENTION
LEE BRIGHT
DEPUTY STATE FIRE MARSHAL

Having been recently appointed to this position this will be an abbreviated annual report.

I would like to start by saying that the cordial reception and cooperation I have received has been very encouraging, it certainly has made my transition easier. I have met some knowledgeable and dedicated people and am looking forward to meeting those in the district I have as yet not met.

My first impression is that fire prevention and arson control is alive and well in District #2. There are, however, a couple of problem areas I would like to mention:

1. The lack of uniformity in using the code. It varies widely from jurisdiction to jurisdiction. This causes confusion and distrust on the part of the public. The solution, as I see it, is to educate officials on the benefits of good, common sense, uniform application of the codes. Progress has been made in the area but more improvement is needed.

2. The lack of cooperation and cordination between agencies. Again educating officials as to the benefits, not only to themselves but to the public is the solution. Big problems have a way of working out when fire officials, building officials, city officials and all concerned talk to each other.

One of my goals for the coming year will be to assist officials in improving on these problems. An upcoming challenge, not only in area #2 but to the entire state will be the new U.S.T. regulations due out soon. I certainly will be available to assist officials in any way possible on problems that may arise.

I am looking forward to the coming year and to meeting all concerned in area #2.

DISTRICT III
FIRE PREVENTION
HAL CALL
DEPUTY STATE FIRE MARSHAL

The past year has been an interesting and challenging time in District III. The activities have been many and varied with more time now being spent in helping those departments and cities who have certified fire inspectors. Many code interpretations have been rendered as well as helping with the inspections of many of the more complicated buildings such as schools, day-care centers, juvenile detention centers, etc.

I have prepared and delivered a number of classes to fire and police personnel. One fire code class was given to personnel from the Idaho Falls, Ammon, Rexburg, Rick's College and Shelley Rural fire departments with all students being certified as State Fire Inspectors.

Fire and arson detection classes were given to Rexburg fire and police, Rick's College, Rupert, Burley, Paul, East End, West End, Youth Ranch, Jerome, Minidoka Fire District, Shelley, Shelley Rural and Firth.

A number of fire cause determination investigations were conducted this year at the request of fire officials and insurance companies.

A major area of effort is in dealing with flammable liquid installations, both buried and above ground tanks. Many problems and questions arise from both the operators and installers of this equipment. One of the major problems is with the installation of illegal tanks without any inspections being done or permits being issued. In many cases the local and state fire officials are not advised until after construction. The new instructional class dealing with underground tank installations should help to rectify this problem.

Another area of interest and concern is the growing reluctance in some cities to enforce the Uniform Fire Code through the inspection process. The question of liability seems to be the overriding issue and is one that needs to be addressed.

In summary, many good things are happening in District III. Fire losses are down due in part to more inspections being done. With the activities on the increase the loss of life and property is certain to be reduced even further.

## FIRE INCIDENT REPORTING SYSTEM
## BARBARA NELSON
## PROGRAM MANAGER

Nineteen Eighty Six was our first full year operating entirely on the personal computer program written specifically for the Idaho Fire Incident Reporting System. As with all new systems there were a few bugs to work out but having done that we are well satisfied with our end product. I really feel we have a worthwhile program to offer those departments who wish to computerize. In comparison, I believe we have a system that surpasses any packaged program on the market today.

The Idaho Fire Incident Reporting System Version IV software is user friendly, programming available--at no cost--to all departments who have the necessary hardware. It includes data entry programs, a variety of standard output reports plus the capability of producing customized reports, and also accommodates ad hoc inquiries. Reporting to the state is accomplished on floppy disks. It is necessary, however, for each department to purchase the data base management system *KnowledgeMan/2* because of software licensing laws. *KnowledgeMan/2* is an extremely powerful and versatile software product that is capable of doing almost any computerizing task with all types of data. All phases of your department operations could be computerized using nothing more than this software. Contact the State Fire Marshal's Office for computer hardware requirements and further information about the software.

Beginning in 1986 IFIRS NOTES, a one-page format newsletter, was distributed to relay general information about the reporting system and address specific types of coding questions. I believe coding problems have decreased as a result of this newsletter and plan to continue using this method of addressing problems.

Sometime in 1987 I expect to reach a point where feedback reports can be returned to departments within a month of submission. Once this has been accomplished I anticipate devoting more time to responding to ad hoc inquiries. Departments requesting special studies will be asked to submit their requests in writing.

Fire problems can't be effectively dealt with if they aren't properly identified. If you are not presently reporting, please take this opportunity to become part of this vital reporting system by contacting the State Fire Marshal's Office or the Deputy State Fire Marshal for your district to arrange a training course.

DISTRICT I
ARSON/FRAUD INVESTIGATION
SAM WYLIE
DEPUTY STATE FIRE MARSHAL

Since entering on duty with the State Fire Marshal's Office in the North Idaho area, much of my time has been directed towards liaison with law enforcement and fire personnel.

The District I office has opened a total of eight fire investigations since October, 1986. Two of these were opened to assist local officers in securing necessary documentation to substantiate their investigations. Of the remaining investigations, three were closed for lack of evidence, and three are currently under active investigation by this office and local authorities.

Since receiving the van in late January, 1987, it has responded to eleven fires, seven of which were determined as being accidental and four determined as being suspicious. The Department of Law Enforcement Narcotics Units requested the van at the scene of a drug lab in Coeur d'Alene and used the expendable equipment for evidence collection. Everyone that has used the van is impressed with its capabilities.

I have been heavily involved in the reorganization of the North Idaho Fire Investigation Unit, which at this time, comprises active participation from Boundary, Bonner, Kootenai and Shoshone Counties. Hopefully, Benewah County will participate in the future. The unit is sponsored by the North Idaho Fire Chiefs Association.

On May 21, 1987, the North Idaho Fire Chiefs Association voted to purchase a flammable/combustible liquids detector (sniffer) to be placed in the van on loan from the North Idaho Fire Chiefs Association. They also voted to purchase coveralls for the investigation team.

The fire investigation van has visited most of the law enforcement and fire departments in District I, and has been well received.

Overall, I feel that law enforcement and fire departments in District I are beginning to understand that our office stands ready to assist them in fire related matters.

DISTRICT II
ARSON/FRAUD INVESTIGATION
DONALD D. DILLARD
CHIEF DEPUTY

In keeping with the primary functioning of the arson/fraud units goals, District II employed one of the three arson vans beginning March 1, 1987.

Our immediate objective was to commit to hands-on training exercises for all members of the various arson task teams located within District II. The exercises consist of actual burn scenes. Allowing task force members to utilize all equipment on the vans to determine origin and cause of fire to gather best evidence. These exercises have included personnel from Department of Law Enforcement, the forensic laboratory and Criminal Identification Bureau. One concern in the area of training is the lack of any advanced arson training programs available for field training. New ideas and concepts need to be developed here.

A more cooperative attitude has now been established between the State Fire Marshal's Office and Department of Law Enforcement in arson investigation which should ensure better coverage and response times to those agencies needing investigative assistance throughout the state.

We are continuing to increase our prosecutions in arson cases and I believe are seeing a reduction in arson type fire in Ada and Canyon Counties.

DISTRICT III
ARSON/FRAUD INVESTIGATIONS
DON BAILEY
DEPUTY STATE FIRE MARSHAL

The major thrust of my activitites in District III have been three fold:

1. To make an initial contact with city, county fire departments (to include fire districts) and city, county and state law enforcement agencies;

2. To acquaint these agencies, as well as, prosecutors, fire commissioners and mayor with the new arson investigation van provided by the State Fire Marshal's Office for use by organized arson investigation task force teams;

3. To promote the concept of forming arson investigation task force teams made up of personnel for local and county law enforcement and fire agencies for the purpose of conducting in field investigations of arson and suspicious fires.

A major effort will be made to assist the local and county agencies with the organization of arson task force teams. Expertise and training in advanced arson investigation technics will be provided to compliment training already conducted by Deputy State Fire Marshal Hal Call. The training will be geared to both fire department and law enforcement with an emphasis on team effort. Training in the use of special equipment carried on the arson investigation van will be stressed.

The following number of officials and members of local and county fire and law enforcement agencies have inspected and been briefed on the availability of the arson investigation van as a resource:

| | |
|---|---|
| Fire Chiefs/Commissioners | 22 |
| Fire Department Members | 79 |
| Police Chiefs | 9 |
| Police Department Members | 12 |
| Sheriffs | 11 |
| Sheriffs Office Members | 14 |
| Department of Law Enforcement | 5 |
| Mayors | 3 |

All agencies contacted have expressed a need for additional training. The support to consolidate investigative resources and organize arson investigation task force teams seems to be very strong.

My goals for the next year are to complete initial contacts with local and county fire and law enforcement agencies; to assist with the organization of arson task force teams; provide a "nuts and bolts" type of practical training in arson investigation technics; and provide direct assistance with the investigation of arson and suspicious fire to local and county agencies in District III.

## PREVENTION/ARSON ACTIVITY REPORT
## SUMMARY FOR 1986

*PREVENTION*

Fire Inspections.....148
Fire/Arson Investigations..... 53
Fire Code Interpretations.....347
Business Meetings.....234
Public Appearances..... 42
Training Courses Given..... 66
Schools/Seminars Attended..... 19
Fire Losses from Insurance....$21,940,238

*ARSON/FRAUD*

*Total Criminal Cases Investigated.....37

District I - 5
District II - 32

Arson - 15
Fire - 15
Fraud - 7

Cases Cleared.....35
Cases Pending.....21

*Cases Referred for Prosecution.....6

Arson - 5
Other - 1

*These cases do not include investigations where the State Fire Marshal's Office did only the Cause and Origin and/or provided other technical assistance and cases later submitted and/or concluded by local agency.

Restitution and/or monies saved insurers - $106,159.63

Training - District II, Deputy State Fire Marshal assisted in the development and training of the Ada County Arson Task Team. The task force unit includes all local police and fire agencies with the exception of Boise City Fire Department. The Deputy State Fire Marshal from District II also attended a two week "Arson for Profit" course at the Federal Law Enforcement Training Center in Glyco, GA.

PART II

## IDAHO FIRE INCIDENT SUMMARY

| Situation Found Category | | Incidents |
|---|---|---|
| Building Fires | 1,990 | |
| Vehicle Fires | 749 | |
| All Other Fires | 1,998 | |
| Total Fires | | 4,737 |
| Overpressure Ruptures | | 24 |
| Rescue Calls | | 1,075 |
| Hazardous Conditions | | 893 |
| Service Calls | | 513 |
| Good Intent Calls | | 1,606 |
| False/Malicious Calls | | 1,298 |
| All Other Calls | | 27 |
| Total Incidents Reported ** | | 10,173 |
| Times Mutual Aid Given | | 374 |
| Times Mutual Aid Received | | 184 |
| Total Fire Dollar Loss $ | | 20,673,389 |
| Civilian Fire Injuries | | 60 |
| Civilian Fire Deaths | | 22 |
| Fire Service Injuries | | 70 |
| Fire Service Deaths | | 0 |

| All Fires By Complex | FIRES | INJURY | DEATHS | LOSS |
|---|---|---|---|---|
| Public Recreation Complex | 21 | 1 | 0 | 2,520,865 |
| Stadium, Exhibition Hall | 4 | 0 | 0 | 2,000 |
| Club Complex | 15 | 1 | 0 | 5,300 |
| Educational Complex | 40 | 0 | 0 | 11,080 |
| Medical Care Complex | 27 | 3 | 2 | 124,705 |
| Prison Complex | 3 | 1 | 0 | 2,700 |
| Business with Residential Complex | 28 | 1 | 0 | 263,200 |
| Dwelling (one-and two-family) | 1,791 | 71 | 12 | 8,063,242 |
| Apartment | 106 | 6 | 2 | 4,661,365 |
| Hotel | 20 | 0 | 0 | 31,450 |
| Mobile Home Park | 22 | 3 | 0 | 26,350 |
| Shopping Complex | 93 | 2 | 0 | 79,318 |
| Office Complex | 42 | 8 | 0 | 325,400 |
| Power Production | 9 | 0 | 0 | 36,350 |
| Military,Reservation, Defense | 2 | 0 | 0 | 100 |
| Farm | 317 | 3 | 1 | 1,406,040 |
| Industrial Plant, Manufacturing | 53 | 1 | 0 | 286,951 |
| Warehouse, Storage | 70 | 5 | 0 | 724,675 |
| Construction | 12 | 3 | 0 | 18,350 |
| Campsite | 2 | 0 | 0 | 0 |
| Waterfront | 5 | 0 | 0 | 125 |
| Railroad Transport | 23 | 2 | 0 | 808,489 |
| Road | 373 | 4 | 3 | 243,114 |
| Airport | 4 | 0 | 0 | 1,800 |
| No Complex | 1,400 | 14 | 2 | 809,170 |
| Not elsewhere classified | 46 | 1 | 0 | 221,250 |
| COMPLEX Unknown or not Reported | 1 | 0 | 0 | |
| Total All Fires - by Complex | 4,529 | 130 | 22 | 20,673,389 |

# CIVILIAN/FIREFIGHTER CASUALTIES

## CIVILIAN FIRE CASUALTIES

| | | |
|---|---|---|
| Sex: | Male | 56 |
| | Female | 26 |

### PART OF BODY INJURED

| | |
|---|---|
| Head/Neck | 4 |
| Body, Trunk, Back | 2 |
| Arm | 6 |
| Leg | 4 |
| Hand | 8 |
| Foot | 1 |
| Internal | 25 |
| Multi Parts | 30 |
| Other | 2 |

### NATURE OF INJURY

| | |
|---|---|
| Burns & Smoke | 21 |
| Burns Only | 30 |
| Smoke Only | 18 |
| Wound, Bleeding | 6 |
| Disloc/Fracture | 1 |
| Pain | 0 |
| Shock | 1 |
| Other | 5 |

### ACTIVITY AT INJURY

| | |
|---|---|
| Escaping | 15 |
| Rescue | 7 |
| Fire Control | 12 |
| Respons/Return | 0 |
| Clean/Salvage | 1 |
| Sleeping | 16 |
| Unable to Act | 4 |
| Other | 27 |

### SEVERITY OF INJURY

| | |
|---|---|
| Injury | 60 |
| Death | 22 |

## FIREFIGHTER CASUALTIES

| | | |
|---|---|---|
| Sex: | Male | 69 |
| | Female | 1 |

### CASE SEVERITY

| | |
|---|---|
| Minor | 50 |
| Moderate | 14 |
| Severe | 5 |
| Life Threat | 0 |
| D.O.A. | 0 |
| Died Before Arrival | 0 |

### PATIENT TAKEN TO

| | |
|---|---|
| Hospital | 27 |
| Doctor's Office | 4 |
| Long Term Care | 0 |
| Morgue | 0 |
| Funeral Home | 0 |
| Residence | 0 |
| Not Transported | 33 |
| Other | 6 |

### ASSIGNMENT

| | |
|---|---|
| Fire Suppression | 65 |
| Emergency Medical | 0 |
| Fire Prevention | 1 |
| Training | 0 |
| Maintenance | 0 |
| Fire Alarm | 0 |
| Administrative | 0 |
| Other | 4 |

FIREFIGHTER CASUALTIES

| PART OF BODY INJURED | | Protective Gear Not Worn --N/W Worn -- W |
|---|---|---|
| Eye | 2 | 1-N/W |
| Face | 2 | 2-N/W |
| Mouth-Lips | 2 | W |
| Head Area-Other | 4 | W |
| Neck | 2 | W |
| Shoulder | 1 | W |
| Back-Upper | 1 | W |
| Back-Lower | 3 | W |
| Chest | 2 | W |
| Buttocks | 1 | N/W |
| Arm-Upper | 1 | W |
| Wrist | 4 | W |
| Hand | 12 | 6-N/W |
| Fingers-Thumb | 6 | 3-N/W |
| Leg-Lower | 1 | W |
| Ankle | 5 | 1-N/W |
| Foot | 1 | W |
| Lungs | 15 | 14-N/W |
| Spine | 3 | N/A |
| Hip | 1 | N/A |
| All Other | 1 | N/A |

Analysis: The most glaring portion of this report is the lung injuries where 14 out of 15 times no breathing apparatus was worn. Also the hand injuries where half the time no gloves were worn. When doing this report I noticed that the hand/finger injuries were most prominent, where gloves were being worn, and they were leather. This may or may not be significant. It would behoove us to watch this in the future to see if there is a problem with leather gloves. The breathing apparatus problem may relate to not having the equipment available or the injury taking place during overhaul when they are taken off. In any case most all of the lung injuries could have been avoided if they had been worn.

## FIRE FIGHTER CASUALTIES

CAUSE OF INJURY

| | |
|---|---|
| Fell/Slipped Outside Structure | 3 |
| Fell/Slipped Hole Burned in Floor | 1 |
| Fell/Slipped Over Object | 2 |
| Fell/Slipped Icy Surface | 2 |
| Fell/Slipped Flat Surface | 1 |
| Fell/Slipped on Steps, Stairs | 4 |
| Fell/Slipped Not Classified | 2 |
| Caught/Trapped-Fire Dept. Apparatus | 1 |
| Struck by Collapsing Roof | 2 |
| Struchk by Collapsing Ceiling | 1 |
| Struck by Dirt Particles | 1 |
| Struck by Glass Broken by Self | 2 |
| Struck by Hand Tools/Equipment | 3 |
| Struck by Hose | 1 |
| Struck by - Not Classified | 1 |
| Contact with/Exposure to Heat | 2 |
| Contact with/Exposure to Hot Metal | 2 |
| Contact with/Exposure to Fire | 1 |
| Contact with/Exposure to Nails | 1 |
| Contact with/Exposure to Glass | 1 |
| Contact with/Exposure to Steam | 1 |
| Contact with/Exposure -Toxic Fire Product | 17 |
| Contact/Exposure-Unusual Fumes/Gas | 1 |
| Contact/Exposure - Flares, Torches | 2 |
| Strain/Lifting - Contents | 2 |
| Strain/Carrying - Contents | 1 |
| Overexertion/Strain - Pulling Hose | 4 |
| Strain/Pulling Hand Tools | 1 |
| Overexertion/Strain - Climbing | 1 |
| Overexertion/Strain not Classified | 1 |
| Exit/Escape/Jump, Wall, Ledge-Window | 1 |
| Cause of Injury not Classified | 2 |
| Total Cause | 70 |

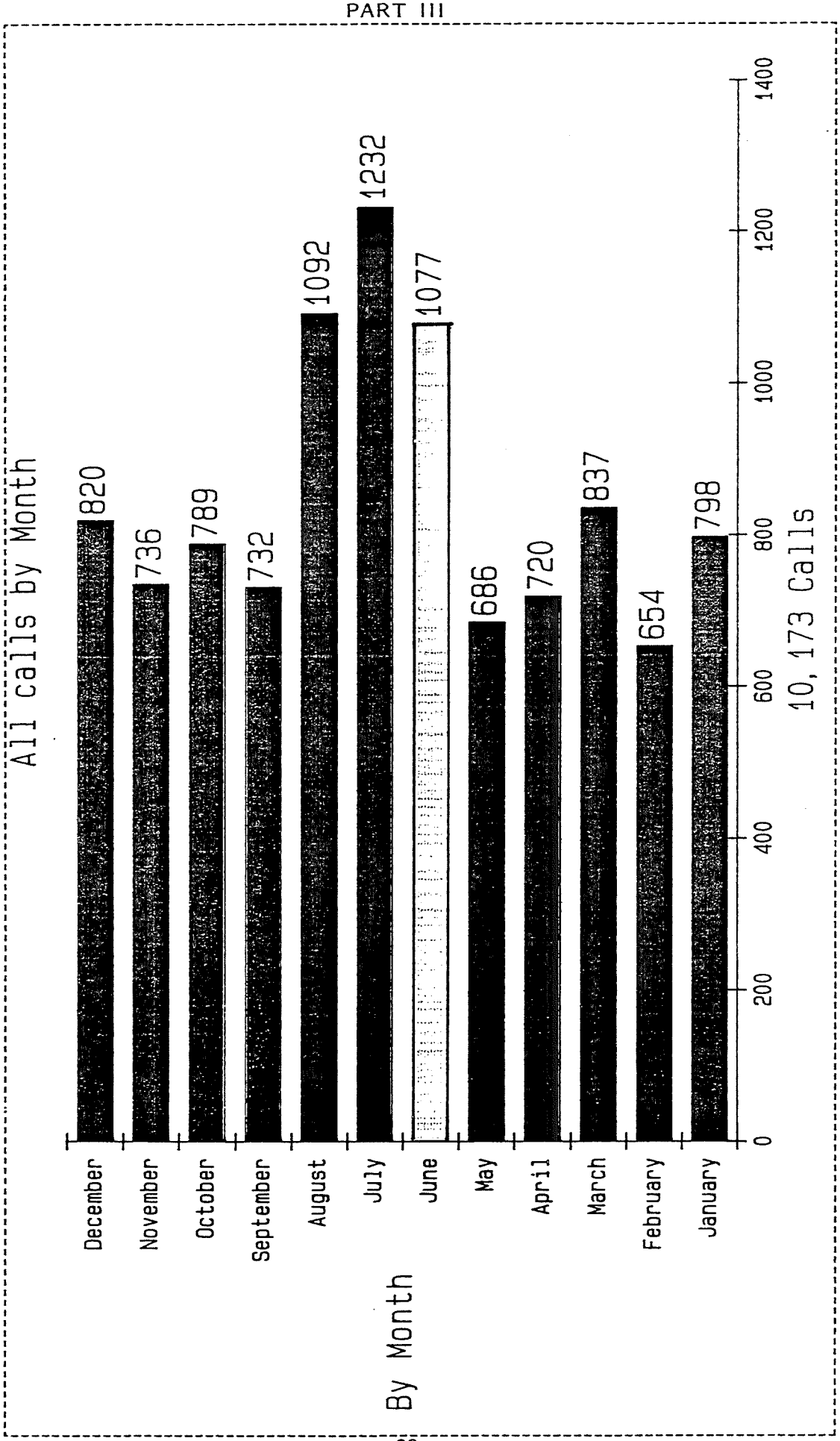
| ALL FIRES BY IGNITION FACTOR | FIRES | INJURY | DEATHS |
|---|---|---|---|
| Incendiary, not during civil dist. | 134 | 13 | 0 |
| Suspicious, not during civil dist. | 259 | 5 | 0 |
| Abandoned discarded material | 247 | 10 | 4 |
| Thawing | 5 | 0 | 0 |
| Falling asleep | 12 | 4 | 0 |
| Inadequate control of open fire | 316 | 4 | 0 |
| Cutting, welding too close | 60 | 1 | 0 |
| Children with, child playing | 226 | 2 | 1 |
| Unconscious, mental/phys impairment | 6 | 0 | 0 |
| Misuse of heat - not classified | 55 | 2 | 1 |
| Fuel spilled, released accidentally | 47 | 3 | 0 |
| Improper fueling technique | 10 | 1 | 0 |
| Flammable liquid used to kindle fire | 10 | 0 | 1 |
| Washing part, cleaning, painting | 8 | 2 | 0 |
| Improper container | 21 | 1 | 0 |
| Combustible too close to heat | 97 | 8 | 3 |
| Improper storage | 9 | 0 | 0 |
| Children with, child playing | 89 | 2 | 0 |
| Misuse of material - not classified | 32 | 2 | 1 |
| Part failure, leak, break | 179 | 9 | 0 |
| Automatic control failure | 14 | 0 | 0 |
| Manual control failure | 3 | 0 | 0 |
| Short circuit, ground fault | 225 | 7 | 1 |
| Other electrical failure | 97 | 4 | 0 |
| Lack of maintenance, worn out | 751 | 3 | 0 |
| Backfire | 161 | 0 | 0 |
| Mechanical failure - not classified | 38 | 4 | 0 |
| Design deficiency | 14 | 0 | 0 |
| Construction deficiency | 25 | 0 | 0 |
| Installed too close to combust | 54 | 2 | 0 |
| Other installation deficiency | 22 | 1 | 0 |
| Property too close to | 69 | 1 | 0 |
| Design/Const/Instal. - not classified | 9 | 1 | 0 |
| Collision, overturn, knockdown | 25 | 1 | 2 |
| Accidentally turned on | 21 | 0 | 0 |
| Unattended | 103 | 6 | 0 |
| Overloaded | 10 | 0 | 0 |
| Spontaneous heating | 48 | 2 | 0 |
| Improper startup, shutdown proced. | 3 | 0 | 0 |
| Operational Deficiency-not classified | 44 | 3 | 0 |
| High wind | 21 | 0 | 0 |
| Earthquake | 1 | 0 | 0 |
| Lightning | 41 | 0 | 0 |
| Natural Condition - not classified | 4 | 0 | 0 |
| Animal | 5 | 0 | 0 |
| Rekindled from a previous fire | 131 | 0 | 0 |
| Not Applicable | 44 | 0 | 1 |
| Other Fires Not Classified by Code | 209 | 14 | 3 |
| Cause Unknown or Not Reported | 515 | 12 | 4 |
| Totals of All Fire Causes | 4,529 | 130 | 22 |

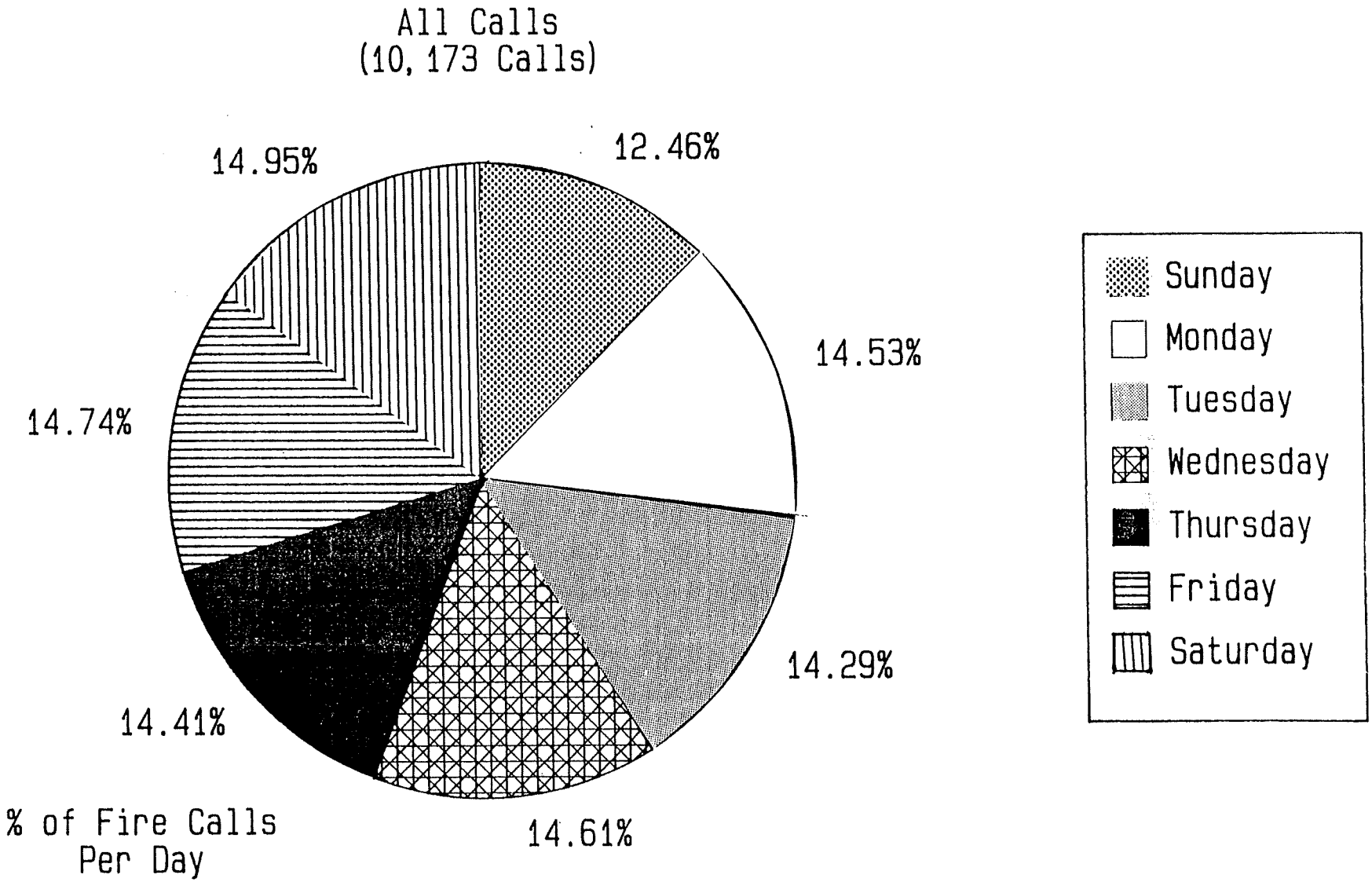
| ALL FIRES BY FORM OF HEAT | FIRES | INJURY | DEATH |
|---|---|---|---|
| Fuel-fire/powered equip. insufficient | 20 | 1 | 0 |
| Spark, ember, flame/gas fueled equip | 29 | 0 | 0 |
| Heat from gas fueled equipment | 80 | 7 | 0 |
| Spark, ember, flame/liquid fuel equip | 28 | 1 | 0 |
| Heat from liquid fueled equip | 81 | 5 | 1 |
| Spark, flame - solid fueled equip | 42 | 0 | 0 |
| Heat from solid fueled equipment | 749 | 6 | 2 |
| Spark, flame from equip-fuel unknow | 3 | 0 | 0 |
| Heat from equip - fuel not known | 7 | 0 | 0 |
| Heat from fuel powered/fired eq unk | 14 | 0 | 0 |
| Electrical - insufficient info | 28 | 4 | 0 |
| Water caused short circuit arc | 4 | 0 | 0 |
| Short circuit arc/mechanical | 35 | 1 | 0 |
| Short circuit arc/worn insulation | 69 | 2 | 1 |
| Unspecified short circuit arc | 190 | 8 | 0 |
| Arc from faulty contact, loose conn | 25 | 0 | 0 |
| Arc, spark from operating equip. | 36 | 0 | 0 |
| Heat from overloaded equip | 41 | 1 | 0 |
| Flourescent light ballast | 10 | 0 | 0 |
| Electrical - not classified | 14 | 0 | 0 |
| Heat from smoking material - insufficient | 6 | 0 | 0 |
| Cigarette | 155 | 6 | 2 |
| Cigar | 1 | 2 | 2 |
| Heat from smoking material - not class | 7 | 0 | 0 |
| Heat from open flame/spark-insufficient | 75 | 0 | 0 |
| Cutting torch operation | 37 | 1 | 0 |
| Welding torch operation | 17 | 0 | 0 |
| Torch operation-not cutting/welding | 23 | 1 | 0 |
| Candle, taper | 14 | 2 | 1 |
| Match | 371 | 5 | 2 |
| Lighter | 48 | 3 | 0 |
| Open fire or flame | 390 | 4 | 0 |
| Backfire from engine | 167 | 1 | 0 |
| Heat from open flame/spark-not classified | 40 | 2 | 1 |
| Heat from hot object-insuffic. info | 18 | 1 | 1 |
| Heat spark from friction | 45 | 1 | 0 |
| Molten, hot material | 13 | 0 | 0 |
| Hot ember, ash | 85 | 2 | 0 |
| Electric lamp | 25 | 1 | 0 |
| Rekindle, reignition | 112 | 0 | 0 |
| Properly operating elec. equipment | 157 | 8 | 3 |
| Improperly operating elec. equipment | 27 | 2 | 0 |
| Hot object not classified | 46 | 6 | 1 |
| Explosive | 4 | 1 | 0 |
| Fireworks | 149 | 1 | 0 |
| Paper cap, party popper | 1 | 0 | 0 |
| Incendiary device | 13 | 0 | 0 |
| Explosive, fireworks-not classified | 1 | 0 | 0 |
| Sun's heat | 4 | 0 | 0 |
| Spontaneous ignition/chemical react | 44 | 0 | 0 |
| Lighting discharge | 41 | 0 | 0 |
| Static discharge | 2 | 0 | 0 |
| Hostile fire - insufficient info. | 6 | 0 | 0 |

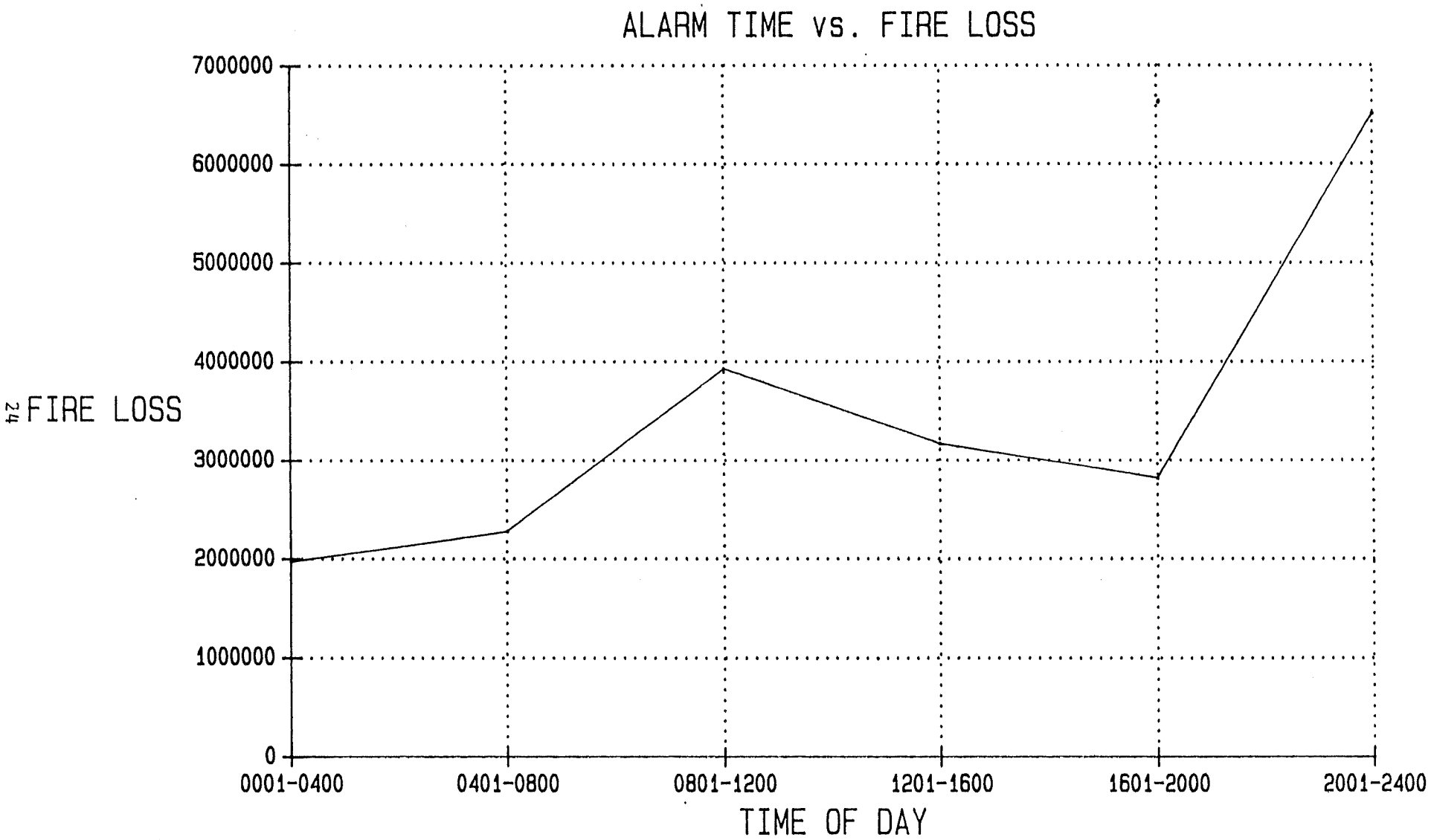
| ALL FIRES BY FORM OF HEAT | FIRES | INJURY | DEATH |
|---|---|---|---|
| Direct flame | 35 | 1 | 0 |
| Radiated heat | 13 | 0 | 0 |
| Flying brand, ember, spark | 5 | 0 | 0 |
| Hostile fire - not classified | 7 | 0 | 0 |
| Multiple forms (multiple ignitions) | 4 | 0 | 0 |
| Form of heat - not classified | 68 | 11 | 0 |
| Heat Form Unknown or Not Reported | 748 | 32 | 5 |
| Total All Fires - Form of Heat | 4,529 | 130 | 22 |

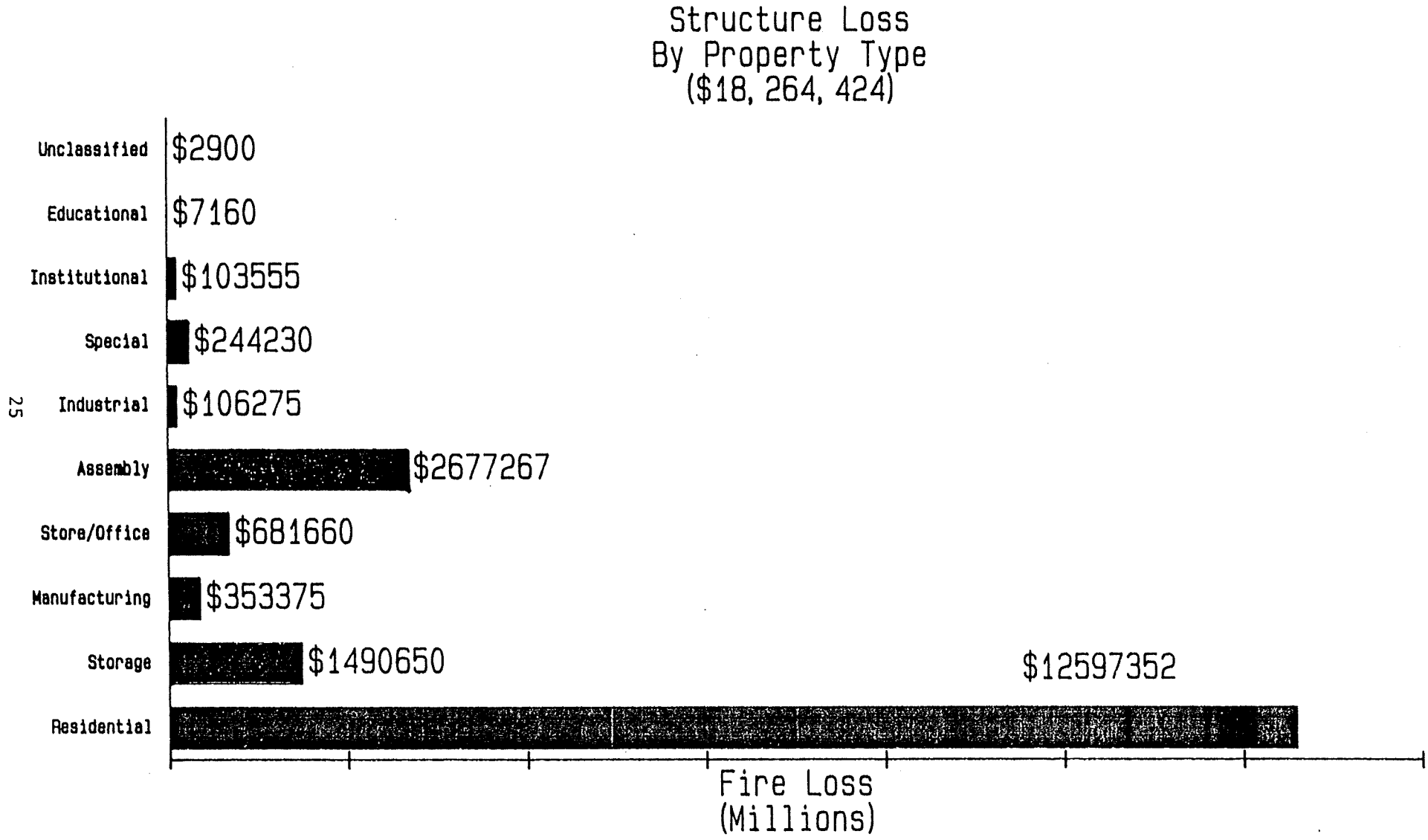
| ALL FIRES BY AREA OF ORIGIN | FIRES | INJURY | DEATHS |
|---|---|---|---|
| Hallway, Corridor, Mall | 10 | 1 | 0 |
| Exterior Stairway | 3 | 0 | 0 |
| Interior Stairway | 4 | 6 | 0 |
| Lobby, Entrance Way | 3 | 0 | 0 |
| Means of Egress - not classified | 2 | 0 | 0 |
| Large Open Room | 2 | 0 | 0 |
| Small Assembly Area | 2 | 0 | 0 |
| Lounge Area | 175 | 14 | 11 |
| Sales, Showroom Area | 3 | 0 | 0 |
| Library | 2 | 0 | 0 |
| Swimming Pool | 1 | 0 | 0 |
| Assembly, Sales Areas - not classified | 1 | 0 | 0 |
| Sleeping Room less than 5 | 106 | 9 | 3 |
| Sleeing Area for more than 5 | 1 | 0 | 0 |
| Dining, Lunchroom, Cafeteria | 6 | 0 | 0 |
| Kitchen, Cooking Area | 202 | 13 | 1 |
| Lavatory, Locker Room, Cloakroom | 31 | 2 | 0 |
| Laundry Room, Area | 45 | 4 | 0 |
| Office | 7 | 0 | 0 |
| Laboratory | 1 | 0 | 0 |
| Printing, Photographic Room, Area | 2 | 0 | 0 |
| Operating Room | 1 | 0 | 0 |
| Electronic Equipment Room | 4 | 0 | 0 |
| Performance, Stage Area | 1 | 0 | 0 |
| Process, Manufacturing Area | 9 | 0 | 0 |
| Function Areas - not classified | 3 | 1 | 0 |
| Product Storage Areas | 43 | 0 | 0 |
| Closet | 10 | 0 | 0 |
| Supply Storage Room or Area | 49 | 7 | 0 |
| Records Storage Room, Vault | 2 | 0 | 0 |
| Shipping, Receiving, Loading Area | 5 | 0 | 0 |
| Trash or Rubbish Area, Container | 202 | 2 | 0 |
| Garage/Carport/Vehicle Storage Area | 120 | 6 | 0 |
| Storage Area - not classified | 23 | 1 | 0 |
| Elevator, Dumb-Waiter | 1 | 0 | 0 |
| Utility Shaft | 2 | 0 | 0 |
| Chute | 1 | 0 | 0 |
| Duct | 6 | 0 | 0 |
| Display Window | 2 | 0 | 0 |
| Chimney | 604 | 2 | 0 |
| Conveyor | 5 | 1 | 0 |
| Service Facility - not classified | 9 | 0 | 0 |
| Machinery Room Area | 18 | 0 | 0 |
| Heating Equipment/Water Heater Area | 39 | 1 | 0 |
| Switchgear Area, Transformer Vault | 4 | 0 | 0 |
| Incinerator Room, Area | 14 | 0 | 0 |
| Maintenance Shop, Area | 21 | 0 | 0 |
| Enclosure/Enriched Oxygen | 1 | 0 | 0 |
| Service, Equipment Area - not classified | 9 | 0 | 0 |
| Crawl Space, Substructure Space | 26 | 2 | 0 |
| Exterior Balcony, Open Porch | 17 | 0 | 0 |
| Ceiling and Floor Assembly | 18 | 2 | 1 |
| Ceiling and Roof Assembly | 73 | 4 | 0 |

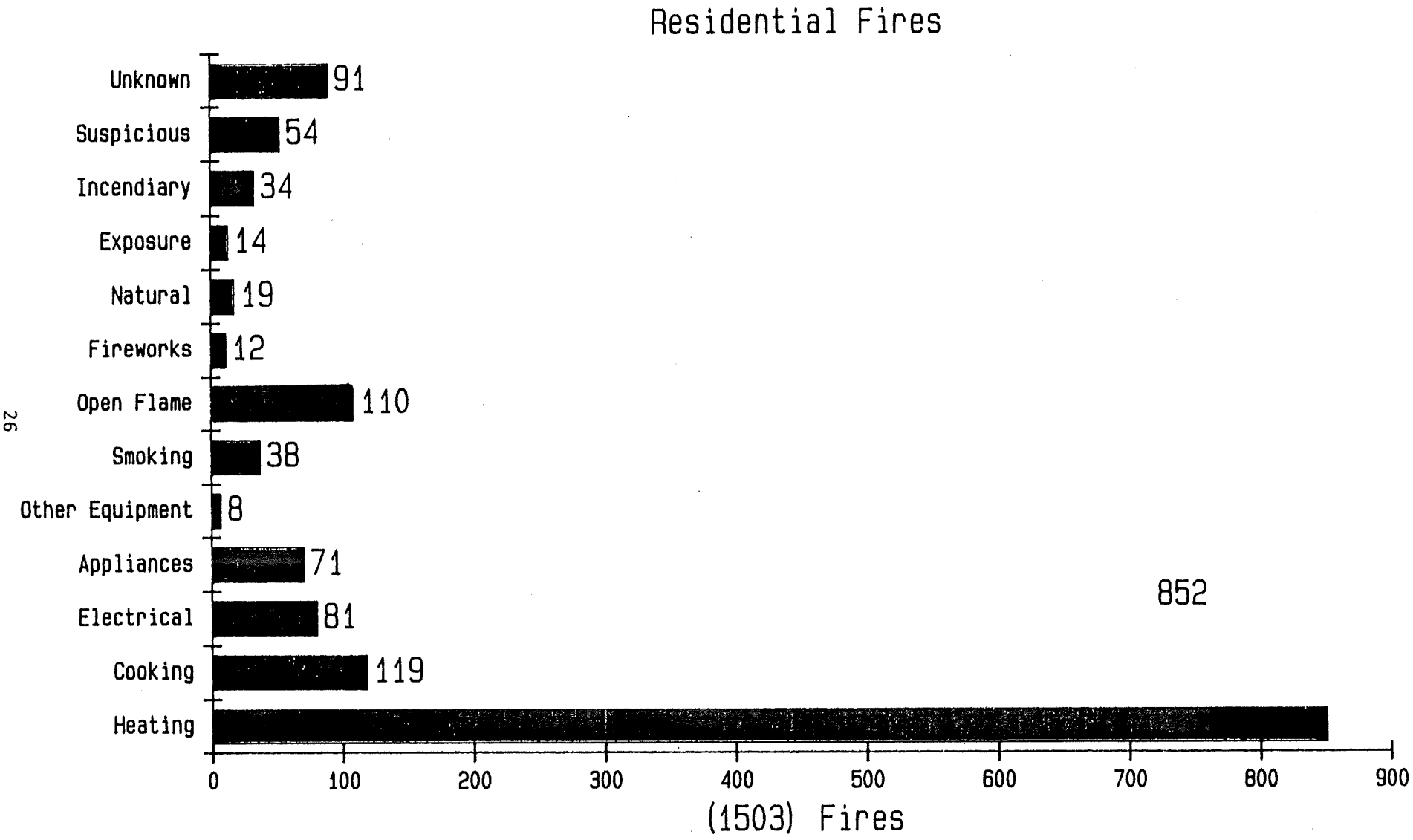
| ALL FIRES BY AREA OF ORIGIN | FIRES | INJURY | DEATHS |
|---|---|---|---|
| Wall Assembly | 34 | 3 | 0 |
| Exterior Wall Surface | 68 | 2 | 0 |
| Exterior Roof Surface | 23 | 1 | 0 |
| Structural Area - not classified | 15 | 3 | 0 |
| Passenger Area of Transport. Equipment | 90 | 5 | 2 |
| Trunk, Load Carrying area | 28 | 1 | 0 |
| Engine Area/Running Gear/Wheel Area | 500 | 8 | 0 |
| Fuel Tank, Fuel Line Area | 31 | 0 | 0 |
| Operating, Control Area | 13 | 0 | 0 |
| Exterior Exposed Surface | 23 | 1 | 0 |
| Transportation Vehicle Areas - not class. | 18 | 0 | 0 |
| On or near Railroad Right of Way | 35 | 2 | 0 |
| Highway, Public Way, Street | 165 | 0 | 1 |
| Court, Terrace, Patio | 20 | 1 | 0 |
| Lawn, Field, Open Area | 1,200 | 13 | 1 |
| Wildland Area, Woods | 42 | 0 | 0 |
| Multiple Location, Use Area | 10 | 1 | 0 |
| Not Applicable | 23 | 0 | 0 |
| Other, Not Classified | 64 | 0 | 0 |
| ORIGIN Unknown or Not Reported | 176 | 11 | 2 |
| Total All Fires - Area of Origin | 4,529 | 130 | 22 |

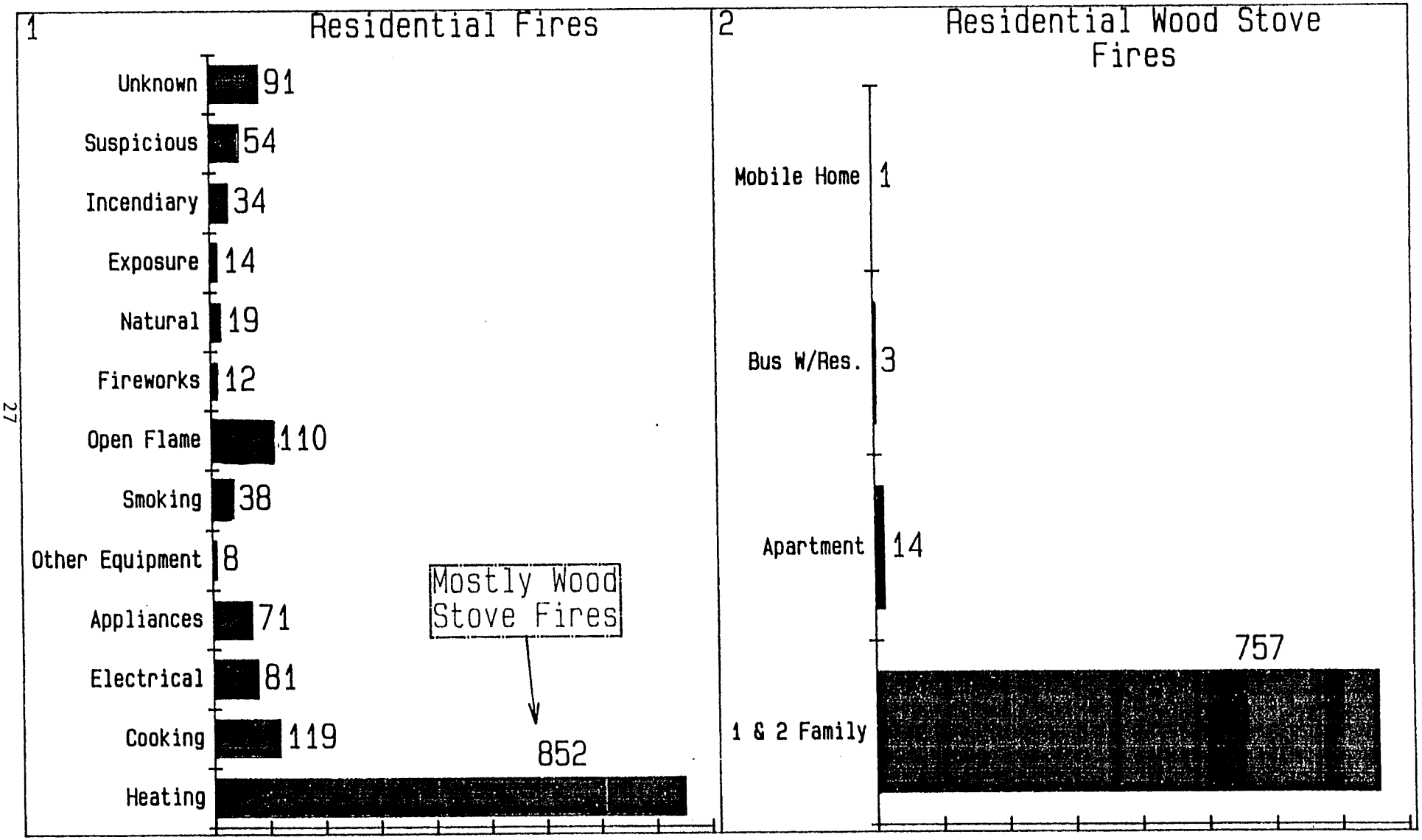

All calls by Month
By Month
10,173 Calls
December 820
November 736
October 789
September 732
August 1092
July 1232
June 1077
May 686
April 720
March 837
February 654
January 798
0
200
400
600
800
1000
1200
1400

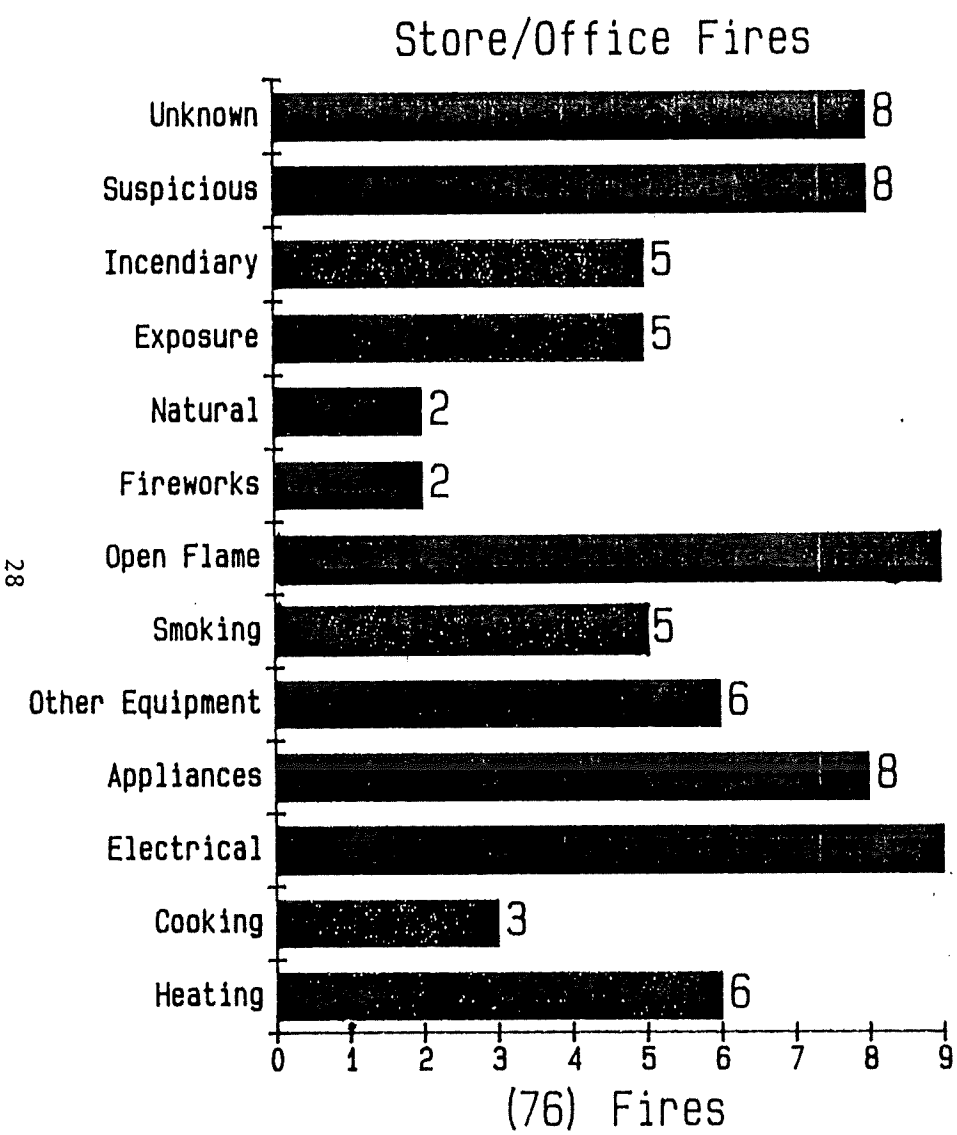

All Calls
(10, 173 Calls)
12.46%
14.53%
14.29%
14.61%
14.41%
14.74%
14.95%
% of Fire Calls
Per Day
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday

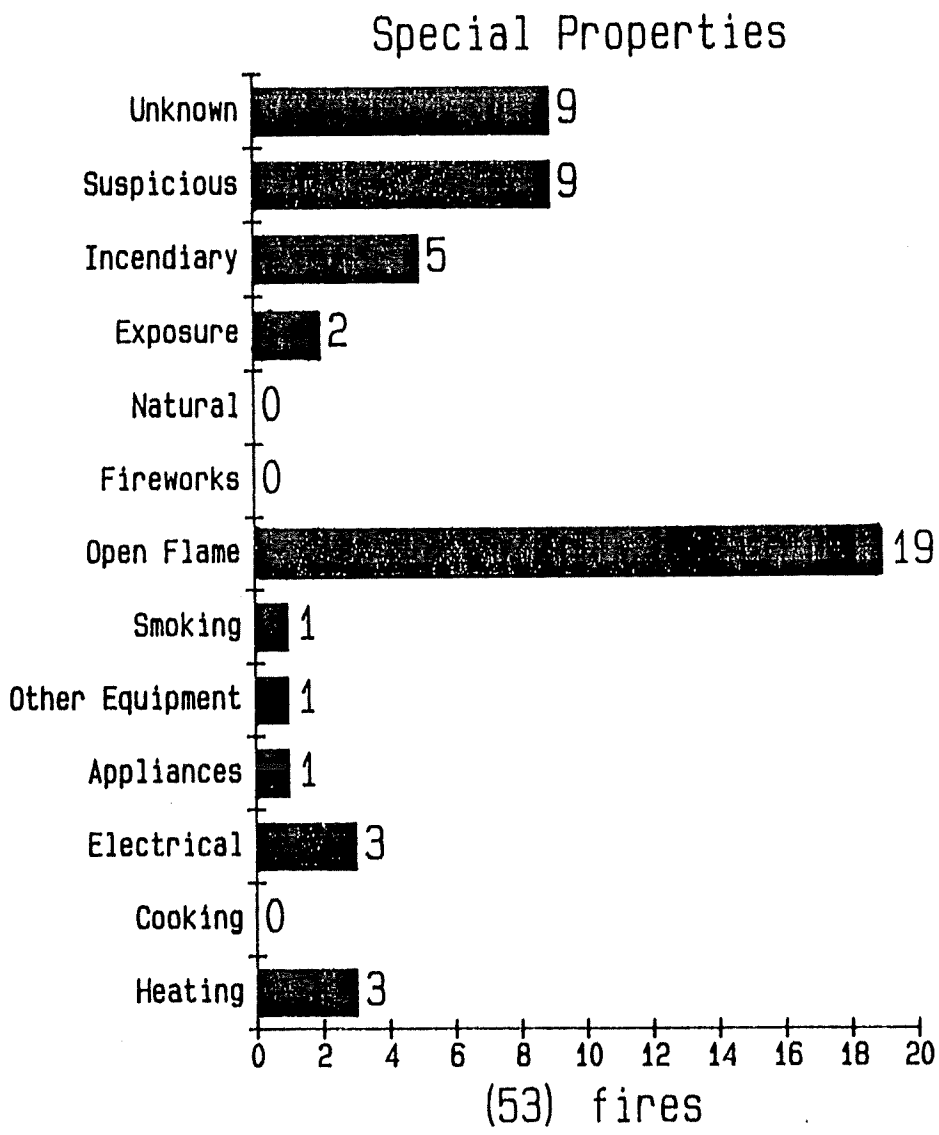

ALARM TIME vs. FIRE LOSS
FIRE LOSS
7000000
6000000
5000000
4000000
3000000
2000000
1000000
0
0001-0400
0401-0800
0801-1200
1201-1600
1601-2000
2001-2400
TIME OF DAY

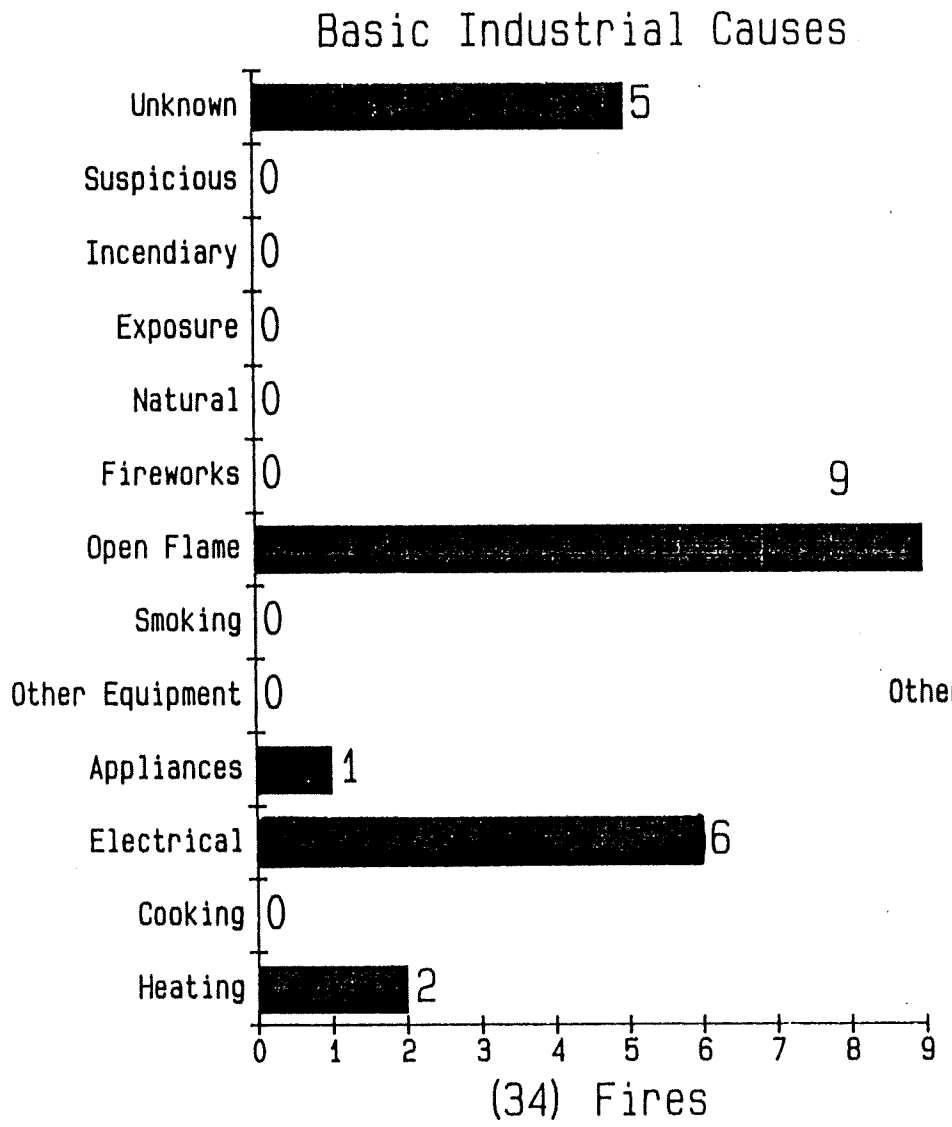

Structure Loss
By Property Type
($18, 264, 424)
Unclassified
$2900
Educational
$7160
Institutional
$103555
Special
$244230
Industrial
$106275
Assembly
$2677267
Store/Office
$681660
Manufacturing
$353375
Storage
$1490650
Residential
$12597352
Fire Loss
(Millions)

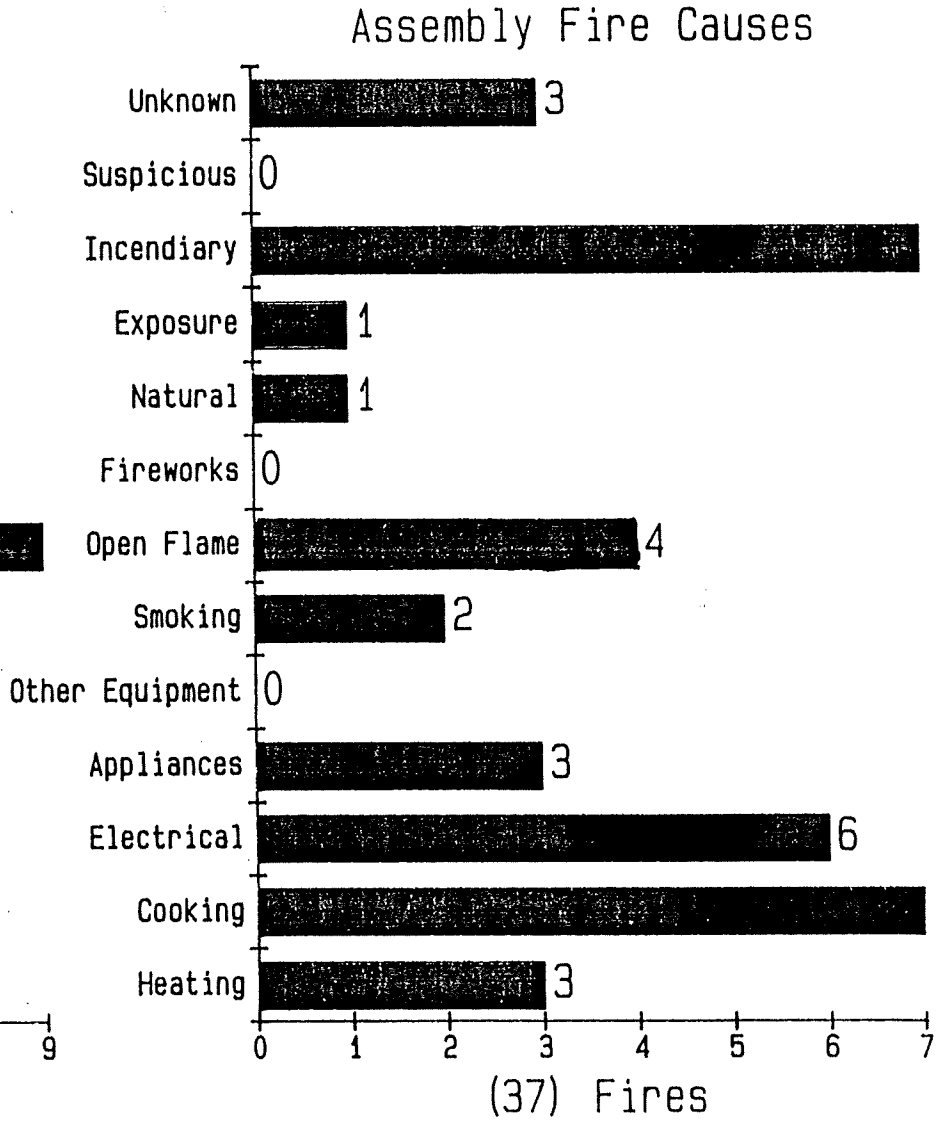

Residential Fires
Unknown
91
Suspicious
54
Incendiary
34
Exposure
14
Natural
19
Fireworks
12
Open Flame
110
Smoking
38
Other Equipment
8
Appliances
71
Electrical
81
Cooking
119
Heating
852
0
100
200
300
400
500
600
700
800
900
(1503) Fires

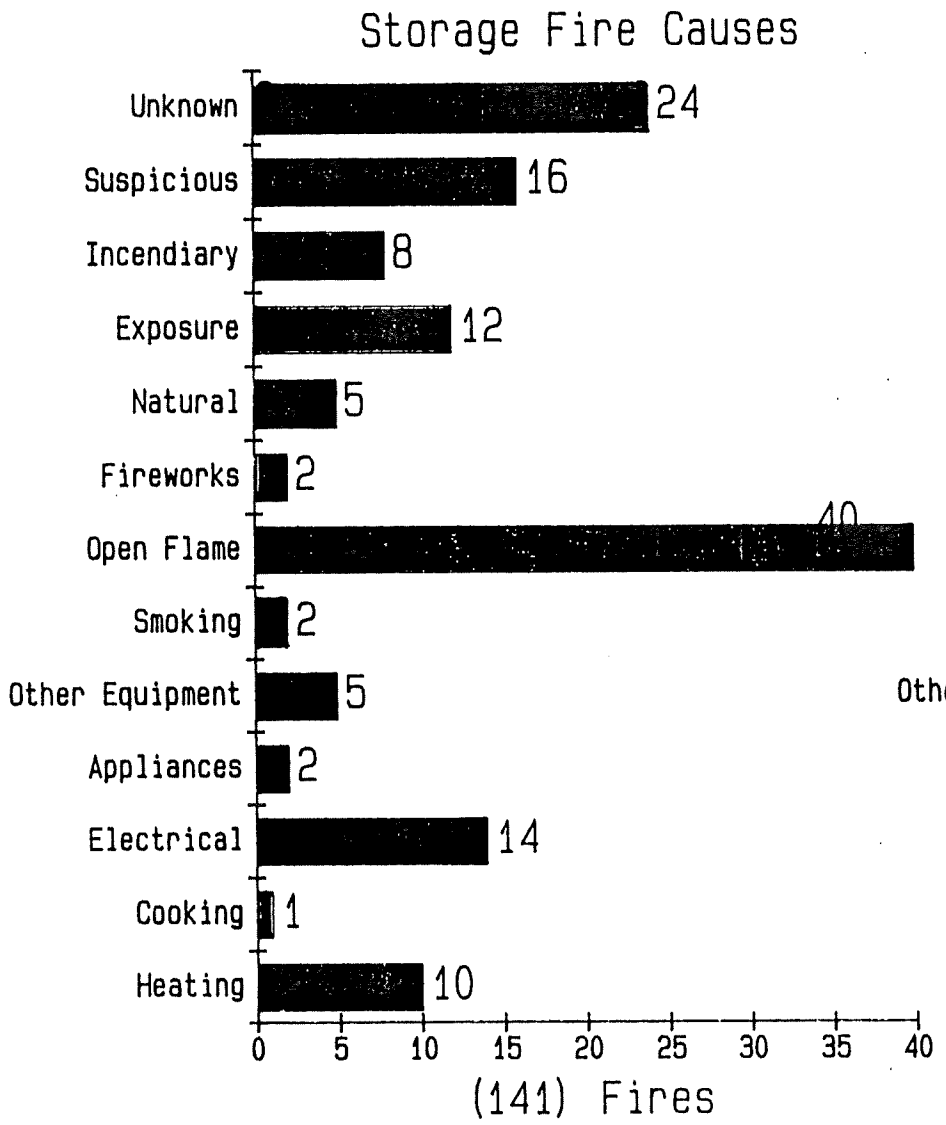

1
Residential Fires
Unknown
91
Suspicious
54
Incendiary
34
Exposure
14
Natural
19
Fireworks
12
Open Flame
110
Smoking
38
Other Equipment
8
Appliances
71
Electrical
81
Cooking
119
Heating
852
Mostly Wood Stove Fires
2
Residential Wood Stove Fires
Mobile Home
1
Bus W/Res.
3
Apartment
14
1 & 2 Family
757

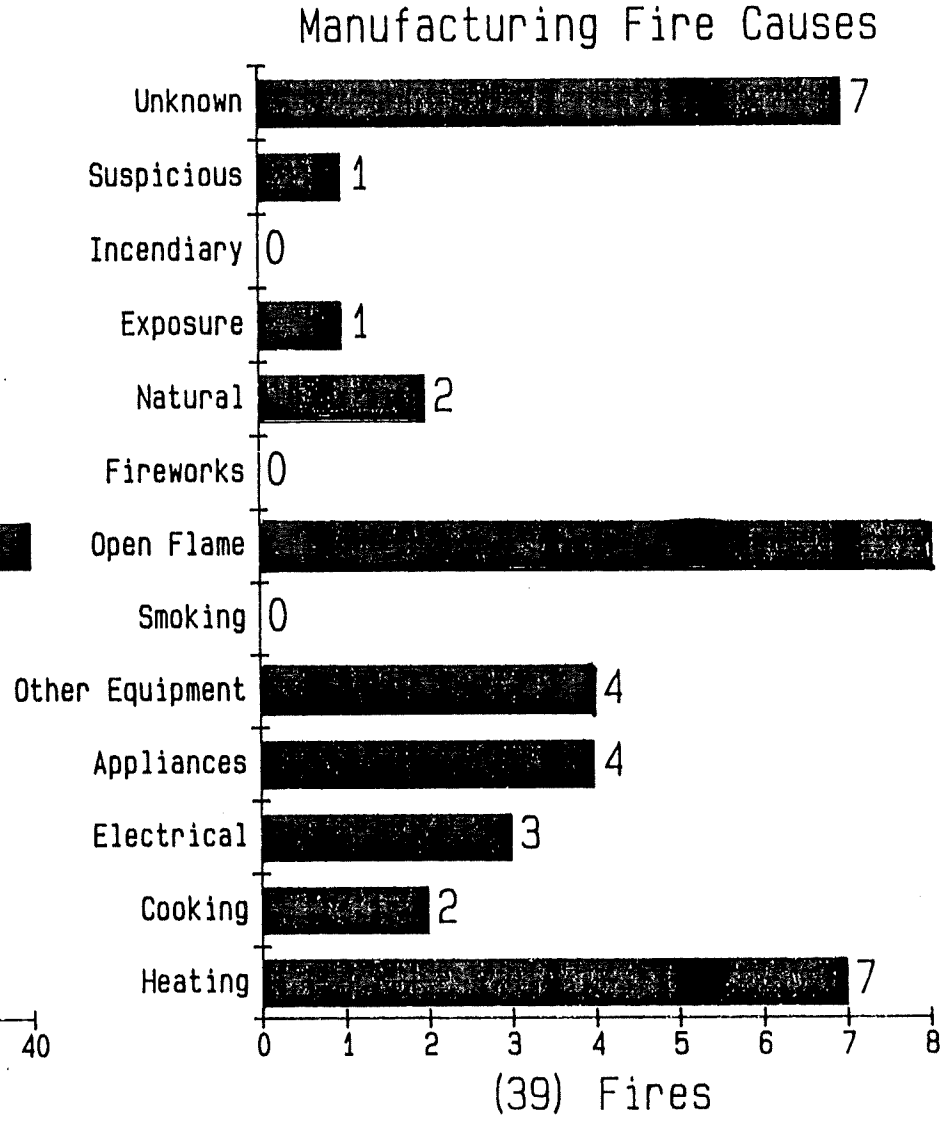

Store/Office Fires
Unknown 8
Suspicious 8
Incendiary 5
Exposure 5
Natural 2
Fireworks 2
Open Flame
Smoking 5
Other Equipment 6
Appliances 8
Electrical
Cooking 3
Heating 6
0 1 2 3 4 5 6 7 8 9
(76) Fires

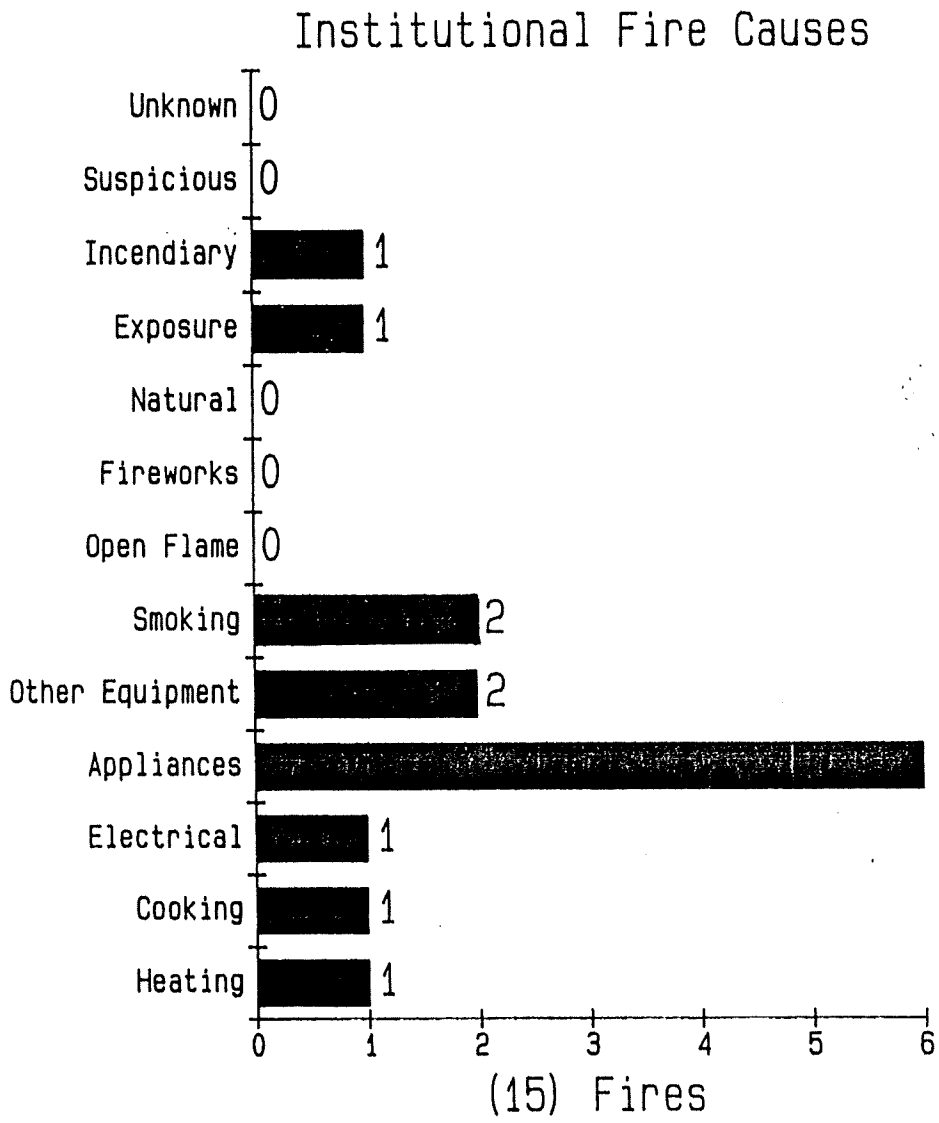

Special Properties
Unknown 9
Suspicious 9
Incendiary 5
Exposure 2
Natural 0
Fireworks 0
Open Flame 19
Smoking 1
Other Equipment 1
Appliances 1
Electrical 3
Cooking 0
Heating 3
0 2 4 6 8 10 12 14 16 18 20
(53) fires

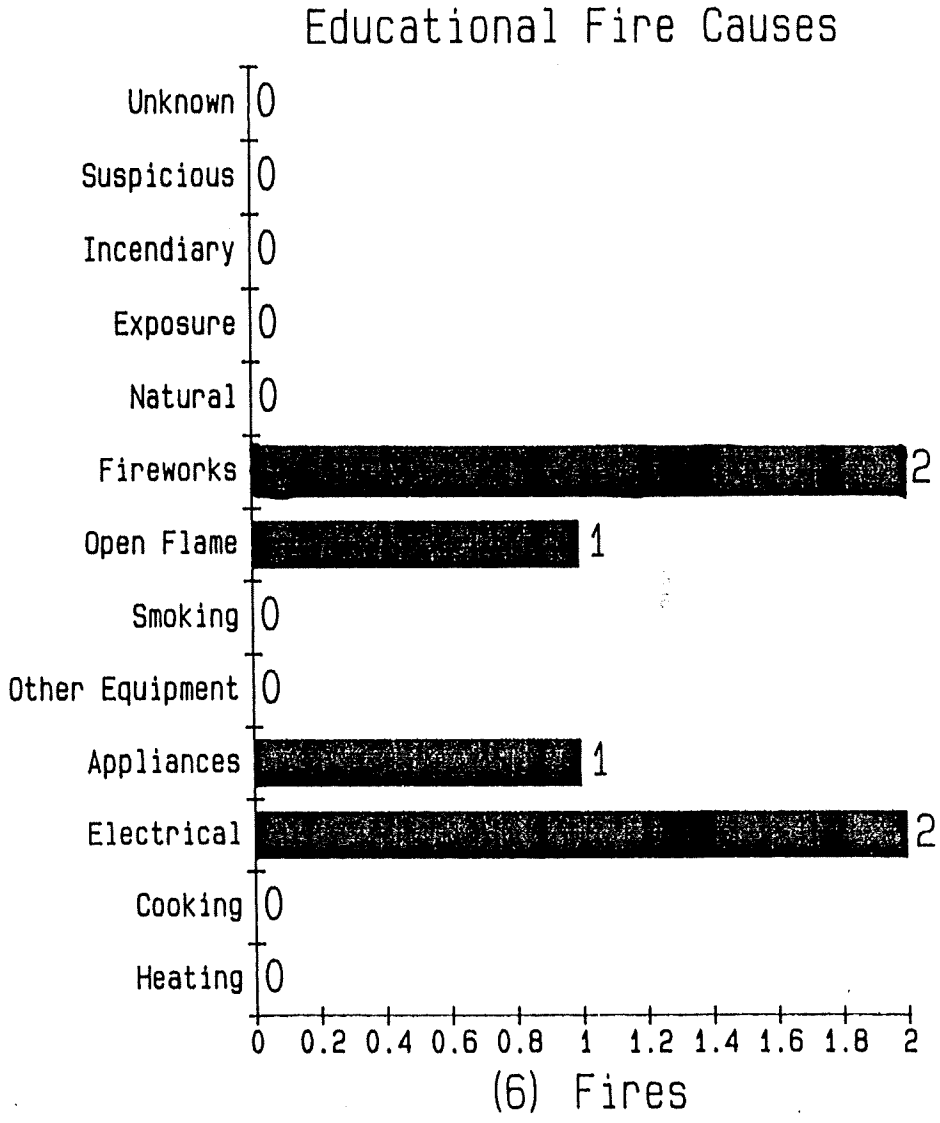

Basic Industrial Causes
Unknown
Suspicious
Incendiary
Exposure
Natural
Fireworks
Open Flame
Smoking
Other Equipment
Appliances
Electrical
Cooking
Heating
5
0
0
0
0
0
9
0
0
1
6
0
2
0 1 2 3 4 5 6 7 8 9
(34) Fires

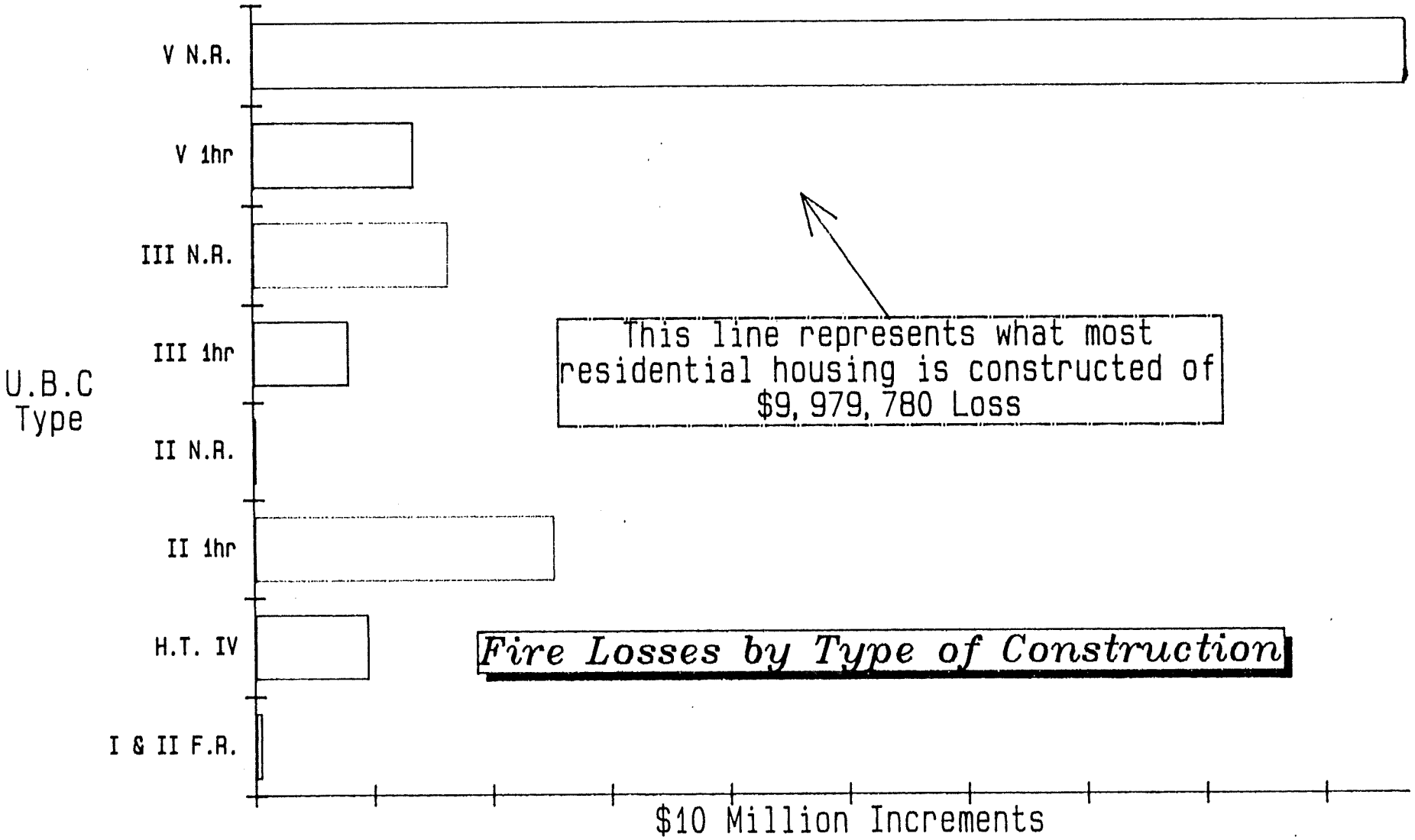

Assembly Fire Causes
Unknown
Suspicious
Incendiary
Exposure
Natural
Fireworks
Open Flame
Smoking
Other Equipment
Appliances
Electrical
Cooking
Heating
3
0
1
1
0
4
2
0
3
6
3
0 1 2 3 4 5 6 7
(37) Fires

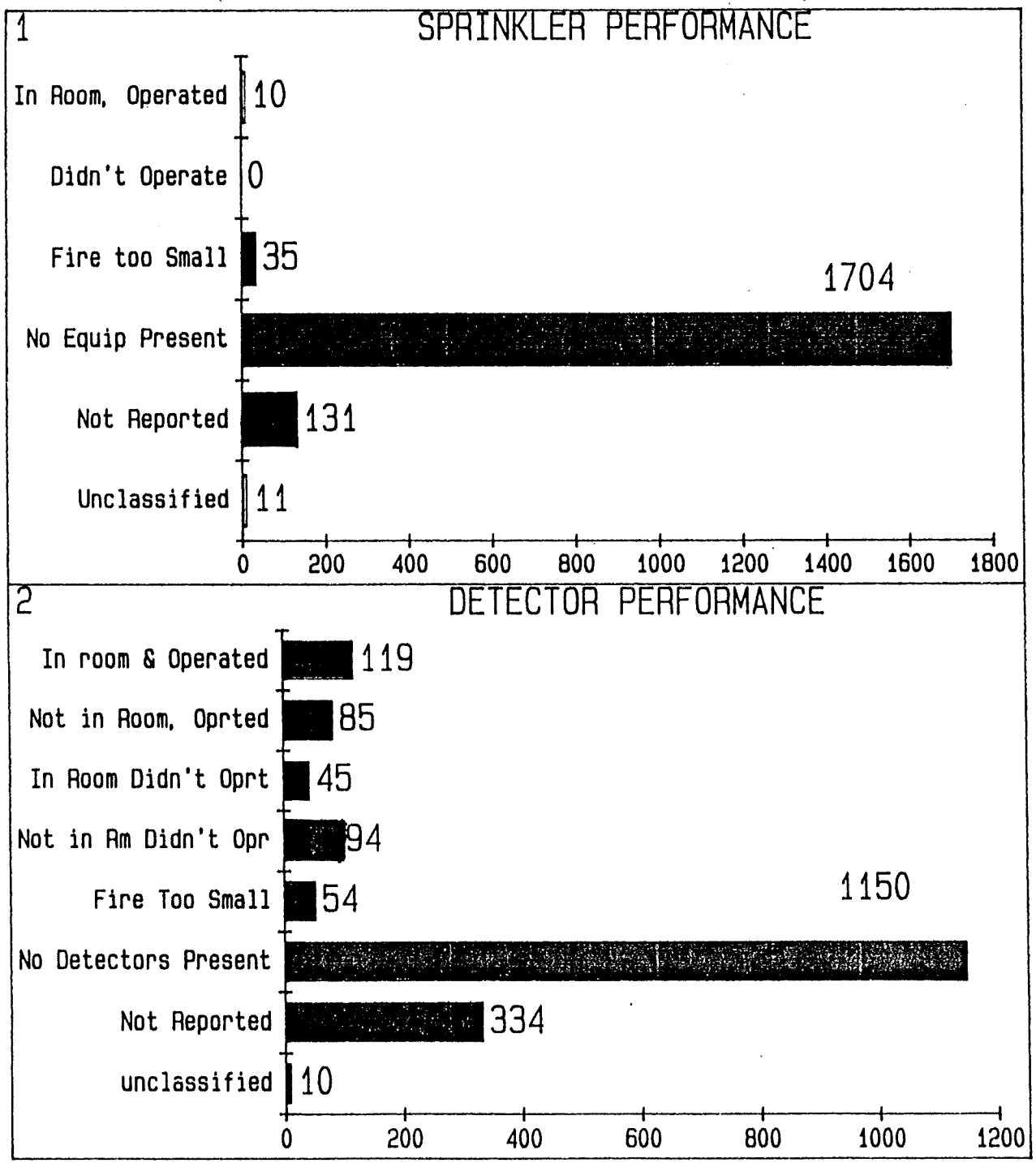

Storage Fire Causes
Unknown
Suspicious
Incendiary
Exposure
Natural
Fireworks
Open Flame
Smoking
Other Equipment
Appliances
Electrical
Cooking
Heating
24
16
8
12
5
2
40
2
5
2
14
1
10
0
5
10
15
20
25
30
35
40
(141) Fires

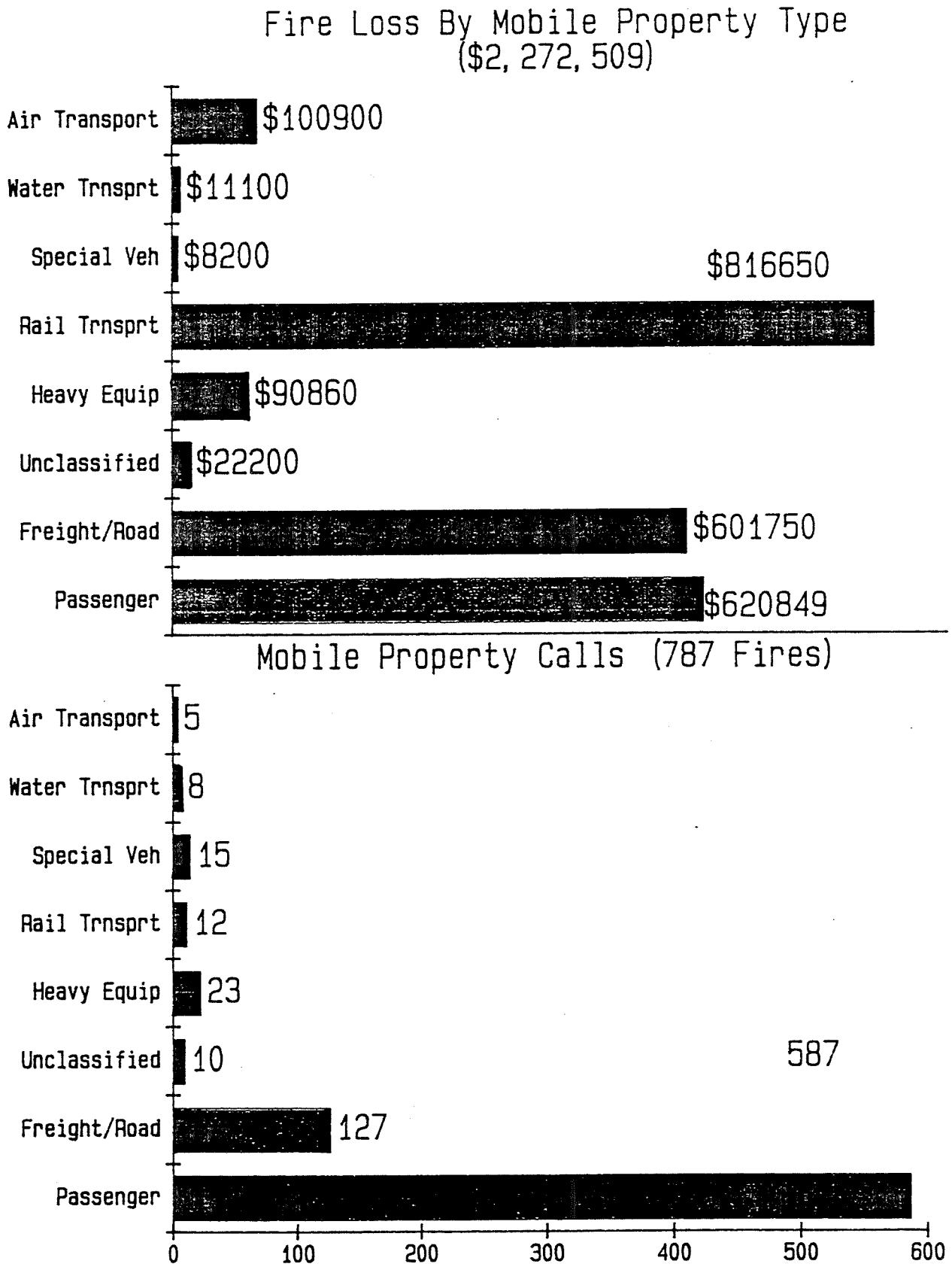

Manufacturing Fire Causes
Unknown
Suspicious
Incendiary
Exposure
Natural
Fireworks
Open Flame
Smoking
Other Equipment
Appliances
Electrical
Cooking
Heating
7
1
0
1
2
0
0
4
4
3
2
7
0
1
2
3
4
5
6
7
8
(39) Fires

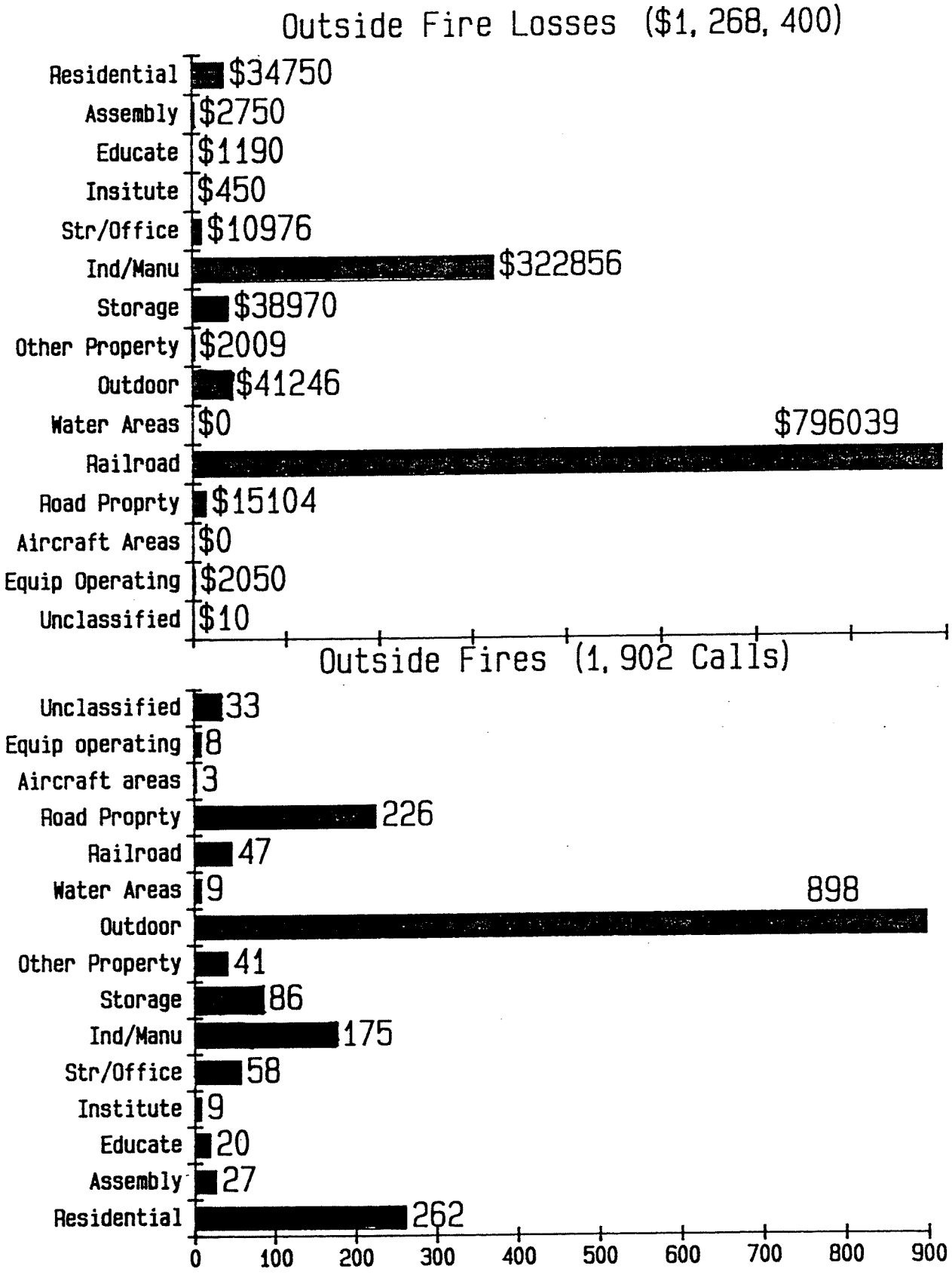

Institutional Fire Causes
Unknown 0
Suspicious 0
Incendiary 1
Exposure 1
Natural 0
Fireworks 0
Open Flame 0
Smoking 2
Other Equipment 2
Appliances
Electrical 1
Cooking 1
Heating 1
0 1 2 3 4 5 6
(15) Fires


Educational Fire Causes
Unknown 0
Suspicious 0
Incendiary 0
Exposure 0
Natural 0
Fireworks 2
Open Flame 1
Smoking 0
Other Equipment 0
Appliances 1
Electrical 2
Cooking 0
Heating 0
0 0.2 0.4 0.6 0.8 1 1.2 1.4 1.6 1.8 2
(6) Fires


V N.R.
V 1hr
III N.R.
III 1hr
II N.R.
II 1hr
H.T. IV
I & II F.R.
U.B.C Type
This line represents what most residential housing is constructed of $9,979,780 Loss
Fire Losses by Type of Construction
$10 Million Increments


1
SPRINKLER PERFORMANCE
In Room, Operated
10
Didn't Operate
0
Fire too Small
35
No Equip Present
1704
Not Reported
131
Unclassified
11
0
200
400
600
800
1000
1200
1400
1600
1800
2
DETECTOR PERFORMANCE
In room & Operated
119
Not in Room, Oprted
85
In Room Didn't Oprt
45
Not in Rm Didn't Opr
94
Fire Too Small
54
No Detectors Present
1150
Not Reported
334
unclassified
10
0
200
400
600
800
1000
1200


Fire Loss By Mobile Property Type
($2, 272, 509)
Air Transport
$100900
Water Trnsprt
$11100
Special Veh
$8200
$816650
Rail Trnsprt
Heavy Equip
$90860
Unclassified
$22200
Freight/Road
$601750
Passenger
$620849
Mobile Property Calls (787 Fires)
Air Transport
5
Water Trnsprt
8
Special Veh
15
Rail Trnsprt
12
Heavy Equip
23
Unclassified
10
587
Freight/Road
127
Passenger
0
100
200
300
400
500
600


Outside Fire Losses ($1,268,400)
Residential $34750
Assembly $2750
Educate $1190
Insitute $450
Str/Office $10976
Ind/Manu $322856
Storage $38970
Other Property $2009
Outdoor $41246
Water Areas $0
Railroad $796039
Road Proprty $15104
Aircraft Areas $0
Equip Operating $2050
Unclassified $10
Outside Fires (1,902 Calls)
Unclassified 33
Equip operating 8
Aircraft areas 3
Road Proprty 226
Railroad 47
Water Areas 9
Outdoor 898
Other Property 41
Storage 86
Ind/Manu 175
Str/Office 58
Institute 9
Educate 20
Assembly 27
Residential 262
0 100 200 300 400 500 600 700 800 900