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ABSTRACT

Material losses due to fires have continued to rise and have become a major social and economic problem in the United States. The effort to deal with fire is mostly organized and financed by local municipal governments. A comprehensive study of the fire service training in New Jersey was conducted in order to establish needs and prepare recommendations for the development of additional programs. The study was limited to all municipalities of over 3000 population, and data were collected by a 23 item questionnaire. The study revealed that very little systematic training was taking place at any level, and it was concluded that training must be strengthened. It was recommended that: (1) this initial attempt to study fire service training be considered a pilot study, (2) the questionnaire be revised and reformatted as a structured interview, and (3) a further study of the problems be conducted. (GEB)

A COMPREHENSIVE STUDY OF MUNICIPAL FIRE SERVICE TRAINING CONDUCTED IN NEW JERSEY

A COMPREHENSIVE STUDY OF MUNICIPAL FIRE SERVICE TRAINING CONDUCTED IN NEW JERSEY

A MASTERS PROJECT

SUBMITTED TO THE FACULTY

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TABLE OF CONTENTS

LIST OF TABLES

TABLE

PAGE

CHAPTER I

INTRODUCTION

General statement of the problem. Fire losses have become a major social and economic problem in the United States. Each year, material losses attributed to fires have continued to rise. During 1969 property losses exceeded two billion dollars, and if indirect losses are included, the total loss increased to between four and six billion dollars. Loss of life from fire was more than twelve thousand.[1]

The effort to deal with fire is for the most part organized and financed by local municipal governments. At a national conference in 1966 this dispersion of control was discussed. The committee on fire service administration, education and research reported as follows:[2]

> The guarding of local government prerogatives make it extremely difficult to bring into being an organized method for general improvement in any large segment of the fire service. The fire service as a whole lacks uniform standards of performance, educational achievement or skill.

Efficient fire fighting requires planning operations, teaching fire fighters to perform the skill jobs as they are planned, and supervising fire fighters to see that they perform as they have been instructed. The past few years have brought into focus another

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[1]"NFPA Preliminary Fire Loss Estimates for 1969", Fire News, No. 520 (January, 1970), p. 1.

[2]Ad Hoc Committee, Wingspread Conference on Fire Service Administration, Education and Research, (Racine: The Johnson Foundation, [illegible], p. 5.

area of concern to the fireman; that is, the need to become involved with the problems of the community.

Fires present complex problems. Layman (1953) writes that every fire call has a different set of circumstances. Fire personnel must:

- think clearly under this pressure situation,
- evaluate the factors at work,
- apply basic principles,
- decide necessary action,
- formulate the plan of action, and
- execute that plan quickly and efficiently.

Walsh (1963) considers fire fighting to be both an art and a science. It can be considered a science because it has a systematic body of knowledge, and an art because it has working rules where a skill is required. The nature of the fireman's work has become so demanding that his training cannot be left to chance, trial and error, or experience alone.

The National Fire Protection Association recognizes this need for training. In fact, they recommend 360 hours as a minimum for probationary firemen and continued in-service training for all firemen and officers.[3] Of course, this is a guideline and not a rule.

There are three types of municipal fire fighting organizations in New Jersey:

1. Fully-Paid
2. Part-Paid
3. Volunteer

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[3] Management Of A Fire Department, (Boston: National Fire Protection Association, 1968) pp. 89-93.

To each is delegated the responsibility for establishing a training pattern. The cost of such training may be economically "hard" on the municipality. As a result training is severely restricted.

Because of the seriousness of this problem, a comprehensive study of the local fire service training in New Jersey was conducted. The results of this study, contained in the body of this text, yield an accurate picture of the present training programs.

Problem statement. The subordinate problem of this study was to determine the extent of fire service training presently being conducted in New Jersey, establish needs, and prepare recommendations for the development of additional programs.

Delimitations of the study. The study was limited to all municipalities (population 3,000 or over) to determine the type of department, its size, and its training procedures and philosophy.

Significance of the study. In January, 1967, the Division of Fire and Safety and the Office of Local Government at Saratoga Springs, New York, brought together fire service training directors, college professors and administrators to discuss current college level programs for fire service personnel and the potential growth of this type of education.[4]

The group evaluation concluded that there was a growing need for college level training for firemen, and education must meet the challenge.

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[4]"Higher Education for the Fire Service", Firemen, (April, 1967), p. 24.

This statement can be justified because:

> Enough key representatives of the fire service and educational field were brought together by this meeting to make a fair evaluation of the need for specialized college level training.[5]

Serving to promote support and funds for curriculum development for fire service training, several pieces of legislation were proposed by the United States Congress and also the state of New Jersey. Passed in 1968 by the Congress but unfunded was the Fire Research and Safety Act. Among its provisions, it called for the financial support and encouragement of a number of programs and courses to provide a large number of well-trained professionals.[6]

Drawing impetus from the passage of the act, New Jersey began to demonstrate an increased awareness of this need to improve fire service training. In May 15, 1969, a resolution was introduced into the state legislature which called for the creation of a state commission on the fire service. A number of important statements were made in the resolution. It recognized the need for minimum standards for training, the lack of training available, and called for a commission to examine a number of problems dealing with the fire service. However, the resolution was never voted upon.

On the municipal level, a resolution was passed by the fire and police commissioners of Paterson, New Jersey, on October, 1968. This

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[5] Ibid.

[6] United States Congress, House of Representatives, Committee on Science and Astronautics, Fire Research and Safety Act, Report No. 522, 90th Congress, 1st Session, on H.R. 11284, July 31, 1967 (Washington: Government Printing Office, 1967), p. 10.

resolution provided for the payment of all tuition and fees by the city for successful completion of college credits in fire science courses. In addition to Paterson, the cities of Cranford, Hillside, and Clifton subsequently passed similar resolutions.

Incidence of the problem. In December, 1965, officials of the Jersey City Fire Department met with the President of Jersey City State College. Their objective was to obtain assistance in the training of fire department personnel as in-service instructors. As a result of this meeting, the College agreed to explore their request and prepare recommendations. During 1966 little progress was made.

Then, in the spring of 1967, the actual responsibility for program development was turned over to the Center for Occupational Education. This organization, a new department of Jersey City State College, was created to develop technical programs on a post-secondary level for technicians and on a graduate level for in-service school teachers. During the spring of 1967, Center personnel met with city representatives and subsequently retained consultants to prepare two courses to help meet the specific needs of the city fire department. In the summer of 1967, a consultant began to study the needs of surrounding communities as well as Jersey City.

In addition, the Center prepared a proposal for a Fire Science Pilot Project and submitted it to the Division of Vocational-Technical Education in Trenton for possible funding. This pilot was accepted and, as a result, the investigator was hired by the Center for Occupational Education.

It was the responsibility of the author to make contracts, take surveys, set up ad hoc committees, determine needs, and develop courses for inclusion into a Fire Science Curriculum.

Definitions of terms used. The following information has been gleaned from Fire Terminology (Kimball, 1961).

> Auxiliary Firemen - Auxiliary firemen are citizen fire fighters enrolled and trained for duty only in case of special emergencies such as wartime fires. They may not be considered to have the status and rights of regularly enrolled permanent, paid-call, or volunteer members of fire department. (p. 14)
>
> Drillmaster - A fire department officer normally a member of the training division or staff who is responsible for supervising drills including company drills and basic training for probationary fire fighters. (p. 19)
>
> Drill School - A school where company drills may be performed under the supervision of fire department instructors, and where probationary fire fighters are instructed in use of equipment and basic techniques. (p. 19)
>
> Drill Tower - A training structure from three to six stories in height having stairway, fire escape, standpipes, and other structural features necessary in training fire fighters and company units in basic hose, ladder and rescue techniques.
>
> Fire Academy - An extensive fire department training facility as maintained in certain large cities. (p. 21)
>
> Fire College - In municipal departments an advance training school for officers and prospective officers covering technical subjects of fire prevention and extinguishment. (p. 22)
>
> Fire School - A fire department training school where various types of fires are conducted to familiarize officers and company units with the most efficient methods of extinguishment and control. Also a state operated short course usually on the campus of a college or university where fire department members are exposed to a short and intensive annual course of training including lectures, demonstrations, and practical fire ground operations. (p. 24)

Fire Service Training - Procedures for training fire department personnel in various phases of fire fighting and fire prevention activity starting with probationary firemen training, company drill school, pump operators' training, and officer training or fire college. (p. 24)

National Fire Protection Association (NFPA) - A non-profit educational and technical association formed in 1896 with headquarters at 60 Batterymarch Street, Boston, Mass., devoted to the protection of life and property by fire through development of fire protection standards and public education. (p. 43)

Training Academy - A fire department training school with extensive facilities including classrooms, drill tower, structures in which fires may be conducted, pumper suction basins, pits and tanks for flammable liquids fires, etc. (p. 61)

Training Officer - The chief or other officer responsible under the chief of department for organizing and conducting a complete training program for the fire department. (p. 62)

Volunteer Fireman - An unpaid regularly enrolled fire fighter who devotes time and energy to community fire service without compensation other than workman's compensation or other similar death and injury benefits. He's a legally enrolled fire fighter under the fire department organization laws and local ordinances in effect in his state or province. (p. 65)

CHAPTER II

SURVEY OF RELATED LITERATURE

In 1946 the Institute for Training . Municipal Administration, sponsored by the International City Managers Association, published Municipal Fire Administration. Although this text covered many aspects of the fire service, it was the first which not only recognized the National need for training the administrators or fire chiefs of local departments, but also attempted to be a comprehensive in-service training guide to their position. This text has become a standard in the training of fire service administrators. It is constantly kept up-to-date and relevant by the International City Managers Association publishing revised editions.

In 1947, in order to examine the rising toll of fire losses and provide recommendations to slow down this rise, President Harry S. Truman, called "The President's Conference on Fire Prevention." As a result of this conference, committees were established to study and prepare recommendations for each of the following areas:

1. Building Construction, Operation and Protection
2. Fire Fighting Services
3. Fire Prevention Education
4. Laws and Law Enforcement
5. Research
6. Organized Public Support

The findings and recommendations of "The President's Conference on Fire Prevention," entitled Action Program (1947) was published by the the Superintendent of Documents, Washington, D. C.

In 1961 the "National Research Council Committee on ire Research" carried out a study of fire service problems in the United States. Their findings are contained in A Study of Fire Problems (1961). The committee found that of the 135 thousand full-time paid firemen in the United States, only about one-half were properly trained. Of the 1.3 million volunteer firemen, few had access to a comprehensive training program. As a result of their findings, the committee posed three questions:

1. How can adequate training for all firemen be assured?
2. How can a professionally trained officers corps be achieved?
3. How can important information on fire control be disseminated?

Each of these questions still remains unanswered.

John Shreve's thesis State Firemanship Programs (1964) examined the state firemanship training programs. In some states he found programs improving and enlarging, and in other states, programs that were static. The report showed that much training was taking place, but it was impossible to evaluate the value of this training.

In 1966, the Johnson Foundation called an ad hoc committee to examine the problems of fire service administration, education and research. The committee's main conclusion was that local fire service training could not be afforded because "the service dollars available

for all local government functions place such a heavy demand on the economic base of the community." The complete findings of this ad hoc committee were published in the Wingspread Conference on Fire Service Administration, Education, and Research (1966).

During 1967 Leonard Clements conducted a survey of college training for firemen. He consumated his efforts by preparing College Training for Firemen. This thesis was presented at the Fire Department Instruction Conference in Memphis, Tenn., on March 23, 1967.

Clements stated that he found two major roadblocks to higher education for the fire service:

1. Reluctance of firemen in some states to settle down to the hard work involved in college level training.
2. Lack of cooperation between the non-academic fireman and the faculties of individual colleges.

In January, 1967, a conference was called to examine the role of higher education in the fire service. Sponsored by New York State's Division of Fire Safety, the meeting brought together fire training directors, college personnel and administrators from across the country. The three day symposium at Saratoga Springs in New York found common points and problems for the fire service across the country.

During the symposium, six evaluations were made of specialized college programs available to the fire service. Those evaluations are as follows:

1. There will be many opportunities for firemen in the future to obtain education for two or four year degrees.
2. Higher education will be helpful for paid firemen; it may

be difficult for the volunteer to attend.

3. College courses in fire science should be transferable to other degree programs.

4. Unless conditions and salaries improve, there is some belief that fire service personnel will leave the service for another career.

5. There is strong objection to a uniform curriculum. Colleges should develop courses to meet the local needs.

In examining the findings of the Wingspread Conference, John Shreve published an article in Fire Engineering (May 1967) entitled "Education - Road to Professionalism." Shreve pointed out that the Conference found the fire service is not truly a profession because of the lack of formal education. Shreve contended, however, that the service was working on this deficiency. Furthermore, he found a large growth in college programs was occurring and, to support his claim that the fire service both wants and needs college level programs, he offers the following eight reasons why paid and volunteers enroll in credit courses:

1. Self-preservation
2. Money
3. Advancement
4. Knowledge
5. Instilling confidence in oneself
6. Prestige and professionalism
7. Better citizenship
8. Employment

In an article in the December, 1967, issue of Firemen titled

"Education - Which Way for the Fire Service?", trends in programs of higher education for the fire service were summarized. The article indicated that college programs are usually of two major types. One type of program provides an emphasis on vocational training. The other program type concentrates on an academic approach where basic degree level courses are offered together with specialized courses which emphasize concepts and theory and not manipulative training.

In considering the benefits of more academic courses in fire science, the article in Firemen commented that if the fire service is to gain recognition as a professional occupation, members of the group must meet educational and performance levels. And, the article found that college courses will help to provide that level. For officers, the article called for a four-year degree as the minimum standard.

Based upon requests for college-level programs throughout the state, the Minnesota Legislature funded the University of Minnesota to study the subject of college programs for the fire service in 1967. In June of 1968, the study results became available. They were published by the University of Minnesota and entitled Report of University Advisory Study Committee on Fire Protection and Fire Prevention Education.

The increased emphasis and need for training culminated in 1968 with the passage of the Fire Research and Safety Act. This act provides for the establishment of procedures and programs designed to deal with the national fire problem and to create a national commission on fire prevention and control. The belief was that the law would bring about wide-spread acceptance that the national fire problem is as serious as

the national crime problem. Both the act and the committee reports are published by the United State Government Printing Office.

A prime source of general information was developed by D.F. Favreau, Executive Director, International Fire Administration Institute, State University of New York at Albany. This was entitled Higher Education in the Nation's Fire Service. It gives a general synopsis of the college programs in the United States.

Another important source of information primarily related to the establishment of higher education programs for the fire service is Guidelines For A Curriculum Leading To An Associate Degree In Fire Science Technology by Robert G. Kahrmann. This thesis surveyed the development of Fire Science programs in institutions of higher education throughout the United States and established guidelines for a degree proposal.

In addition to those already mentioned, many other articles applicable to the fire service training appear in such periodicals as Fire Journal, Fire Engineering, Fire News, Firemen, Volunteer Firefighting, and Fire Chief.

Finally, a computer search by University Microfilms, using a key-word of "Fire", showed a listing of forty (40) dissertations. After a review of their contents, it was concluded that they were of limited value to the study being conducted, but selected topics have been included in the Bibliography.

CHAPTER III

PROCEDURES IN COLLECTING, TREATING PRESENTING AND ANALYZING DATA

I. GENERAL STATEMENT OF THE METHOD

It was proposed that a study of the local fire service training in New Jersey be conducted. The initial stage of the study was to identify the areas of "needed information". These areas would serve as the bas s for development of the research instrument -- questionnaire. These areas were:

-number of personnel in department
-percentage of annual turnover
-training facilities available
-type of training programs
-interest in "college level" program

Twenty-three questions were prepared on these areas of "needed information".

Collection of data. Once the cover letter (Item I) and research instrument (Item II) were developed and approved, they were mailed to over two hundred local municipalities (Item III) in New Jersey. This geographic distribution was compiled as follows:

-63 departments complete with addresses as listed in "Local Fire Department In the United States" (N.F.P.A., 1970).

-an additional 155 municipalities were chosen, based on population of 3,000 or over.

A total of 218 questionnaires were mailed. Completed questionnaires were received from 118 local fire departments throughout New

Jersey. Those questionnaires completed and returned represent 54% of the total (218) mailed. A complete listing of the "Respondents To Survey" appears in the Appendix (Item IV).

A futher breakdown of those local departments responding shows that:

-97% of those departments complete with addresses responded,
-while only 37% of the remaining questionnaires were returned.

This sharp drop in the latter return percentage may have been caused because of the randomization of the sample. It was impossible to tell if those towns chosen by population alone financed fire department, joined with another community to operate one, or if they had a fire department at all.

Treatment and presentation of the data. These completed questionnaires were then "grouped" by type of department. The total "grouped" responses received were:

TYPE OF DEPARTMENT	TOTAL
Paid	29
Part-Paid	30
Volunteer	59
	118

The total grouped responses form the basis of analysis for the following study of local fire service training in New Jersey.

II. ANALYSIS OF THE DATA

General introduction. A determination of the extent of fire service training presently being conducted in New Jersey was the intent of this study. However, before drawing any conclusions from the

accumulated data, it would be propitious to delineate the dangers inherent in the type of research instrument (questionnaire) used in this investigation.

The questionnaire. The prime advantage of using a mailed questionnaire in this study was its relative ease in permitting the investigator to reach local fire departments in scattered areas of New Jersey expeditiously and economically. However, an inherent disadvantage of this method of presentation is that many surveys are never completed and returned -- as illustrated by the 54% return. Therefore, the possibility exists that if these nonresponding local fire departments' attitudes, philosophies, training procedures and facilities vary sharply from those reported by the respondents, the results might be substantially altered.

Another problem this method presents is that some reporting departments may not have supplied accurate answers. It is possible that respondents who did not feel free or willing to divulge information may have ignored certain questions or falsified their answers on others. The first possibility, ignoring certain questions, was illustrated by the fact that many responding departments did not answer all of the questions presented in the questionnaire. Also not uncommon is the possibility that respondents may have "tailored" replies to conform with their biases, to protect their self interests, or to conform to acceptable standards.

For example, examine the situation the local fire chief is confronted with when completing this questionnaire. If his department

is well trained and he is totally satisfied with its performance, there is no problem. On the other hand, suppose the department does not train its men as well as it should? How does he answer a questionnaire presented by mail from a total stranger? Chances are his answers may be "slightly" shaded. Of course, this would affect the results of the survey.

To help overcome these potential problems, the questionnaire was carefully structured. The responses consisted of both open and closed form questions. In addition, many of the fixed alternative responses were improved upon by inserting a third choice ("possible"), with a further request that the respondent explain his answer.

Notwithstanding the inherent disadvantages of this research instrument (questionnaire), the following Chapter will focus upon an analysis of the grouped responses to the questionnaire.

CHAPTER IV

ANALYSIS OF GROUPED RESPONSES

The following is an analysis of the grouped data compiled as a result of the questionnaire. This analysis will serve as prelude to the projects recommendations.

Before proceeding, it should be noted that some of the 118 questionnaires returned were not thoroughly completed and, therefore, some of the following totals will not equal those grouped totals illustrated.

It is impossible to determine why some of the respondents did not thoroughly complete the questionnaire. But, as explained in Chapter III, it is possible that these respondents who did not feel free or willing to divulge information may have ignored specific questions.

I. TYPES AND SIZES OF RESPONDING DEPARTMENTS

Communities served by the responding fire departments ranged from small towns of under 3,000 to large cities of nearly 400,000. The total population served by all responding departments was over 3,000,000 persons. In fact, every city in New Jersey with a population of over 30,000 was contacted.

Table I indicates that the population of a community seems to be an important factor in determining the type of fire department organized.

TABLE I

TYPE OF DEPARTMENT BY POPULATION OF COMMUNITY

POPULATION (Thousands)	TYPE OF DEPARTMENT		
	PAID	PART-PAID	VOLUNTEER
0-4	0	1	3
4-6	0	3	8
6-8	1	1	13
8-10	1	1	8
10-12	0	2	8
12-14	0	1	8
14-16	0	2	1
16-18	1	4	1
18-20	0	3	3
20-25	2	3	3
25-30	1	4	1
30-35	1	1	0
35-40	4	2	2
40-45	3	1	0
45-50	2	0	0
50-60	3	0	0
60-70	1	0	0
70-80	1	1	0
80-90	2	0	0
90-100	0	0	0
OVER 100	6	0	0
	29	30	59

Eighty-three percent of the responding Paid fire departments serve communities of over 25,000 people, while 87% of the Part-Paid and Volunteer departments are operated by communities of under 25,000.

II. QUESTIONNAIRE RESPONSES

Question 1 -- "How many personnel do you have in your department?" Table II illustrates the type and size of each responding department.

TABLE II

TYPES AND SIZES OF RESPONDING DEPARTMENTS

NUMBER OF MEN IN DEPARTMENT	PAID	PART-PAID	VOLUNTEER
1-50	3	7	19
51-100	8	15	21
101-150	7	1	13
151-200	3	2	5
201-250	2	3	1
251-300	3	1	0
301-400	1	0	0
401-500	0	1	0
501-600	0	0	0
601-700	0	0	0
701-800	1	0	0
OVER 800	1	0	0
	29	30	59

TYPE OF DEPARTMENT	TOTAL PERSONNEL	
Paid	5,500	
Part-Paid	3,022	
Full-time		628
Volunteer		2,394
Volunteer	4,906	
	13,428	

Furthermore, when the total personnel available in each type of department (Table II) is analyzed to find the number of fire personnel available per 1,000 population, it is found that less personnel are available in Paid departments than either Part-Paid or Volunteer departments. Table III illustrates this fact.

TABLE III

FIRE PERSONNEL AVAILABLE PER 1,000 POPULATION

TYPE OF DEPARTMENT	PERSONNEL PER 1,000 POPULATION
Paid	2.6
Part-Paid	4.6
Volunteer	7.9

Accessibility and "professionalism" seemingly account for the fact that less full time fire fighters are needed by Paid departments than by Part-Paid or Volunteer departments.

Question 2 -- "How many companies are within your department?" Table IV illustrates a composit of the grouped responses.

TABLE IV

COMPANIES PER DEPARTMENT

	COMPANIES	AVERAGE NUMBER COMPANIES PER DEPARTMENT
Paid	262	9.03
Part-Paid	104	3.47
Volunteer	104	2.07

Question 3 -- "Approximately what percentage is your annual turnover?" Table V presents the responses to this question.

TABLE V

ANNUAL TURNOVER

PERCENTAGE (%)	PAID	PART-PAID	VOLUNTEER
0- .99	7	11	9
1-1.99	0	4	9
2-2.99	5	0	9
3-3.99	3	1	4
4-4.99	3	1	2
5-5.99	3	4	5
6-6.99	1	0	1
7-7.99	0	1	2
8-8.99	0	0	1
9-9.99	0	0	0
10-10.99	0	1	3
11-11.99	0	0	0
12-12.99	1	0	0
13-13.99	0	0	0
14-14.99	1	0	0
OVER 15	0	3*	4**

*includes 2-15%
1-70%

**includes 1-20%
2-60%
1-80%

From the results of the question, it is apparent that in nearly all responding departments an annual turnover of up to 6% is found. This annual turnover indicates a constant influx of new personnel and, therefore, a need for a basic on-going training program.

Question 4 -- "How many personnel do you have fully involved with training?" Table VI presents the responses to this question.

TABLE VI

PERSONNEL FULLY INVOLVED WITH TRAINING

DEPARTMENT	RESPONSES	RANGE	MEAN
PAID			
Officers	17	1-5	2
Firemen	4	4-14	7.8
PART-PAID			
Officers	20	1-7	3.3
Firemen	8	1-6	2.9
VOLUNTEER			
Officers	30	1-13	5.9
Firemen	6	1-10	4.3

Question 5 -- "Do you have specific training facilities? If yes, what type and number of personnel are at this school?" The responses to these questions are in Table VII and Table VIII.

TABLE VII

TRAINING FACILITIES

DEPARTMENTS	YES	NO
Paid	14	14
Part-Paid	6	21
Volunteer	14	45

TABLE VIII

TRAINING PERSONNEL AVAILABLE

	RESPONSES	RANGE	MEAN
PAID			
Full-time Officers	11	1-5	1.8
Firemen	3	1-4	3
Rotating Officers	2	1	1
Firemen	0	0	0
PART-PAID			
Full-time Officers	2	1	1
Firemen	2	1-5	2.5
Rotating Officers	3	1	1
Firemen	1	6	6
VOLUNTEER			
Full-time Officers	5	1-8	4.4
Firemen	5	3-8	4.8
Rotating Officers	2	3	3
Firemen	3	4-12	6.6

The responsibility for supply fire service equipment and training is basically a local responsibility. However, the cost of training may not be economically feasible for the municipality. Therefore, in many cases, it is not possible for local departments to provide themselves with enough equipment and manpower to face a maximum situation. As a result, training is often limited.

The results of this survey tend to amplify this problem. Only 29% of those departments responding have any type of fire training facilities. Paid departments have the highest percentage (50%) of training facilities,

followed by Volunteer departments (25%), and lastly, Part-Paid departments (20%).

Question 6 -- "How would you rate your fire training facilities?" These data are presented in Table IX.

TABLE IX

SELF-RATING OF FIRE TRAINING FACILITIES

DEPARTMENT	EXCELLENT	GOOD	ADEQUATE	POOR
Paid	4	3	4	3
Part-Paid	0	6	0	0
Volunteer	6	1	6	1

Responses of those local departments indicating the availability of training facilities show that only twenty, or 59%, of the available facilities were rated excellent or good. When this total is compared to the total number of respondents, it reveals that less than 17% have training facilities, rated excellent or good, available.

Question 7 -- "Do you have a training program for rookies?" Table X presents these responses.

TABLE X

ROOKIE TRAINING PROGRAMS AVAILABLE

DEPARTMENTS	YES	NO
Paid	26	2
Part-Paid	22	6
Volunteer	48	11

Question 8 -- "How long is your training program for rookies? Is it consecutive?" These data are presented in Table XI.

TABLE XI

LENGTH OF ROOKIE TRAINING PROGRAMS

CONSECUTIVE WEEKS	PAID	PART-PAID	VOLUNTEER
2	3	1	0
3	2	0	1
4	1	2	0
5	1	1	0
6	6	3	3
7	0	0	2
8	2	0	4
9	1	0	0
10	0	0	5
11	0	0	0
12	2	5	1
14	0	1	1
24	3	3	7
32	0	1	0
NON CONSECUTIVE WEEKS			
6	0	1	0
12	2	0	2
24	0	0	1.
CONTINUOUS ON-THE-JOB			
	4	5	2

In any type of fire department and regardless of "in house" training facilities, new firemen should be given basic skills in training. Because fire fighting operations are dangerous and complicated, they must learn to work as a team and be able to fend for themselves under emergency conditions. To obtain this necessary knowledge,

firemen may receive basic skills training in fire schools conducted by their local department or by attending county or state schools in the evening or on weekends.

However, Table X indicates that only 83% of the local fire departments contacted had any training program for new firemen. In addition to those departments without a formal training program, Table XI shows that there is a huge variance in the type and length of training.

Question 9 -- "Do you do your own training?" These data appear in Table XII.

TABLE XII

TRAINING ACTUALLY CONDUCTED BY RESPONDENTS

DEPARTMENT	YES	NO
Paid	29	0
Part-Paid	25	3
Volunteer	49	10

Table XII shows that basic training is carried on by the local municipality. However, one-half of these responding departments indicate that they have no training facilities and must, therefore, send their new firemen to county or state fire schools or attempt to conduct on-the-job training.

Part-Paid and Volunteer fire departments have little, if any, type of training facilities. Most of these departments utilize what training there is available in the State. This training includes county fire schools which usually hold classes in the evening, one or two nights a

week, at four hours per night.

The National Fire Protection Association recommends 360 hours (45 days at 8 hours per day) as the minimum basic skills training for probationary firemen. The length and amount of pre-service training reported in this survey (Table XI) varied from the minimum of on-the-job to 3 consecutive months of classroom and practical training. Based on these results, it is apparent that few local fire departments in New Jersey provide the "basic" training necessary.

The fact that 17% (Table X) of those departments reporting provide no formal training for new firemen and a majority of those who do, don't provide enough, amplifies the need for the State to establish minimum training standards. No fireman should be allowed to fight a fire without an adequate amount of training.

Question 10 -- "Do you use a textbook? If yes, please list name(s) on back, rate and explain your rating." These data appear in Table XIII. This question also asked, "Do you feel there is a need for additional textbooks?" Table XIV illustrates these responses.

TABLE XIII

DEPARTMENTS USING TEXTBOOKS

DEPARTMENT	YES	NO
Paid	24	4
Part-Paid	19	9
Volunteer	28	31

Twenty-five separate texts were listed and rated. The most frequently reported were:

TITLE	FREQUENCY
Oklahoma Manuals	22
National Fire Protection Association Texts	13
Ohio State Manuals	6

A complete listing of the textbooks indicated appears in the Appendix (Item 6).

TABLE XIV

NEED FOR ADDITIONAL BASIC FIRE SERVICE TRAINING TEXTS

DEPARTMENT	YES	NO
Paid	28	0
Part-Paid	26	2
Volunteer	55	4

As illustrated above, the responding departments were almost unanimously of the opinion that there is a need for additional textbooks relating to basic fire service training.

Question 11 -- "Do you use a specific course of study? If yes:

your own or other?" These responses appear in Table XV.

TABLE XV

USE OF SPECIFIC COURSE OF STUDY
FOR BASIC FIRE SERVICE TRAINING

DEPARTMENT	YES	NO
Paid	23	5
Part-Paid	14	14
Volunteer	32	24

IF YES	YOUR OWN	OTHER
Paid	12	11
Part-Paid	4	10
Volunteer	8	24

Question 12 -- "How would you rate your rookie training program?" Table XVI illustrates these data.

TABLE XVI

SELF-RATING OF ROOKIE TRAINING PROGRAMS

DEPARTMENT	EXCELLENT	GOOD	ADEQUATE	POOR
Paid	10	7	7	4
Part-Paid	1	10	11	5
Volunteer	8	17	24	10

Table XVI indicates that only 46.4% of the respondents rate their programs good or excellent.

Because of the changing nature of our technological society, it is necessary for a fireman, like any other professional, to keep abreast of the new methods and procedures involved in fire fighting. Therefore, an

on-going advanced training program is necessary.

Question 13 -- "Do you offer any advanced training programs within your department?" These data appear in Table XVII.

TABLE XVII

ADVANCED TRAINING PROGRAMS AVAILABLE

DEPARTMENT	YES	NO
Paid	10	16
Part-Paid	8	18
Volunteer	25	30

This indicates that only 40% of the responding departments offer advanced training programs.

Question 14 -- "Are men allowed time off from duty to take courses?" Table XVIII illustrates these responses.

TABLE XVIII

TIME OFF FROM DUTY ALLOWED
FOR ADVANCED TRAINING

DEPARTMENT	YES	NO
Paid	11	16
Part-Paid	8	8
Volunteer	Does not apply	

Question 15 -- "What course of study do you use for your advanced training courses?"

Most departments that offered courses agreed on the following texts:

Officers Training -- Oklahoma Manuals

Advanced Fire Training -- National Fire Protection Association Manuals

First Aid -- American Red Cross Instructors Manual

Question 16 -- "How would you rate your advanced training program?" These data appear in Table XIX.

TABLE XIX

RATING OF ADVANCED TRAINING PROGRAMS

DEPARTMENT	EXCELLENT	GOOD	ADEQUATE	POOR
Paid	1	3	6	0
Part-Paid	1	4	3	0
Volunteer	4	11	9	1

As shown in Table XVII 40% of the responding departments offer advanced training programs and as shown above only 54.5% of these were rated good or excellent.

Question 17 -- "Do you encourage your personnel to go to training courses outside your own fire department? If yes, where?" Table XX illustrates these data.

TABLE XX

ENCOURAGE ATTENDANCE AT OUTSIDE COURSES

DEPARTMENT	YES	NO
Paid	24	1
Part-Paid	28	0
Volunteer	56	1

If yes, where?

A total of 28 separate schools were listed. They fell into one of four categories:

-County Fire Schools
-State Fire Schools
College Extension Courses
-College Credit Courses

In addition to the county schools--described on pages 27 and 28--other training is available at the state level. These state-wide training schools are run by the Fire Rating Organization of New Jersey. They hold classes two or three weekends per year. Both the county and state schools are usually over-subscribed with students. As a result, many firemen are never accommodated.

A complete listing of such organized training programs, as indicated by responding fire departments, appears in the Appendix (Item 5).

Question 18 -- "Do you offer any incentive for men to go to training courses outside your own department?" These data appear on Table XXI.

TABLE XXI

INCENTIVES AVAILABLE FOR OUTSIDE TRAINING COURSES

DEPARTMENT	YES	NO
Paid	6	22
Part-Paid	6	20
Volunteer	13	30

Table XX shows that nearly all (98.2%) the departments responding encourage their personnel to partake of training beyond that available within their department. Table XXI indicates that twenty-five percent of these departments provide incentives for personnel attending such courses.

Question 19 -- "Would your department allow time off for outside training courses? If possible, explain." Table XXII presents these data.

TABLE XXII

ALLOW TIME OFF FOR OUTSIDE TRAINING

DEPARTMENT	YES	NO	POSSIBLY
Paid	13	3	12
Part-Paid	12	2	13
Volunteer	Does not apply		

IF POSSIBLE, EXPLAIN!

Survey questions 14 and 19 ask about the department allowing its men "time off" from duty to attend outside advanced training courses. These questions are poorly constructed because of the working situation in Volunteer Departments. It would have been more appropriate to direct these questions to the Paid firemen.

Most departments that responded to the "time off" questions said they would allow their men off for worthwhile courses so long as the manpower could be replaced or spared.

Question 20 -- "Would your department like to see a college training program for firemen?" These data are presented in Table XXIII.

TABLE XXIII

DESIRABILITY OF COLLEGE LEVEL PROGRAM

DEPARTMENT	YES	NO
Paid	28	0
Part-Paid	25	3
Volunteer	48	1

Question 21 -- "What type of college courses would you like to see offered?" These data appear in Table XXIV.

TABLE XXIV

PREFERENCE OF TYPE OF COLLEGE COURSES OFFERED

DEPARTMENT	TECHNICAL	NON-TECHNICAL	COMBINATION
Paid	1	0	27
Part-Paid	0	4	24
Volunteer	2	1	46

As illustrated in Table XXIII, ninety-nine percent of the responding fire departments indicated a desire for a college level training program. Table XXIV shows that most (92.4%) wish to have a combination program of both technical and non-technical material developed.

Question 22 -- "What specific suggestions/comments do you have that would assist in formulating a Fire Service Program?"

There were many varied responses to this question. However, the most significant suggestion was that the College consider scheduling courses so that firemen who work rotating shifts would be able to attend all of the classes. It was further stated that this could be accomplished by alternate night or day/night scheduling.

Question 23 -- "If it is possible, would you enclose a layout of your training facilities."

A few departments did enclose sketches and/or photographs of their facilities.

III. SUMMARY

This Chapter has presented an analysis of the grouped responses to the questionnaire. Before presenting the recommendations, a summary of the findings would be advantageous:

-Throughout New Jersey the responsibility for fire service equipment and training was basically a local responsibility.

-Respondents to the questionnaire were located throughout New Jersey and varied in size from small towns of under 3,000 to large cities of nearly 400,000.

-The total population served by all responding departments was over 3,000,000.

-Eighty-three percent of the responding Paid fire departments service communities of over 25,000 people, while 87% of the Part-Paid and Volunteer departments were operated by communities of under 25,000.

-Less fire personnel were available (per 1,000 population) in Paid departments than either Part-Paid or Volunteer departments.

-Nearly 80% of the responding departments indicated an annual turnover of u to 6%.

-Only 29% of those departments responding had any type of fire training facilities. Paid departments had the highest percentage (50%), followed by Volunteer departments (25%), and lastly, Part-Paid departments (20%). Twenty (59%) of the available facilities were rated excellent or good.

-Eighty-three percent of the respondents conducted a training program for new firemen, 46.4% of these were rated good or excellent.

-Responding departments were almost unanimously (94%) of the opinion that there was a need for additional textbooks for basic fire service training.

-Forty percent of the responding departments offered advanced training programs, 54.5% of these were rated good or excellent

-Over 98% of the respondents encouraged their personnel to attend "outside" training courses, 25% of these provided incentives for attending such courses.

-Ninety-nine percent of the responding departments indicated a desire for a college level training program, 92.4% of these preferred a combination--technical and non-technical--curriculum.

CHAPTER V

RECOMMENDATIONS, COMMENTARY AND CONCLUSION

I RECOMMENDATIONS

The study. As a result of the study of the extent of fire service training presently conducted in New Jersey, it was apparent that very little systematic training at any level (local, county or state) is currently taking place. The reasons may be ignorance, complacency, a lack of funds, or any combination of these. Nevertheless, fire service training must be strengthened because many believe that such training is as important as equipment. It is absolutely necessary that every fireman know his job thoroughly!

It is, therefore, recommended that

1. this initial attempt to study fire service training be considered a pilot study,
2. a revision of the questionnaire be made into the form of a structured interview, and
3. a further study of the problems be conducted.

Consolidation of training. The increasing use of intermunicipal fire protection emphasizes the need for standardization of training among firemen. As pointed out by the study, there is a serious lack of such standardization in regard to fire fighting methods and techniques. It is impossible for men to work side by side on a fire if they are trained to do the job in different ways or not even trained at all. Very few departments can afford to have a complete training program. In fact,

only 83% of the responding departments offered a formal basic firemanship program. Therefore, it must be assumed the remaining departments send their men to "work" without having been trained. It is thus recommended that the feasibility of the consolidation of all fire service training at the state or county levels be studied.

Textbooks. It is apparent that one of the major difficulties of conducting fire service program is the lack of relevant textbooks and peripheral study material. This is due mainly to the fact that the systematic study of fire protection is relatively new. Therefore, it is recommended that fire service personnel, educators, and publishers undertake a concerted effort to overcome this void.

College training. The Fire Chief's Handbook (Casey, 1967) identified the following training needs of the fire service:

1. The need to train a new man.
2. The need to train the new man to operate with a group.
3. The need to learn tactics.
4. The need to train management personnel.
5. The need to train leaders in the realm of strategy.

It is significant that the Handbook indicates numbers three, four and five which are considered to be in the "field of higher education." Guidelines For A Curriculum Leading To An Associate Degree In Fire Science Technology (Kahrmann, 1970) lists 135 college level programs that provide fire training courses to meet these needs.

While attendance in a college level program is not required for job

entrance as a fireman, it has become apparent that many cities throughout the country now consider some amount of college training a prerequisite for promotion to an officer. Of course, in Paid departments the individual must also meet the Civil Service requirements.

A college level fire service program provides the individual with a "rounded" outlook on his profession by offering a curriculum which incorporates both technical and non-technical courses. Four New Jersey communites have recognized the need for having their firemen attend college programs. They provide annual salary increases to any fireman who completes a college course. It is, therefore, recommended that other New Jersey communities study the feasibility of offering their fire fighters such an incentive for attending college.

In addition to the standard college program, institutions of higher education should be persuaded to provide short courses, institutes and programs for those directly engaged in fire fighting.

By providing such a combination of credit and non-credit courses, colleges and universities can render a valuable contribution to the fire service.

II COMMENTARY

Because of the diversified structure of fire service training, there are many inherent problems. Most everyone is aware and even concerned, but, acting individually, feel powerless to institute any change. Yet, it is axiomatic that the only constant is change, and fire service

training cannot, and must not, be the exception. The need has been demonstrated; what remains to be answered is the methodology for implementation.

Federal legislation. In order to improve fire service training programs in general, there is a need for some form of direct action -- "help" -- from the Federal Government. The passage of the Fire Research and Safety Act in 1968 provided the first national legislation which emphasized fire service training. The Act provided for the establishment of procedures and programs designed to deal with the national fire problem and also to create a national commission on fire prevention and control.

The Fire and Research Safety Act might have been the answer to many of the fire service's problems, but "it went up in smoke," because it was never funded.

State legislation. State legislation could also help to improve New Jersey's present situation. Assemblyman Coury recognized the problems of the fire service and subsequently drafted and proposed (May 15, 1969) Assembly Concurrent Resolution #93. This proposed the creation of a commission to study the adequacy of the fire fighting, prevention, and protection service throughout the State, and the advisability and feasibility of establishing an office of State Fire Marshall. It was to be the duty of the Fire Marshall to establish minimum standards for fire protection and training, and provide training requirements and facilities for firemen. In addition, this office was to encourage fire safety

through public programs and act as a central depository for the dissemination of fire safety information.

This resolution recognized the need for establishing minimum standards of training and called for a commission to examine additional problems of the fire service in New Jersey. It was a beginning, but it never came to vote.

Fire service is at a distinct disadvantage because its administration is totally local. Ignorance, complacency and especially a lack of funds all deter from adequately training fire service personnel. The investigator recommends that the Federal and State government join resources and begin to fight the problems of the fire service. But, history indicates that such a recommendation would only fall upon deaf ears.

III CONCLUSION

When industrial and living conditions were simpler, firemen learned through experience on the job. Little attention was given to organized systematic training since the need for such training was relatively nonexistent. However, in recent years, society's demands upon the fire service have made it imperative that all members of fire departments be thoroughly trained for their work.

Like his uniformed brother, the policeman, a fireman stands poised in the front line of defense in time of emergency. Supported by proper training procedures, a fireman's role as protector in today's complex society will become even more relevant than it has been in the past.

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APPENDIX

State of New Jersey
JERSEY CITY STATE COLLEGE
JERSEY CITY, N. J. 07305

JAMES H. MULLEN, PRESIDENT

ITEM #1

Gentlemen:

The Center For Occupational Education located at Jersey City State College is currently developing a program in Fire Science Technology.

In order for the Center to truly orient their program to the needs of New Jersey's fire service personnel, it is imperative that an accurate picture of the present training programs be obtained. To fulfill this need, we have developed the enclosed questionnaire that we would like you to complete and return. For your convenience a self-addressed stamped envelope is also enclosed.

The funding of this survey will give us an overall idea of the type of fire service training currently conducted and help determine how it may be supplemented by the Center.

Thank you for your participation in this project.

Sincerely,

Richard D. Jameison

ITEM #2

Complete and Return to:

Richard D. Jameison
Jersey City State College
Center for Occupational Education
2039 Kennedy Boulevard
Jersey City, New Jersey 07305

Name_____

Bank_____

Department_____

Address_____

_____

Directions: Please fill in all appropriate blanks.

1. How many Personnel do you have in your fire department? Full time_____ Vol._____ Call_____

2. How many companies are within your department? No. of Co._____

3. Approximately what percentage is your annual turnover? _____%

4. How many personnel are fully involved with training?
   Officers_____ Firemen_____

5. Do you have specific fire training facilities? Yes_____ No_____

   If yes, what type and number of personnel are at this school?

   Full Time: Officers_____ Rotated: Officers_____

   Fireman_____ Fireman_____

6. How would you rate your fire training facilities?

   Ex._____ Good_____ Adequate_____ Poor_____

7. Do you have a training program for rookies? Yes_____ No_____

8. How long is your training program for rookies? _____

   Is this consecutive? Yes_____ No_____

9. Do you do your own training? Yes_____ No_____

10. Do you use a textbook? Yes_____ No_____

    If yes, please list name/s on back, rate (ex., gd., adeq., poor) and explain your rating.

    Do you feel there is a need for additional textbooks? Yes_____ No_____

11. Do you use a specific course of study? Yes_____ No_____

    If yes: Your own_____ Other_____

    If possible, please enclose.

12. How would you rate your rookie training program?

Ex._____ Good_____ Adequate_____ Poor_____

13. Do you offer any advanced training programs within your department?

Yes_____ No_____ (If yes, please explain on the back.)

14. Are men allowed time off from duty to take these courses? Yes_____ No_____

15. What text or course of study do you use for your advanced courses?

Course: _____ Text: _____

_____ _____

_____ _____

16. How would you rate your advanced training program?

Ex._____ Good_____ Adequate_____ Poor_____

17. Do you encourage your personnel to go to training courses outside your own fire department? Yes_____ No_____

18. Do you offer an incentive for men who take advanced training? Yes_____ No_____

19. Would your department allow time off for outside training?

Yes_____ No_____ Possibly_____

If possibly, explain circumstances on back.

20. Would your department like to see a college level program for firemen?
Yes_____ No_____

21. What type of college courses would you like to see offered?

Technical_____ Non-technical_____ A combination_____

22. What specific suggestions/comments do you have that would assist us in formulating our Fire Science Program?

_____

_____

_____

_____

_____

23. If it is possible, would you enclose a layout of your training facilities?

ITEM #3

GEOGRAPHIC DISTRIBUTION OF SURVEY
TOTAL 218

Allendale
Asbury Park
Atlantic City
Atlantic Highlands
Audubon
Averrel
Barrington
Bayonne
Belford
Belleville
Bellmawr
Belmar
Bergenfield
Bernardsville
Bloomfield
Bloomingdale
Bogota
Boonton
Bound Brook
Bridgeton
Burlington
Butler
Caldwell
Camden
Carlstadt
Carteret
Cedar Grove
Chatham
Cherry Hill
Cinnammison Twsp.
Clara Barton
Clark
Cliffside Park
Clifton
Closter
Collingswood
Colonia
Cranford
Cresskill
Delaware Gardens
Denville
Dover
Dumont
East Brunswick
East Newark
East Orange
East Paterson
Eatontown
Edison
Elizabeth
Englewood
Englewood Cliffs
Fair Lawn
Fairview
Fanwood
Florham Park
Fords
Fort Lee
Franklin Lakes
Freehold
Garfield
Gibbstown
Glassbera
Glen Ridge
Glen Rock
Glouchester City
Hackensack
Hackettstown
Haddonfield
Haddon Heights
Haledon
Hamilton Square
Hammington
Harrington Park
Harrison
Hasbrouck Heights
Hawthorne
Hazlet
Highland Park
Hillside
Hoboken
Ha-Ha-Kus
Iselin
Irvington
Jersey City
Keansburg
Kearney
Kennelworth
Keyport
Kinnelon
Lake Hiawatha
Lakewood
Leonia
Lincoln Park
Linden
Lindenwood
Little Falls
Livingston
Lodi
Long Branch
Lyndhurst
Madison
Mahwah
Manasquan
Maple Shade
Maplewood
Margate City
Matawan
Maywood
Mercerville
Metuchen
Middlesex
Middletown
Midland Park
Millburn
Millville
Montclair
Montville
Montvale
Moorestown
Morristown
Morris Plains
Mountain Lakes
Mountainside
Mount Holly
Neptune
Newark
New Brunswick
New Milford
New Providence
Newton
Nixon
North Arlinton
North Bergen
North Brunswick
Northfield
North Plainfield

Nutley
Oakland
Ocean City
Ocean Grove
Old Bridge
Oradell
Orange
Palisades Park
Paramus
Parsippany
Passaic
Paterson
Perth Amboy
Pennsauken
Phillipsburg
Plainfield
Pleasantville
Point Pleasant
Pompton Lakes
Pompton Plains
Princeton
Rahway
Ramsey
Red Bank
Ridgefield Park
Ridgewood
Ringwood
Rivervale
Rochelle Park
Roselle
Roselle Park
Rumson
Rutherford
SaddleBrook
Sayreville
Scotch Plains
Secaucus
Somerset
Somerville
South Amboy
South Orange
South Plainfield
South River
Spotswood
Springfield
Spring Lake
Spring Lake Heights
Stratford
Summit
Teaneck
Toms River
Totowa
Trenton
Trenton East
Union
Union City
Verona
Vineland
Waldwick
Wallington
Wanaque
Wayne
West Caldwell
Westfield
West Long Branch
West New York
West Orange
Westwood
Wharton
White Horse
Wildwood
Willingboro
Woodbridge
Woodbury
Wood Ridge
Wycoff

ITEM #4

RESPONDENTS TO SURVEY
(TOTAL 118)

Town	Population (based on 1960 census)	Type of Department		
		Paid	Part-Paid	Volunteer
Atlantic City	57,500	X		
Atlantic Highlands	4,119			X
Barrington	7,943			X
Bayonne	73,500	X		
Belleville	35,000	X		
Bellmawr	11,853		X	
Belmar	5,190			X
Bergenfield	27,203		X	
Bloomfield	51,867	X		
Bogota	7,965			X
Boonton	7,981			X
Bridgeton	21,600		X	
Caldwell	6,942			X
Camden	113,000	X		
Carlstadt	6,042			X
Cape May	1,900		X	
Cedar Grove	14,603			X
Cinnammison Twp.	8,302			X
Clark	12,195			X
Cliffside Park	17,642		X	
Clifton	85,000	X		
Collingswood	17,370		X	
Cranford	26,424		X	
Cresskill	7,290			X
Delaware Gardens	7,000		X	
Denville	10,632			X
Dumont	18,882			X
East Brunswick	10,000			X
East Orange	80,000	X		
Eatontown	10,334			X
Edison	14,000		X	
Elizabeth	111,000	X		
Englewood	26,057	X		
Fairlawn	36,421			X
Fanwood	7,963			X
Florham Park	7,222			X
Franklin Lakes	3,316			X
Freehold	9,140			X
Garfield	29,253			X
Glassboro	10,253		X	
Glen Ridge	8,322		X	

Town	Population (based on 1960 census)	Type of Department		
		Paid	Part-Paid	Volunteer
Glen Rock	12,896			X
Hackensack	31,200	X		
Hackettstown	5,276		X	
Haddonfield	13,201		X	
Haledon	6,161			X
Hamilton Square	71,000		X	
Hazlet	11,500			X
Hillside	22,304	X		
Hoboken	48,441	X		
Ho-Ho-Kus	3,988			X
Irvington	60,500	X		
Jersey City	272,000	X		
Kearny	37,472	X		
Linden	39,931	X		
Livingston	23,124		X	
Lyndhurst	21,867			X
Manasquan	4,022			X
Maplewood	23,977	X		
Margate City	9,474	X		
Matawan	5,097			X
Millburn	18,799		X	
Millville	19,096		X	
Montvale	3,699			X
Morristown	17,712		X	
Morris Plains	4,703			X
Mountain Lakes	4,037		X	
Mountainside	6,325			X
Newark	392,000	X		
New Brunswick	40,000	X		
New Milford	18,810			X
New Providence	10,243			X
Newton	6,563			X
North Bergen	42,387	X		
North Brunswick	10,000			X
Northfield	5,849		X	
North Plainfield	16,993		X	
Ocean City	7,618	X		
Oradell	7,487			X
Paramus	24,700			X
Passaic	54,500	X		
Paterson	146,000	X		
Perth Amboy	38,000		X	
Phillipsburg	18,502		X	
Plainfield	46,500	X		
nceton	11,890			X
way	27,699		X	

Town	Population (based on 1960 census)	Type of Department: Paid	Part-Paid	Volunteer
Ramsey	9,527			X
Red Bank	12,482			X
Ridgefield Park	12,701			X
Ridgewood	25,391		X	
Roselle Park	12,546			X
Rutherford	20,473			X
Scotch Plains	18,491			X
Secaucus	12,154			X
Sommerset	12,000			X
South Orange	16,175	X		
South Plainfield	17,279			X
Spotswood	5,788			X
Springfield	14,467		X	
Stratford	4,308			X
Summit	23,677		X	
Teaneck	42,085	X		
Trenton	108,000	X		
Toms River	8,000			X
Union	54,000		X	
Verona	13,782			X
Vineland	39,800		X	
Wallington	9,261			X
Wayne	37,000			X
West Caldwell	8,314			X
Westfield	31,447		X	
West New York	35,547	X		
Westwood	9,046			X
Wharton	5,006			X
Wood Ridge	7,964			X
Wycoff	11,202			X
TOTALS				58
118		29	30	1 (no name)
				59

ITEM #5

ORGANIZATIONS OFFERING FIRE TRAINING PROGRAMS

Local Fire Departments

Atlantic City
Camden
Trenton

County Training Schools

Bergen
Glouchester
Mercer
Middlesex
Monmouth
Morris
Warren

State Training Programs

Fort Dix
N. J. State Fire College, Sea Girt
N. J. State Police Heavy Rescue, Hammington
N. J. State Safety Council, Dover
Officer and Engineer Training, Seaside

College Programs

Jersey City State College
University of Maryland
Newark College of Engineering
University of Pennsylvania
Queens College
Rutgers University

ITEM #6

FIRE SERVICE TRAINING TEXTS

Basic

1. Attacking and Extinguishing Interior Fires
2. Bergen County Training Manual
3. Fighting Rural Fires
4. Firemen's Training Manual
5. Kimbal "Fire Attack"
6. Manual for Auxiliary Fire Fighting
7. University of Maryland Basic Fire Training Manual
8. Walsh's "Fire Strategy and Administration"

Advanced

1. American Insurance Association Bulletins
2. Fire Chief Handbook
3. Fire Protection Handbook
4. Massachusettes State Fire Manual
5. Municipal Fire Administration
6. National Fire Protection Association Texts
7. New Jersey State Fire College Manual
8. New York City Fire Training Manual
9. Ohio Trade and Education Service, Fire Service Training Texts
10. Oklahoma State University, Fire Service Training Manuals