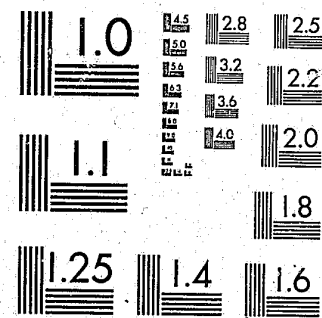


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Final Report

to

The Town of West Hartford, Connecticut

A STUDY OF MANPOWER UTILIZATION AND
CAREER DEVELOPMENT TRENDS IN
THE WEST HARTFORD PUBLIC SAFETY SERVICES

Benjamin Goldstein
Frank J. Leahy, Jr.
The Travelers Research Corporation

and



C. J. Winquist, P. E.
Gage Babcock & Associates, Inc.
Westchester, Ill. 60153 (312) 345-8541

May 1970
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THE TRAVELERS RESEARCH CORPORATION

250 Constitution Plaza / Hartford, Connecticut 06103 203 277-0133



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1.0 INTRODUCTION

This report is a joint effort of The Travelers Research Corporation (TRC) of Hartford, Connecticut, and the Gage-Babcock & Associates, Inc. of Mount Kisko, New York. TRC, the prime contractor, prepared the police portion of the report. Gage-Babcock prepared the portion that deals with the fire department. Personnel from both firms have agreed on major recommendations which are embodied in a summary statement about manpower utilization and career trends in the public safety service of the Town of West Hartford.

The report had its origins in a letter which Mr. Richard H. Custer, Town Manager, issued to several firms soliciting their interest in a study of this kind. The important parts of Mr. Custer's letter are included in the following excerpt:

Our community, like many others, is concerned about certain trends that appear to be occurring in the field of municipal public safety, and is anxious to obtain some expert analysis and advice as a basis for some long-range policy decisions in this field.

We see, for example, a trend for shorter duty hours for fireman, to which the traditional response has been the addition of more personnel while, at the same time, the salaries of all such personnel are increasing. We also see increasing crime rates and an emphasis on greater training and professionalization in the police service, again accompanied by higher pay scales and some pressure for reduced working hours.

The Town Council has authorized me to solicit proposals from several outside sources for a study of manpower utilization and career development trends in the public safety function in our community.

TRC's letter of reply was responsive to this request for proposals. It said:

The research program will develop the materials and information required for assessing current and future needs for public safety within the Town and provide a basis for future manpower utilization, policy and decision-making.

The report that follows answers the questions raised in Mr. Custer's letter and is in accord with the study as proposed.

1.1 Methodology

Briefly, the TRC team assigned to this project undertook an extensive

data collection effort about current demands for police services. These data were prepared for computer processing. TRC proprietary police computer programs were used in the data processing. Analysis and evaluation of the data and of the police department as a whole were performed by Major Benjamin Goldstein, Mr. Frank J. Leahy, Jr., and other TRC staff. Both Major Goldstein and Mr. Leahy were major contributors to the final report.

Mr. C.J. Winkvist, P.E. of Gage-Babcock & Associates, Inc. was project engineer for the fire department portion of the overall study, conducted the field survey, and developed conclusions and recommendations. The entire report has been reviewed by other Gage-Babcock staff members and conclusions and recommendations reflect staff consensus.

Major findings, conclusions and recommendations of this study were reviewed jointly with Police Chief William P. Rush and Fire Chief Arthur J. Yacavone and subsequently with Mr. Custer and his assistant, Mr. Peter Parker. These briefing sessions in no way imply concurrence with any or all of the recommendations, on the part of the Messrs. Rush, Yacavone, Custer or Parker.

1.2 Plan of the Report

This report is actually three reports in one. First, there is a report that deals with the West Hartford Police Department (Section 4.0). Second, there is a report about the Fire Department (Section 5.0). Each of these reports stands on its own, with little if any need to consult the other. Each contains a series of recommendations. Third, there is a report that deals with the principal questions concerning manpower utilization and career development trends in the public safety services of the Town of West Hartford. This report (Section 3.0) is intended primarily for consideration by the Town, the Town Manager and the Town Council. It is essentially a summary statement of recommendations as they pertain to manpower utilization and career trends in the overall public safety system.

Section 2.0, which follows, summarizes what we have called Assumptions that Underly the Study. It is, in part, hypothetical and in part a statement of belief or philosophy about the nature of the public safety system in local government in 1969, with some comments about the nature of the public safety problem in the Town as we move to the 1970's. The final section (6.0) points out areas where additional research or study is required.

1.3 Acknowledgements

We wish to express our sincere appreciation to Mr. Custer and to Chiefs Rush and Yacavone for the excellent cooperation we received from all members of the Town staff and all members of both departments. The citizens of West Hartford can be proud of their public safety departments and can take great pride in the leadership provided by Chiefs Rush and Yacavone. Without their assistance, this report would not have been possible.

Mr. John R. Anderson, Superintendent, Municipal Protection, New England Insurance Rating Association was also especially helpful in supplying grading details and insurance information for the study of the Fire Department.

2.0 ASSUMPTIONS THAT UNDERLY THE STUDY

Crime is the most serious public safety problem facing the Town of West Hartford in 1969 and, in all probability, will continue to be the most serious problem in the 1970's.

Fire, of course, is an ever-present danger. But on the basis of fire losses and fire experience generally, and more importantly on the basis of a very fine fire department, fire and the threat of fire represents a very small problem in comparison to crime.

A fire department can have a significant impact in reducing fire losses. Immediate response by a well-trained and equipped force of men can make a difference in lives saved and losses prevented. Fire inspections and fire prevention activities generally have had a very beneficial, long-term impact on the fire problem. The ability to outlaw hazardous substances and equipment is another positive factor. The activities of the American Insurance Association (successor to the National Board of Fire Underwriters) in rating fire departments and in tying these ratings to fire insurance rates has been a very important factor in obtaining adequate fire department resources—men, material, equipment and facilities.

The police are faced with an entirely different set of variables. Whereas fires generally occur one at a time, five crimes might be in progress in West Hartford at the same time. Multiple fires are subject to mutual aid agreements with area towns; law enforcement is now just beginning mutual aid or regional efforts to curb crime. Much crime is committed indoors or out of view and is therefore not subject to control or prevention by police patrols. Crime prevention activities by the police have been sporadic and have lacked focus; their effectiveness has been questioned. Efforts to curb the sale of weapons, for example, have been far less successful than similar efforts to outlaw defective space heaters. No national organization has set standards for the police to follow in efforts to improve their forces. Better law enforcement has not been tied directly to lower rates for theft or casualty insurance.

In addition to these differences between the police and fire departments, the nature of the police function has changed in the past 25 years. The tempo of urban and suburban living has increased and so has the complexity of the police role. A policeman is expected to deal with any human or social problem, at any time of day,

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and under any circumstances. Domestic disturbances, family problems, unruly teenagers, vandalism, plus every crime category imaginable, are the daily fare for a typical officer on patrol. These factors are not as patently obvious in West Hartford as they are in Hartford or other urban centers, but they will continue to increase in the Town during the 1970's, unless positive steps are taken now to meet their threat.

It is widely known that crime is increasing in most sections of the country, especially in urban areas. The reasons for this increase are many and varied, and they will not be discussed here. It appears likely, however, that the incidence of crime and criminal behavior will continue to rise until new methods to prevent, combat and control crime are devised and implemented.

Some "experts" are quick to find or assign the blame for the increase in crime and social problems either on the police or on some sector of society. Seldom, if ever, is the problem traced to its most basic cause: the rapidity of social and technological change. The lives of communities like West Hartford and the life styles of their residents are changing at a frenetic and ever increasing pace. Community life support systems, such as local government administration, public safety, public works, fire protection, etc., have sometimes fallen behind the pace of change. Society's response to change is often a frantic running to catch up or to upgrade conventional systems, simply by adding more men, more machines or more money.

The ultimate solution, if it exists, lies in our ability to learn to cope with change, and to attack problems as they really are, not as they are related or similar to a problem of the past.

Suffice it to say, we have examined the public safety system of the Town of West Hartford in the light of these trends. We have attempted to give a balanced view of the overall public safety function. Several of the recommendations contained in this report are controversial. The validity of the conclusions that underlie these recommendations may be questioned. However, we have been guided by our professional judgements and by what we consider to be in the best interests of the Town.

3.0 SUMMARY OF MAJOR RECOMMENDATIONS, POLICY ALTERNATIVES AND IMPLICATIONS FOR PUBLIC SAFETY SERVICES

This section summarizes the principal recommendations of both the police report (Section 4.0) and the fire report (Section 5.0) as they pertain to manpower utilization and career development. With these as background, policy alternatives about manpower and career development are presented. Additional recommendations and some cost implications are also presented.

3.1 Recommendations About Manpower Utilization

Police manpower levels, in our opinion, are adequate to meet the law enforcement needs of West Hartford for the foreseeable future—barring a shorter work week or a dramatic increase in crime. The following recommendations concern utilization of police manpower.

- Establish a combined public safety (police and fire) Communications Center, and employ civilians to replace fire and police dispatchers, releasing 5 officers—one fire lieutenant and four firemen. (Remodeling costs and training outlays will precede a saving in salaries).
- Reallocate personnel among shifts to better meet the demands for services during peak hours.
- Reassign personnel from regular patrol duties to form two four-man community crime control teams. Each team would be composed of a lieutenant, sergeant, detective and patrolman, and would be given maximum operational latitude to attack crime in a given area of the town, using innovative techniques whenever possible. Other operational details would necessarily have to be spelled out before implementation of this experimental program.
- Transfer three officers: two to the Detective Division and one to Special Services. The purpose of this reallocation is to increase the clearance of property crimes and the police commitment to the narcotics and dangerous drugs problem.
- Replace dispatchers with civilian personnel and employ three civilian typists to relieve sworn personnel from typing reports. One typist should be

trained to assume the clerical duties of the Detective Division, including filing information, recording, and routine fingerprint identification tasks.

- As an interim measure, hire additional crossing guards as stand-bys for sick or injured guards in lieu of the current practice of paying overtime to sworn officers to fill in. Long-range, plan to abandon the present school crossing guard system.

The following recommendations concern manpower utilization in the Fire Department.

- Eliminate Engine Co. 1; sell Station 1 and assign personnel to the two ladder companies.
- Combine police and fire department communications (as noted above).
- Change job descriptions for maintenance personnel.
- Fill the authorized inspector position.
- Long-range, plan to combine Stations 3 and 5 and relocate Station 2.
- Schedule vacations throughout the year and allow no more than 10 people to go on vacation at any time.
- If working hours are further reduced, establish 8-hour shifts and prohibit sleeping.
- Consider using fire department personnel to perform additional police duties.

These recommendations are not revolutionary, but they will provide a significantly better level of public safety at a reduced cost (other than the cost of new facilities and the cost of moving to a 40-hour week in the Fire Department, when and if that occurs). We cannot, in good conscience, recommend manpower reductions, in either the police or the fire department. Manpower reductions might be made in both services, but at an increased risk to life and property that would probably be unacceptable to the Town. There are other policy alternatives which might be explored. These and further recommendations are made in the following sections.

Alternative Policies.

If West Hartford were a "new town", and were organizing its public safety

services for the first time, there is little doubt that a combined public safety service would be considered very carefully. In all probability, a combined public safety department would be created. Men would be employed as safety officers and receive training in both fire and police specialties. A combined service could work effectively with from 25 to 40 men fewer than are now employed by both departments. This estimate is admittedly a conjecture. However, the estimate would provide from 43—46 men on duty at all times. This number of men, in our estimation, is "adequate" for a town with West Hartford's characteristics. But that number would not provide the services, nor the protection, now provided—nor that envisioned in the recommendations contained in the preceding section.

Police-fire integration would provide economies of operation but it would also offer risks; it is questionable whether an integrated force could mount an adequate response to unusual public safety emergencies. Other risks or costs must also be weighed: higher salaries for public safety officers, costs for additional training, costs for possible additional equipment maintenance, influence on morale, an apparent reduction of promotional opportunities, and the opposition of numerous national, state and local police and fire groups.

The history of police-fire integration efforts in this country is not encouraging. There are few incentives that can be offered to make such a scheme work. Total police-fire integration is not recommended as a feasible alternative.

In lieu of complete or total integration, seven other alternatives are presented:

- Functional Integration. This alternative contemplates both departments under one command, a Director of Public Safety (other than the Town Manager), who would coordinate both services. Police officers would be trained to fight fires and would respond to alarms in the normal course of their patrol duties. Trained men are thus available as replacements for or as supplements to the regular fire force. Given an adequate public safety facility, firemen could be trained to handle many kinds of inside police duties such as fingerprint classification and search, records maintenance, photographic processing, prisoner custody, supply management, etc. These duties would be structured so not to interfere with immediate response to fire alarms.

- The Third Force. This alternative contemplates the creation of a new public safety unit, in essence, a third force, to operate as a police unit except when fighting fires. Public safety officers would be recruited from both the police and fire departments and trained in the other discipline. Salaries would be higher for public safety officers, to make the proposal workable. Such a force could be developed over time and all new recruits given an opportunity to join any one of the three services—police, fire or public safety. Officers so trained would serve as one-for-one replacements for firemen on duty in fire stations.

- Town Employees and Volunteers. A volunteer fire department would be impractical in West Hartford. The reasons are too numerous to mention, but the most critical factor would be getting sufficient volunteers during regular daytime working hours. But, if other employees of the Town could be trained and could be made available in day-time hours, volunteers might be relied on for evening and early morning response. The feasibility of this alternative, as well as costs and benefits, would have to be weighed very carefully.

- Service Integration. In lieu of operational combinations (i.e., fire fighting and police patrol duties), certain services may be combined—again, as noted above, given an adequate public safety facility. A combined police and fire Communications Center, as recommended, is one form of service integration. Several others, noted above, would concern staff activities: records, training, maintenance, etc.

- Fire Patrols. Before the days of telephone and other rapid alarm systems, fire patrols were common in settled areas. Certainly there is little need for a fire patrol per se, but in view of the mounting number of property crimes in the Town, there is need for additional forces to check the physical security of commercial premises and vacant homes. Such patrols would be in accord with the fire mission of the protection of property.

- Public Safety Inspections. All progressive fire departments inspect property to uncover and correct potential fire hazards. With little additional training this activity could be broadened to include inspection from the aspect

of physical security, i.e., locks, window screening, intrusion alarms, etc.

- Inter-Departmental Training. There are several ways that inter-departmental training could be of benefit to the Town. Having firemen on duty with police training and vice versa would provide an extra measure of security for the town in its capacity to cope with the unusual public safety emergency. The costs and benefits of any single training proposal would have to be weighed.

There are numerous other possible working modes, but these represent seven that may be of greatest value when policy about public safety services is considered.

Additional Recommendations.

We recommend that the West Hartford Fire Department be given a new, major role in the protection of property. Specifically, we recommend the following:

- The Fire Department should undertake an active patrol surveillance directed toward the security of property, both public and private, commercial and residential. This service contemplates a motorized patrol of the Town, in constant radio contact with the Communications Center and available to answer any fire alarm in its district of operation.

Four two-man motorized fire and property security patrols are recommended, one for each fire station, to be operated between the hours of 8 a.m. to 4 p.m. and 7 p.m. to 3 a.m. The two-way radio patrols are designed to provide an extra measure of property protection, with the hope of reducing property crimes. In addition to checking on the physical security of businesses and vacant houses, the patrols would also be expected to provide surveillance of public property (schools, parks, etc.) to check for vandalism and to report any suspicious activity to police patrols via radio or telephone. [Note: This recommendation in no way contemplates that fire personnel would be required to exercise any power of arrest (beyond that power of arrest possessed by any private citizen), nor is it contemplated that the fire patrol would be required to take any positive law enforcement activity other than the notification of police patrols via radio or telephone.]

- Fire inspections should be broadened in their scope to include a complete safety review of premises including security from fire and security of premises from burglars. Locks, alarms and other security devices should be recommended in the course of the inspection. A second man should be added to the full-time inspectional staff. Daytime motorized fire patrols can be used to catch up on the inspectional backload as required, provided that one man stays in radio contact and both men are available to respond to an alarm when needed.

- These additional duties and responsibilities for the West Hartford Fire Department should be incorporated into an appropriate written directive (ordinance, resolution, rule or regulation) and the Town Manager in his role as Director of Public Safety should make specific assignments of duties and responsibilities in cooperation with the Police and Fire Chiefs.

3.2 Career Development

The Town of West Hartford, generally, has provided career development opportunities for its public safety services in terms of in-service training, training at specialized courses, and encouragement of college and university attendance, both by tuition reimbursements and by salary increments for course credit achievements. These are progressive steps by an enlightened Town, concerned with its employees and their careers.

Over and above these measures, the following recommendations concern career development. These are:

- The top level salaries in the fire and police departments should be increased to provide a more equitable spread between the chiefs and the next lower rank. Entitlement to eleven paid holidays for the assistant Chiefs narrows the salary gap between the two ranks. This situation is undesirable from a career development standpoint.

- The entrance of collective bargaining in the public service, and particularly in public safety services, has changed the very nature of public management. In West Hartford, management levels in both safety services

should be excluded from the collective bargaining unit.

- The community crime control teams recommended in the police department are seen as a career development avenue. In one sense, they help to equalize promotional opportunities between the police and fire departments, even after a reduction of fire stations and certain supervisory positions. In another sense, these teams are seen as a device to train and broaden the experience of officers as they rotate in and out of the teams.

- Lastly, and in terms of recommendations presented, the creation of fire patrols and the broadening of inspectional activities should bring a new dimension to the fire service and thereby promote career development.

Observations and Recommendations.

Little, if anything, has been written about career development in municipal public safety services. The President's Commission on Law Enforcement and the Administration of Justice addressed itself to career development, primarily from the aspect of encouraging minority group recruitment in urban police departments and promoting lateral entry to ranks above patrolmen from other police departments, colleges, private industry, etc. The concept of the "police agent" (i.e., a senior level patrolmen) was also put forth. The police agent was seen as a senior career level position, comparable in many respects to the senior agents in Federal Law enforcement agencies.

Anything the Town does, in either public service, in the way of career development will, in all probability, advance the state-of-the-art.

Any recommendations formulated or advanced must take certain factors into account. First, the needs of the Town and its public safety services must be recognized. Beyond this, the needs of other Town services (public works, recreation, etc.) must be recognized. Second, the needs of departmental members must be recognized—as members of those services and as individuals. Third, any proposals put forth must be consistent with collective bargaining agreements and probably should be incorporated in them, at some future date. Fourth, risks or uncertainty must be considered. A superior police and fire service in West Hartford may be "fair game" for any neighboring community to select a new chief or other superior officer. Fifth and finally, costs must be considered.

In view of the fine start toward career development that the Town has made, only two very general recommendations are made; specific recommendations about training, education, pensions, etc., are left to the give-and-take collective bargaining process. (We view specific recommendations on those subjects as beyond the scope of this study.) These recommendations are that:

- Career development for the public safety services should be cast within a framework of career development for all town employees.
- Some mechanism should be developed for implementing any specific recommendations. A mechanism such as an annual personal review with the Chief and the Assistant Chief might be undertaken to explore career goals and aspirations, progress and prospects.

3.3 Cost Implications

The following is a brief overview of the recommended program, with estimated costs. Complete details, including the reasoning behind the recommendations, are presented in Sections 4.0 and 5.0.

Recom- mendation no.*	Recommendation	Cost estimates		
		Additions or (reductions) in annual operating cost	Capital expendi- ture	Income from sale of property
1	<u>Police</u> Centralize and remodel public safety communica- tions center		\$ 30,000	
2e	Employ 8 civilians—5 dispatchers and 3 typists	\$45,600		
2e	Recording and transcribing equipment, typewriters	2,500		
6	Evidence and found property control system and space rental for evidence	2,500		
7	New police headquarters		†	

Recom- mendation no.*	Recommendation	Cost estimates		
		Additions or (reductions) in annual operating cost	Capital expendi- ture	Income from sale of property
9	Crossing guard alterna- tives	‡		
11	Pay increase for chiefs (Fire and Police)	3,600		
1	<u>Fire</u> Eliminate Engine Co. 1, sell station 1, assign personnel to the two ladder companies	(12,700)	—	\$ 25,000
2	Combine police and fire department communica- tions	(55,000)		
3	Eliminate 41 fire alarm boxes	(3,600)		
4	Provide better maintenance facilities		25,000	
10	Establish property protec- tion patrols using fire department personnel to relieve police department		16,000	
11	Combine Stations 3 and 5 and relocate Station 2	(3,000)	350,000†	100,000
13	Schedule vacations through- out year and limit number off at any time to 10.	(25,000)		
19	Investigate feasibility of fire department maintain- ing hydrants.	(14,700)		
21	Eliminate teletype service to fire stations	(3,200)		

*See Sections 4.0 and 5.0.

†Cost estimate for a new police headquarters would be dependent upon what facilities would be included for police, fire and/or courts. Cost might range from \$1,000,000 to \$2,000,000.

‡Cost estimate impossible until alternatives have been weighted and decisions made.

¶\$200,000 of this already considered by Town, entire amount long-range program.

4.0 REPORT OF THE WEST HARTFORD POLICE DEPARTMENT

This section contains a functional description of the West Hartford Police Department and its operating sub-divisions. It deals also with the staffing, administration, operating procedures and personnel policies of the organization.

We have analyzed the crime problem of the Town and the manner in which the Department allocates its manpower resources in relation to service demands, and have attempted to identify peripheral responsibilities and tasks that occupy large portions of police time and effort.

Conclusions, recommendations and gross cost estimates are listed in Section 4.1, along with alternative recommendations that hopefully will lead to a more effective utilization of police manpower and will provide a rational basis for future manpower utilization and policy determination.

4.1 Conclusions, Recommendations, and Costs

4.1.1 Conclusions

1. Although West Hartford's crime rate is lower than that of other communities in the Hartford area, crime is a serious problem in the Town, particularly crime against property:

- Burglary increased by nearly 200% (from 204 to 579) in three years (1965-1968).
- Other property crimes (including larceny over \$50) increased over 100% in the same period.
- Auto theft increased from 66 to 136 cases in the same three years.
- Arrests for narcotics and dangerous drugs show a ten-fold increase during the three-year period, from 3 to 31. Arrests in 1969 reveal a continuation of the upward trends. The death of two West Hartford teenagers as a result of narcotics and dangerous drugs confirms the seriousness of the situation.

2. Clearly then, the two most serious problems facing public safety services in West Hartford are:

- Crimes against property, and
- Use of narcotics and dangerous drugs.

3. Any analysis of the West Hartford Police must take these two factors into account. It is our conclusion that existing resources of the Town in the form of public safety personnel are adequate to meet and to curb these crime trends, now and in the foreseeable future, if reallocations of resources are implemented as recommended in this report.

4. The West Hartford Police Department, and its Chief in particular, should be commended on efforts to become involved, and more importantly to take a leading role, in regional law enforcement programs, including the establishment of the narcotics squad operating in conjunction with the Capitol Region Council of Elected Officials, and the programs of the Hartford County Detective Association.

5. Overall, the West Hartford Police Department is a well-organized and well-administered force. It shows every evidence of good management, good leadership, and shows evidence of efforts to improve and modernize its operations. We see no organizational weakness of major consequence. Individual units of the Department appear to be well-organized and well-managed.

6. The Office of the Chief, which includes the Records Division, appears to be well organized and capably run. The Department has an up-to-date manual of procedures. Orders, policy directives, and written communications generally, are in good order.

7. The Department has one of the finest training programs of any department its size in the nation. Examination of its training activities indicates that the Department is conscious of its responsibilities in this area and wisely utilizes low-demand time for the conduct of training. One apparent weakness is a lack of a good training facility and audio-visual aides to supplement lecture materials.

8. Regarding communications, it is our conclusion that: the separate communication facilities of the Fire and Police Departments should be combined into one Communications Center; civilians should be hired and trained to relieve fire and police personnel now assigned; a single emergency number for police and fire services should be implemented (in concert with the issuance of a new telephone directory);

and routine calls for the police department should be re-routed to the Town switch-board—provided the police patrol Captain is co-located with the new Center, to maintain the same command and control function that he exercises at the present time.

9. The West Hartford Police Department has a fairly simple records system which, on the surface, appears to be meeting the information needs of personnel. The system appears to be well-managed and operates with a minimum of personnel. There are few records maintained in other units of the Department; except the Traffic Division, which maintains extensive records of traffic accidents and related information. It is our conclusion that several improvements in the records system are required.

The Police Department should:

(a) Computerize information relating to the incidence of crimes, events and calls for service by type of event, time of day, service time, and geographic location. This is needed for the continuing assessment of manpower needs and allocation.

(b) Eliminate the typing of reports by sworn personnel—both patrolmen and investigative personnel—by using a simplified complaint form and recording equipment, and civilian clerical assistance.

10. In general, administrative and service activities are of high quality; the only exception noted was in the control of evidence and found property. This situation is caused, in part, by a lack of facilities to house property. However, interim steps should be taken to exercise fuller control.

11. There is a dire need for a new police headquarters. The need for this facility should not be understated: new police headquarters should not be considered a luxury that the Town can ill afford in the next 10 or 15 years. Such a facility will have a very positive influence on morale. More to the point, given the broad range of police responsibilities, a new facility is necessary if the Department is to function effectively. Interim relocation of selected divisions should be approached with caution, lest the Department becomes fragmented and loses its cohesiveness and communications.

12. It is our conclusion that police planning (with emphasis upon crime analysis) and inspectional activities should be undertaken by the Department on a more formal basis. Ideally, crime analysis should be carried on at a regional level, with two-way

reporting of information about crimes and criminals from a central agency in the Capitol Region. In lieu of this, an interim step (see recommendations, Section 4.1.2) is recommended. In addition, inspection should be carried out to uncover deficiencies in policies and procedures so that these weaknesses can be corrected through training and other means.

13. In terms of manpower levels for sworn and civilian personnel, we conclude:

(a) Sworn personnel manpower is adequate to meet the policing needs of the Town of West Hartford at the present time and into the foreseeable future (at least the next five years). The only condition that would change this conclusion is an unchecked crime rate or some other equally pressing, unforeseen need.

(b) Civilian clerical assistance is required to relieve sworn personnel of inside clerical and non-operational tasks and to typewrite reports now typed by patrolmen and investigators.

(c) There is a need to evaluate the place of Crossing Guards in the Department. Other Communities (e.g., Miami, Florida) have initiated traffic controls and pedestrian signalization to eliminate crossing guards almost entirely. The Department is under continuing pressure to provide police personnel at school crossings. In lieu of new traffic control systems, additional crossing guards should be employed to serve on a stand-by basis, to be assigned as needed when active crossing guards are absent. A review of overtime records for a recent period (Fall 1969) indicated that a major cause of overtime is the additional coverage of school crossings at the time of shift changes. In one ten-day period, that overtime amounted to \$378. Approximately four full-time guards could be employed for that period and assigned as needed.

14. In terms of manpower assignments, we conclude:

(a) Sworn manpower assignments are more dependent upon the need for fixed-post traffic assignments (including school crossings, church and shop traffic) than any other single factor. A re-ordering of priorities is indicated.

(b) The distribution of uniformed personnel among motorized and foot patrols, among shifts and among beats or geographic areas needs to be revised and a system devised to evaluate and alter it periodically.

(c) The Department can and should undertake one or more innovative patrol experiments within existing manpower limits in preference to uniformed foot patrols. One such experiment is recommended.

(d) The assignment of uniformed men to foot patrol in preference to motorized patrol is a questionable practice. It should be the subject of an operational directive from the Chief.

(e) Several changes in detective operations are recommended, including such matters as: split shifts (rather than the end-on-end shift arrangements, as now); working singly, when possible, rather than in pairs; maintenance of identification records and fingerprint classification by a civilian investigative assistant, thus freeing a Lieutenant for more investigative activities; and more active case follow-up and case closing evaluation procedures.

15. Unionization of the West Hartford Police Department is an accomplished fact, and no conclusions are drawn about its merits, per se; however, there are two related matters that require comment:

(a) The inclusion of Lieutenants and Captains in the bargaining units is patently wrong. The inclusion of Sergeants, it seems to us, is a very questionable matter.

(b) Collective bargaining has narrowed a desirable spread of salary steps between the Patrolmen and the Chief. Immediate attention should be given to the matter of top management salaries in the police and fire department, with a thought to raising them.

4.1.2 Recommendations

1. We recommend a centralized public safety Communications Center combining the following features:

(a) A single public safety (police and fire) emergency telephone number.

(b) Remodeling of the present fire emergency switchboard to accept the additional traffic, with routine police administrative calls shifted to the Town switchboard during day-time hours.

(c) Remodeling of the Communication Center and police reception area ("desk") to accommodate the new equipment.

(d) Employment of civilian dispatchers to replace present fire department dispatchers, and the retention of one police officer in the desk area to handle visitors, complaints, prisoners and the telephone and dispatching overload, as necessary.

(e) Retention of the Patrol Captain's desk in close proximity to the Communications Center and desk area, to provide command and control of operations during his tour of duty.

COST ESTIMATE:

Capital expenditure for establishing combined communications center (see Fire Department recommendation #2).	\$30,000
Reduction in annual fire department salaries (see fire recommendation # 2).	\$55,000

Civilian dispatcher salaries (see next recommendation).

2. Given, the establishment of fire patrols, a new Communications Center, and additional crossing guards, we recommend:

(a) A patrol force of 68 uniformed officers distributed as follows:

	Motorized	Foot	Community crime control teams
Shift 1 (mid.—8:00 a.m.)	7	4	2 Lieutenants, 2 Sergeants
Shift 2 (8:00 a.m.—4:00 p.m.)	8	3	
Shift 3 (4:00 p.m.—mid.)	9*	5*	

(*On Shift 3, two cruiser districts and two foot patrol beats would work from 6:00 p.m. to 2:00 a.m.)

(b) Transfer of three positions from patrol—one to Special Services, to concentrate on narcotics and dangerous drug problems, and two to the Detective Division, to improve the clearance rate of property crimes.

(c) As an interim measure, we recommend an immediate restructuring of motorized beats, to equalize workload among cruiser districts. The data that TRC collected can be used as a basis for this restructuring. We further recommend a

semi-annual re-examination of the motorized beat structure, on the basis of prior-year data collected in the form recommended in 5. (c). Data for a six-month period of the prior year (e.g., April—September 1970) should be used as the basis of a re-deployment of beats on the current-year anniversary date (e.g., April 1, 1971). Data from October 1970 to March 1971 can be used for an October 1, 1971 redistricting.

(d) Formation of two community crime control teams under the direction of the Assistant Chief. Each team would include one Lieutenant, one Sergeant, one Detective and one Patrolman, whose mission would be to concentrate on one geographic area at a time in an effort to curb recurring types of crimes. Teams should be allowed as much initiative as possible in determining how they work., e.g., in or out of uniform, singly or other combinations, and their working hours should be flexible to fit the particular circumstances encountered. Each assignment should be considered a single experiment, and should be documented to determine what kind of activity is most successful. Quarterly reports should be sent to the Town Manager, but the teams should be given a minimum of one year to prove or disprove the concept as a way of curbing crime in the Town.

(e) Employ eight civilian employees: five as dispatchers and three to perform the typing tasks of the Patrol Division and the typing and other clerical tasks of investigative units. We recommend assigning the three clerk-typists to the Assistant Chief's office as a "pool," with hours arranged so they are available as needed, including weekends. [Note: A reduction of five firemen will more than offset employment of the eight civilian employees.] Recording and transcribing equipment should be included as an integral part of this recommendation.

COST ESTIMATE:

Employ eight civilians.	\$45,600
Purchase recording and transcribing equipment, typewriters.	\$ 2,500
Other costs, negligible.	

3. The West Hartford Police Department should continue to participate in the Regional Narcotics Squad and continue to take an active role in stimulating other regional efforts.

COST ESTIMATE:

Little additional cost involved.

4. The Department should continue its training program and should continue to experiment and innovate, as it has in the past.

COST ESTIMATE:

None.

5. In addition to clerical assistance in typing records, we recommend:

(a) A new form (Miscellaneous Service Report, see Appendix A) to record all minor non-criminal matters, including sick calls, barking dogs, noisy parties, street obstructions, assistance to the public, etc. This form would be hand printed by officers in the field.

(b) Two additional forms (Field Case Report and Field Supplementary Report, see Appendix A) for use by police officers to record information relating to any investigation, complaint, or arrest of a criminal nature. These forms will also be completed by officers in the field rather than at headquarters.

(c) A Communications Center Complaint Log (see Appendix A) to record all police calls for service, their location, time of assignment, time of completion and disposition. Data on this form would be keypunched for storage and subjected to analysis at some later time.

COST ESTIMATE:

Some initial costs to print forms; little if any recurring additional expenditures.

6. A very simple evidence and found property control system should be instituted, based on pre-numbered inventory tags and a secure file of receipts. [The Town's Director of Finance should be consulted in this matter, since the problem is similar to many financial control systems.] Additional secure storage facilities should be rented for bulky items or for older items awaiting disposition.

COST ESTIMATE:

Control system and rental of space.

\$2,500

7. A new police headquarters and/or public safety complex is a must for the near future. [In lieu of this facility, the remodeling for the new reception area and Communications Center should proceed.]

COST ESTIMATE:

This is dependent upon facilities for police, fire and/or courts. Costs could range from \$1,000,000 to \$2,000,000.

8. We recommend that the Training Officer be designated as Department Inspector and Planning Officer, in addition to his other duties, until the need for additional staff is assessed by the Chief and the Town Manager. A work program should be laid out for both activities at least six months in advance, recognizing the limitations of staff so assigned. Planning efforts should be limited to crime analysis as a first activity. Inspections should attempt to answer the question: Is the West Hartford Police Department responsive to the needs of the Town in terms of the efficiency and effectiveness of services performed? Officers in training could be used profitably in interviewing crime victims and/or complainants about the quality of services rendered. A simple random sampling plan and questionnaire would provide a basis to proceed.

COST ESTIMATE:

Little additional cost involved.

9. We recommend a long-term reduction in the need for sworn personnel to service school and church crossings. A number of alternatives are available:

- (a) Employment of more crossing guards.
- (b) Employment of stand-by crossing guards to meet departmental needs on a day-to-day basis.
- (c) Training of volunteers from church groups to assume the church traffic crossing responsibility.
- (d) Periodic reappraisal of intersections to determine the need to continue the service.
- (e) Development of a traffic plan and pedestrian signalization program to eliminate the need for crossing guards over the next three to five years.

- (f) Transfer of the school crossing guard activity to the Board of Education.

A combination of options (b), (c) and (d) in the short-run, and (e) in the long-run appears to be the most promising solution.

The Lieutenant assigned to the Traffic Division, under direction of the Captain, should be given the responsibility for developing and implementing the short-term solutions and preparing a longer-term plan to meet the requirements as outlined in (e).

COST ESTIMATE:

An estimate is impossible until alternatives have been weighed and decisions made. Costing would be an important part of the analytical responsibilities of the Lieutenant assigned.

10. The Town of West Hartford should make every effort to remove Captains and Lieutenants (and Sergeants, if possible) from the collective bargaining units. Management of the Department rests in the hands of many people other than the Chief and the Assistant Chief. This fact should be recognized by the Town and by the men involved. A separate bargaining unit for superior officers is a better alternative.

COST ESTIMATE:

None.

11. Finally, the pay schedule for both Chiefs (police and fire) should be amended so there is a sufficient spread between this rank and the next lower rank. A twenty percent differential would be considered minimum

COST ESTIMATE:

Salary increments.

\$3,600

4.2 The Town and the Crime Problem

4.2.1 The Town of West Hartford

West Hartford, originally settled in the early 1700's, was incorporated as a separate town in 1854. In its early history, the Town was primarily an agricultural community: It is now a fine residential community with flourishing and expanding retail businesses and a number of important industries.

The Connecticut Department of Health estimates the current population (1968) at almost 77,000. The West Hartford Town Planner estimates total population as 70,000 and estimates an increase of 1,500 per year over the next five years.* The average age of citizens is rising, and a higher death rate than birth rate has been noted.

According to the Planner, future construction will consist essentially of apartment dwellings in the area east of Trout Brook Drive. Persons moving into the apartments will either be young couples with small children or elderly persons with no children.

As in most towns, the property tax is the principal source of revenue for West Hartford. The Town Council adopted a budget of \$26,642,565 for fiscal year 1969-70, of which \$1,480,727 is allocated for the Police Department and \$1,273,105 for the Fire Department.

West Hartford has a Council-Manager form of government that administers a complete array of services: Public Safety, Public Works, Education, Recreation, etc., for the citizens of the Town.

4.2.2 Crime in West Hartford

The crime of burglary and major larceny (value of merchandise in excess of \$50) constitutes approximately 84% of Part I (serious) offenses, as reported to the FBI by the West Hartford Police Department for the year 1968. (See Table 4-1.) Yet, for crimes against property, the police clearance rate is 15% for burglaries and 18% for larcenies over \$50.

These figures confirm, in part, what the Chief of Police perceives as his major problem in the Town. Crimes against property (i.e., burglary, all categories of larceny, auto theft, and vandalism), rather than crimes of violence directed at individuals, are the principal concerns of the West Hartford Police Department.

Statistics also reveal that the use of narcotics and dangerous drugs has arrived in West Hartford. In October 1969, seven cases of drug overdoses, two resulting in deaths, brought forth a strong outcry from the public.

*For statistical purposes, the 77,000 estimate is used.

TABLE 4-1
PART I SERIOUS OFFENSES AND NARCOTICS AND
DANGEROUS DRUG ARRESTS FOR YEARS 1965-68

Columns	1965			1966			1967			1968		
	1	2	3	1	2	3	1	2	3	1	2	3
Murder	—	—	—	—	—	—	—	—	—	—	—	—
Forcible rape	19	9	6	1	1	—	—	—	—	—	—	—
Robbery	5	1	—	1	1	0	1	0	—	8	1	0
Aggravated assault	11	10	1	6	4	0	12	10	3	9	9	0
Burglary	204	39	28	202	36	31	310	55	33	579	86	35
Larceny over \$50	80	27	12	72	32	12	115	41	19	192	36	12
Under \$50*	123	75	51	127	93	56	235	185	101	197	140	66
Auto theft	66	29	23	54	15	10	77	21	14	136	34	21
Total Part I offenses	376	115	70	336	90	53	525	127	69	924	166	68
Narcotics and dangerous drugs arrests	—	3	NA	—	16	14	—	29	20	—	31	16

* Larceny under \$50 not included in totals.

Source: West Hartford Police Department
Annual Report.

Col. 1 Offenses reported (actual)

Col. 2 Offenses cleared by arrest

Col. 3 By arrest of person under 18 (included in Col. 2)

Monthly crime figures for January 1—October 1, 1969 (see Table 4-2) disclose some perceptible shifts in crime volume, but assuredly do not change the overall crime picture. For this period, the burglary rate is down 29.7%, clearances are up to 18.6%; larceny over \$50 has exhibited an 18.7% increase, clearances are up slightly to 18.4%; larceny under \$50 and auto theft are running at approximately the same rate as reported last year, but the clearance rate for larceny under \$50 is down from 71% to 54.7%.

Compared to the Hartford Metropolitan area and other cities in the same population class, West Hartford enjoys substantially lower major crime rates (see Table 4-3).

All department-recorded case activity is increasing at a slow but manageable rate:

Number of case reports filed with records unit	
1967	5,614
1968	6,185 (10% increase over 1967)
1969 (11 mos.)	5,929 (4% projected increase over 1968)

4.3 Overview of the Department

The law enforcement activity for West Hartford is performed and carried out by its police department. The Town Manager is the Public Safety Director, by Charter, but the responsibility for the on-going, every-day operation of the Department is vested in the Chief of Police. The Department has a current budget authorization of \$1,480,727, which supports an authorized strength of 125 officers and civilian personnel. The police budget provides \$91,347 for civilian crossing guards, who furnish traffic control direction for the protection of school children at major streets and intersections. The Police Department budget reflects total expenditures of 88.5% for personal services.

A review of police department data for one hundred eighty-eight cities* in the 50—100 thousand population class discloses that West Hartford compares favorably in terms of personnel:

* Source: The Municipal Yearbook, 1968.

TABLE 4-2
PART I SERIOUS OFFENSES FOR
JANUARY 1—OCTOBER 31, 1969

Columns	January			February			March			April			May			June			July			August			September			October			Clearance rate 1st 10 mos. '69
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	
Murder	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rape	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	100 %
Robbery	2	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	2	1	—	100 %
Assault	—	—	—	1	1	—	—	—	—	2	2	—	—	—	—	1	1	—	1	1	—	2	2	2	—	—	—	3	3	3	100 %
Burglary	30	17	8	25	5	3	30	—	—	31	5	4	43	1	—	36	2	—	26	3	2	38	12	1	38	2	1	42	16	11	18.6%
Larceny over \$50	10	4	3	15	4	1	14	4	2	24	6	3	25	3	1	10	1	1	24	5	2	25	3	1	8	1	—	35	4	2	18.4%
Under \$50*	7	3	2	16	10	6	11	4	3	16	12	7	21	16	12	15	5	5	21	7	2	15	11	5	8	3	1	27	15	6	54.7%
Auto theft	12	—	—	5	1	1	16	3	3	10	—	—	11	—	—	18	—	—	19	2	1	11	11	11	9	1	—	15	6	4	18.3%
Total Part I offenses*	55	23	14	46	11	5	60	7	5	67	13	7	79	4	1	65	4	1	71	10	5	76	28	15	56	4	2	95	31	21	20.1 (av.)

*Larceny under \$50 not included in totals.

Source: West Hartford Monthly Reports to the FBI.

Col. 1 Offenses reported (actual)

Col. 2 Offenses cleared by arrest

Col. 3 By arrest of person under 18 (included in Col. 2)

TABLE 4-3
CRIME RATES PER 100,000 POPULATION (1968)

	West Hartford West Hartford	257 cities of U.S. (50-100 thousand population class) total population 17,926,000	Hartford metropolitan area (includes Hartford New Britain, and Bristol)
Murder	0	4.5	3.0
Manslaughter	6	3.6	NA
Forcible rape	0	12.3	9.2
Robbery	10	87.9	169.5
Aggravated assault	9	115.8	85.7
Breaking and entering	750	934.8	1011.3
Larceny over \$50	249	768.7	636.8
Larceny under \$50	256]	1504.3	NA
Auto theft	177	422.2	402.2
Total crime index	1200	2346.2	2217.6

Source: FBI Uniform Crime Reports, 1968 and West Hartford Police Annual Report.

	Uniformed personnel, per 1000 population	Full-time employees, per 1000 population
West Hartford (77,000 population)	1.26	1.62
188 other cities (50--100,000 population)	1.36	1.57

The objectives of any police department are usually tailored to the particular needs of its community. These objectives reflect the legal mandates contained in State Law, local ordinance, community customs and mores, and the personal philosophies of the police chief and his ranking officers. From our observations, West Hartford Police Department operations are aimed at achieving four major objectives:

- Control and reduction of crime,
- Maintenance of public order,
- Movement and control of traffic (vehicular and pedestrian), and
- Furnishing a high level of public services.

4.3.1 Organization

The organizational objectives stated above, similar to those of most American local municipal police agencies, are the responsibility of the West Hartford Police Department, which is organized along para-military lines (see Fig. 4-1).

The Chief of Police is the head of the police department, subject to the Town Manager. Subordinate to the Chief and reporting directly to him are the Assistant Chief, the Commanding Officer of the Special Services Division, and the Supervisor of Records, who also acts in the role of Office Manager for the chief.

Structurally, the Department is divided into eight major organic divisions, each with its own functional responsibilities:

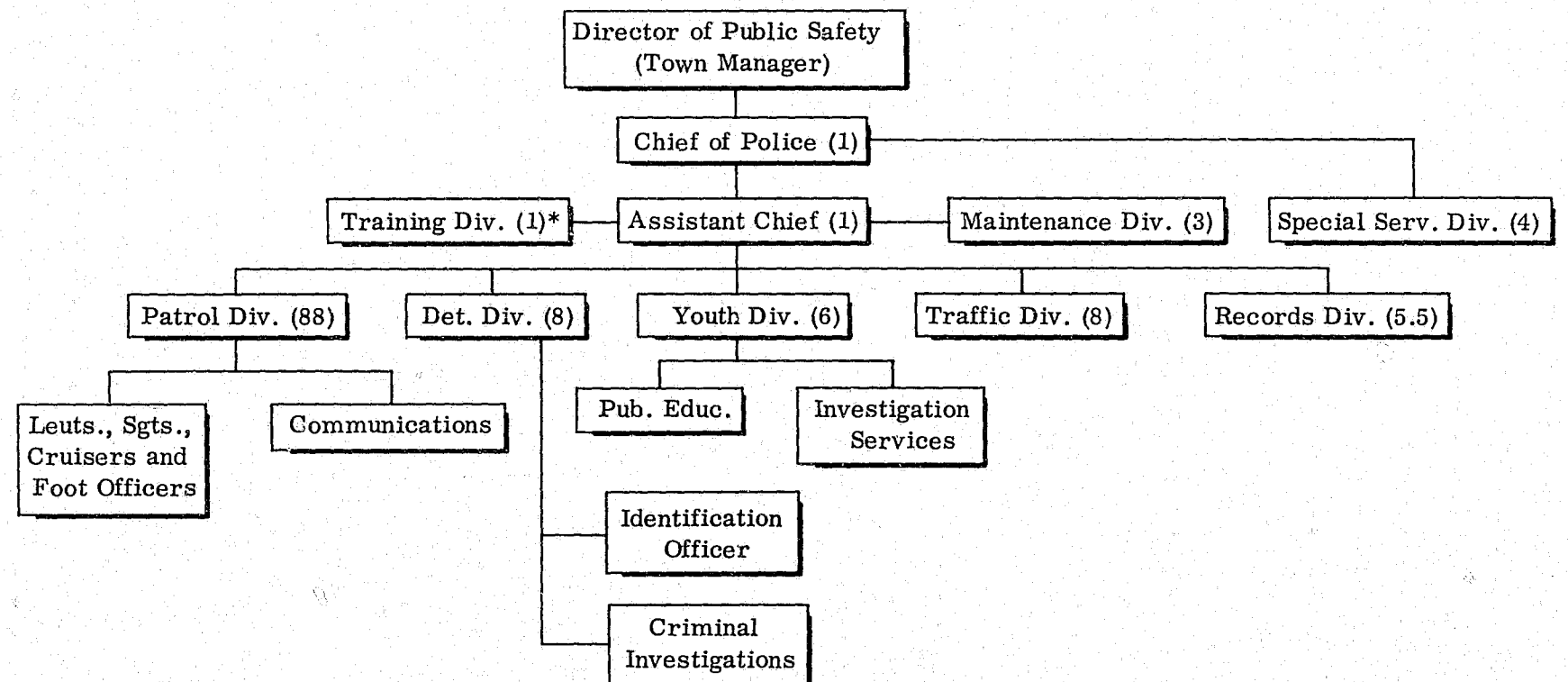
Line Divisions

- Patrol
- Detective
- Special Services
- Traffic
- Youth

Staff and Administrative Divisions

- Training
- Records
- Maintenance

ORGANIZATIONAL CHART WEST HARTFORD POLICE DEPARTMENT



*Represents number of persons assigned to unit or function.

Fig. 4-1. Organizational chart.

4.3.2 Command

In the chain of command, the Chief and Assistant Chief provide the top level of direction and control for the Department. The Chief of Police is appointed by the Town Manager and is responsible for the overall police operation. The Assistant Chief, a position under the civil service system, is second in command, holding all authority and responsibility of the Chief in his absence.

The Chief and Assistant Chief work harmoniously with one another, thereby providing a sound basis for maintaining administrative control, direction and communication.

The communications process is well defined and understood by all. All written orders passed on to units within the chain of command are indexed and properly maintained so that they can easily be referred to as circumstances dictate. It appears that the Chief makes good use of staff meetings; during our on-site survey, we observed meetings in progress on several occasions.

The Chief keeps well informed about the crime problems within the community. His daily routine includes a review of the previous days' police case reports which contain written investigative summaries dealing with specific incidents or crimes reported to the police.

Although Fig. 4-1 reveals that only the Assistant Chief and the Commander of the Special Services Division report to the Chief, it appears that, in practice, division commanders report to the Chief and Assistant Chief, depending on their respective availability, because of the physical closeness of the divisions and the relatively small number of people in command positions. The final decision-making authority in important matters is vested in the Chief.

4.4 Patrol Division

The Patrol Division is the basic uniformed police unit that delivers police services to the citizens of the Town. West Hartford is divided geographically into nine cruiser districts and eleven foot patrol beats (see Appendix B). Three radio-equipped scooters are also used very frequently to provide added coverage of foot patrol beats. In addition to the district cars, two traffic accident vehicles and two sergeant cars are available for back-up services. A majority of the Department's

personnel strength (89 of 125) is assigned to the uniformed Patrol Division, which operates on a round-the-clock, three shift system of eight-hour watches. Each shift has a Captain in charge, who is directly responsible to the Assistant Chief. A Lieutenant, two Sergeants and 26 officers are assigned to each shift.

In assigning manpower in this Division, cruiser districts are usually filled first; foot beats, second. In rare instances, when a full complement of officers is not available to fill all authorized assignments, some commanding officers prefer to leave a cruiser "off the line" in order to fill a high priority foot beat.

The uniformed officer in the field is of strategic importance to the operations of any department. Many police managers describe him as the "backbone of the Police organization." The basic objectives of the uniformed patrol officer are to:

- prevent crime,
- protect life and property,
- preserve the peace,
- apprehend criminals,
- recover lost and stolen property,
- collect evidence for criminal prosecution,
- regulate human behavior and conduct (maintain order) within the limits of the law and the Constitution.

To achieve these objectives, West Hartford Patrolmen are deployed primarily in cruisers and on foot—the latter in highly-concentrated business areas. Much of their time is spent randomly patrolling the beats and districts, performing inspectional, traffic and public relations-oriented duties. Citizens in need of assistance can secure it either by direct telephone contact with police headquarters or by personally contacting the officer on the street. The overwhelming majority of police activity is generated by telephone requests.

The following sections (4.4.1—4.4.4) describe very briefly some aspects of the patrol operation, e.g., communications, procedures and traffic control, which significantly affect the manpower allocation scheme of the Department. Sections 4.4.5—4.4.7 concern an analysis of the demand for Patrol Division services, and related findings.

4.4.1 Communications

A vital part of the patrol operation is the communications room, in which a radio dispatcher directs and control all field units. At peak hours, this alone requires his full attention. The dispatcher also acts as a switchboard operator, routing in-coming calls to other members and operating units of the Department. He records pertinent police data on a log sheet, and answers inquiries of citizens coming into the station. All this takes place in cramped quarters and against the backdrop of other routine activity.

A study of telephone patterns at the radio dispatch point, by the Southern New England Telephone Company early in 1969, disclosed the following:

Average number of calls per day	297
Average number of calls per peak hour	37
Time of peak hour	12:00 p.m. to 1:00 p.m.
Average number of routine calls	281
Average number of emergency calls	16

In order to help the radio dispatcher handle multiple duties, the Patrol Captains often assign an officer from a foot beat to assist him. The second officer also books prisoners, operates the teletype machine, and performs other duties. The pattern of officer assignments in the communications room is as follows:

	<u>Sun.</u>	<u>Mon.</u>	<u>Tues.</u>	<u>Wed.</u>	<u>Thurs.</u>	<u>Fri.</u>	<u>Sat.</u>
8 p.m.—4 p.m.	1.5*	2	2	2	2	2	2
4 p.m.—12 mid.	2	2	2	2	2	2	2
Mid.—8 a.m.	1.5	1.25	1.25	1.25	1.5	1.5	1.5

*Number of officers assigned to communications room.

4.4.2 Traffic Intersection Control

For years, because of tradition and community desires, the West Hartford Police have provided many types of service. One of these is the regulation of traffic at religious institutions and at intersections for school children. Each year brings additional requests and pressures for the use of police officers for intersection

control. If steps are not taken to evaluate these requests carefully, a greater amount of police officer time will ultimately be spent in these areas than on matters of property and personal security crime prevention. For example, on Sunday mornings nearly all patrol cars are tied up at church traffic assignments. A rough, but very conservative, indicator of how this function dissipates police manpower is derived from these figures:

Church instruction class traffic	12.6 hrs.*
Sunday church traffic	37.25 hrs.
School traffic (on-duty personnel)	82.0 hrs.
Shop traffic	36.0 hrs.
Total man hours per week	167.85 hrs.

A recent period was selected to study police over-time payments for service at school traffic posts. The ten-day period, October 19, 1969 to November 1, 1969 was selected. Police overtime for school crossing guard control amounted to \$378.13.

In many instances, citizens demand the assignment of crossing guards to a particular intersection because there are no traffic controls present. Later, mechanical traffic signs and walk lights are installed at these intersections, but the school crossing post is not eliminated.

Almost all cities use police officers for point intersection control, and to a varying degree, employ police and civilians as school crossing guards. The experience of other cities may suggest solutions for local problems.

Miami solved its crossing guard problem in one day when it dismissed 188 crossing guards. Originally, as in so many other cities, police officers had been assigned to school crossings, only to be replaced later by civilian guards. Because of civilian absenteeism, sickness, or other reasons, police officers continued to serve as "fill-ins." As the result of a study, Miami installed mid-block crossing lights, with attached pedestrian control signals and imposed a system of one-way streets around the schools to replace the crossing guards.

*Source: West Hartford Police Department.

4.4.3 Vacant Houses

One example of the services performed by patrol units is the checking of vacant homes. Many residents going on vacation notify the police. Each patrol unit maintains a log containing information on the vacant homes in his district. At times, the total list includes well over 1,000 homes. Records fail to disclose, however, how often these homes are checked. Nevertheless, West Hartford residents have come to expect this type of service from its police Department; even though anything more than a random check of homes is not at all feasible under existing authorized strength. If each home were checked on each shift, it might easily require the entire available patrol effort of the mobile patrol force.

4.4.4 Reporting Procedure

When an officer concludes an investigation, he is required to complete and type a case report which, after review by department supervisors, is sent to the Records Room, where it becomes a permanent department record. If an arrest is made, additional reports, all typed, are submitted to the Prosecutor of the Circuit Court.

Since typewritten reports are required as a matter of department policy, it is necessary for officers, at the conclusion of an investigation, to go to headquarters where typewriters are available to complete their reports.

At times, a number of officers are at headquarters typing reports, depriving the town of on-street police service. According to command officers, this practice consumes a significant portion of the patrol officer's time, and varies with the typing skills of the individual officers.

4.4.5 Patrol Services

The Patrol Division is, in essence, the uniformed emergency response force of the Department. As such, it must be available to respond to calls for service from citizens of the community.

An analysis of communication records and interviews with radio dispatchers discloses that the radio cars handle the overwhelming majority of calls for service. They respond to every conceivable type of call: felony in progress, domestic complaints, vandalism directed at property, thefts, assaults, narcotics violations, juvenile complaints, missing persons, suicide attempts, accidents on public and private

property, sick and injured persons, point intersection traffic control, and numerous other types of demands for police assistance. In all instances, the radio car goes to the scene and an officer conducts his investigation. In serious incidents that require a large amount of investigation time and technical attention, the officer usually conducts a preliminary investigation, which is followed up by the specialized units within the Department.

4.4.6 Analyzing the Demand for Services/Methodology

The allocation of police manpower to the various functions within the responsibility of the West Hartford Police Department is basic to this research study. Our approach was to study the resource allocation problem by analyzing the demand for police services, and to draw conclusions about three kinds of questions:

- What kinds of police services are provided?
- Where are these services performed? and
- When are they performed?

The answers to these three basic questions will allow the police administrator to allocate his manpower more efficiently and more effectively.

The demand for police services can be expressed by the numbers of calls for services entering the Department. Although inspectional and patrol activities are also necessary and important functions of the department, the calls for services record provides a quantitative base for demand analysis. A representative data sample was designed and extracted from Department records for the year 1968. This data set was designed by pre-screening each month of the year for key indicators of police activity, to select two months that represented a slow and a busy period respectively. The indicators of monthly activity included:

- Total number of calls for police services,
- Total number of arrests,
- Number of fire calls received,
- Accumulated mileage on cruisers.

The pre-screening of the data indicated that the months of February and October were representative of a slow and a busy period, respectively, in 1968. The professional staff of the Department agreed. These data were then analyzed.

Data were taken from two records, the daily Desk Reporter (the "blotter") and the Radio Log, and were cross-checked to assure completeness.

A format was designed for extracting the relevant information about each incident and coding this information on a standard electronic data processing coding sheet. The format was designed so that one incident was coded on one line; consequently, each incident is represented by one 80-column punch card.

Incidents were categorized and encoded as follows:

- | | |
|---|--------------------------------------|
| 1. Criminal Homicide | 19. Disorderly Conduct |
| 2. Forcible Rape or Attempts | 20. Vagrancy or Loitering |
| 3. Robbery | 21. Gambling |
| 4. Aggravated Assault | 22. Vandalism |
| 5. Breaking and Entering | 23. All Other Criminal Offenses |
| 6. Larceny over \$50 | 24. Illegal Parking |
| 7. Larceny under \$50 in value | 25. Auto Accidents |
| 8. Auto Theft | 26. Traffic Violations |
| 9. Other Assault | 27. Dog or Animal Violations |
| 10. Forgery or Counterfeiting | 28. Other Offenses |
| 11. Embezzlement or Fraud | 29. Blank |
| 12. Stolen Property (receiving
(or possession) | 30. Missing Persons or Runaways |
| 13. Weapons (receiving or
possession) | 31. Mental Cases Aided by Police |
| 14. Sex Offenses (except No. 2) | 32. Suicide or Attempts Investigated |
| 15. Offense Against Family or
Child | 33. Sudden or Untimely Death |
| 16. Narcotic Drug Violations | 34. Hospital Transports |
| 17. Liquor Violations | 35. Aided Persons |
| 18. Drunkenness | 36. Public Casualties |
| | 37. Public Hazards |
| | 38. Lost Property |

- | | |
|---------------------------------|--|
| 39. Found Property | 49. Bank Escorts |
| 40. Suspicious Persons | 50. Notifications Delivered |
| 41. Suspicious Vehicles | 51. Request for Police Records |
| 42. Unsecured Buildings | 52. Assistance to Other Police
Agencies |
| 43. Vacant Homes Checked | 53. Defective Equipment Warnings
Issued |
| 44. Street Light Outages | 54. Traffic Violations Warnings
Issued |
| 45. Burglar Alarms responded to | 55. Parking Tickets Issued |
| 46. Traffic Control Assignments | 56. Prisoner Transports |
| 47. Fire Calls | 57. Other Services |
| 48. Funeral Escorts | |

Data were key punched and edit-checked to assure coding and punching accuracy, in preparation for analysis on automatic data processing equipment. The actual data analysis was conducted by a proprietary computer program specifically designed by TRC for this purpose.

A series of runs was specified and completed using TRC's Complaint Analysis Program to generate the following information: (1) average hourly frequency of calls, for 13 types of service, by beat location; (2) the distribution of these calls by day of the week, month, and season of the year; and (3) average length of time required to perform these services.

In our final summary, all incidents were placed in the following 13 broad categories, to facilitate interpretation:

Type of Incident	Code Classification
Breaking and Entering	5
Larceny	6, 7
Auto Theft	8
Vandalism	22
Auto Accidents	25
Assaults	4, 9
Disorderly Conduct	12
Other Offenses	23, 28

<u>Type of Incident</u>	<u>Code Classification</u>
Missing Persons	30
General Assistance	31—36, inclusive
Burglar Alarms	45
Fire Calls	47
Other Incidents	37—57, inclusive, except 45, 47

Our analysis of demands for service does not take into account (1) checking of doors of business establishments, (2) checking of vacant homes, and (3) performance of traffic direction (point intersection control) duties, because these activities are not completely recorded in department records. We were also unable to determine the average time required to perform the various services because, here again, department records do not routinely reflect "dispatch time" and "time cleared" on each complaint.

4.4.7 Calls for Services: Findings

Our Complaint Analysis Program reveals the following trends, with respect to citizens' daily demands for service communicated to the West Hartford Police Department for the year 1968. Door-checking activity, schools and shop traffic assignments, and vacant house surveillance are not reflected in our findings.

- Requests for service are highest on shift 3 (4:00 p.m.—12 mid.); next on shift 2 (8:00 p.m.—4:00 p.m.); and lowest on shift 1 (12 mid.—8:00 a.m.). (See Table 4-4.)
- Routine service calls ("other incidents," item 13, Table 4-4), e.g. check suspicious cars, lost property, public hazards, unsecured buildings, notifications, etc., represent the highest frequency of calls, with auto accidents and fire calls next, respectively.
- The motor patrol force handled an estimated average of 26.7 calls for service per day for 1968. (See Tables 4-4 and 4-5.)
- Average workload, in calls for service per assigned motor patrol officer, is .99 calls, or slightly less than one call per day. (See Tables 4-4 and 4-5.)

TABLE 4-4
DISTRIBUTION OF CALLS BY SHIFT FOR EACH TYPE OF CALL
FOR MONTHS OF FEBRUARY AND OCTOBER 1968 AND FOR YEAR 1968

Type of call	Total number of calls for period											
	February 1968 (actual)				October 1968 (actual)				Total for year 1968 (estimated)			
	Shift 1	Shift 2	Shift 3	Total	Shift 1	Shift 2	Shift 3	Total	Shift 1	Shift 2	Shift 3	Total
Break and Enter	8	7	9	24	11	16	27	54	114	138	216	468
Larceny (all types)	2	5	5	12	8	32	25	65	60	222	180	462
Auto Theft	0	1	2	3	6	8	13	27	36	54	90	180
Vandalism	2	11	13	26	6	13	11	30	48	144	144	336
Auto Accidents	15	64	54	133	15	94	66	175	180	948	720	1848
Assaults	1	0	3	4	1	1	3	5	12	6	36	54
Disorderly Condt.	6	1	11	18	4	2	11	17	60	18	132	210
Other Offences	2	26	44	72	4	7	6	17	36	198	300	534
Missing Persons	0	1	3	4	3	3	5	11	18	24	48	90
Gen. Assistance	4	16	19	39	4	31	17	52	48	282	216	546
Burglar Alarms	2	7	10	19	11	11	13	35	78	108	138	324
Fire Calls	8	34	32	74	7	23	34	64	90	342	396	828
Other Incidents	49	76	120	245	104	87	210	401	918	978	1980	3876
Total	99	249	325	673	184	328	441	953	1698	3462	4596	9756
% Distribution	14.7	37.0	48.3	100	21.4	34.4	44.2	100	17.4	35.5	47.1	100
Average No. of Calls per Day (by shift and for whole day)	3.5	8.9	11.6	24.0	10.6	5.9	14.2	30.7	4.7	9.5	12.6	26.7
Officer Work Load in Calls for Service per Assigned Officer (based on 9 Motorized Officers per Shift)	0.39	0.99	1.29	0.89	0.65	1.18	1.58	1.17	0.52	1.06	1.40	0.99

TABLE 4-5
DISTRIBUTION OF CALLS BY SHIFT FOR DISTRICTS FOR MONTHS OF
FEBRUARY AND OCTOBER 1968 AND FOR YEAR 1968

District number	Total number of calls for period											
	February 1968 (actual)				October 1968 (actual)				Total for year 1968 (estimated)			
	Shift 1	Shift 2	Shift 3	Total	Shift 1	Shift 2	Shift 3	Total	Shift 1	Shift 2	Shift 3	Total
1	5	13	24	42	17	20	44	81	132	198	408	738
2	1	13	25	39	6	24	24	54	42	222	294	558
3	9	35	45	89	39	45	61	145	288	480	636	1402
4	11	28	29	68	24	44	53	121	210	432	492	1134
5	6	30	36	72	19	45	46	110	150	450	492	1092
6	8	35	27	70	19	40	55	114	162	450	492	1104
7	23	43	50	116	25	62	76	163	288	630	756	1674
8	20	21	54	95	18	19	50	87	228	240	624	1092
9	16	31	35	82	17	29	32	78	198	360	402	960
Total	99	249	325	673	184	328	441	953	1698	3462	4596	9756
% Distribution	14.7	37.0	48.3	100	21.4	34.4	44.2	100	17.1	35.5	47.1	100
Average No. of Calls per Day (by shift and for whole day)	3.5	8.9	11.6	24.0	5.9	10.6	14.2	30.7	4.7	9.5	12.6	26.7
Officer Work Load in Calls for Service per Assigned Motor- ized Officer	0.39	0.99	1.29	0.89	0.65	1.18	1.58	1.17	0.52	1.06	1.40	0.99

• Analysis reveals an unevenly distributed cruiser district work load on all shifts. Districts 7 and 3 represent the high demand districts while Districts 1 and 2 are the low ones. The work load in Districts 7 and 3 runs two to three times higher than in 1 and 2. (See Fig. 4-2 and Tables 4-5 and 4-6.)

Frequency of calls for Service are fairly well distributed over the seven-day work week, but Thursday, Friday and Saturday, respectively, are the highest demand days. (See Table 4-7 and Fig. 4-3.)

• Frequency of calls is highest between 4-5 p.m. and 9-11 p.m., and lowest between 2-6 a.m. (See Fig. 4-4.)

A further effort was made to determine the amount of uncommitted patrol time available to the motorized units of the Division. Estimates were obtained from a high-ranking officer and from two line sergeants with many years of street experience.

Estimates of Average Uncommitted Patrol Time of District Cars
(Does not include traffic control or door checks)

	8 a.m.—4 p.m.	4 p.m.—12 mid.	12 mid.—8 a.m.
High-Ranking Supervisor	50%	50%	75%
Sergeant A	65%	60%	90%
Sergeant B	80%	65%	95%

Our analysis of demands for service indicates that Sergeant B most accurately reflects the amount of uncommitted patrol time. Investigation reveals that the principal police activity on the midnight shift is "door shaking," while training and traffic intersection control activity occupies a dominant role during the day-time hours.

4.5 Detective Division

The Detective Division is responsible for the investigation of serious crimes (e.g., murder, robbery, serious assaults, burglaries, and frauds) and supports the Patrol Division by following up investigations initiated by uniformed personnel.

The Division is commanded by a Captain. He is assisted by a Lieutenant, who serves principally as the department identification officer. The latter's identification

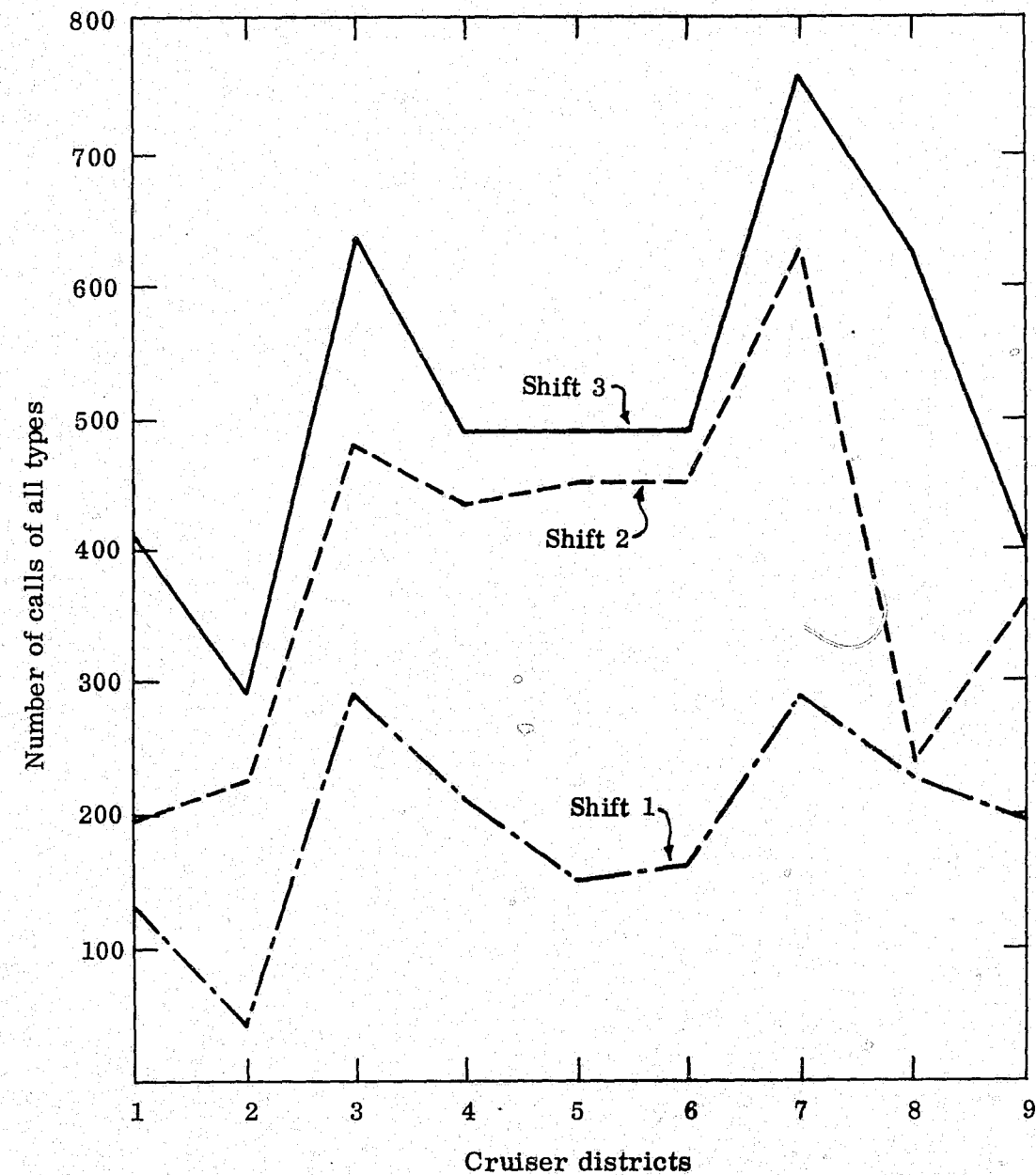


Fig. 4-2. Estimated number of calls for District and Shift for 1968.

TABLE 4-6
PERCENT DISTRIBUTION OF CALLS FOR SERVICE

District	February (actual)			October (actual)			Year 1968 (estimated)		
	Shift 1	Shift 2	Shift 3	Shift 1	Shift 2	Shift 3	Shift 1	Shift 2	Shift 3
1	5.1	5.2	7.4	9.2	6.1	9.9	7.8	5.7	8.9
2	1.1	5.2	7.7	3.3	7.3	5.4	2.5	6.4	6.4
3	9.1	14.1	13.8	21.2	13.7	13.8	16.9	13.9	13.8
4	11.1	11.2	8.9	13.0	13.4	12.1	12.4	12.5	10.7
5	6.1	12.0	11.1	10.3	13.7	10.4	8.8	13.0	10.7
6	8.1	14.1	8.3	10.3	12.2	12.5	9.5	13.0	10.7
7	23.1	16.8	15.4	13.6	18.9	17.2	16.9	18.2	16.5
8	20.1	8.4	16.6	9.8	5.8	11.3	13.8	6.9	13.6
9	16.1	12.4	10.7	9.2	8.8	7.3	11.6	10.4	8.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total number of calls	99	249	325	184	328	441	1698	3462	4596
Percent distribution	14.7	37.0	48.3	21.4	34.4	44.2	17.4	35.5	47.1

TABLE 4-7
NUMBER OF CALLS FOR SERVICE BY DAY OF WEEK

Day of Week	February, 1968 (actual)				October, 1968 (actual)				Total for year 1968 (est.)			
	Shift 1	Shift 2	Shift 3	Total	Shift 1	Shift 2	Shift 3	Total	Shift 1	Shift 2	Shift 3	Total
Sunday	13	28	32	73	30	40	58	128	258	408	540	1206
Monday	16	42	38	96	18	37	51	106	204	474	534	1212
Tuesday	10	27	35	72	17	43	79	139	162	420	684	1266
Wednesday	12	32	43	87	29	56	55	140	246	528	588	1362
Thursday	18	42	65	125	37	56	75	168	330	606	822	1758
Friday	14	39	63	116	26	45	68	139	240	504	786	1530
Saturday	16	39	49	104	27	51	55	133	258	540	624	1422
Total	99	249	325	673	184	328	441	953	1698	3480	4578	9756

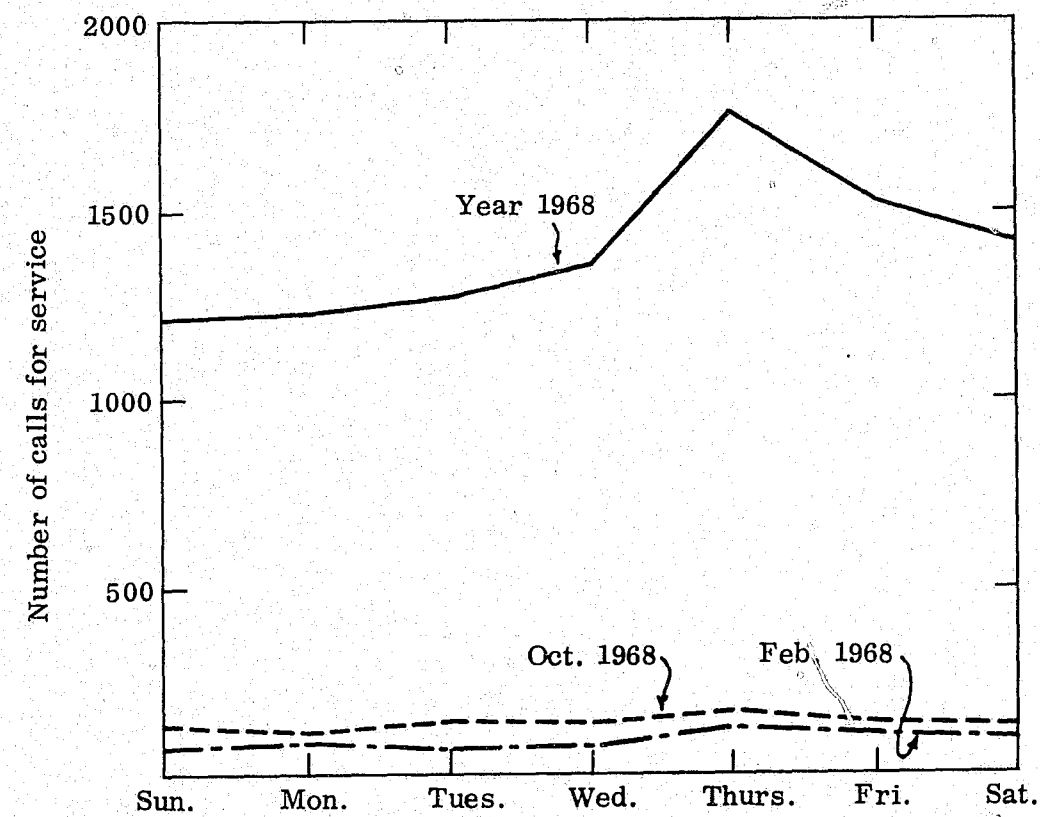


Fig. 4-3. Estimated number of calls by day of week for 1968.

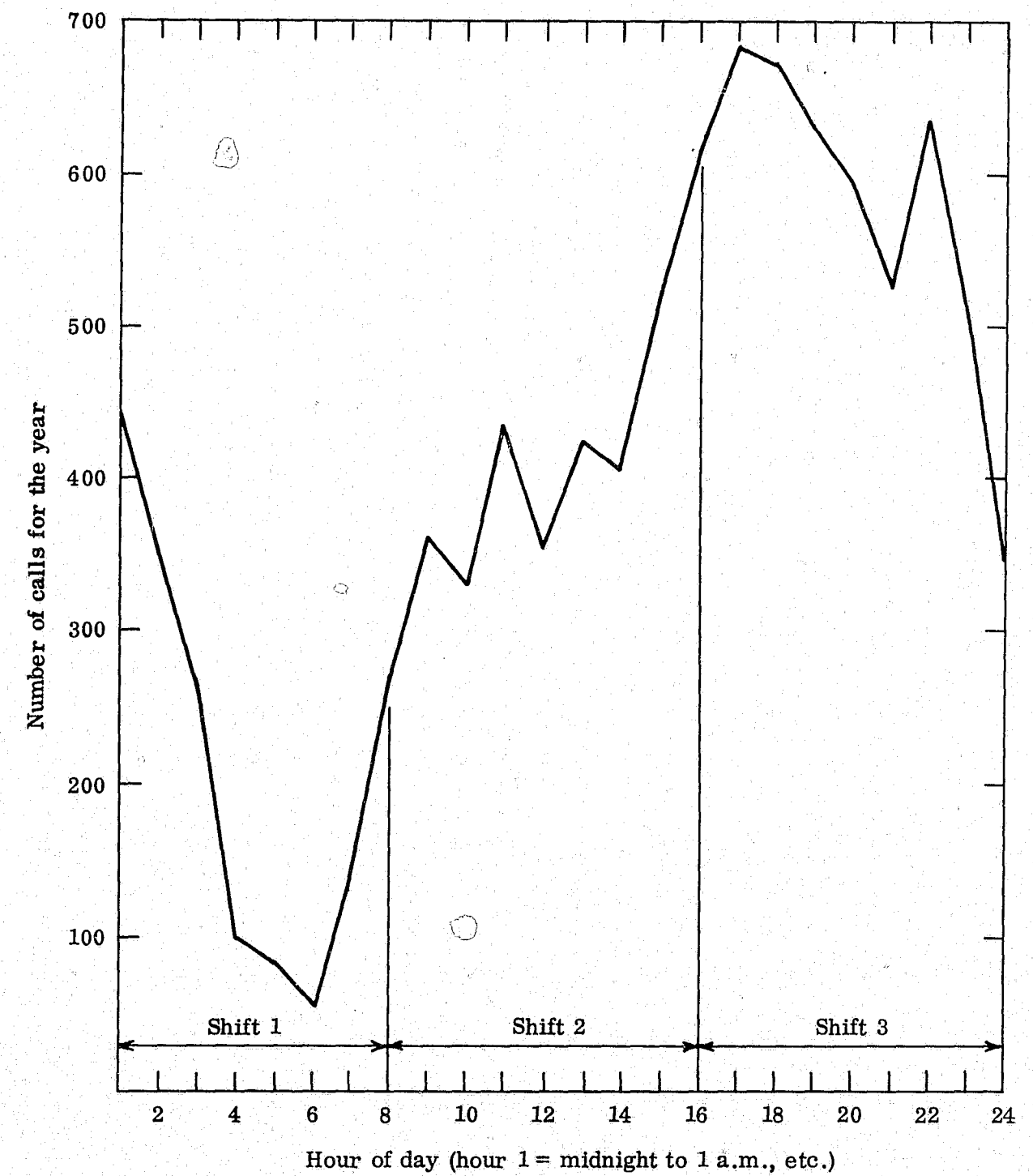


Fig. 4-4. Estimated number of calls by time of day for 1968.

responsibilities include the classification of fingerprints, processing evidence found at crime scenes, indexing and filing fingerprint cards and photographic processing.

The actual field investigations are conducted by two detective squads, each with three officers who rotate their work hours between two shifts: 9:00 a.m. to 5:00 p.m. and 5:00 p.m. to 1:00 a.m.—over a six-day work week. The Division is closed from 1:00 a.m. Sunday morning until 9:00 a.m. Monday. During this period, selected detectives are on call and can be summoned back to duty if the circumstances dictate this decision. This occurs with some frequency, often between 1:00 a.m. to 3:00 a.m. on weekdays, and on Sundays, for the purpose of fingerprinting arrested persons or undertaking an investigation that the Patrol Captain feels requires specialized attention.

Detectives spend a great deal of duty time in report writing, estimated to run as high as 50%. One Sergeant spends an average of one day a week compiling arrest statistics, and classifying and recording crimes according to their modus operandi. This clerical task is essentially part of his normal duty assignment.

A review of a random sample of cases disclosed that many of the case investigations require follow-up. In some instances, cases had been followed through by detectives, but since no additional evidence was gathered, in the interest of saving time, the detective made no entry as to his activity. In other cases, time and manpower limitations prevented further follow-up. As a general rule, however, the unit exercises excellent judgment in selecting cases for follow-up. Because of their experience, detectives intuitively know which cases, based upon the information available, offer the best chance for solution. These are selected for priority investigation and, therefore, receive attention. Ideally, all serious crimes merit follow-up, regardless of the immediate unavailability of evidence. Perseverance and "leg work" have often times led to solutions in cases where there was little if any evidence at the preliminary stages. This ideal state, however, requires time and manpower.

It is traditional, in the West Hartford Detective Division as elsewhere, for detectives to work in pairs. Higher productivity is possible if detectives work singly, rather than in pairs, but this procedure must be highly selective. In many cases, the presence of two detectives is an absolute must; but we see no reason why a lone

detective cannot interview a "friendly" witness, or conduct an one-scene investigation of a burglarized home or business establishment.

In review of the Detective Division, we observed one very obvious, glaring, handicap to the efficient conduct of business. The quarters assigned to the Division are totally inadequate. Detectives literally work on top of one another, the Captain's office is a repository for bulky evidence and operational equipment, and there is a complete lack of sufficient space generally. It is a common-place occurrence that persons wish to speak with detectives, privately, about matters of the highest confidence. This is virtually impossible in the unit's present quarters. It is necessary in these situations either to consult with the person in the corridor or to ask other detectives to leave the quarters.

4.6 Special Services Division

In response to newer crime challenges (to the Town), the Chief has organized a Special Services Division, commanded by a Sergeant. Three detectives are assigned to this unit. The Division is responsible for the enforcement of laws dealing with narcotics, drug abuse, gambling, prostitution and other vice crimes, and liquor violations.

The unit operates with a minimum of interference, and its commanding officer reports directly to the Chief. According to the commanding officer, the unit expends most of its effort in the enforcement of narcotics and gambling laws. Because of the very nature of these crimes, the need for corroborative testimony is essential, often requiring the efforts of two officers working as a team.

The unit works six days a week, on a two-shift basis (daytime and late afternoon). Because of inadequate manpower, there are occasions when only one officer is on duty.

Estimates of how detectives assigned to this unit spend their time are of interest:

Field Investigation	: 60%
Office Administration	: 25%
Public Relations	: 10%
Court Time	: 5%

4.7 Traffic Division

The Traffic Division is concerned with the enforcement of motor vehicle laws and the investigation of motor vehicle collisions. The Division commander is also responsible for the supervision and training of civilian school crossing guards. A Captain, Lieutenant and six officers are assigned to the unit. Formerly, the unit performed many traffic studies, but since the Town hired a Traffic Engineer, this type of activity is minimal.

Two accident cars work a day tour (8:00 a.m. to 4:00 p.m.), and an evening tour (4:00 p.m. to 12:00 p.m.). After midnight the regular patrol districts assume responsibility for traffic accident investigation. Duties include the investigation of all reported accidents and the selective enforcement of traffic laws at places of high accident frequency. On an average of once a week, one traffic car is assigned to monitor selected speed zones with radar.

Normally, both accident cars and one patrol car are sent to all traffic accidents. If a second accident occurs, one traffic car is relieved from the first accident and dispatched to the scene of the second collision.

The Captain coordinates the activities of the Traffic Division with the Town's Traffic Engineer and, with the assistance of the Lieutenant, performs many other duties:

- Exercises command supervision over the accident cars on duty
- Reviews all collision reports and arrests
- Investigates all collisions involving town vehicles
- Maintains records and statistics
- Submits a monthly and annual report to the Chief and the Patrol

Division

- Investigates sight obstructions
- Conducts bicycle inspections and registration
- Processes photographs.

Administratively, the Captain and Lieutenant devote a considerable amount of their time to clerical and records maintenance functions. Perhaps as much as 40 hours per week are devoted to this activity.

Total accidents in West Hartford show an upward trend from 1964 to 1968: deaths attributable to accidents show no clear trend.

<u>Year</u>	<u>No. of accidents</u>	<u>Deaths attributable to accidents</u>
1964	1037	4
1965	1177	2
1966	1044	6
1967	1233	2
1968	1264	6

4.8 Youth Division

The Youth Division is responsible for the investigation of all crimes involving juveniles and the prevention of juvenile crime. Under Connecticut law, a juvenile is a person under 16 years of age.

The West Hartford Youth Division includes a Captain, who serves as the commanding officer, a policewoman, and three detectives. The Division is open Monday through Saturday; working hours are 9:00 a.m. to 11:00 p.m. and personnel work overlapping shifts; the first from 9:00 a.m. to 5:00 p.m. and the second from 3:00 p.m. to 11:00 p.m.

Much of the activity of the unit is referred from the Patrol Division. Uniformed officers investigating complaints come into contact with situations that involve juvenile misconduct or delinquency. Any serious situations, such as vandalism, larceny, use of liquor, shoplifting or burglary are reported to the Juvenile Division, which begins a follow-up investigation. Complaints involving juveniles are resolved in a number of ways, including warning to the juvenile and notification of his parents, and referral to the Juvenile Court.

Beginning in January 1969, the Youth Division, in cooperation with West Hartford school authorities, initiated a Crime Prevention Program in the junior high schools of West Hartford. A Youth Officer is assigned to the three junior high schools, where he informally participates with students in classroom discussions on a broad variety of subjects designed to strengthen good citizenship and behavior. Besides regular classroom discussions, members of the Juvenile and Special Services Divisions

appear before assembly-type gatherings in the school to answer general questions, to inform students of their basic responsibilities in society, and to address themselves to the drug problem. Members of the Division also appear before other public and civic groups as part of their general public relations responsibility.

Special training at outside facilities, when available, is provided to keep them abreast of current methods in handling juveniles.

Except for the Youth Services "School and Police Crime Prevention Program," the functional approach to investigating and preventing juvenile delinquency appears to have changed little in West Hartford. Although beyond the scope of this study, consideration should be given to exploring innovative-type juvenile prevention programs.

4.9 Training Division

The Training Division has one officer, a Captain, assigned on a full-time basis. Annually, when firearms training is conducted, a Sergeant is assigned to assist the commanding officer, but only for that portion of time necessary to complete this particular phase of training.

After appointment to the force, police recruits are assigned to the West Hartford Police Training Academy for three weeks of preliminary training that includes classroom instruction and on-the-job training. They are then sent to the state-operated Municipal Police Training Academy (MPTA).

The Division's principal training activity consists of in-service training. Here, for a minimum of four days per week (9:00 a.m. to 11:30 a.m.), the Captain conducts training for the daily duty shift of officers (in a very inadequate classroom setting). The average class contains five to eight officers. Physical space limitations and routine street operational requirements preclude training for larger numbers of personnel over a longer period of time.

The training officer conducts class sessions for an average of 12 hours per week, while additional time is spent in research and writing training bulletins, policies, directives and department orders. The Department uses many outside training resources. Most supervisory officers (Sergeant and above) have attended the police management course at Babson Institute. The Department has several

graduates of the FBI National Academy, and officers have routinely been sent to University-sponsored management and crime institutes.

The Town manifests a progressive attitude toward police education. The Chief encourages attendance of police officers at colleges and universities, under provisions of the Omnibus Crime Bill which provides payment of \$300 per semester per officer. Even prior to the Omnibus Bill, however, the Town furnished subsidy payments to officers for school attendance. Not only is education encouraged, but it is also rewarded. Upon successful attainment of 30 credit hours, officers are given a 3% pay raise and an additional 3% for each successfully completed 30 credit-hour increment following, up to a maximum of 12% for satisfactory completion of 120 credit hours. At the present time, 28 officers are enrolled in colleges and universities.

4.10 Records Division

Important to any well-functioning police agency is its records operation. It is the official memory of the Department: the completeness and accuracy of records and the ability to retrieve information quickly, in the form requested by the line units, can play a vital role in the detection and apprehension of criminals.

The records unit in West Hartford stores a large amount of information. An indication of their activity is reflected by the types of records maintained in their files:

- | | |
|-----------------------------|---------------------------------------|
| • Complaint reports | • Department payroll |
| • Arrest reports | • Personnel records |
| • Accident files | • Stolen and recovered property files |
| • Department correspondence | • Other administrative reports |
| • Licenses | • FBI crime reports. |

Not only does the Division store these records, it is active in preparing much of the administrative "paper work" of the Department. The Supervisor of Records prepares payrolls, vouchers, and monthly and annual reports; acts as purchasing agent and property clerk for the Department; negotiates contracts and leases; and supervises the work activity of his civilian staff.

The entire records system is a manual one. Crime data are generally incident related. Given a name of an arrestee or complainant, or an incident number, the

system is capable of retrieving the information rapidly. It does not, however, possess the sophistication to disseminate the statistical data relating to crime frequency by time, district, shift or by modus operandi, that is vital in determining manpower needs and resource allocation strategies. Despite this one weakness, the Records Division is a well-managed, productive unit.

4.11 Maintenance Division

The department has its own maintenance unit in a garage located beneath the town hall. Three civilians carry out the following duties:

- Overall motor maintenance of the entire fleet of police vehicles, including first and second echelon maintenance.
- Maintenance and installation of the mechanical traffic signals in the town.
- Fabrication and installation of uniform traffic signs and standards.

A review of maintenance operations reveals that it is well organized. The staff is technically competent and has facilities and equipment adequate for the assigned responsibility.

5.0 REPORT ON THE WEST HARTFORD FIRE DEPARTMENT

Presented in this section is a report on a study of the fire protection needs, present and future, of the Town of West Hartford, Connecticut. The purpose of the study was to determine the adequacy of existing and any proposed facilities to provide as reasonable a degree of protection as possible to life, business, and property, within the economic capacity of the Town and of the most feasible means of spending funds which can be devoted to fire protection.

The report, conclusions, and recommendations reflect conditions at the time of the field study, November, 1969, and reasonably anticipated growth; any subsequent change in existing conditions or anticipated growth patterns (although not expected) may require re-evaluation. The cost estimates are valid, but additional engineering will be needed before some of the recommendations can be implemented.

5.1 Basic Philosophy And Criteria

The purpose of this portion of this report is to present evaluations, recommendations, and details of the fire protection facilities of West Hartford, Connecticut, not a philosophical discussion of municipal fire protection. However, to permit a better understanding of the reasoning behind the evaluations and recommendations, a brief outline of the basic philosophy and the criteria followed is presented at this point.

5.1.1 General

The provision of fire protection is one of the important functions of local government. The level of fire protection provided should first be sufficient to provide minimum protection for reasonable safety from loss of life and property; beyond this, protection should be within the economic ability and the desire of the community to provide this service. In providing fire protection services, local governments must carefully weigh costs versus level of protection achieved. To achieve maximum effectiveness, long established concepts should be continually questioned.

5.1.2 Scope of Fire Defenses

There are many facets to complete local fire defense facilities, not merely the fire department; although quite understandably, many people think first of the fire

department in connection with fire protection. The complete facilities include water supply, building code enforcement, fire prevention activities including fire prevention code enforcement, and communications. The police department, zoning ordinances, traffic control, and urban development and highway construction programs also affect fire defenses in varying degrees. A good level of protection cannot be achieved without proper attention being given to all these features.

5.1.3 Objectives of Fire Defenses

The primary responsibility of the local fire protection facilities is life safety, with protection of property in all instances being of secondary importance. One important, but often overlooked, benefit of municipal fire defenses is the protection of the economic base of the community by the preservation of jobs and the maintenance of property on the tax rolls.

In conducting the study and arriving at conclusions and recommendations, the following were the basic guides:

- The first and foremost objective of the fire defense program is to serve, without prejudice or favoritism, all of the Town's citizens by safeguarding their lives, collectively and individually, against the death-dealing and injurious effects of fires and explosions.
- The second most important objective of the fire defense program is the safeguarding of the general economy and welfare of the Town by preventing major conflagrations and the loss by fire of economically essential industries and businesses.
- The third objective of the fire defense program is to serve all of the Town's citizens and property owners by protecting their individual material wealth and economic well-being against the destructive effects of fires and explosions. In meeting this objective, all property deserves to have an equivalent degree of protection, commensurate with the actual property hazard involved, and not with geographical location or monetary value.

5.1.4 Standards

The standards for municipal fire protection of the American Insurance Association, particularly the standards contained in the Standard Grading Schedule, the

standards of the New England Insurance Rating Association, and the standards of other national organizations, such as the National Fire Protection Association, were considered in making evaluations and developing recommendations. The standards are helpful in determining reasonable levels of property protection; but complete adherence to these standards is not necessarily advocated or recommended. In all instances actual conditions in West Hartford have been the prime determinates. Careful consideration has been given to protection against loss of life, the economic capacity of the Town, coordination with other community programs, and uniform protection of all citizens and property owners. The standards, in general, do not give full consideration to the latter items, particularly to the economic capacity and the coordination with other programs, and, to a lesser degree, to life safety and uniform protection. The standards do have some effect on the cost of purchasing fire insurance and cannot, and should not, be completely ignored.

A comparison between different communities on a mere statistical basis cannot be used to establish reliable indices of overall levels of fire protection or fire protection effectiveness without a thorough operations research type analysis of the municipalities being compared, considering such aspects as the population density, construction density, predominant types of construction, nature of the contents of the buildings, private protection, frequency of the occurrence of fire, actual fire losses, the number of fire department personnel actually on duty, varying salaries, and numerous other items. This detailed comparison type of analysis was well beyond the scope of this study. In this report, reference may be made to other areas or municipalities. The data is presented solely for informational purposes. In no instances have any conclusions of fire protection effectiveness been drawn based on a statistical comparison between West Hartford and other areas.

5.1.5 Future Fire Defense Concepts

In recent years, more and more knowledgeable people have come to realize that the fire extinguishing activity of the fire department is one of the least efficient means of providing fire protection from the standpoint of minimizing losses as well as from the standpoint of minimizing costs. Many knowledgeable people are also questioning

some long established fire department practices, such as committing large forces of men and equipment to extinguish a fire in a building in which the damage has reached the point where no salvage is possible, when with less effort the fire can be controlled and prevented from spreading to adjacent property without changing the end result, namely the extent of loss. A start has been made on means for measuring levels of effort against the results achieved, but much more work is needed in this area. Some people are even questioning whether public fire defenses should do any more than provide some life safety and attempt to prevent fires from spreading from the building of origin, with responsibility for protection within the building of origin placed upon the owner. There is no question that private, built-in fire protection is much more effective in providing life safety and minimizing property losses than the services provided by the fire department after a fire has started.

If automatic early detection and/or automatic extinguishing protection were to be provided in every building, the need for public protection would be greatly reduced which, in turn, would greatly reduce costs. The seemingly constantly increasing cost of operating fire departments, combined with the increasing demands on tax funds for new and additional services, are forcing many policy making officials to seek new means for providing fire protection. One obvious answer is to place more responsibility on the property owners, by requiring more built-in fire protection. In the future the primary function of fire departments may well be to perform inspections to be sure that private protection facilities are kept in operative condition and to prevent hazardous conditions from developing. Modern progressive fire departments presently place these activities on the same level as extinguishing activities.

The ideal situation described above is far from being realized, and the conclusions and recommendations in this report are based on recognition of the fact that the need for public protection facilities as presently constituted will continue for some years.

5.1.6 Life Safety

As has been mentioned, the primary responsibility of local fire protection is life safety. Any building that people enter has a potential for destroying a human

life by fire. Therefore, in any discussion of the exposure to loss of life from fire, the seriousness of the exposure is relative to that considered normal or accepted exposure to loss of life.

There is a distinct difference between the protection of life and the protection of property from fire. There have been innumerable fires where property loss has been negligible, but in which several lives have been lost; also, there have been many fires in which there was prompt notification and response of the fire department but several lives were lost. Of prime importance in reducing life loss is prompt fire discovery and adequate means of exit for the occupants. Of secondary importance is notification of the fire department, although this becomes more important where adequate alerting and exiting facilities are lacking. Even small fires can generate sufficient heat and smoke to rapidly produce untenable conditions in the usual exitways. Without prompt detection and notification of the building occupants, life loss can occur in the few minutes necessary for fire department response. Therefore, adequate protection for life safety calls for provisions for sounding an alarm and evacuating occupants to a safe location prior to the arrival of the fire department. The duties of the fire department would then be limited to evacuation of a few persons who may become trapped because of unusual circumstances and confining a fire to reduce property loss. Unfortunately, many buildings do not have adequate means of fire detection, alarm notification, and/or exiting so that the fire department does play a part in reducing life loss potential. However, it must be emphasized that fire department response, by itself, cannot provide an acceptable level of fire safety.

5.1.7 Property Protection

Prompt detection is also important in reducing property losses. There is an old cliché in the fire service that the first five minutes at a fire are more important than the next five hours. This is true, however, only for those fires that are detected in sufficient time to be easily controlled by the first arriving companies. The most important time is the time between ignition and transmission of the alarm, and unfortunately, the fire department has no control over this. The best equipped and best manned fire departments are frequently unable to extinguish fires in buildings before the buildings are completely destroyed due to the extent of involvement in

fire prior to notification of the fire department. Unfortunately many people, including many fire department officials, do not appreciate (or in the case of fire department officials, do not publicly acknowledge) the fact that the combined efforts of all the fire departments in a large area will be unable to prevent a complete loss if a fire has reached a certain magnitude prior to the arrival of the first fire company. On the other hand, many fire department officials will privately acknowledge that on some occasions major fire fighting efforts are being put forth merely to avoid criticism by the public or the news media. An expression used by one large city fire chief is that certain fires are fought for the benefit of the television cameras. The foregoing should not be interpreted as implying in any way that fire departments are completely ineffective in minimizing losses. Fortunately, most fires are detected in sufficient time to permit the fire department to control and extinguish them prior to complete destruction, and thus the value of fire department services should not be minimized. It is important to realize however, that the value of the services for any particular fire is largely dependent on detection time.

5.2 Conclusions and Evaluations

5.2.1 General Conclusions

The most important conclusion of this study is that the fire department is well organized, is operating under the supervision of qualified, progressive chief officers, and is providing a good level of fire protection for West Hartford. This is well illustrated by the excellent fire insurance grading which the Town enjoys.

There are, however, several areas in which service to the public can be improved or in which costs can be reduced by making more effective use of manpower or by eliminating some unnecessary features. Many of these items fall in the category of expanding the scope of the fire department activities to include additional property responsibilities now mainly the responsibility of the police department.

The West Hartford Fire Department, in general, achieves better personnel utilization than the typical full paid fire department, due largely to the good inspection and training programs which have been instituted. However, due to the very nature of fire departments, a considerable amount of time is devoted to standing by, waiting for an emergency call. Some of this standby time could be devoted to other activities,

without affecting the level of fire protection and without placing an excessive workload on the firefighting personnel.

As mentioned, a good level of fire protection is presently being provided in West Hartford; a basic assumption of this study was that the Town desired to continue to maintain this good level of service. The recommendations which have been developed are designed to improve cost effectiveness by eliminating unnecessary features and some duplication of facilities, to achieve better utilization of personnel time, to achieve a higher level of life safety, and to reduce future costs by placing more dependence on private automatic protection systems. It would be possible, of course, to reduce costs to a greater extent by reducing the level of protection provided.

The total amount of manpower and equipment provided is adequate to handle even the most serious fires likely in West Hartford. Actually an equally good level of protection could be provided with one less engine company than is presently operated and this reduction is recommended. The minimum manning levels maintained on the engine companies is fairly good, but the minimum manning of the ladder companies is poor. This can be corrected by reassigning the personnel presently assigned to the engine company that is recommended for elimination.

The number of fire stations provided is more than is needed to provide proper distribution of companies. One station could be closed immediately without affecting the level of protection. The two stations in the south portion of the Town could eventually be combined into one station.

The infrequency of major fires emphasizes the importance of a good training program. Training must be substituted for actual experience if fire department personnel are to function at major fires in the manner which should be expected. The training program of the West Hartford Fire Department is considered to be good and, assuming the continued availability of the Bradley Field fire grounds, training facilities are also considered to be good.

An important aspect of fire department service is the fire prevention activities; these are as important as the fire extinguishing activities. A good fire prevention program, using company personnel, is in effect. Laws and ordinances are also generally good. The need for at least one additional full-time man for fire inspection

activities has been recognized, although the position was not filled at the time of this study.

Apparatus is generally in good condition, but maintenance facilities are inadequate. The requiring of fire department experience for the maintenance personnel appears to be unnecessary and could result in difficulties in obtaining the most qualified people.

Good administrative features are in effect, including a good record system. The only criticism of the record system is that the annual pumping tests of the pumpers are not being recorded.

West Hartford is leasing a telephone type alarm system which is a major factor in the good fire insurance grading. It is not widely used for transmission of alarms; this is typical of experience throughout the nation. The system is actually more widely used for the transmission of police department business. Many private protection systems are connected to the system which is an excellent use. The number of boxes provided is far more than needed; all the boxes in strictly residential areas could be omitted. The teletype system extending to all fire stations really serves no useful function other than to meet grading standards.

An important conclusion of this study is that police and fire department communications should be combined into one emergency communication center. This would not only save costs; it would improve overall service to the public.

5.2.2 General Evaluations

As mentioned, a good level of fire protection is being provided. The potential for loss of life from fire, in general, is low. Property loss potential is also generally low, although severe individual fires are probable. Fire department facilities are good. The fire department, overall, is considered to be well managed with good personnel utilization policies.

5.2.3 General Discussion

As has been mentioned, it is assumed that the Town of West Hartford desires to continue the good level of fire protection being provided. Recommendations are based on this assumption.

Several recommendations concern the extension of the scope of the fire department activities into other aspects of property protection, now the responsibility of the police department. These are a natural extension of the fire department service, but opposition to the recommendations may be expected from the fire department personnel. Fire department personnel are generally opposed, in principle, to extension of their activities into the public safety area. Most of their arguments are based on emotion rather than logic and need no repeating here.

Actually, the fire department, by the nature of its training, can do a better job in the area of property protection than the police department. There is no question that the time is available. Fire department figures show that, on the average, only about 1.5 per cent of the available time is spent on emergency calls. Of course, time is also spent productively on training, inspections, apparatus maintenance, station maintenance, etc., but there is still more than sufficient time available to devote to the recommended increased property protection functions. The additional responsibilities should have no affect on the level of fire protection.

As also mentioned, the city enjoys an excellent fire insurance grading. Even if the grading were to drop from 2nd Class to 3rd Class, West Hartford would still be above average in grading for cities of its size and character. Although no attempt was made, in developing the recommendations, to maintain the 2nd Class grading, the 2nd Class grading will be maintained if the recommendations are put into effect.

5.3 Detailed Recommendations

The following recommendations are the result of a management and administrative study, not a detailed engineering study in which all technical aspects and problems are considered and detailed plans and specifications are prepared. However, sufficient attention has been given to the technical aspects so that the recommendations are technically sound as well as administratively feasible. Detailed engineering will be necessary before some of the recommendations can be implemented. The cost estimates are not necessarily engineering estimates, but they are sufficiently accurate for budget purposes and for a comparison of alternatives.

Recommendation No. 1. We recommend that the Town operate four engine companies and two ladder companies, each manned with a minimum

of four men at all times. This can be accomplished by eliminating Engine Co. 1 and reassigning the men presently assigned to Engine Co. 1 to the two ladder companies. Station No. 1 can then be sold.

This recommendation is for one less engine company and the same number of ladder companies as are presently operated. The recommended minimum manning is presently provided in the engine companies but not in the ladder companies; the recommended minimum manning can be achieved with the existing manpower level.

In determining the number of fire department companies to be provided, there are two important aspects to be considered: (1) distribution of the companies so that no area will be remote from the nearest company, and (2) the amount of apparatus that will be needed for the more serious fires to be expected. Both these aspects are discussed more fully in Section 5.4. As discussed, the more serious fires in West Hartford will require a minimum of three engine companies and a ladder company, one less of each type than is recommended. As also discussed, adequate distribution can be achieved with only three engine companies and two ladder companies. Thus the existing good level of service can be maintained with one less company. Actually, considering the increased manning recommended for the ladder companies, the level of service will be even higher than presently provided.

Eliminating one engine company will not result in overworking any of the remaining companies. Details on the workloads of companies are presented in Section 5.4. As shown, the engine companies average slightly less than one response per day (to all types of alarms) and the average time spent on a response is approximately 30 minutes. Even if the entire workload of Engine Co. 1 were to be transferred to just one company, the company would not be overworked. It is most likely that the workload of Engine Co. 1 would be equally distributed among Engine Cos. 2, 3, and 4.

Eliminating Engine Co. 1 will not result in excessive response distances to the area now within its district. All the area will still be well within all recognized running distance standards; this is readily shown on Map No. 1 accompanying this report. Actually Engine Co. 1 is poorly located for response in West Hartford:

because it is located on the Town limits, its response pattern is limited to 180 degrees.

In grading the fire defenses of West Hartford, the rating bureau grading standard is five engine companies. The elimination of Engine Co. 1 will therefore result in some additional deficiency points in the grading; however, the resulting change will not be large (estimated at 18 deficiency points) because credit will be allowed for the outside aid available. In addition, the higher manning for the ladder companies will result in a credit of approximately 23 deficiency points. Thus, it is estimated that the net grading result would be a reduction in deficiency points.

There is a slight possibility that more than four engine companies may be needed for control of a fire. However, considerable outside aid is available to assist West Hartford in this eventuality. As discussed in Section 5.1, for a fire of this magnitude, the delay in response of the outside aid companies is not significant. The very purpose of outside aid is assist with the most serious fires.

There will be no reduction in total manpower by following this recommendation but there will be a reduction in the number of officer and motor pump operators positions and there will be a reduction in operating costs due to one less station being in service. There will be, of course, some income from the sale of the property. It is suggested that the reduction in the higher positions be accomplished gradually through natural attrition. There will also be a reduction in future cost of purchasing apparatus; this is not included in the cost estimate.

COST ESTIMATE:

Reduction in annual salary costs	\$10,215
Reduction in annual station operating costs	\$ 2,550
Income from sale of property	\$25,000

Recommendation No. 2. It is recommended that the communication facilities of the fire department and the police department be combined into a single emergency communications center and that eventually the uniformed dispatchers be replaced with non-uniformed personnel.

At present each department operates a separate communications center and there is no reason why the two cannot be combined into one with considerable savings in personnel costs. The combined workload could easily be handled by the number of personnel presently handling police communications.

It is suggested that the combined communications center be located at the present police communications center; the existing fire alarm room is undesirable from several respects, the major one being that it is isolated. It is also subject to damage from building utility services which pass through the room.

The actual design of the combined center was well beyond the scope of this study. A careful study of all aspects should be made, including anticipated future needs. It may be possible to replace the two existing switchboards with just one board. There is no reason why the power supply and control equipment (other than the switchboard itself) for the telephone type municipal alarm system should not remain at its present location; the operators do not need access to this equipment.

The combined communications center will have several advantages in addition to the savings in cost. The telephone type alarm system is currently more widely used to transmit calls for police service than for fire service, although all calls are handled by the fire dispatcher. The combined center could readily serve as a regional center, which will be needed if advantage is to be taken of the universal emergency telephone number (911) being made available by the telephone industry. Even without using 911, one emergency telephone number could eventually be used for all types of emergencies. Private burglary and security systems could be connected to the telephone type municipal alarm system as well as the private fire systems.

It is possible that the combined communication center would result in some additional deficiency points in the fire insurance grading because of the dual responsibility of the operators; however, the number of additional points would not be large (estimated to be a maximum of 10).

The five positions in the fire department communications section could be eliminated as soon as the combined center is in operation. A more exact cost estimate for establishing the combined communication center is dependent, of course, on a more detailed study; a budget estimate is presented.

COST ESTIMATE:

Reduction in annual salary costs	\$55,000
Capital expenditure for establishing combined Communications Center	\$30,000

Recommendation No. 3. It is recommended that the telephone type alarm boxes at the following locations be eliminated:

Timothy and Clover Drives
Wolcott Road and Elmfield Street
South Main and Elmfield Streets
Colonial and Elmfield Streets
Ridgewood Road and Sandhurst Drive
Berkshire Road and Miles Standish Drive
Webster Hill Boulevard and Boswell Road
Webster Hill Boulevard and Greystone Road
Trout Brook Drive and Highway I-84
Quaker Lane and Wilfred Street
Seymour Avenue and Erwin Street
Westminster and Short Roads
Tunxis and Broadmoor Roads
Tunxis and Ridgewood Roads
Tunxis and Sedgwick Roads
Buena Vista Road and Selden Hill Drive
Boulevard and Wardwell Road
Boulevard and Main Street
Boulevard and Quaker Lane
Boulevard and Whiting Lane
Boulevard and South Highland Street
Raymond and Memorial Roads
Fern Street and Steele Road

Fern Street and Cumberland Road
 Fern Street and Fernbel Lane
 Braeburn and Willowbrook Roads
 Fern Street and Mountain Road
 Meadow Lane and Belmont Road
 Mountain and Westmont Roads
 Asylum Avenue and Harvest Lane
 Asylum Avenue and Steele Road
 Belknap and Golf Roads
 Albany Avenue and Northmoor Road
 Albany Avenue and Mohegan Road
 Albany Avenue and Coclidge Road
 Barnedale Road and Surrey Way
 Mountain Road and Forest Hill Drive
 King Philip Drive south of Lyman Road
 Mohawk and Mohegan Drives
 Mohawk Drive and Norwood Road
 Bloomfield Avenue and Portage Road

As discussed in the Details section, the alarm system is not widely used for the transmission of fire department calls; only approximately 11 per cent of the total number of fire department emergency calls are received via the alarm system, and approximately 77 per cent of the alarms received via the alarm system are accidental or false. Approximately 68 per cent of all accidental and false alarms are received from the alarm system.

The experience in West Hartford is typical of experience throughout the nation. Separate alarm systems are no longer widely used for transmission of fire alarms; in fact, they are much more widely used for the transmission of false alarms.

There is some need for separate alarm boxes in commercial and industrial areas, where regular telephones may not be available at all times to passers-by. Because the telephone type system can be used to report all types of emergencies,

not merely fires, there is also justification for the installation of boxes along heavily travelled streets for use in reporting accidents, requesting ambulance service, etc. There is little justification, however, for the installation of boxes in residential areas, even though they are called for by standards.

The police department does use the system for routine beat calls and the system can also be used for transmission of messages which, for various reasons, may not be suitable for transmission over the radio. However, there will still be sufficient boxes remaining for these purposes if the boxes listed above are eliminated.

Following this recommendation will result in a slight increase in deficiency points, estimated at approximately 10 deficiency points.

There is a flat charge totalling \$3.50 per box plus a varying charge for the circuits, based on mileage. The cost estimate is based on the current total cost for boxes.

COST ESTIMATE:

Reduction in annual rental charge	\$3600.00
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Recommendation No. 4. It is recommended that better apparatus maintenance facilities be provided. The logical place to provide the better facilities is at the Town garage by adding one stall to the garage reserved exclusively for the fire department.

The fire department apparatus is in generally good condition but the facilities provided are inadequate, consisting of space in the basement of Fire Station No. 3. The space provided is not adequate to house a ladder truck so that when it is necessary to work on a ladder truck, at least a portion must be left outside. Standard maintenance tools are inadequate.

Because of the specialized nature of fire apparatus, as well as the emergency aspects, it is not deemed feasible to turn responsibility for maintenance over to the Town garage personnel. However, there is no reason why certain machine tools, painting facilities, etc. should not be shared.

An alternative to providing space at the Town garage would be to use Station No. 1 as the maintenance shop. This would, however, require alterations and the

duplication of some facilities presently available at the Town garage. There would also be the expense of maintaining the building. Station No. 1 could be used temporarily until the stall at the Town garage is available.

Compliance with recommendation would result in a reduction in deficiency points, estimated to be approximately 10.

COST ESTIMATE:

Cost of new facilities

\$25,000

Recommendation No. 5. It is recommended that the job descriptions for both positions in the maintenance section of the fire department be changed such that (1) reference to fire fighting duties and knowledge of fire fighting techniques is deleted and (2) the civil service test is open to all applicants—and not limited to members of the fire department—to fill vacancies in the maintenance section.

The two persons presently assigned to the maintenance section are well qualified and both were former members of the fire fighting force. However, there is no guarantee that other members of the fire fighting force are equally qualified. Maintenance work is specialized, requiring special knowledge and experience, which is not necessarily obtained by fire fighters. Although the maintenance personnel must understand the operation of the fire department apparatus and equipment, it is not necessary that they be knowledgeable in fire fighting techniques, such as handling hose, raising ladders, etc. Although they can be required to respond to major fires, to assist in the event their maintenance capabilities are needed, they should not be expected to assist with actual extinguishing activities.

It is not the intent of this recommendation to prohibit qualified members of the fire fighting force from seeking positions in the maintenance section. Following this recommendation will help assure that, in the future, maintenance personnel will continue to be fully qualified.

This recommendation should have no affect on the fire insurance grading.

COST ESTIMATE:

No cost involved.

Recommendation No. 6. It is recommended that a regular apparatus replacement program be established, with annual appropriations made to an apparatus replacement fund.

Although apparatus has been replaced regularly, good management practice calls for the replacement cost of apparatus to be an operating cost rather than a capital expenditure. The most effective means of ensuring that funds will be available to replace apparatus when necessary is to budget funds annually to a replacement account. This practice not only avoids large periodic appropriations, but also gives a truer picture of the annual cost of operating the fire department. Purchase should be scheduled so that apparatus does not remain in service more than 20 years. Based on the recommended number of companies, this will require purchasing a new pumper every five years and a new ladder truck every ten years. The replacement fund should also include funds for the replacement of miscellaneous vehicles such as the chiefs' cars. With proper planning, it should never be necessary to purchase more than one major piece of apparatus in one year and the purchase of the miscellaneous vehicles can be scheduled for years in which major apparatus is not purchased.

There will be no increase in cost by following this recommendation, but rather costs will be distributed more evenly. Based on current costs and the recommended number of companies and positions, an annual appropriation of approximately \$18,000 to the replacement fund would permit the replacement of apparatus and vehicles at the recommended frequency.

A suggested schedule for replacement is as follows:

- Immediately: Place present Engine 1 in service as Engine 4, place present Engine 4 in reserve, and sell the present reserve engine.
- 1974: Replace Ladder 2, keep present Ladder 2 as reserve (Ladder 2 will have 22 years of service in 1974).
- 1978: Replace present Engine 1 (transferred to Engine 4) (18 years of service).

- 1981: Replace present Engine 3 (21 years of service).
- 1984: Replace present Engine 5 (21 years of service).
- 1987: Replace present Ladder 1 (20 years of service).
- 1990: Replace present Engine 2 (22 years of service).
- Thereafter be on a 20 year cycle.

COST ESTIMATE:

No change in cost.

Recommendation No. 7. It is recommended that records be kept of the annual test of the pumpers.

The pumpers are tested annually to determine their condition, and good record forms for recording these tests are provided: but at the time of this survey these forms were not being used and the annual tests were not being recorded. This is merely a procedural matter, but will result in a slight improvement in the fire insurance grading, estimated at approximately 13 points. Because the forms are already available, there is no cost involved.

COST ESTIMATE:

None.

Recommendation No. 8. It is recommended that the additional inspector's position, which has been authorized, be filled.

Fire prevention activities are as important as fire fighting. The best way to reduce fire losses is to prevent fires from occurring, or to provide built-in means to minimize the loss should a fire occur. Most modern fire departments place fire prevention activities on a basis equal to fire suppression activities.

The West Hartford Fire Department recognizes the importance of inspection activities and is doing, in general, a good job. The companies are making inspections on a regular basis, but there is only one man devoting full time to these activities. The workload and potential benefits are sufficient to warrant an additional full-time man. The position has been authorized, so this recommendation does not involve an increase in cost.

There will be a general improvement in the fire insurance grading upon compliance with this recommendation, estimated at approximately 20 deficiency points.

COST ESTIMATE:

No increase in cost.

Recommendation No. 9. It is recommended that the inspection activities of the fire department be expanded to include other property protection features, such as security measures, intrusion alarms, etc. This will require training of personnel before the program can be inaugurated.

This is a natural extension of the inspection activities. The fire department is already inspecting the buildings, so adding the other property security measures to the scope of the inspections will not require much more time.

As mentioned, the personnel will require training before the recommendation can be implemented. The police department can furnish much of the training which will be necessary. Additional training may be available from state organizations and equipment suppliers.

This would be an excellent means of improving and increasing service to the public without additional cost.

This recommendation will have no effect on the fire insurance grading.

COST ESTIMATE:

Personnel time only.

Recommendation No. 10. It is recommended that the fire department be given additional responsibility for property protection within the Town, to the extent of patrolling the Town in radio equipped cars and relieving the police department of some of its property protection responsibilities; such as checking temporarily vacant property, checking the locking of doors of business and commercial properties, etc. It is not the intent of this recommendation that the fire department be given responsibility for enforcement of laws, apprehension of criminals, or similar matters. It is not recommended that the fire department personnel be armed.

This is also a natural extension of the fire department function. At present, the police department has many property protection responsibilities that could easily be assumed by the fire department. For example, the police department is frequently

asked to check on property which has been temporarily vacated due to vacations, etc. The police department is also expected to check the locking of doors at nights for certain properties. There is no reason why fire departments cannot perform those duties.

It is recommended that a radio equipped car be provided for each station, and that the fire department personnel be assigned to patrol the area in the vicinity of the station. These patrol duties should not interfere with any inspection or training activities; there is sufficient time available, in addition to time for inspection and training activities, to perform the patrolling duties. The men could carry their fire fighting clothes in the car and be dispatched by radio to respond to any fire calls. Because the primary responsibility is firefighting, the men on patrol should not be given any assignments which cannot be stopped immediately upon receipt of a fire call. For the safety of the personnel and to insure communications contact, two men should be assigned to the patrol duties at a time.

It is emphasized that this recommendation is for fire department personnel to be given responsibility for property protection functions only. The fire department personnel are not trained in police work and should not be expected to make arrests, investigate complaints, etc. The radios in the patrol cars can be used to call the police in any circumstance that requires police service.

There will probably be considerable opposition to this recommendation on the part of the fire department personnel. However, the recommendation is feasible and is an excellent means of improving service to the public at little expense. As mentioned, the property protection aspects are a natural extension of the fire department responsibilities. In fact, the fire department personnel, because of their training and orientation, can probably do a better job in this area than the police.

This recommendation should have no effect on the fire insurance grading, provided the additional responsibilities do not interfere with response to fires (which they should not) and do not reduce training and inspection activities.

A review of the workload statistics will readily indicate that the additional patrolling function can be accomplished easily with the time available.

COST ESTIMATE:

Cost for four radio equipped cars.

\$16,000

Recommendation No. 11. It is recommended that eventually three fire stations be provided, by combining Stations 3 and 5 into one station located along New Britain Avenue approximately $\frac{1}{2}$ to 1 mile west of present Station 3, and by replacing the present Station 2. When the three stations are provided, one engine and one ladder company should be located in the south station, two engine companies and one ladder company in the central station, and one engine company in the present north station (Station 4).

Three fire stations will provide adequate distribution of fire companies within the Town of West Hartford. This is presented as a long range recommendation, because the present fire stations also provide good distribution of fire companies.

There has been some discussion of relocating present Station No. 2 on Brace Road because of its present inadequate size and the heavy traffic conditions, which cause some interference to response of the apparatus. Two sites have been discussed, one along Trout Brook Drive near Farmington Avenue and the other on the property of the High School on Main Street. Either of these sites would be adequate, although the High School site is considered to be slightly better.

It is recognized that Station No. 5 (Berkshire Road) is the newest station in the Town. However, it is poorly located, being near the Town line in two directions, thereby limiting response to basically two directions.

Complying with this recommendation will have no affect on the fire insurance grading, as far as response distances and number of companies is concerned. It could result in a slight improvement in the grading due to better condition of the fire stations.

Although this recommendation involves the cost of constructing two stations, Stations 2 and 3 must eventually be replaced, in any event, because of their ages. There would be some savings in the cost of operating three rather than four stations. The cost estimates, therefore, do not really represent additional cost.

COST ESTIMATE:

Cost of two new stations	\$350,000
Reduction in annual operating cost of stations	\$ 3,000
Income from sale of property	\$100,000

Recommendation No. 12. It is recommended that, when Station No. 2 (Brace Road) is relocated, adequate office space be provided in the new station for the Chief, Inspection Division, Deputy Chief, and Secretary, as well as the company officers. A classroom should also be provided.

The purpose of this recommendation is obvious. At present, the fire department is lacking adequate office space.

COST ESTIMATE:

No increased cost: costs are already included in Recommendation No. 11.

Recommendation No. 13. It is recommended that consideration be given to scheduling vacations throughout the year, with the number permitted on vacation at any time to be limited to a total of 10, rather than 15 as presently permitted.

The purpose of this recommendation is solely to reduce the amount of overtime payments needed to substitute for manpower on vacation. Although this means that some men will be forced to take vacations during winter months, it is a common method used by fire departments to minimize duty time lost for vacations. It is suggested that 26 two-week vacation periods be set up each year and that members select their basic two-week vacation on the basis of seniority. Following the selection of the basic two-weeks vacation, men entitled to additional vacation should be permitted to then select additional time, again on a seniority basis. Following this method, will permit approximately 70 per cent of the members of the fire force to schedule vacations during the seven two-week periods from late May through early September.

Compliance with this recommendation will require a change in the contract with the union, because the present contract calls for a maximum of 15 to be on vacation at one time.

This recommendation will have no effect on the fire insurance grading.

COST ESTIMATE:

Savings in annual operating cost due to reduced overtime	\$25,000
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Recommendation No. 14. It is recommended that if the working hours of the fire department are reduced from the present 48 hours per week, they be reduced to 40 hours per week, that 8 hour working shifts be established, and that sleeping no longer be permitted.

This recommendation is made to obtain an increase in the productivity of fire department personnel. Although there may be some objection to the recommendation because it will reduce the opportunity for part-time employment outside the fire department, the recommendation is actually in accord with the stated objectives of the national fire fighting union.

If 8-hour shifts are placed into effect, it is recommended the night shift (midnight to 8:00 a.m.) be used for apparatus maintenance, station housekeeping duties, etc. and that the other shifts be devoted to training, inspections, etc. The previously recommended property patrols can be accomplished on all three shifts.

This recommendation will have no affect on the fire insurance grading.

COST ESTIMATE:

No increase in cost.

Recommendation No. 15. It is recommended that an education program, strongly encouraging all home owners to install home fire detection systems, be developed. It is suggested that a Town ordinance regulating the selling and installing of the home detection systems be enacted.

The importance of early detection has been discussed previously. From a life safety standpoint, this is the most important recommendation in this report. This is being recommended solely as a life safety feature, but the early detection does have the added advantage of possibly reducing property damage by permitting prompt extinguishing activities.

If this recommendation is adopted, careful control by ordinance will be necessary to avoid unscrupulous persons from taking advantage of home owners by selling faulty

or greatly overpriced equipment. It is suggested that an ordinance be enacted requiring all such systems installed in West Hartford to meet the requirements of the National Fire Protection Association's Standard No. 74, Household Fire Warning Systems. All vendors and installers should be required to obtain a permit before selling or installing a system in West Hartford, and provisions should be made for revoking permits of those found to be not qualified or for those installing faulty equipment. Residents should be made aware of the provisions of the ordinance.

Residents should also be made aware of the need for pre-planning alternate means of escaping from a residence under fire conditions. The early warning is of little use if fire is blocking the normal exit route and alternate means of exit are not known. The home owners should not be lulled into a false sense of security by assuming that the detection system is providing all the protection needed.

COST ESTIMATE:

None to Town.

Recommendation No. 16. It is recommended that companies who install private alarm systems that automatically dial the fire or police departments when the systems are actuated, be required to provide a separate unlisted telephone trunk to the police and fire department; and that the systems be prohibited from automatically dialing the listed emergency numbers. It is further recommended that equipment that can seize and hold the telephone line upon a fault or failure of any type be prohibited.

There is no question about the value of private alarm equipment that can automatically transmit a notification to the police or fire department. However, such equipment can tie up emergency circuits for varying periods of time and some of the systems will transmit signals upon electrical failure or fault of some type. In a large-area power failure or an electrical storm, for example, this equipment could possibly tie up the emergency numbers and prevent the transmission of other emergency calls. The installation of private equipment should be encouraged, but such installations should not be permitted to possibly prevent others from transmitting emergency calls.

There is no reason why the installing companies should not bear the cost of the separate telephone trunk line.

The telephone company has no authority to prohibit the automatic dialing devices from automatically calling the emergency numbers. The Town does have such authority, however.

COST ESTIMATE:

None to Town.

Recommendation No. 17. It is recommended that the fire department inaugurate a program of voluntary home inspections on a regular basis.

Experience has proved this one of the most effective means of providing service to the public. In one city, the frequency of fires in residences dropped 40 per cent after initiation of a home inspection program. The program is also an excellent public relations tool. The program should not be used to enforce any laws or ordinances and should be strictly on a voluntary basis. If home detection systems are installed, they could be inspected and tested at the time of the inspection.

COST ESTIMATE:

Negligible.

Recommendation No. 18. It is recommended that serious consideration be given to requiring all except single and two family residential property in West Hartford to be provided with either automatic detection or automatic extinguishing systems, arranged so that actuation of the system will automatically transmit an alarm to the fire department. The decision on detection or extinguishing systems would depend on individual building construction and contents.

This could also be one of the most important recommendations in this report. It is the larger non-residential type property that requires larger fire department services and larger water supplies. Fire department costs are going to continue to rise and municipalities must seek alternate means of providing fire protection. If adequate private protection can be provided, the need for public fire protection can be greatly reduced. Requiring the private protection will not cause undue financial hardships on property owners because of the reduced fire insurance rates possible

CONTINUED

1 OF 2

with the private protection. For the average building, for example, the savings on fire insurance premiums will more than cover the cost of installing an automatic sprinkler system in three to five years; beyond this, the savings can be considered pure profit. There is an added savings in tax costs because less funds would be needed for fire department service.

This is a long-range recommendation. To some it may appear to be impractical. However, it can be achieved, particularly in Towns such as West Hartford. It is predicted that this approach to fire protection will become a nationwide practice, and in the not too distant future. Continually rising costs, combined with the ever increasing demands for other types of services, are going to force municipal officials to such alternate means of providing all types of services.

COST ESTIMATE:

None to Town.

Recommendation No. 19. It is recommended that an investigation be made of the feasibility of fire department personnel inspecting, testing, and maintaining hydrants in lieu of Metropolitan District personnel.

Currently the Town pays an annual charge of approximately \$14,700 to the Metropolitan District for hydrant maintenance. Some of this charge may represent a use charge, but it may be possible to save most of the cost if the Metropolitan District will permit the maintenance to be performed by the fire department. Some training of fire department personnel would, of course, be necessary.

COST ESTIMATE:

Possible savings in annual operating cost.

\$14,700

Recommendation No. 20. It is recommended that, as the area develops, the feasibility of a regional type fire department be investigated.

Although present development does not presently appear to justify a regional fire department, a regional fire department could result in considerable cost savings for all nearby communities in the future. For example, the fourth engine company needed for West Hartford could actually be located in a nearby Town. Some of the

West Hartford companies could also provide service to adjacent Towns, probably as the second or third due company to a fire. All communities could probably have a better level of service through the sharing of costs. Because most of the adjacent communities are presently operating volunteer rather than paid departments, little cost savings or little improvement in the level of protection appears feasible at this time.

COST ESTIMATE:

None at present, possible large savings in future.

Recommendation No. 21. It is recommended that consideration be given to the elimination of the teletype services to fire stations.

At present, there are six different means of contacting the fire stations from the alarm office; including teletype, emergency telephone, regular department telephone, voice amplification, radio, and commercial telephone. The teletype is the only means that provides a printed record of the transmission, although voice recording of all except the commercial telephone service is provided. The printed record is required by the insurance grading standard; however, the printed recording really serves no other useful purpose. The various stations verbally acknowledge receipt of transmissions and a separate record is maintained of all calls.

Elimination of the teletype system would result in an increase in the fire insurance grading, estimated to be approximately 15 deficiency points. The complete cost of leasing the system could be saved.

COST ESTIMATE:

Annual savings in operating costs

\$3,200

Recommendation No. 22. It is suggested that the Town may want to give further consideration to using fire department personnel to perform additional police functions, such as, perhaps, traffic control, routine beat patrols, etc.

This is not presented as a recommendation, but rather as a suggestion for possible further consideration. This is a radical change in concept and is sure to be strongly opposed by fire department personnel. The use of fire department personnel

to perform police functions has been tried in varying degrees in numerous cities. The success obtained has varied considerably. It appears that more success is possible by limiting such activities to property protection aspects such as has been recommended previously. Future costs, however, may make the use of fire department personnel for police functions more or less mandatory, if suitable levels of both fire and police service are to be maintained.

One method used in some municipalities is to offer additional compensation to both police and fire department personnel who volunteer to perform duties of both departments.

When a higher level of private built-in fire protection is achieved, the public safety officer concept will be much more feasible.

This suggestion could result in a significant increase in the fire insurance grading, depending on the extent of police services provided by the fire department.

COST ESTIMATE:

None at present.

5.4 Existing Conditions

5.4.1 General Town Information

The Town of West Hartford operates under the council-manager form of government. At the time of this study, Mr. John W. Huntington was Council President and Mr. Richard H. Custer was Town Manager.

The Town covers an area of approximately 21.2 square miles. Because the Town is surrounded by other municipalities, there is no possibility of an increase in area except through consolidation, and this does not appear likely.

Population is estimated, by the Planning Board, to be approximately 70,000. There is only a small amount of vacant property subject to building. Any large increase in population will thus have to be the result of replacing existing single-family residences with apartment buildings. Based on existing zoning, ultimate population is projected to be approximately 80,000.

Although the Town is primarily residential, it contains a fairly large industrial area and numerous commercial and institutional properties. The Town is largely

built-upon except for the western portion in which the reservoirs for the Metropolitan District Water Supply are located. There are several golf courses, parks, and cemeteries scattered throughout the other portions of the Town which are also not subject to being built on. General land use is shown in Fig. 5-1.

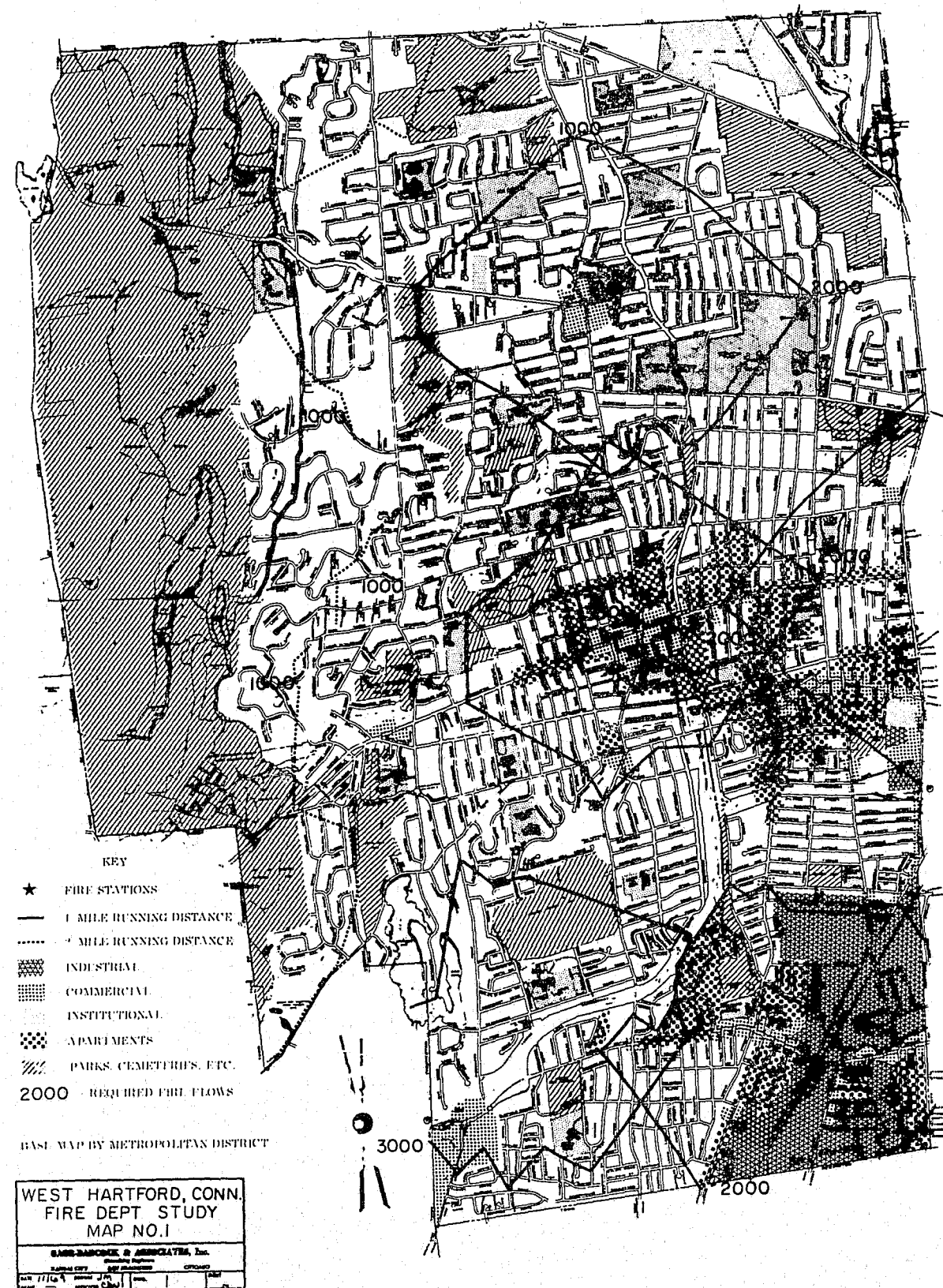
The assessed valuation of taxable property in West Hartford October 1, 1968, the latest information available, was \$430,955,057; this represents approximately 55 per cent of market value. Not included in this figure are the many tax-exempt properties, including schools, churches, and public buildings. The assessor reports that there were 17,649 dwellings, 6,159 sheds, barns, and garages, 579 commercial buildings, and 184 industrial buildings in the Town on October 1, 1968. These figures, also, do not include the tax exempt buildings; it is estimated that there are more than 100 such buildings.

The topography is rolling, with the higher elevations in the western portion of the Town. Steep grades, when covered with snow or ice, could delay response of emergency vehicles. The Penn Central Railroad passes through the extreme south-east portion of West Hartford, in the industrial district. However, it only crosses three streets, and an underpass is provided on one (New Britain Avenue), so that the railroad tracks do not offer obstruction to emergency vehicles. Interstate Highway 84 passes through the southern portion of the Town; however, grade separations have been provided on all main streets so that the highway does not present obstructions to the response of emergency vehicles. Heavy traffic on main thoroughfares could delay emergency vehicles, particularly during rush hour periods.

5.4.2 Fire Problems in West Hartford

General. A study of the fire defenses must first consider the potential losses to fires. There are two separate aspects to the loss potential, life loss and property loss. Past experience, existing conditions, and expected growth all enter into defining the problem.

Determination of the fire problem in West Hartford was accomplished by



physically inspecting all built-up areas of the Town, studying the zoning map, the Town Development Plan, and other data. As mentioned, Fig. 5-1 shows general land use; it was prepared primarily to assist in the study of the fire problem.

Life Loss Potential. There is a discussion of life loss potential in Section 5.1, Basic Philosophy. The points discussed should be considered when evaluating life loss potential.

Characteristically, buildings having higher life loss potential are buildings in which the number of occupants is high or in which evacuation of occupants is hampered. Public assembly buildings, i.e., auditoriums, schools, hotels, meeting halls, theatres, etc. are in this category, as are hospitals, nursing homes, rest homes, and apartment and office buildings. In general, life loss potential in West Hartford is slight, but there are several locations where the potential must be rated as moderate.

Schools in West Hartford in general are considered to offer only a slight loss potential. The schools have been given considerable attention in recent years, and as a result are in generally good condition from a life safety standpoint. Newer schools are 1 and 2 stories in height, of non-combustible construction, and have good exit facilities. Some of the older schools, particularly the private schools, are higher in height and have combustible interior construction. However, most are equipped with automatic detection systems to give prompt notification of fire and exiting facilities are generally good.

There are no hospitals in West Hartford but there are several nursing and convalescent homes and homes for the aged, some of relatively large size. The buildings are either of non-combustible construction and equipped with automatic detection systems or are protected with automatic sprinkler systems. Overall, the life loss potential is considered to be slight.

Most of the industrial plants are 1 and 2 stories in height and a large percentage are protected with automatic sprinkler systems. In general, life loss potential is considered to be slight, although in some, particularly those with more hazardous processes, the potential must be rated as moderate.

Many of the older commercial buildings are of combustible interior construction but are of relatively small area. New commercial buildings, which are larger

in area, are of non-combustible construction and many are also protected with automatic sprinklers. Overall, the life loss potential in commercial type buildings is considered to be slight.

Although most residential buildings are single family residences, there are many apartment buildings. Some of the older high rise apartments have combustible interior construction and only fair exiting facilities, so that the life loss potential in these is considered to be moderate. In fact, the older high rise apartment buildings present the highest life loss potential in West Hartford.

The fire department has the equipment to properly perform its functions in evacuations during most routine fire emergencies, though at present the manning of ladder companies is low. However, as mentioned in the Philosophy section, the fire department by itself cannot provide adequate life safety. Even the largest fire departments occasionally are confronted with an evacuation problem with which they cannot effectively cope. Should the West Hartford Fire Department be called upon to evacuate a large number of people from a building under severe fire conditions, the results could be disastrous. To keep this latter in proper perspective, this statement is true of all fire departments.

To achieve a good level of life safety, it is important that every effort be made to incorporate sound fire protection within buildings involving high life hazard because (1) loss of life can occur prior to the arrival of the fire department and (2) the fire department does not have sufficient manpower or equipment to cope with mass evacuation situations, even considering the outside aid available. The fire department inspection and code enforcement program has been achieving good results and this program should be continued.

Property Loss Potential. In general, the highest property loss potential will be found in industrial, warehouse, and commercial areas of the Town. In these areas buildings are larger, some have hazardous processes, and content values are higher. Particularly in the older areas, many of the buildings are particularly susceptible to major losses. Losses in these buildings have a relatively larger effect on revenue, both payroll and tax.

Factors which establish the amount of public fire protection needed are building area, building height, type of building construction, combustibility and amount of

building contents, fire exposure between buildings, and private protection provided. The factors determine the amount of fire department personnel and fire department apparatus needed and the water supply fire flow requirements.

A fairly good index of the relative property loss potential is the estimated amount of fire flow required from the water system for fire control purposes. The New England Insurance Rating Association has estimated fire flow requirements at several locations in West Hartford in connection with a survey of the fire defenses for fire insurance purposes. The fire flow estimates of the New England Insurance Rating Association are shown in Fig. 5-1.

The higher "required" fire flow figures are an indication of the severity of structural conditions from the standpoint of fire control. A study of the "required" fire flows will permit a determination of the relative severity of the structural conditions as related to fire control for various areas of the Town. As shown in Fig. 5-1, the highest "required" fire flow is 3,500 gpm in the Town Center area. Although not shown, an equal amount would be required in some portions of the industrial area. The next highest is 3,000 gpm near the shopping center in the southwest portion of the Town. Again, although now shown, the same amount would be needed for the shopping center at North Main Street and Albany Avenue. It is estimated that a flow of 2,500 gpm is "required" for the high rise apartment buildings in the central eastern portion of Town. As shown on the map, other "required" flows range from 2,000 gpm down to 1,000 gpm.

In general, the property loss potential in West Hartford ranges from slight in most areas to moderate in a few areas. Severe individual fires can be expected; but considering the fire department and water supply facilities available, fires should normally be confined to the building of origin. Under adverse conditions, fire involving adjacent buildings are probable in the Town Center area. In industrial areas, considering the private protection provided, fires should normally be confined to the building of origin. The larger outlying shopping areas are of superior type construction from a fire loss standpoint and are protected with automatic sprinklers so that the loss potential is slight. Severe fires can be expected in the apartment buildings, particularly the older ones, but these should be confined to the building of origin.

Fires involving more than one building in residential areas are unlikely.

The highest "required" fire flow in the Town is 3,500 gpm, of which one-third is allotted for wastage, broken hydrants, leaking connections, excessive consumption, etc. so that approximately 2,333 gpm is expected to be used to actually combat the fire. To apply this much water and to perform other necessary functions, a minimum of three engine companies and a ladder company is needed, with a total manpower complement of 23 men, as follows:

1. Chief
4. Company Officers
3. Firemen as pump operators
4. Firemen for two heavy stream appliances (2000 gpm)
6. Firemen for two 2½ inch hose streams (500 gpm)
5. Firemen for ladder, ventilation, and miscellaneous work

The above is considered to be a minimum, and more manpower would be desirable for effective fire fighting. The present manning can provide this level of manpower but it would require the response of all engine companies (five) plus one of the two ladder companies. The off-shift is subject to recall and outside aid is available, so that additional manpower is available. Even with the outside aid, however, great difficulty would be experienced in attempting to handle two simultaneous major fires; however, the probability of simultaneous major fires is very slight.

To summarize briefly, the property loss potential, in general, ranges from slight in most areas to moderately severe in some areas. Most fires should be confined to the building of origin except under adverse conditions in the Town Center area, where fires in adjoining buildings are probable. The fire department, particularly considering the outside aid available, can quickly assemble the manpower and apparatus needed for the more serious fires.

5.4.3 Fire Department

Organization. The fire department is operated under the general supervision of the Town Manager and under the direct supervision of Fire Chief Arthur J. Yacavone. The Chief is appointed by the Town Manager and serves at his pleasure. All other

appointments and promotions are made under civil service regulations. The department is full paid with an authorized strength of 116, and operates five engine companies and two ladder companies from five fire stations. An organizational chart of the fire department is shown on the next page. In 1968, the fire department responded to a total of 1203 emergency calls, of which 301 were for fires reported to be in buildings. A more detailed discussion of fire department activities will be presented later in this report.

Operating Costs: The budgets for operation of the fire department for the fiscal years ending June 30, 1969 and June 30, 1970 were as follows:

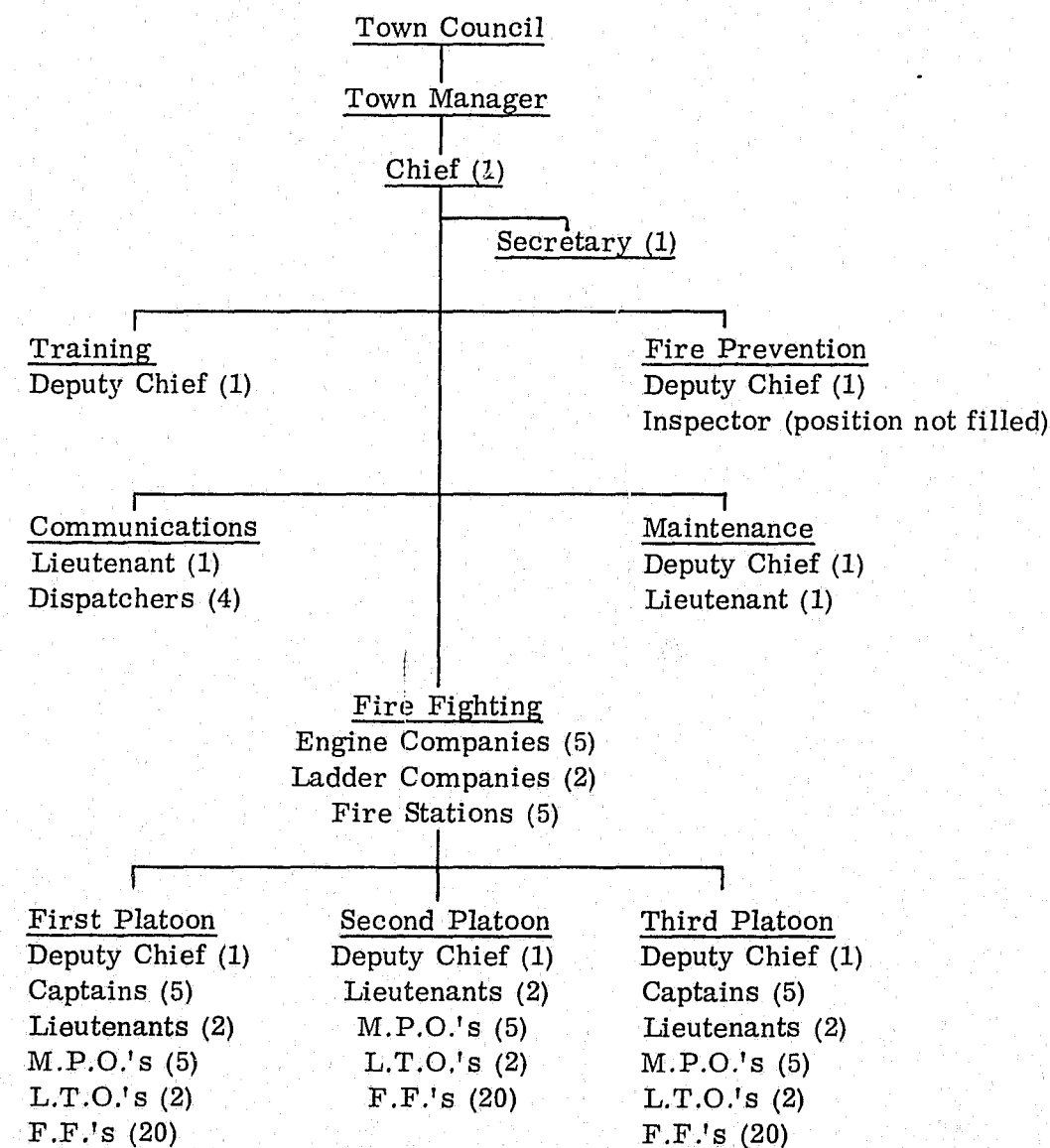
	Year Ending June 30, 1969	Year Ending June 30, 1970
Personal services	\$885,356	\$1,171,023
Non-personal expense	56,162	64,261
Capital outlay	5,995	23,125
Sundry expense	<u>14,460</u>	<u>14,696</u>
Total	\$961,973	\$1,273,105

The allocation of the expenditure by Administrative grouping for the two years is as follows:

	Year Ending June 30, 1969	Year Ending June 30, 1970
Administration	\$ 32,846	\$ 23,658
Firefighting	812,717	1,114,016
Communications	70,682	86,771
Equip. Oper. & Maint.	29,368	30,454
Hydrants	<u>16,360</u>	<u>18,206</u>
Total	\$961,973	\$1,273,105

The increase of more than 32 per cent between the last two years is due mainly to adding 15 additional men to compensate for a reduction in working hours of the firefighting force and increased salaries.

West Hartford Fire Department
Organizational Chart
November 1969



M.P.O.—Motor Pump Operator
L.T.O.—Ladder Truck Operator
F.F.—Firefighter

The total Town budgets for the two years, excluding education costs, were \$11,593,747 and \$13,642,565. The fire department budget amounted to 8.3 per cent and 9.3 per cent of the total Town budget. These percentages are fairly typical for towns operating full paid fire departments. The amount of the fire department budget devoted to salaries was approximately 92 per cent of the total; again, this is typical for towns operating full paid fire departments.

Manpower. The total authorized strength of 116 consists of the following:

1. Chief
3. Deputy Chiefs, Firefighting
1. Deputy Chief, Maintenance
1. Deputy Chief, Fire Marshal
1. Deputy Chief, Training
15. Captains
6. Lieutenants, Firefighting
1. Lieutenant, Assistant Mechanic
1. Lieutenant, Dispatcher
15. Motor Pump Operators
6. Ladder Truck Operators
60. Firefighters
4. Dispatchers
1. Secretary

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The Chief, Deputy Chiefs in charge of Training, Maintenance, and Fire Prevention, the Lieutenant Assistant Mechanic, the Lieutenant Dispatcher, and the Secretary work days on a nominal 5-day 40-hour week; all are subject to recall. The dispatchers work 8-hour shifts with one on duty at all times and average 42-hours on duty per week. The members of the firefighting force work an average of 48-hours per week, consisting of 10-hour day shifts and 14-hour night shifts, with shifts changing at 8:00 A.M. and 6:00 P.M. The firefighting force is divided into three platoons and each platoon works three 10-hour day shifts followed by 48 hours off, and then three 14-hour night shifts followed by 48 hours off. Following this schedule results in an

average work week of 56 hours and to reduce the average to 48-hours, each man is permitted to select 34 compensatory days off. The selection is made on a seniority basis and the number of compensatory days off is restricted to a maximum number in each of three 4 month periods. Vacations are also granted, ranging from two weeks to those with up to four years of service to five weeks to those with more than 24 years of service. Considering compensatory days off, vacations, and sickness, there is insufficient normal time available to maintain established minimum manning levels so that payment for overtime is authorized to maintain a minimum of four men on duty at all times with the engine companies and two men at all times with the ladder companies.

Vacations are limited to one person per shift from each station; however, this means that as many as 15 members of the fire force are permitted on vacation at one time. Even if all the members of the fire force were entitled to five weeks vacations, all vacations could be scheduled while limiting the total number off at any one time to 10. Following this practice could reduce some of the overtime work presently needed to maintain minimum levels. This would require a change in the contract with the firefighters union, however.

Apparatus. Apparatus provided is distributed as follows:

Station 1, Prospect Avenue south of Farmington Avenue.

Engine 1, 1960 Ward La France, 750 gpm pumper,
Reserve Rescue Wagon, Marmon-Herrington, not manned,
Reserve Outboard Motor, Boat and Trailer.

Station 2, Brace Road, west of Main Street.

Engine 2, 1968 Ward La France, 750 gpm pumper,
Ladder 1, 1967 Maxim, 100-ft aerial ladder truck,
Fire Fighting Deputy Chiefs Car, 1967 Mercury Station Wagon,
Inspector's Car, 1964 Nash Rambler.

Station 3, New Britain Avenue, east of Woodlawn Street.

Engine 3, 1960 Maxim, 750 gpm pumper,
Ladder 2, 1952 Maxim, 75-ft aerial ladder truck,
Maintenance, 1969 Ford Service Truck.

Station 4, Albany Avenue and Starkel Road.

Engine 4, 1954 Maxim, 750 gpm pumper,
Reserve Engine, 1948 Maxim, 750 gpm pumper (not
manned).

Station 5, Berkshire and Mildred Roads.

Engine 5, 1963 Maxim, 750 gpm pumper,
Spare Power Unit, 1955 Ford (not manned),
Chief's Car, 1968 Mercury Sedan.

Although a detailed inventory was not made as a part of this study, a brief review indicated that a generally good supply of tools, emergency equipment, small stream appliances, etc., is provided.

Maintenance. The apparatus is maintained by two full time men (Deputy Chief and Lieutenant). A shop with inadequate work space and inadequate equipment is located in the basement of Station No. 3. Although maintenance facilities are inadequate, apparatus is in generally good condition. Recommendations for improved maintenance facilities and for possible change in method of appointing maintenance personnel are presented in the report.

Fire Stations. As has been mentioned, there are five fire stations in service. The stations have all been maintained in good condition. There is inadequate office space available in the stations. The Chief's and the secretary's offices are located in Station 4 in space that was designed for office space for the company officers. The Fire Inspector's office is in a small, completely inadequate room in Station 2 and the Training Officer and Fire Fighting Deputy Chief share an office in Station 2, which also serves as the Fire Fighting Deputy Chief's bedroom. Stations 2, 3, and 4 all face onto busy streets; at times response from Station 2 is particularly slowed by traffic. There has been some consideration given to relocating Station 2.

Fire Station Locations. The first few minutes after discovery of a fire are the most critical—this time determines whether the fire is going to be easily controlled or involve major fire control operations. Keeping to a minimum the time between receipt of the alarm and the arrival at the fire by the fire department is of importance.

(However, of even greater importance is the time between ignition and detection and, as discussed elsewhere, the fire department has no control over this.) This distance travelled, road and traffic conditions, unusual obstructions, and the speed of the apparatus all influence the time of response.

An average speed of 30 miles per hour is generally considered a realistic speed for fire apparatus, assuming average conditions of all factors. Therefore, it would require two minutes to travel one mile and four minutes to travel two miles under average conditions. These figures support the American Insurance Association's general requirement of 1 or 1½ miles response distance to higher value properties and 2 miles to residential and lower value properties. These distances have been used in arriving at conclusions in this study except where local conditions may require special consideration. It would be more desirable to use a time factor for the consideration, but due to the many variables, this is not possible and the distance factor must be used.

In addition to the running distances for the first due company, the American Insurance Association has developed standards for maximum response distances for other companies, including companies due on extra alarms. The standards are based on fire flows needed, as shown in the following table:

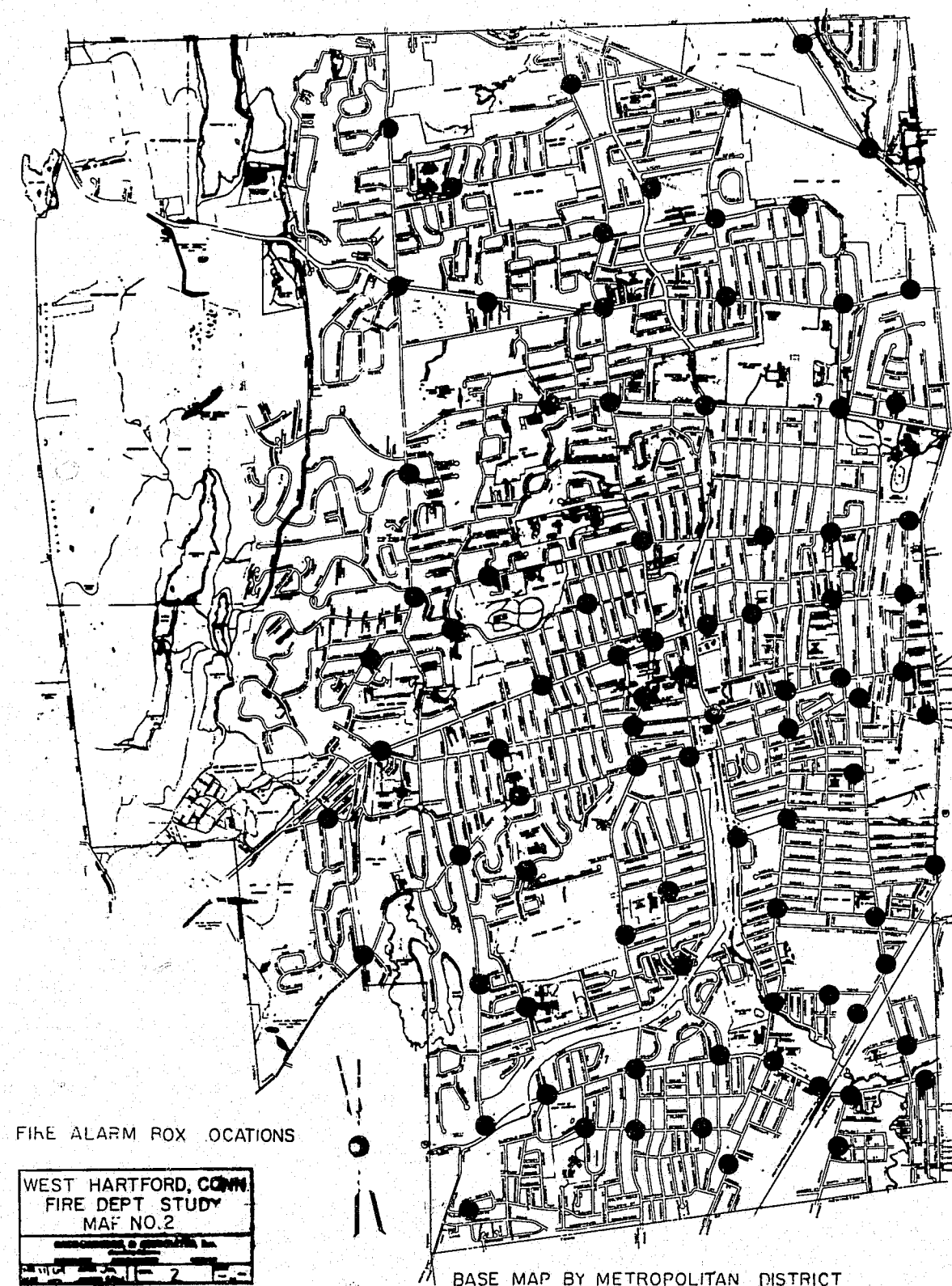
American Insurance Association Standard Running Distances Other Than Residential Areas			
Fire flow, gpm	Max. distance first company, no. miles	First alarm response, no. miles	Multiple alarm response, no. miles
Engine Companies			
3500	1 ½	2 2 ½	3 3
3000	1 ½	2 2 ½	2 2 ½
2500	1 ½	2 2 ½	2 2 ½
2000	1 ½	2 2 ½	

Fire flow, gpm	Max. distance first company, no. miles	First alarm response, no. miles	Multiple alarm response, no. miles
Ladder Companies			
3500	2	1 2	1 2
3000	2	1 2	1 2
2500	2	1 2	1 2
2000	2	1 2	1 2

For response to residential districts, the basic distances are 2 miles for the first engine company and 3 miles for the first ladder company. These distances may be increased up to four miles for both engine and ladder company service when buildings have an average separation of 100 ft. or more. For closely-built residential districts requiring fire flows in excess of 2000 gpm, the distances are 1½ miles for the first engine company and 2 miles for the first ladder company; these are reduced to 1 and 1¼ miles respectively, if the life hazard is high.

One and two mile running distances from the existing fire stations are shown in Fig. 5-2, accompanying this report. As shown thereon, most of the built-up portions of the Town are within two miles of the nearest engine company and most of the higher loss potential areas are within one mile of the nearest engine company, but all this area is within 2½ miles response distance. There is also a small area in the extreme northeast portion of the Town slightly more than two miles from the nearest engine company; again, the maximum response distance is approximately 2½ miles. Most of the Town, except for the northern portion, is within two miles of the nearest ladder company; a few areas in the northern portion are up to three miles distant from the nearest ladder company.

Overall, company distribution is adequate. Station 1 could be eliminated immediately without affecting distribution of companies or the overall level of fire protection and this is recommended. Adequate distribution of companies could be achieved with three stations by combining the two southern stations and this is recommended as a long range program.



Activities of Fire Companies. As mentioned previously, in 1968 the fire department responded to a total of 1205 emergency calls. For the first 10 months of 1969 (through October 31), the department responded to a total of 910 emergency calls. The response to emergency calls for the two periods is summarized in the following table:

Type of call	1968	Through 10/31/69	Average per month
Building Fire	301	272	26
Grass & Brush Fire	136	79	10
Automobile Fire	110	79	9
Utility Poles	10	5	1
Other Fires	104	88	9
Accidental or False	134	123	12
Rescue (First Aid) Calls	407	262	30
Hartford Fires	<u>3</u>	<u>2</u>	<u>—</u>
	1205	910	97

As can be seen, the department responded to an average of 97 emergency alarms of all types each month, or approximately three per day on the average. The number of responses to fires reported to be in buildings (although not all were actual fires) averaged about one per day. The actual response to fires reported to be in buildings ranged from a low of 12 in August 1968 to a high of 41 in June 1969. The actual number of total responses ranged from a low of 62 in February, 1969 to a high of 152 in January 1968. The latter figure included 89 first aid calls, the highest reported for any month, the next highest was 52.

For most emergency calls, more than one company is dispatched, thus the total company responses exceeds the total emergency calls. The response by companies, including time spent on emergency calls is summarized in the following table:

Company	Resp.	1968		Through 10/31/69			Average Per Mon.			Aver. Time Per Resp., Minutes
		Total Time Hrs. Min.		Resp.	Total Time Hrs. Min.		Resp.	Time Hrs. Min.		
Engine 1	315	162	59	242	125	18	25	13	03	31
Engine 2	455	223	19	313	169	14	35	17	50	30
Engine 3	276	141	03	232	94	38	23	10	42	27
Engine 4	291	148	05	221	126	11	23	12	46	33
Engine 5	216	102	22	125	63	54	20	7	33	30
Ladder 1	168	80	36	125	57	26	13	6	16	28
Ladder 2	277	145	48	232	123	23	23	12	14	32

As can be seen, Engine Co. 2 is the busiest, averaging just slightly more than one response per day, while all the others average less than one response per day. The actual monthly responses ranged from a high of 58 for Engine Co. 2 in January, 1968 to a low of 4 for Ladder Co. 1 in August, 1968. The actual maximum and minimum monthly responses per company are summarized below:

Company	Max. Monthly Responses	Min. Monthly Responses
Engine 1	38	14
Engine 2	58	19
Engine 3	39	10
Engine 4	46	11
Engine 5	40	5
Ladder 1	31	4
Ladder 2	44	10

The time spent on each response averages about 30 minutes; this is the time from transmission of the alarm to the company to the return to the station. In 1958 (a leap year) there were 8784 hours and the maximum time spent on response to emergency calls by any company was 223 hours and 19 minutes, 2.5 per cent of the total time. For the first 10 months of 1969 there were 7296 hours and the maximum time spent on responses was 169 hours and 14 minutes, 2.3 per cent of the total time. The average time spent on responses to emergency calls in 1968 and 1969 was 1.6

per cent and 1.5 per cent of the total time, respectively. It should be remembered, however, that time is also devoted to training, inspection, housekeeping duties, equipment maintenance, etc. so that the foregoing does not represent all the productive time of the fire department.

The initial response assignment to fires reported to be in buildings ranges from two engine companies and one ladder company to three engine companies and two ladder companies, depending on the type of building and location. Most fires are controlled and extinguished by the initially responding companies (in fact, most can be controlled and extinguished with less than the initial responding companies). For the most serious fires, additional companies are requested to respond. When this occurs it is called a multiple alarm. In 1968 there were 8 multiple alarms and there were 5 in the first ten months of 1969. Thus, only a few alarms each year fall into the more serious category.

For even more serious fires, assistance of surrounding fire departments is available. However, this outside assistance has not been called for many years; the last time outside aid was requested was in 1956 for the Plant School Fire.

Training. A full time Training Officer has been appointed and training activities are scheduled almost every day except week ends and holidays. A four-story drill tower has been provided at the municipal incinerator building and regular drills are conducted there during the spring, summer, and fall months. A classroom with some training aids is available in the basement of Station No. 2. The training officer normally schedules two training sessions each day, either at the drill tower or in the stations. On occasion, the training facilities at Bradley Field have been used; these include facilities for actual fires. The training officer is developing training material and is keeping good records. Overall, the training program of the department is considered to be generally good.

Communications. The Town leases a telephone type municipal fire alarm system from the Southern New England Telephone Company. The switchboard for the system is located in a room in the basement of the Town Hall and is manned at all times by a dispatcher. During the day, the Lieutenant-Dispatcher is also on duty. There are 92 telephone boxes located at various locations throughout the city, including 5

mounted in the front of fire stations. The locations of the boxes are shown in Fig. 5-1, accompanying this report. In addition to the 92 public boxes, there are 59 connections to private alarm and extinguishing systems in various buildings throughout the Town. The system is a standard telephone type system and is maintained, per the contract, by the telephone company. The system has an emergency power supply (batteries) and circuits are supervised; it is in general compliance with the National Fire Protection Association's standards for municipal alarm systems.

Two normal telephone trunk lines, in progression, terminate at the switchboard and are reserved for emergency calls. There are also three trunk lines, in progression, for business calls terminating at the switchboard. Also connected to the switchboard are direct tie lines to the telephone company central office, the Town Hall switchboard, the Hartford Fire Department switchboard, the office of the Connecticut Protective Service (a private central alarm company), and three to the Police Department switchboard, one of which is reserved for emergency calls.

There is an extension reserved for transmission of alarms in each fire station; the telephones on the front of the stations are tied into these telephones. There are also extensions from the switchboard for routine calls in each fire station, in the classroom at Station 2, the deputy chief's room in Station 2, the Fire Marshal's office in Station 2, the Chief's office in Station 4, the secretary's office in Station 4, the shop in Station 3, the Chief's residence, and two in the fire alarm room. Extensions from the Town Hall switchboard are provided in the Chief's office, secretary's office, deputy chief's room, fire marshal's office, shop, and the fire alarm room.

The Town also leases a teletype system from the telephone company with the transmitter located in the fire alarm office and receivers located in each fire station.

A department system is also provided, with the main transmitter and the antenna located at the Town Hall. All department vehicles are equipped with two way units and three portable units are also provided with seven additional portable units on order. Receivers and transmitters are also provided in each station, and a receiver only is provided in the deputy chief's room.

Also provided in the fire alarm room are a punch register and a gong for receiving alarms from ADT, another private central alarm company, a punch register

and a gong on the Hartford fire alarm system, a receiver for monitoring the West Hartford Police radio, a receiver for monitoring the Hartford Fire Department radio, a civil defense telephone, four other telephones for establishing an emergency communication center, controls for a public address system extending to all fire stations, and a two position recorder for recording all communications.

Upon receipt of an emergency call, the alarm is transmitted to all stations by means of the public address system and the companies confirm receipt of the alarm by means of the fire phone. The alarm is then transmitted over the radio and is further confirmed by the teletype system. The police department is also notified by means of the direct tie to the police switchboard.

The use of the public boxes for the two years ending October 31, 1968 and October 31, 1969 is summarized in the following table:

	Year ending 10/31/68	Year ending 10/31/69
Fire	22	24
False Alarms*	34	77
Police Emergencies	<u>101</u>	<u>103</u>
Total	157	204

*Includes instances where telephone lifted off hook but no message transmitted.

In addition to the foregoing, in 1968 there were 39 alarms received from the private systems connected to the telephone type system, of which six were for actual fires and the others were accidental or false, and for the ten months ending October 31, 1969, there were 42 alarms received from the private systems of which two were for actual fires, one for an emergency, and the others were accidental or false.

The public boxes are also used by the police department for transmitting routine beat messages. A sampling of one day in each of the ten months ending October 31, shows that the system was used an average of 100 times each day for such routine beat messages, ranging from a high of 129 times on one day to a low of 75.

It is thus obvious that the system is much more widely used for transmitting police calls than for fire calls. During 1968 plus the 10 months ending October 31, 1969, approximately 12 percent of the total fire department emergency calls were received from the alarm system, including those from the private systems. However, approximately 67 percent of the total accidental or false alarms received during this period were from the alarm system.

At the present time, the fire department telephone service costs approximately \$1815 per month, or \$21,780 per year; this includes the cost of leasing the telephone system, the teletype system, plus the regular telephone service. A recommendation is presented for reducing the number of public boxes by approximately 50 percent. It is also suggested that consideration be given to eliminating the teletype system.

An important recommendation is that the fire and police department communications be combined into one emergency communication system.

Fire Prevention. Town ordinances prescribe that the Fire Chief is also Fire Marshal so that the Chief is in charge of fire prevention as well as fire extinguishment. To assist the Chief in meeting his responsibilities, a full time inspector with the rank of Deputy Chief has been appointed. The budget also provides for an additional inspector but the position was not filled at the time of the survey.

The Deputy Chief devotes full time to inspection work and in addition, each company is assigned to devote at least one day each week on inspections within its district on a regularly scheduled basis. The companies are responsible for routine inspections, the deputy chiefs handle special problems, review of plans for new construction, etc. Overall, the fire prevention and inspection activities of the department are considered to be good although the authorized position of the second full time inspector should be filled.

There are a few Town ordinances covering specific hazards, such as oil burning equipment and fuel oil storage, heating and air conditioning equipment, etc. In addition, the regulations of the State Fire Marshal are enforced. The regulations provide good control over hazardous materials, processes, and occupancies. They are patterned largely after national standards.

The Town has also adopted a building code which provides generally good control over building construction. It too is patterned after nationally recognized standards.

Water Supply. The Town receives its water supply from the Metropolitan District Commission. A generally adequate and reliable supply is available. A map of the water distribution system showing main sizes and locations, valves and hydrants is available from the Metropolitan District Commission.

On April 13-19, 1966, the New England Insurance Rating Association conducted nine tests to determine the amount of water available for fire protection in various areas of the Town. The results of these tests are summarized in the following table:

Test no.	Location	Static pressure psi	Required gmp at 20 psi	Available gpm at 20 psi
1.	N. Main St. and Miller Rd.	40	1000	3740
2.	Albany Ave. and Steel Rd.	48	2000	2040
3.	Mt. St. Joseph Academy	41	2000	3350
4.	Bishop and Kingwood Rd.	66	2000	1000
5.	Shields and Cody Sts.	90	2000	1650
6.	Hunter Rd. and Soby Dr.	96	1000	1300
7.	New Britain Ave. and Clover St.	46	3000	4780
8.	Orchard near Canal Rd.	56	1000	1870
9.	Sunset Farm Rd. near Glenridge	92	1000	1170

At only two of the tests, Nos. 4 and 5, were the available amounts below the required amounts and at one, No. 5, improvements have been made to increase the amount of water available for fire fighting. There are several areas in the high portions of the Town (western portion) where special hydrants have been provided to permit the fire department to pump into the distribution system in the area.

Overall, the water supply is considered to be good. A suggestion for a possible reduction in maintenance charges by using fire department personnel to service hydrants is presented.

Fire Insurance Rating. The purposes of this study was to evaluate the effectiveness of the fire department of the Town of West Hartford. In conducting a study of the fire defenses of a municipality, it is necessary to consider the fire insurance grading.

The fire insurance grading is used by the New England Insurance Rating Association as a basis for determining many of the fire insurance rates in the Town. The last grading of West Hartford was made in 1966. At that time the town graded 2nd class with a total of 920 deficiency points.

The grading is determined by applying the "Standard Schedule for Grading Cities and Towns of the United States with Reference to their Fire Defenses and Physical Conditions" (commonly referred to as the Grading Schedule) of the American Insurance Association. This schedule contains standards for municipal fire protection, and deficiency points are assessed for deviations below the standards. The lower the number of deficiency points, the better the classification. There is a possible maximum of 5,000 deficiency points, and there are 10 classes of protection. There are, however, only six categories of dwelling fire insurance rates.

The relationship between deficiency points, insurance class, and dwelling grades is shown below:

Deficiency points	Insurance class	Dwelling grade
0—500	1	A
501—1000	2	A
1001—1500	3	B
1501—2000	4	B
2001—2500	5	C
2501—3000	6	C
3001—3500	7	D
3501—4000	8	D
3001—4500	9	E
4501—5000	10	F

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The following table shows the features considered in the grading, the maximum number of points allocated to each feature, and the number of points assigned in the grading of West Hartford.

	Maximum points	West Hartford points	Relative class
Water Supply	1,700	76	1st
Fire Department	1,500	384	3rd
Fire Alarm	550	93	2nd
Fire Prevention	350	140	4th
Building Department	200	20	1st
Structural Conditions	700	161	3rd
Climatic Conditions	—	40	—
Divergency Charge	—	6	—
Total	5,000	920	2nd

The second class grading is well above average for any municipality, particularly for municipalities of West Hartford's population. The 1967 edition of the Municipal Year Book, published by the International City Managers Association shows that of 1542 cities with populations of 10,000 or more (not all the cities in this population range) only 18 or 1/2 percent graded 2nd Class and there were none graded 1st Class. The 18 included only 3 with populations of less than 100,000.

It is estimated that compliance with the recommendations in this report would result in the Town maintaining the 2nd Class grading. There would be increases in the number of deficiency points due to the elimination of one engine company and the reduction in the number of alarm boxes and possibly some because of combining the police and fire communications. However, these would be offset by a reduction in the deficiency points due to better manning of the ladder companies, better maintenance of apparatus, and an improvement in the fire prevention inspection program.

Even if the grading were reduced to 3rd Class, the effect on fire insurance rates on property in the Town would not be large. The maximum increase for any property would not exceed 5 percent and many rates would not be affected at all

such as the rates for homeowners policies and for buildings protected with automatic sprinkler systems. Any property insured with Lloyds of London would not have insurance rates affected by a change in classification: neither would property insured with certain mutual companies, or property included in a policy protecting many buildings at many locations (such as a supermarket chain). The construction of the individual buildings and the hazards within the building are the largest determining factors in establishing fire insurance rates.

6.0 SUGGESTED AREAS FOR FURTHER STUDY

Our study focused primarily on the subject of better manpower utilization and career development trends in the public safety services. Accordingly, this report recommends steps, outlined earlier, necessary to improve existing services and also outlines, very broadly, recommendations that can serve to guide policy decisions in the future. We recognize, however, that there is a gap between recommendation and implementation. Recommendations contained in this report cannot be accomplished overnight. If West Hartford decision makers decide to press forward with any or all of the recommendations, more detailed information should be gathered for certain areas. Therefore, we suggest some possibilities for further research as a prelude to program implementation:

Police

- Design and cost study for combined Communications Center
- Develop operating procedures for combined Communications Center
- Long range planning studies to evaluate school crossing intersections with objective, initially, of reducing police commitment and, ultimately, of abolishing the system
- Formulation of training programs for civilian personnel to be used as radio dispatchers and record clerks
- Design of Community Crime Control Teams to include responsibilities, operating procedures, and intra-department coordination
- Design of an officer field reporting system
- Design of a crime analysis procedure
- Design of a beat and district resource allocation model
- Long-range planning for a new police headquarters
- Feasibility of using civilians to perform other police functions

Fire

- Formulate procedures, define authority and responsibility of property protection patrols
- Define standards and duties, and formulate training programs, relating to home and business property protection and security control

- Formulate and coordinate work schedules of security inspection and property protection patrols
- Investigate feasibility of assigning to the Fire Department the responsibility for maintaining fire hydrants
- Long-range planning studies to determine feasibility of establishing regional fire departments
- Feasibility of using Fire Department personnel to perform additional police and other town agency functions.

APPENDIX A
REPORT FORMS

WEST HARTFORD POLICE DEPARTMENT

COMPLAINT
NO.

MISCELLANEOUS SERVICE REPORT

1. INCIDENT		2. DATE AND TIME	3. PATROL DISTRICT
4. LOCATION			
5. COMPLAINANT		6. ADDRESS	
7. Details: Explain fully nature of incident. List names of persons interviewed. Describe police action taken and how matter was settled.			
8. INVESTIGATING OFFICER		9. SUPERVISOR APPROVING REPORT	

PD 102

WEST HARTFORD POLICE DEPARTMENT

FIELD CASE REPORT

1. INCIDENT				2. PATROL DISTRICT		3. CASE NUMBER	
4. LOCATION			5. DATE - TIME OCCURRED			6. DATE - TIME POLICE ARRIVED	
7. VICTIM (FIRM NAME IF BUSINESS)			ADDRESS			RESIDENCE PHONE	
8. PERSON REPORTING INCIDENT			ADDRESS			BUSINESS PHONE	
9. WITNESSES			SEX	RACE	AGE	ADDRESS	
10. VICTIM'S OCCUPATION			SEX	RACE	AGE	11. TYPE OF PREMISES WHERE OCCURRED	
13. TOOL OR WEAPON USED			14. METHOD USED TO COMMIT CRIME			12. EXACT LOCATION OF VICTIM OR PROPERTY	
17. TRADE MARK OR UNUSUAL FEATURE			15. KIND OF PROPERTY INVOLVED			16. VALUE	
18. VEHICLE USED BY OFFENDERS			YEAR			BODY STYLE	
20. KIND OF PROPERTY RECOVERED			VALUE			INVENTORY NUMBER	
22. PERSON ARRESTED			ADDRESS			19. NUMBER OF OFFENDERS	
A.			SEX			RACE	
B.			AGE			ARREST NUMBER OR PDS	
C.							
23. Narrative Record additional information not provided for above. Give exact description of property taken. Indicate sobrieties of victim, witnesses and suspects. Give complete description of all suspects.							
24. CASE STATUS, CHECK ONE: UNFOUNDED <input type="checkbox"/>				25. REPORTING OFFICER		26. SUPERVISOR APPROVING	
BONA FIDE CASE - CLEARED <input type="checkbox"/> NOT CLEARED <input type="checkbox"/>							

WEST HARTFORD POLICE DEPARTMENT

FIELD SUPPLEMENTARY REPORT

1. INCIDENT		2. DATE OF THIS REPORT	3. CASE NUMBER
4. ORIGINALLY CLASSIFIED AS	5. VICTIM	6. ADDRESS	
<p>7. Narrative: Record here all developments in the case subsequent to the submission of the last report. Describe and record value of any property recovered, names and Ident numbers of any persons arrested. If offense classification is changed explain why. Indicate clearly disposition of property recovered and show property inventory number if in police possession.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>			
CASE STATUS, CHECK ONE: UNFOUNDED <input type="checkbox"/> BONA FIDE CASE-CLEARED <input type="checkbox"/> NOT CLEARED <input type="checkbox"/>		9. INVESTIGATING OFFICER 10. SUPERVISOR APPROVING	

C-7

APPENDIX B
WEST HARTFORD POLICE
FOOT BEAT AND PATROL DISTRICTS

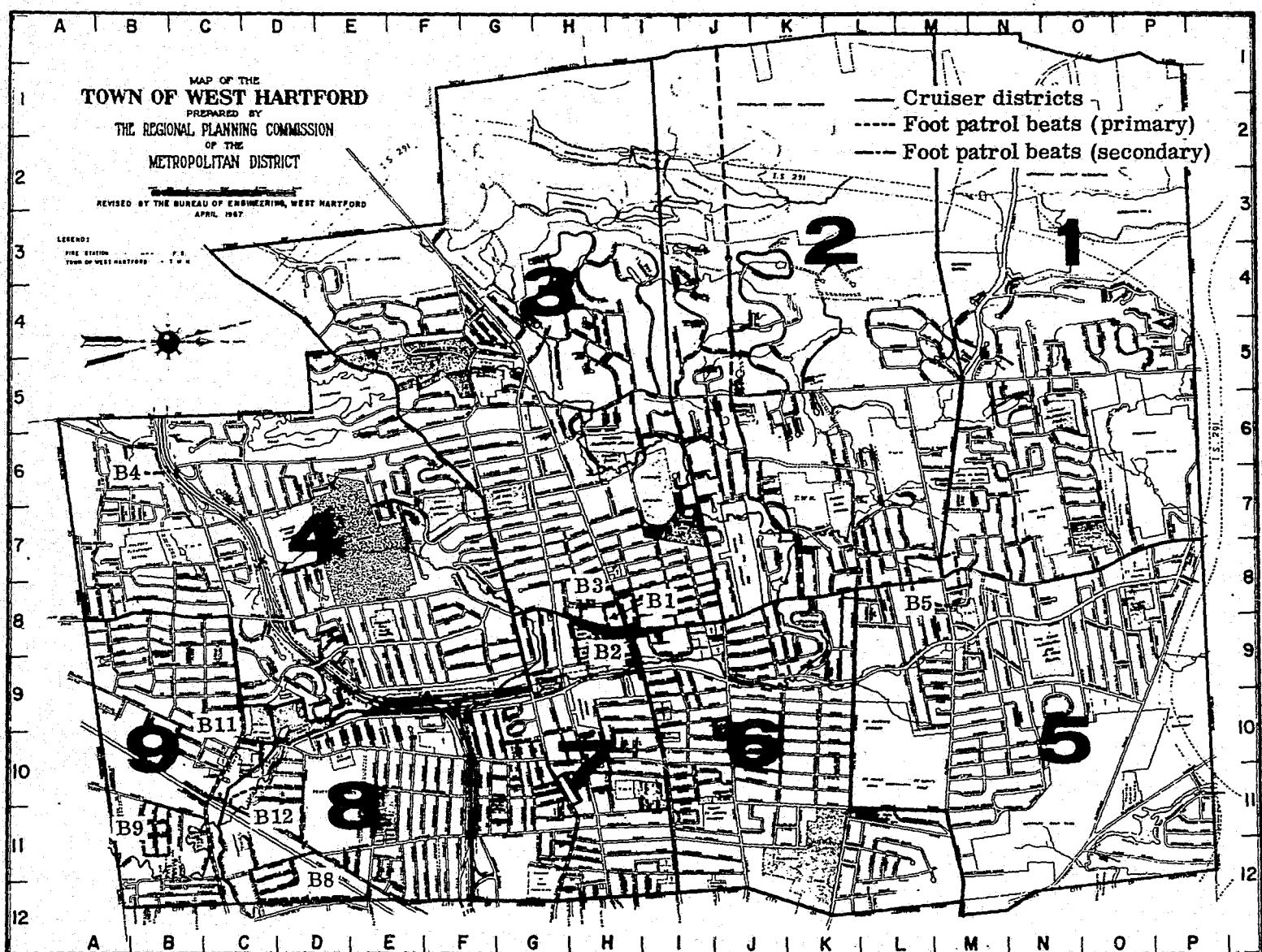


Fig. B-1. West Hartford foot beat and patrol district scheme.

APPENDIX C
WEST HARTFORD POLICE
WORK-LOAD TABULATIONS

TABLE C-1
NUMBER OF CALLS FOR SERVICE FOR THE FIRST SHIFT (mid. to 8 a.m.)
DURING THE MONTH OF FEBRUARY 1968

Type	Patrol District									Total
	1	2	3	4	5	6	7	8	9	
Break and Enter	2	0	0	1	1	1	1	1	1	8
Larceny	0	0	0	0	0	0	0	1	1	2
Auto Theft	0	0	0	0	0	0	0	0	0	0
Vandalism	0	0	1	1	0	0	0	0	0	2
Auto Accidents	1	0	0	2	1	1	2	2	6	15
Assaults	0	0	0	0	0	0	1	0	0	1
Disorderly Condt.	1	0	0	0	0	0	2	1	2	6
Other Offences	0	0	0	0	0	0	0	2	0	2
Missing Persons	0	0	0	0	0	0	0	0	0	0
Gen. Assistance	0	1	1	2	0	0	0	0	0	4
Burglar Alarms	0	0	0	0	0	0	0	2	0	2
Fire Calls	1	0	1	1	1	1	2	1	0	8
Other Incidents	0	0	6	4	3	5	15	10	6	49
Total	5	1	9	11	6	8	23	20	16	99

Average: 3.4 calls for service per district per shift.

TABLE C-2
NUMBER OF CALLS FOR SERVICE FOR THE SECOND SHIFT (8 a.m. to 4 p.m)
DURING THE MONTH OF FEBRUARY 1968

Type	Patrol District									Total
	1	2	3	4	5	6	7	8	9	
Break and Enter	0	1	1	1	0	1	1	0	2	7
Larceny	1	0	1	0	0	0	1	2	0	5
Auto Theft	0	0	0	0	0	1	0	0	0	1
Vandalism	1	0	4	1	2	1	2	0	0	11
Auto Accidents	5	2	7	9	6	8	10	7	10	64
Assaults	0	0	0	0	0	0	0	0	0	0
Disorderly Condt.	0	0	0	0	0	0	0	1	0	1
Other Offences	0	1	5	3	2	4	5	2	4	26
Missing Persons	0	0	0	1	0	0	0	0	0	1
Gen. Assistance	0	1	4	0	3	2	2	0	4	16
Burglar Alarms	0	2	0	0	1	0	0	1	3	7
Fire Calls	3	1	4	6	6	4	3	4	3	34
Other Incidents	3	5	9	7	10	14	19	4	5	76
Total	13	12	35	28	30	35	43	21	31	249

Average: 8.9 calls for service per district per shift.

TABLE C-3
NUMBER OF CALLS FOR SERVICE FOR THE THIRD SHIFT (4 p.m. to mid.)
DURING THE MONTH OF FEBRUARY 1968

Type	Patrol District									Total
	1	2	3	4	5	6	7	8	9	
Break and Enter	1	1	0	1	1	1	2	1	1	9
Larceny	2	0	2	0	0	0	0	0	1	5
Auto Theft	0	0	0	0	0	0	0	2	0	2
Vandalism	2	0	2	0	3	0	0	3	3	13
Auto Accidents	2	5	11	5	6	4	12	6	3	54
Assaults	0	0	0	0	0	0	1	0	2	3
Disorderly Condt.	0	1	2	1	0	1	2	3	1	11
Other Offences	2	5	3	11	3	3	5	6	6	48
Missing Persons	0	0	0	1	0	1	0	1	0	3
Gen. Assistance	0	1	3	2	2	2	4	2	3	19
Burglar Alarms	0	1	3	2	0	0	0	4	0	10
Fire Calls	2	1	1	2	6	5	5	8	2	32
Other Incidents	13	10	18	4	15	10	19	18	13	120
Total	24	25	45	29	36	27	50	54	35	325

Average: 11.6 calls for service per district per shift.

TABLE C-4
NUMBER OF CALLS FOR SERVICE FOR THE FIRST SHIFT (mid. to 8 a.m.)
DURING THE MONTH OF OCTOBER 1968

Type	Patrol District									Total
	1	2	3	4	5	6	7	8	9	
Break and Enter	0	0	0	1	6	1	1	1	1	11
Larceny	0	1	1	1	0	2	0	1	2	8
Auto Theft	0	0	1	1	1	1	0	0	2	6
Vandalism	2	0	0	0	0	2	1	0	1	6
Auto Accidents	2	3	3	3	3	2	1	0	1	15
Assaults	0	0	0	0	0	1	0	0	0	1
Disorderly Condt.	0	0	0	0	0	2	2	0	0	4
Other Offences	0	0	1	0	0	1	1	1	0	4
Missing Persons	0	1	1	1	0	0	0	0	0	3
Gen. Assistance	1	0	0	1	0	0	1	1	0	4
Burglar Alarms	3	1	0	2	1	1	0	2	1	11
Fire Calls	2	0	2	1	0	0	2	0	0	7
Other Incidents	7	0	30	13	9	7	17	11	10	104
Total	17	6	39	24	19	19	25	18	17	184

Average: 5.9 calls for service per district per shift.

TABLE C-5
NUMBER OF CALLS FOR SERVICE FOR THE SECOND SHIFT (8 a.m. to 4 p.m.)
DURING THE MONTH OF OCTOBER 1968

Type	Patrol District									Total
	1	2	3	4	5	6	7	8	9	
Break and Enter	0	0	3	1	1	2	4	1	4	16
Larceny	2	0	5	5	6	5	5	2	2	32
Auto Theft	1	0	2	0	1	0	1	0	3	8
Vandalism	0	2	2	4	4	1	0	0	0	13
Auto Accidents	2	7	10	13	14	13	19	7	9	94
Assaults	0	1	0	0	0	0	0	0	0	1
Disorderly Condt.	0	1	0	0	0	0	0	1	0	2
Other Offences	2	0	2	1	0	0	1	0	1	7
Missing Persons	0	0	0	7	0	0	3	0	0	3
Gen. Assistance	2	0	3	0	0	4	5	3	5	31
Burglar Alarms	33	2	1	0	1	1	1	1	1	11
Fire Calls	1	3	1	3	5	4	2	2	2	23
Other Incidents	7	8	14	10	13	10	21	2	2	87
Total	20	24	45	44	45	40	62	29	29	328

Average: 10.6 calls for service per district per shift.

TABLE C-6
NUMBER OF CALLS FOR SERVICE FOR THE THIRD SHIFT (4 p.m to mid.)
DURING THE MONTH OF OCTOBER 1968

Type	Patrol District									Total
	1	2	3	4	5	6	7	8	9	
Break and Enter	1	1	3	4	4	2	7	4	1	27
Larceny	2	0	2	2	9	1	5	2	2	25
Auto Theft	1	1	1	3	0	1	3	3	0	13
Vandalism	4	1	0	2	1	3	0	0	0	11
Auto Accidents	4	3	5	8	12	5	12	9	8	66
Assaults	0	0	0	0	0	2	0	0	1	3
Disorderly Condt.	2	1	1	0	0	1	1	3	2	11
Other Offences	2	0	2	1	0	0	0	1	0	6
Missing Persons	0	0	0	1	1	2	0	0	1	5
Gen. Assistance	2	1	1	3	2	2	3	3	0	17
Burglar Alarms	2	1	2	1	0	3	1	0	3	13
Fire Calls	3	1	5	6	2	2	5	5	5	34
Other Incidents	21	14	39	22	15	31	39	20	9	210
Total	44	24	61	53	46	55	76	50	32	441

Average: 14.2 calls for service per district per shift.

TABLE C-7
NUMBER OF CALLS FOR SERVICE FOR THE FIRST SHIFT (mid. to 8 a.m.)
FOR THE YEAR 1968*

Type	Patrol District									Total
	1	2	3	4	5	6	7	8	9	
Break and Enter	12	0	0	12	42	12	12	12	12	114
Larceny	0	6	6	6	0	12	0	12	18	60
Auto Theft	0	0	6	6	6	6	0	0	12	36
Vandalism	12	0	6	6	0	12	6	0	6	48
Auto Accidents	18	18	18	30	18	12	12	18	36	180
Assaults	0	0	0	0	0	6	6	0	0	12
Disorderly Condt.	6	0	0	0	0	12	24	6	12	60
Other Offences	0	0	6	0	0	6	6	18	0	36
Missing Persons	0	6	6	6	0	0	0	0	0	18
Gen. Assistance	66	6	6	18	0	0	6	6	0	48
Burglar Alarms	18	6	0	12	6	6	0	24	6	78
Fire Calls	18	0	18	12	6	6	24	6	0	90
Other Incidents	42	0	216	102	72	52	192	126	96	918
Total	132	42	288	210	150	162	288	228	198	1698

Average: 4.65 calls for service per district per shift.
*An estimate based on the months of February and October.

TABLE C-8
NUMBER OF CALLS FOR SERVICE FOR THE SECOND SHIFT (8 a.m. to 4 p.m.)
FOR THE YEAR 1968*

Type	Patrol District									Total
	1	2	3	4	5	6	7	8	9	
Break and Enter	0	6	24	12	6	18	30	6	36	138
Larceny	18	0	36	30	36	30	36	24	12	222
Auto Theft	6	0	12	0	36	6	6	0	18	54
Vandalism	6	13	36	30	120	12	12	0	0	144
Auto Accidents	42	54	102	132	0	126	174	84	114	948
Assaults	0	6	0	0	0	0	0	0	0	6
Disorderly Condt.	0	6	0	0	12	0	0	12	0	18
Other Offences	12	6	42	24	0	24	36	12	30	198
Missing Persons	0	0	0	6	18	0	18	0	0	24
Gen. Assistance	12	6	54	42	0	36	42	18	54	282
Burglar Alarms	18	24	6	0	12	6	6	12	24	108
Fire Calls	24	24	30	54	66	48	30	36	30	342
Other Incidents	60	78	138	102	138	144	240	36	42	978
Total	198	222	480	432	450	450	630	240	360	3462

Average: 9.48 calls for service per district per shift.

*Estimated.

TABLE C-10
NUMBER OF CALLS FOR SERVICE FOR FEBRUARY 1968

Hour of Day*	Day of Week							Totals
	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	
1	4	7	2	1	4	4	6	28
2	3	2	2	2	3	4	4	20
3	2	1	1	1	3	3	3	14
4	2	0	0	2	0	0	0	4
5	0	1	0	0	0	0	2	3
6	0	2	0	0	2	0	1	5
7	2	1	2	1	2	1	0	9
8	0	2	3	5	4	2	0	16
9	2	6	2	6	6	6	2	30
10	1	1	4	2	5	5	3	21
11	3	5	4	5	4	3	5	29
12	3	2	2	0	4	8	4	23
13	6	4	1	4	5	5	5	30
14	2	5	4	5	4	2	6	28
15	5	11	3	4	5	4	7	39
16	6	8	7	6	9	6	7	49
17	3	8	6	5	11	9	8	50
18	9	4	5	11	10	10	9	58
19	1	7	9	6	9	7	7	46
20	10	3	4	4	6	5	9	41
21	2	5	1	3	8	10	4	33
22	3	8	3	7	8	6	2	37
23	4	3	5	4	7	10	5	38
24	0	0	2	3	6	6	5	22
Totals	73	96	72	87	125	116	104	673

*Hour 1 = midnight to 1 a.m.

TABLE C-11
NUMBER OF CALLS FOR SERVICE FOR OCTOBER 1968

Hour of Day*	Day of Week							Totals
	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	
1	11	4	5	11	9	4	2	46
2	5	3	3	5	13	3	6	38
3	6	2	0	3	4	9	6	30
4	4	0	2	1	2	1	3	13
5	1	4	0	3	1	0	2	11
6	1	0	0	0	0	1	2	4
7	1	1	0	0	4	4	3	13
8	1	4	7	6	4	4	3	29
9	1	3	3	3	9	4	7	30
10	3	5	3	7	6	3	7	34
11	5	8	7	6	5	9	4	44
12	5	8	4	6	8	1	4	36
13	5	1	4	7	7	6	11	41
14	5	0	8	9	8	3	7	40
15	7	4	4	9	5	13	7	49
16	9	8	10	9	8	6	4	54
17	11	10	8	10	9	10	6	64
18	4	7	13	8	12	5	5	54
19	6	6	13	8	12	9	5	59
20	15	11	8	2	14	3	5	58
21	8	3	8	7	5	14	10	55
22	8	8	15	8	13	9	8	69
23	4	5	8	8	6	4	11	46
24	2	1	6	4	4	14	5	36
Totals	128	106	139	140	168	139	133	953

*Hour 1 = midnight to 1 a.m.

TABLE C-12
NUMBER OF CALLS FOR SERVICE FOR THE YEAR 1968*

Hour of Day†	Day of Week							Totals
	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	
1	90	66	42	72	78	48	48	444
2	48	30	30	42	96	42	60	348
3	48	18	6	24	42	72	54	264
4	36	0	12	18	12	6	18	102
5	6	30	0	18	6	0	24	84
6	6	12	0	0	12	6	18	54
7	18	12	12	6	36	30	18	132
8	6	36	60	66	48	36	18	270
9	18	54	30	54	90	60	54	360
10	24	36	42	54	66	48	60	330
11	48	78	66	66	54	72	54	438
12	48	60	36	36	72	54	48	354
13	66	30	30	66	72	66	96	426
14	42	30	72	84	72	30	78	408
15	72	90	42	78	60	102	84	528
16	90	96	102	90	120	72	66	618
17	84	108	84	90	102	114	84	684
18	78	66	108	114	132	90	84	672
19	42	78	132	84	126	96	72	630
20	150	84	72	36	120	48	84	594
21	60	48	54	60	78	144	84	528
22	66	96	108	90	126	90	60	636
23	48	48	78	72	78	84	96	504
24	12	6	48	42	60	120	60	348
Totals	1206	1212	1266	1362	1758	1530	1422	9756

*An estimate based on months of February and October.
†Hourage - midnight to 8 a.m. service per day.
Average: 26.73 calls for service per day.

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TABLE E-13
SAMPLING OF 15-DAY PERIOD OF CRUISER ASSIGNMENTS
FOR MIDNIGHT SHIFT (12 midnight to 8 a.m.)

Date	Districts									Total
Nov. 1969	1	2	3	4	5	6	7	8	9	
8 Sat.		0			0		0			3
9 Sun.	0*		0	0	0	0	0	0		7
10 Mon.			0	0	0	0	0	0	0	7
11 Tues.			0	0	0		0	0	0	6
12 Wed.	0	0	0	0	0	0			0	7
13 Thurs.	0	0	0		0			0		5
14 Fri.		0								1
15 Sat.		0	0	0	0	0				5
16 Sun.		0	0	0					0	4
17 Mon.		0	0			0		0		4
18 Tues.	0				0			0	0	4
19 Wed.		0	0	0	0	0		0	0	7
20 Fri.	0	0			0	0				4
21 Sat.	0	0	0	0	0	0			--	6
22 Sat.	0		0	0	0					4
Totals	7	10	11	9	12	8	4	7	6	

*0 represents no calls for service during specified tour of duty.

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APPENDIX D
SUMMARY OF FIRE INSURANCE GRADING

APPENDIX D. SUMMARY OF FIRE INSURANCE GRADING

City West Hartford, Conn. Date November, 1969
 Date Graded April, 1966 Graded By N.E.I.R.A. Information Furnished by N.E.I.R.A.

SUMMARY OF DEFICIENCY POINTS

	Deficiency Points	Relative Class
WATER SUPPLY	76	1
FIRE DEPARTMENT	384	3
FIRE ALARM SYSTEM	93	2
FIRE PREVENTION	140	4
BUILDING LAWS	20	1
STRUCTURAL CONDITIONS	161	3
CLIMATIC CONDITIONS	40	-
DIVERGENCY CHARGE	6	-
TOTAL	920	CLASS 2

WATER SUPPLY

<u>Item</u>	<u>Points</u>
1. Appointment of Employees	0
2. Qualification of Executives	0
3. Records and Plans	0
4. Emergency Provisions	0
5. Receipt of Alarms by Department	15
6. Normal Adequacy of Entire System	0
7. Reliability of Source of Supply	0
8. Reliability of Pumping Capacity	0
9. Reliability of Electric Power Supply	0
10. Reliability of Power Supply Other than Electric	0
11. Condition and Reliability of Plant Equipment	0
12. Construction of Pumping Station	0
13. Fire Protection of Pumping Station	0
14. Hazards in Pumping Station	0
15. Exposures to Pumping Station	0
16. Reliability of Supply Mains as Affecting Adequacy	0
17. Reliability of Installation of Supply Mains	0
18. Arterial System	8
19. Reliability of Installation of Mains	0
20. Local Distribution in Hi-Value Dist. Considered	0
21. Small Mains in Distribution System	2
22. Dead Ends	3

<u>Item</u>	<u>Points</u>
23. Gridiron	0
24. Quality and Condition of Pipe	3
25. Supply in Areas Other than High-Value Dist. Considered	10
26. Spacing of Valves	2
27. Inspection and Condition of Valves	5
28. Hydrant Distribution in High-Value Dist. Considered	0
29. Hydrant Distribution in Residential and Other Dist.	28
30. Inspection and Condition of Hydrants	0
31. Size and Installation of Hydrants	0
32. Valves on Hydrant Connections	0
Total	76

FIRE DEPARTMENT

1. Number of Officers	2
2. Number and Qualification of Operators	0
3. Qualifications of Officers	0
4. Chief's Tenure of Office	0
5. Appointment and Promotion of Officers	0
6. Enlistment Requirements	0
7. Retirement Requirements	3
8. Number of Hose and Engine Companies and Apparatus	0
9. Number of Ladder Companies and Apparatus	30
10. Distribution of Companies	0
11. Manning of Companies	135
12. Manual Strength of Companies for the High-Value District	53
13. Pumper Capacity	0
14. Reserve Pumpers	0
15. Condition of Apparatus	33
16. Fireboats	0
17. Powerful and Special Stream Appliances	0
18. Small Stream Appliances	0
19. Reserve Hose Carrying Vehicles	0
20. Hose	0
21. Condition of Hose	9
22. Emergency Equipment	9
23. Minor Equipment	0
24. Radio Communication	0
25. Repair Facilities	12
26. Salvage Appliances	0
27. Fire Stations and Fuel	7
28. Regulations and Discipline	22
29. Training	12
30. Response to Alarms	4

<u>Item</u>	<u>Points</u>
31. Fire Methods	35
32. Conditions Affecting Fire Department Operations	17
33. Building Inspections	0
34. Records	1
Total	384

FIRE ALARM

1. Management	3
2. Maintenance Personnel	3
3. Operators	18
4. Headquarters	7
5. Headquarters Apparatus	0
6. Current Supply	0
7. Apparatus in Fire Station	0
8. Type of Boxes	0
9. Box Distribution	24
10. Conspicuousness and Accessibility of Boxes	6
11. Condition and Tests of Boxes	0
12. Box Circuits	0
13. Alarm Circuit Facilities	0
14. Condition and Materials of Circuits	13
15. Circuit Protection	4
16. Wiring in Building	0
17. Speed of Alarms	0
18. Tests and Records	1
19. Radio	0
20. Adequacy of Commercial Telephone Service	3
21. Fire Department Telephone System	2
22. Telephone Alarm Transmission	2
23. Reserved Telephone Lines	7
Total	93

FIRE PREVENTION

1. Authority and Control	11
2. Supplemental Fire Prevention Activities	5
3. Flammable or Compressed Gases	2
4. Flammable Liquids	33
5. Special Hazards	50
6. Miscellaneous Hazards	27
7. Electrical Wiring and Equipment	12
Total	140

BUILDING LAWS

Item	Points
1. Supervision	0
2. Fire Limits	0
3. Laws and Enforcement	20
4. Roof Coverings	0
5. Records	0
Total	20

STRUCTURAL CONDITIONS

1. Area of District or of Largest Subdivision	2
2. Street Widths	1
3. Accessibility of Block Interiors	0
4. Percent of District Area in Streets and Open Spaces	62
5. Percent of Block Area Built Upon	-16
6. Heights of Buildings Other than Fire-resistive	0
7. Large and Excessive Areas Other than Frame	55
8. Walls Without Openings	60
9. Floor Openings	3
10. Exterior Wall Openings	0
11. Areas of Wood Frame Buildings	4
12. Permanent Awnings and Combustible Roof Coverings	0
13. Conflagration-Breeding Blocks	0
14. Exposure Hazard to District	20
Sub Total	191

CREDITS

1. Superior Construction and Protection	-30
2. Fire Engine Capacity, Where Water Supply at Direct Hydrant Stream is Adequate	0
3. High Pressure Fire System	0
Total	161

ADDITIONAL DEFICIENCIES

1. Climatic Conditions	40
a. High Winds	
b. Hot, Dry Weather	
c. Severely Cold Weather	
d. Hurricanes	
e. Excessive Snowfall	
f. Tornadoes	

Item

Item	Points
2. Unusual or Exceptional Conditions	0
Total	40
Divergency in Grading of FIRE DEPARTMENT and WATER SUPPLY	6

APPENDIX E
DEPUTY CHIEF—MAINTENANCE ENGINEER

APPENDIX E. DEPUTY CHIEF—MAINTENANCE ENGINEER

Nature of Work

This is skilled mechanical and maintenance work of all equipment in the fire department, including apparatus, machinery, equipment and physical plant. This is responsible supervisory work in directing the operation, maintenance, improvement and repair of all fire department equipment and physical plants. In addition, work involves general fire fighting duties as noted. The duties involved are divided into maintenance duties, fire duties, miscellaneous duties and administrative duties.

Illustrative Examples of Work Maintenance Duties

Assumes full responsibility for maintenance of all equipment and physical plant of the fire department, including apparatus, machinery, equipment and physical plant.

Instructs and supervises mechanic and other assigned personnel in the maintenance, repair and replacement of all fire department property, apparatus and physical plant.

Conducts an inspection program of all fire fighting equipment and apparatus for general operating conditions and for evidence of early declaration or conditions leading to possible breakdown.

Supervises or performs all repairs and adjustments necessary to return equipment and physical plants to full operating condition.

Prepares a replacement program for equipment.

Makes recommendations to the chief of the fire department concerning maintenance and replacement of apparatus, equipment, and physical plant.

Supervises installations of all new equipment.

Tests all equipment before acceptance by the Town and conducts periodic tests during the lifetime of the equipment.

Maintains records of hose and the assignment of new hose as deemed necessary, including the testing of new hose before acceptance by the Town.

Prepares necessary purchase requisition for all materials needed in connection with the maintenance program.

Fire Duties

Remains on stand-by time and is subject to calls when maintenance or repair work is needed.

Responds to multiple alarms.

Assumes duties of deputy chief when responding to multiple alarms.

Supervises pumping operations and hose layout during any extended pumping operations.

Applies special skills as related to emergency and rescue duty.

Administrative Duties

Prepares purchase requisitions, recommendations and reports.

Supervises personnel assigned.

Assists in preparation of equipment and material specifications.

Miscellaneous

Assists in liaison work between Civil Defense and other governmental agencies.

Instructs personnel in the proper maintenance of apparatus, equipment and physical plants.

Supervises testing of equipment.

Desirable Knowledge, Abilities and Skills

Thorough knowledge of modern fire fighting equipment and procedures.

Thorough knowledge of the principles of mechanics, hydraulics, automotive mechanics, metals, alloys, woods and building.

Complete knowledge of plumbing and heating and electricity.

Ability to direct large-scale operations involving both men and equipment under emergency conditions where considerable danger of loss of life and property is apparent.

Ability to establish and maintain effective work in relationship with other employees.

Complete knowledge of all fire department machines and equipment apparatus.

Complete knowledge of all buildings of the fire department.

Ability to plan, assign and supervise the work of skilled and semi-skilled employees.

Ability to design and construct special service equipment and to make parts when necessary.

Ability to express oneself clearly and concisely, orally and in writing.

Desirable Experience and Training

Graduation from a standard high school supplemented by vocational school training in automotive mechanics, hydraulics and the like, plus ten years' experience in heavy equipment mechanics including three years in a supervisory capacity.

APPENDIX F
FIRE LIEUTENANT-MECHANIC

APPENDIX F. FIRE LIEUTENANT-MECHANIC

Nature of Work

This is mechanical work in the maintenance and repair of all equipment of the fire department including apparatus, equipment and physical plant. Work involves the responsibility of carrying out directives and orders issued by the Deputy Chief-Maintenance Engineer. The nature of the work can be divided into maintenance duties, fire duties and miscellaneous duties.

Illustrative Examples of Work Maintenance Duties

Executes orders and directives issued by the deputy chief-maintenance engineer.

Repairs, lubricates and investigates all complaints and recommendations concerning all fire fighting equipment, taking necessary steps to keep all fire fighting equipment in good operating condition.

Makes all deliveries of company supplies to the stations.

Transports all equipment to the various stations.

Tests hose and makes necessary repairs.

Does repair work in the stations involving carpentry, plumbing, electrical and masonry work.

Assumes the duties of the superior in his absence.

Fire Duties

Responds to multiple alarms; renders assistance in the capacity of a fire fighter where the situation requires same.

Keeps all apparatus supplied with gasoline during any prolonged operation.

Employs special skills as related to emergency and rescue duties.

Keeps abreast of all new methods and techniques in fire fighting and rescue operations, as well as first aid.

Whenever the situation demands, assumes responsibility for working with other fire department personnel assigned.

Miscellaneous

Remains on stand-by time with the exception of days off and vacation.

Attends acceptance tests and demonstrations.

Performs in accordance with all schedules prescribed by superiors under any and all emergency conditions.

Desirable Knowledge, Abilities and Skills

Considerable knowledge of modern fire fighting equipment and methods, of fire department hydraulics, as well as the rules and regulations of the fire department.

Considerable knowledge of the standard practices, methods and tools of the carpentry, mechanical and plumbing trades.

Considerable knowledge of occupational hazards and safety precautions of these trades.

Considerable knowledge of internal combustion engines, machinery and auxiliary apparatus.

Ability to establish and maintain effective working relationships with other employees.

Ability to express oneself clearly and concisely, orally and in writing.

Desirable Experience and Training

Graduation from a standard high school supplemented by vocational school training in automotive mechanics and machine shop practice plus five years general mechanical experience. Experience as a fire fighter is essential.

APPENDIX G
COMMENTS ON FURTHER REDUCING
FIRE DEPARTMENT COSTS

APPENDIX G. COMMENTS ON FURTHER REDUCING FIRE DEPARTMENT COSTS

The comments in this section should not be construed to be recommendations. It was assumed that West Hartford was desirous of maintaining the existing good level of protection. However, in the event it is deemed necessary for any reason, to reduce expenditures for fire protection, there are certain items which will have less of an effect on fire protection than others.

Because more than 90 percent of the fire department budget is devoted to manpower, any significant reduction in expenditures must be accomplished by a reduction in manpower.

Some reduction in cost could be achieved by a complete elimination of the municipal fire alarm system; however, this is not suggested because the system is used for receipt of alarms from private protection systems which, if more widely used would, in themselves, reduce the needs for fire department service. The amount of money which would be saved by complete elimination of the fire alarm system would be relatively small compared to the overall budget. Eliminating the system would result in a downgrading of the fire insurance classification to 3rd Class.

If a reduction in manpower becomes necessary, it should be from the manning of companies and not the inspection, maintenance, or training sections. In no event should the minimum manning of engine companies be allowed to drop to below four men on duty; this is the minimum number needed to place one 2-1/2-inch hose line in service. It would be preferable to eliminate an engine company rather than to reduce the manning of any below four. The manning of the ladder companies could be reduced to three but only with a considerable sacrifice in effectiveness. If it became necessary to reduce the manning of the ladder company below three, it would be better to eliminate one ladder company and maintain a higher level of manning on the remaining company.

The evaluation of the level of protection being achieved by different fire protection schemes is almost entirely subjective; to date, there have been no exact methods developed to measure the variations between different plans.

The only measuring device available is the grading schedule used by the fire insurance industry and this is not a truly effective measuring device for several reasons:

1. It is based, more or less, on somewhat arbitrary standards.
2. It places heavy emphasis on the protection provided to one relatively small portion of a municipality, namely the central business district.
3. It places heavy emphasis on quantity with relatively little consideration given to effectiveness of use (it is estimated that 85 percent of the entire grading is based on quantities, with 90 percent of the fire department portion being based on quantity).
4. It places most emphasis on property protection, not life safety.
5. The inter-relationship between components of the overall system are not considered; for example, the number of companies is considered separately from the manning of companies so that poorly manned companies receive as much credit as do well manned companies.
6. In many instances, varying degrees of non-compliance with grading schedule standards are not adequately considered, for example, a fire alarm circuit is considered overloaded with no differentiation made if the circuit has only one box or 100 boxes in excess of requirements.

The grading schedule, of course, does not consider costs at all. The gradings can be used to some extent to measure relative levels of property protection between various municipalities.

One of the items that a more exact measuring method would consider is the ability of the fire defense program to control the majority of fires which occur, not just the more serious fires (although, of course, the latter is also important).

As discussed elsewhere in this report, the recommended number of companies and the recommended manning levels are adequate to control the most serious fire problem in West Hartford. However, the more serious fires occur, fortunately, very rarely. In 1968, for example, only 0.6 percent of all alarms were for serious fires (8 multiple alarms from a total of 1205 emergency calls). Thus in 1968, a lower level of service would have sufficed for 99.4 percent of all emergency calls.

The fire department monthly reports show the number of fires for which engine companies used hose lines (other than booster lines) and the number of times ladder companies raised ladders. This data for the 10 months ending October 31, is summarized in the following table:

Company	Total responses	No. times hose line laid	No. times ladder raised	Percent of responses
Engine 1	242	6	—	2.5
Engine 2	313	18	—	5.8
Engine 3	232	7	—	3.0
Engine 4	221	9	—	4.1
Engine 5	125	5	—	4.0
Ladder 1	125	—	5	4.0
Ladder 2	232	—	13	5.6

The above also gives an indication of the more serious fires; as can be readily noted, the percentage is small.

As discussed elsewhere in this report, the initial assignment for response to fires reported to be in buildings ranges from two engine companies and one ladder company to three engine companies and two ladder companies. Three engine companies are assigned to buildings where the life loss potential is higher due to a larger number of occupants. As has been pointed out, the initial assignment was adequate for controlling the fire in 99.4 percent of the emergency calls.

As has also been discussed elsewhere in this report, there are two important aspects which must be considered for fire department response (the fire department has no control over the most important aspect, the time of detection). The aspects are time of response of the first companies, which must be measured on a distance basis, and the total response, apparatus and manpower.

Considering the standards discussed elsewhere, a level of service adequate for 99.4 percent of emergency calls could be provided with three engine companies and two ladder companies in three stations; and considering property protection only, with three engine companies and one ladder company.

If a reduction in costs becomes necessary, it is suggested that it be accomplished in the following manner, listed in descending order of affect on level of protection (based on the recommended four engine companies, two ladder companies, all with a minimum manning of four men, and three stations; the cost reductions cited are all from the recommended level and are not cumulative).

1. Reduce manning of ladder companies to a minimum of three men.

This would result in a reduction of seven firefighters' positions with an annual cost reduction of approximately \$65,000. The fire insurance grading would remain 2nd Class.

2. Eliminate Ladder Company 2, maintain a minimum manning of three on Ladder Company 1.

This would result in a reduction of three lieutenants', three ladder truck operators' and ten firefighters' positions with an annual cost reduction of approximately \$160,000. The fire insurance grading would be reduced to 3rd Class.

3. Eliminate Ladder Company 2, the second engine company in the recommended central station, and maintain a minimum manning of four men on the remaining three engine companies and three men on the remaining ladder company.

This would result in a total reduction of three captains, three lieutenants, three motor pump operators, three ladder truck operators, and 19 firefighters, with an annual cost reduction of approximately \$300,000. The fire insurance grading would be 3rd Class.

It is not suggested that the fire department service be reduced below this last level. With the last suggested level, the fire department would not be adequate for the more serious fires without making provisions for the recall of off-duty firemen or requesting outside aid from neighboring departments. Either of these two methods would result in slower response of the additional manpower to the serious fires. However, the slower response of the additional manpower to the more serious fires is not as critical as the initial response.

Another means of providing a source of manpower for the more serious fires would be to train police department personnel in firefighting and require that they

respond to serious fires. This is truly getting into the public safety department concept.

To repeat, it is estimated that the level of service provided by the last suggestion would be adequate for more than 99 percent of the emergency calls received. To state this another way, approximately \$300,000 per year is being spent to handle less than one percent of the total emergency calls.

END