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**A Report on Fire Protection in
Minneapolis and the suburbs**

April 1954

C I T I Z E N S L E A G U E O F G R E A T E R M I N N E A P O L I S

PUBLIC SAFETY SUB-COMMITTEE ON FIRE PROTECTION

Summary of Findings to Date

April 9, 1954

The problems of fire protection in the Metropolitan Area seem to fall naturally into two main divisions: The City of Minneapolis and the suburban area.

THE MINNEAPOLIS FIRE DEPARTMENT

Tables 1 and 2 show comparative information on fire departments of the 12 cities with populations between 400,000 and 600,000. The Minneapolis Department is 3rd lowest in number of firemen per thousand population and 5th lowest in cost per capita. It is well below the median in both and is considerably below St. Paul.

In 1952 the department had 588 men. There are 20 stations, housing the following companies:

- 18 engine companies
- 8 ladder companies
- 3 combination (2 unit companies operating both an engine and a ladder unit)
- 1 rescue company

These companies operate a total of 21 pumpers, 11 ladders, 2 hose wagons, 2 crash trucks, 2 boosters, 1 rescue squad and 1 smoke extractor. In reserve, fully equipped and ready for service, are 10 pumpers, 3 ladders, 4 hose wagons and 2 salvage units.

Under a Mutual Aid agreement with St. Paul, 4 companies from that city are available on request.

Companies are adequately manned and well equipped with small tools, gas masks, etc. Heavy stream equipment is unusually good. The department is completely equipped with 2-way radio. Leadership is energetic and progressive, personnel are under civil service and morale and esprit de corps seems to be good. There is some dissatisfaction with the veteran's preference law, which requires that in examinations for promotion, any veteran who passes is ranked ahead of all non-veterans, irrespective of performance. This makes it virtually impossible for a non-veteran to reach high rank.

Weaknesses in the department are largely due to inadequate budget. The most serious are:

1. Inadequate number of companies. This is much below other cities of the same class. New Orleans has 40 engine companies, Seattle 31. Simultaneous large fires might cause a critical situation. Two fires last year, each required 12 engine and 5 ladder companies. Had they occurred simultaneously, one of them would not have had enough equipment. This condition is partly ameliorated by radio control by the unusually large capacity of pumpers in service and by the large amount of reserve equipment which may be manned by the off shift. Many areas of the city are far distant from existing stations.

2. Inadequate fire alarm system. This has been a prolific source of "deficiency points" in the NFBU ratings for years. The present system was installed 50 years ago, and while it has been well maintained and modified, it is below recognized standards. The alarm headquarters is located in cramped and inadequate space in the basement of the city hall, where it is subject to some hazard, and might be put out of service by a fire in the building.

3. Age of motor apparatus. The National Board of Fire Underwriters considers 20 years as the effective life of fire equipment. The apparatus in active service is nearly all under this limit, and is in good condition, although several units are 18 years old. All reserve pumpers and ladder units are over age, and most are obsolete, unsafe and unreliable. Thus when any first line unit is out of service for repair, firemen must use dangerous and unreliable equipment.

4. Age of buildings. Stations 2, 5, 16, 19, 20, 21 are all over 60 years old. They were designed for lighter horse drawn equipment and are inadequate in size and strength for modern apparatus.

5. Inadequate repair shop facilities. The shop force is efficient and hard working, but their number is so small that it is difficult to maintain routine service, and major repairs frequently require months. St. Paul repaints all apparatus every 6 to 8 years. Some Minneapolis units 18 years old have never been repainted. The present shop building is inadequate.

SUBURBAN AREA FIRE PROTECTION

This includes 20 cities, villages or other units having organized fire departments in Hennepin and Anoka counties, forming the Metropolitan area of Minneapolis. These may be divided into three groups, based on existing group organizations and geographical location. Table 3 shows this grouping with equipment and personnel.

It is manifestly impossible to discuss each department in detail. However, there is a surprising degree of uniformity throughout the area, and certain general conclusions may be drawn. All departments rely largely on volunteer personnel, who are paid a nominal sum for each alarm they answer. Several employ three or four full paid men to maintain equipment and receive alarms, while St. Louis Park has a nucleus of 15 paid men. Training and skill of volunteers is uniformly high throughout the area, due partly to the Northwest Fire School conducted annually by the State Fire Marshal and the University. Most departments are well equipped with apparatus and show considerable ingenuity in adapting equipment to their special problems. The existing mutual aid organizations are active and seem to function successfully. Public telephone is used for all alarms and communication.

Deficiencies in Suburban Areas are:

1. Inadequate Water Supply

This is without doubt the greatest problem in suburban fire protection, and is glaringly apparent throughout the area. Some communities of over 15,000 population have no public water system whatever; others have it only in small areas. Even where public supplies occur, volume and pressure are frequently inadequate. At the same time, fire hazards, in the form of large area shopping centers and industrial buildings have increased enormously.

2. Inadequate Coverage of Fire Stations

Some communities of large area still have only one station. NFBU standards fix three miles as a maximum run for a first due engine company, but many built up areas are four or five miles distant from stations. St. Louis Park, Edina and Bloomington are cases in point.

3. Lack of Heavy Stream Equipment

Fire fighting in large industrial and commercial buildings requires larger streams than those supplied by ordinary hose lines. This is provided by "turret" or "deluge" nozzles, supplied by two to four hose lines. Only a few of these appliances are available in the suburbs.

4. Lack of Alarm and Communication Systems.

Use of the public telephone system for fire alarms has inherent weaknesses. Telephones are frequently not available late at night in deserted commercial areas and busy party lines often result in delayed alarms. During large fires, telephone switchboards are overwhelmed with calls and fire chiefs find it difficult to get calls for extra equipment through to their own headquarters. Radio equipped police and sheriff cars are of great assistance here, but are not always available. Calls sometimes are made to the wrong department resulting in confusion and delay.

GENERAL RECOMMENDATIONS FOR IMPROVEMENT

A. For Minneapolis Fire Department

1. Consider Bond Issues for:

- a. Rehabilitation of alarm system with separate headquarters building.
- b. Long range program for replacing and relocating obsolete stations.

This might result in advancing the city to a class 2 insurance rating.

- 2. A systematic program for replacing old equipment, at the rate of 3 pieces per year. Two were purchased in 1953 and 3 in 1954.
- 3. Increase in personnel. Any further decrease will adversely affect the insurance rating.
 - a. To convert combination companies to separate engine and ladder companies for greater efficiency.
 - b. To provide additional engine and hose companies.
 - c. To provide additional shop force.

B. For Suburban Areas

- 1. Improve and extend water supplies for fire fighting.
 - a. Public systems where none exist.
 - b. Develop access to natural sources, and artificial storages at strategic locations.
 - c. Require special high hazards, such as shopping centers and industries to provide private supplies for fire fighting.
- 2. Provide new stations in some areas, particularly St. Louis Park, Edina and Bloomington.

3. Inaugurate an overall mutual aid organization covering Hennepin and Anoka counties. Every chief contacted expressed approval for such a plan, and the existing mutual aid organizations form a natural framework around which to work. Steps in implementing such a plan would be:
 - a. Provision of a general communication and control system on 24 hour service. All calls for mutual aid would go through this control. The means are already at hand in the Hennepin County Sheriff's Radio System; and negotiations are now proceeding to link up various departments with it.
 - b. Preparation of a general operations plan with complete assignment charts for each community, for the guidance of the dispatchers and chiefs.
 - c. Joint drills, with particular emphasis on relay operations; i.e. pumping from one engine to another to send water over long distances.

C. City-Suburban Cooperation.

This is practically non-existent at present, although the Civil Defense Disaster Plan, worked out by Director Walter Halstead, provides for interchange of fire equipment in the event of a major disaster. Many eastern cities have mutual aid plans with their suburbs, which work well. Some examples are:

Rochester, New York and Monroe County have a completely integrated City-County System. All county units are on the city radio and are dispatched by the R.F.D. At the Kodak Park fire in 1951, when over half the Rochester Department was engaged for two days, 12 suburban companies occupied vacant stations and worked at two other serious fires. At the series of gas explosions and fires at the Suburb of Brighton, 16 Rochester companies and 8 suburban companies responded, while 10 more suburban units filled in at Rochester stations.

Westchester County, New York. This includes 40 departments under unified control with a control center in Yonkers Fire Headquarters.

The present policy of the Minneapolis Council provides that fire equipment will be sent out of the city, only when the outside community agrees to pay for the service. The agreement provides for a fixed annual fee, an additional hourly fee for each piece of equipment and the posting of a bond to insure payment. This policy was adopted when the suburbs were small and had no fire protection of their own. An exception was made of St. Paul which had a department which could render aid in return. Under present conditions the Suburban communities are now able to render the same service, and now consider the cost of city cooperation, under the present plan, too high. At a meeting of the committee attended by fire officers of the area, Chief Malmquist of Minneapolis opposed a suggested plan of cooperation on the grounds that the city might be called so frequently to the suburbs that city protection would be weakened.

A possible mutual-aid plan for city-suburban cooperation which would minimize some of the above objections might be worked out along the following lines:

A single contract between the city and the suburban mutual aid organization similar to those formerly in force between the city and the individual villages.

The cost to the individual village would thus be small, but the city would be recompensed for its services.

Under this contract, the suburban organization would furnish companies when requested by the Chief of the Minneapolis Fire Department, to respond to fires in the city or fill in at vacant city stations. All calls for such assistance would go to the suburban control center, who would despatch the suburban units.

Suburban departments could connect to Minneapolis hydrants for fires in the suburbs.

On request of the suburban dispatcher, Minneapolis would furnish certain specialized equipment. This would include reserve hose wagons, equipped with turret nozzles, and 3" hose, and/or reserve pumpers with hose, for use in heavy stream and relay operations. These would be manned by a driver only, since ample man power would be available in the suburbs. This would fill one of the major gaps in suburban fire defenses without materially weakening the first-line strength of the Minneapolis Department.

In the case of fires along the city boundaries for which the wrong department has been called, the first responding department would attack the fire until relieved by the department in whose territory the fire occurs, who will be notified immediately.

This report does not pretend to offer a definite solution of fire protection problems in the area. It was an attempt to survey existing fire protection facilities, their strength and their weaknesses, with suggestions of possible means for improvement.

TABLE 3
SUBURBAN FIRE DEPARTMENTS

Gov't. Unit	Pumper	Ladder	Booster	Rescue	Tanker	Personnel	
						Paid	Volunteers
<u>S. W. Fire League</u>							
Hopkins	4	(Q)	1	1	-	-	41
St. Louis Park	3	(Q)	1	2	-	15	22
Richfield	2	-	2	1(HC)	1	4	31
Edina	2	-	1	1	-	Not Given	
Golden Valley	2	-	1	-	1	-	25
Bloomington	-	-	2	1	1	-	30

North Suburban Mutual Aid Ass'n.

Golden Valley -- see above -- member of both associations							
Robbinsdale	3	-	-	1(HC)	-	-	26
Crystal	-	-	2	-	1	Not Given	
Bklyn. Center	-	-	1	-	2	Not Given	
Osseo	2	-	-	-	-	-	25
Columbia Hts.	3	-	-	-	-	3	16
Anoka	3	(Q)	1	1(Amb)	-	3	22
Fridley	-	-	1	-	1	Not Given	
Sp. Lake Park	-	-	1	-	2	Not Given	

Lake Minnetonka Area (No formal organization)

Excelsior	2	-	1	(B)	-	-	33
Wayzata	3	-	-	-	-	Not Given	
Mound	2	-	-	-	-	Not Given	
Island Park	-	-	2	-	-	Not Given	
Long Lake	2	-	-	-	1	-	22
Maple Plain	1	-	1	-	-	-	25

Federal Agencies. These are available under Civil Defense Emergencies only.

Fort Snelling VA	2	-	-	-	-	All paid	
USAF	2	-	4(CR)	1	-	Number not given	
T.C. Arsenal	2	1	1	-	1		

Explanations

- (Q) Quad; Pumper equipped as ladder truck
- (HC) Hennepin County Rescue Squad
- (Amb) Ambulance
- (B) Booster equipped as rescue squad
- (CR) Air crash truck