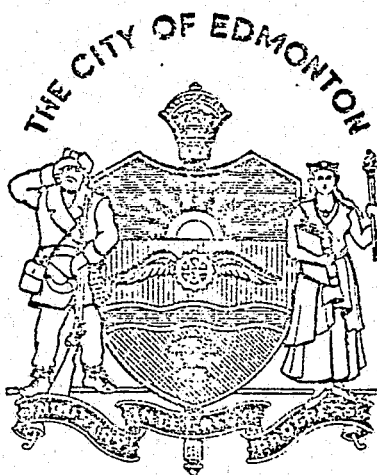


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# 911 EMERGENCY COMMUNICATIONS FACILITY PLACEMENT



Conducted and Prepared by:

The Work Study and Systems Section  
Management Services Division

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911 EMERGENCY COMMUNICATIONS

FACILITY PLACEMENT

June, 1971

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## INTRODUCTION

This report on the 911 emergency communications system has been prepared for the Commissioners' Administrative Committee. At meeting number 17 on March 2, 1971, Commissioner Hampton advised that Alderman Leger had suggested a study be conducted to determine the placement of 911. Commissioner Hampton asked:

- a. if a study should be conducted to determine the placement of the 911 system, or -
- b. if the study should be delayed until a new fire hall was constructed with a communication center.

If 911 was transferred to the Fire Department, the possibility was expressed that the firemen alarm operators could also operate 911 and thereby negate the need for seventeen female information operators presently employed by the Police Department.

It was moved by Commissioner Hampton that the Analytical Services Section of Management Services conduct a study to determine the placement of 911.

Initial investigation revealed that the Fire Department has considered the possibility of a new replacement fire hall for the No. 1 Station location at 99 Street - north of Jasper Avenue. However, this would not include a communications center in the fire station. Thus, the Engineer's Communications Center housing the Fire Department's alarm system was considered as an alternate location if 911 was to be placed under the Fire Department.

### RECOMMENDATIONS

1. That the 911 equipment and operations located in the Police Main Headquarters remain there.
2. That the jurisdiction for the operation of the 911 system remain with the Police Department.
3. That Edmonton Telephones immediately establish a 911 system refresher course for the 911 operators and that this be continued on an annual basis.
4. Periodic review and evaluation every two years of 911 under the direction of the 911 Committee.

### HISTORY

Upon inception of the 911 emergency communications system on March, 1969, the City of Edmonton established an organization to provide immediate and appropriate service response for all public-conceived emergencies within the City. A primary function of 911 operators is to transfer incoming emergency calls to the proper agency or agencies.

The 911 communications boards and operations were placed under the jurisdiction of the Police Department with the location being the Police Headquarters Communications Center. A major consideration in selecting the Police Department was the fact that the Police Headquarters had the physical facilities and staff to accommodate the female 911 operators. Functionally, 911 would have been more appropriately placed with Edmonton Telephones

whose primary concern is telephone communications.

On June 6, 1969, Mr. Jack Maitland, then a Management Services Analyst, submitted a report on the Civic Service communications facilities to the Commission Board. The report recommendations relating to the placement of 911 included:

1. That the four 911 boards and associated equipment be relocated from the Police Station to the new Telephone Building, and transferred from the jurisdiction of the Police Department to the jurisdiction of the Fire Department.
2. That the operation of the 911 boards be combined with the existing Fire Signals Boards and be manned by the existing Fire Signals operating staff, under the authority of the Fire Chief.

A major benefit to have been derived from the preceeding two recommendations was an estimated savings of \$33,719.40 per year for the City. This amount represented the salaries of nine female operators that were to be replaced by the Fire Department dispatchers. This proposed saving was later held in question by the Fire Department as they suggested that additional fire alarm operators would have to be hired to accommodate 911.

The recommendations relating to the placement of the 911 equipment and operations were not implemented. Consequently, 911 remained with the Police Department in their Main Headquarters.

#### JUSTIFICATION FOR THE RECOMMENDATIONS

Given the terms of reference as outlined in the introduction,

the criteria followed in recommending the placement of 911 and the jurisdiction over its operations were as follows:

1. The calibre of service expected of the 911 system and personnel by the public and other 911 agencies.
2. The most economical operations cost for a given level of service performance of 911.
3. Future space and facility requirements for the 911 system.

The alternatives considered for the placement of the 911 equipment and operations were:

1. Maintain the 911 system in the present location, the Police Headquarters, where the Police Department has full jurisdiction over the operation of the 911 system.
2. Transfer jurisdiction of the 911 operations to the Fire Department and place the equipment in the Communications Center which presently houses the fire alarm system. The present 911 female operators would be replaced by firemen operators.

#### CALIBRE OF SERVICE OF 911

In attempting to evaluate the calibre of service of the 911 system, three primary variables have been considered - the personnel operating 911, the operational system and procedures, and the physical equipment.

The duties of 911 operators are to answer incoming emer-

agency and complaint calls and make the proper connections to whatever agency or agencies the operator deems necessary; to complete dispatch forms and initiate necessary recording of incoming calls; to notify the police radio dispatcher when immediate police assistance is necessary.

Measures of effectiveness that can be applied to personnel operating 911 are:

1. Record of complaints from the Public or any of the sixteen agencies on the 911 extensions.
2. The turnover rate of 911 operators.

The Police Department does not have any record of complaints regarding their 911 operations. However, the Fire Department recorded difficulty with approximately 8% of 911 calls received for pneolators in the first three months of 1971. The breakdown of the nature of these calls is as follows:

1. In twenty-four pneolator calls an ambulance reached the victim before the pneolator unit.
2. In two cases the Police arrived before the pneolator unit.
3. In two cases both the ambulance and police reached the victim before the pneolator unit.
4. In one case a wrong address received by the firemen alarm operators.

It is difficult to ascertain the relevance of these calls in evaluating the performance of the 911 operators. Other factors such as the proximity of a Police patrol car or ambulance to the person



requesting assistance may account for their arrival before a pneolator unit from the Fire Department. Also, the occasional situation arises where a person calling 911 may insist on an ambulance where a pneolator unit may be more effective. In such a situation both the ambulance and Fire Department are contacted.

The nine operators on 911 are drawn from a pool of seventeen operators on a rotation basis. The other eight positions serve the Police Department's complaints section.

With an expected zero-error performance level of 911 operators, new operators present an element of risk as they are more liable to err while becoming familiar with the system operations. Thus, turnover rate of 911 operators may affect the standard of 911 operations.

Initially the Police Department experienced a high turnover of 911 operators. Whether due to their salary range or frustrations with a new system, four operators resigned within two months of operations of the 911 system. The high turnover rate has decreased substantially as the Police Department's Communications Section have had five separations out of seventeen positions in 1970. There have been no separations for the first four months of 1971.

The fire alarm operators are drawn primarily from former firemen or men who have held other positions in the Fire Department and are thoroughly familiar with the operations of a fire hall. They are predominantly older men who have had considerable experience in handling emergency situations. There is virtually no turnover of fire alarm operators in the Communications Centre.

In the absence of substantial recorded instances of dissatisfaction with the 911 operators, it must be assumed that they are providing a satisfactory level of service. There appears no assurance that the fire alarm operators can transfer incoming 911 calls to the proper agency or agencies more effectively than the present 911 operators. Thus, based on the criteria of work level performance, replacing the present 911 operators cannot be justified.✓

Upon receipt of a call, the 911 operator asks for the name of the person calling, the address, and the nature of the emergency. Once the nature of the emergency is established, the 911 operator transfers the call to the appropriate agency and, if needed, contacts other agencies whose assistance may be required. In transferring calls to other agencies, the operator monitors calls to double-check the information relayed to the agency with that received initially by the 911 operator. This check procedure serves the important function of assuring that the agencies contacted receive the proper location address. However, monitoring calls creates downpower which variably affects the reception volume by as much as 30%. This results in a poorer quality of reception by the 911 agency contacted.

The 911 equipment has provisions for listening in on calls through another line which does not affect the quality of call reception of the agency contacted. The problem of downpower can be eliminated by instructing the 911 operators to follow the proper procedure in verifying information transferred through the 911 board to any agency. This problem could be corrected in the near future by a refresher course on the 911 system operation to be conducted by Edmonton Telephones. A yearly refresher course would pre-

vent such problems from recurring.

### COST ESTIMATE COMPARISONS FOR OPERATING 911

Assuming present 911 operators in Police Headquarters provide comparable service to what firemen operators could provide, the following equipment transfer and operating cost estimates have to be considered:

#### Police Department

The Police Communications Center employs seventeen telephone operators to handle regular complaint calls and 911 emergency calls on a rotation basis. Of these, only nine operators are required for the 911 system - three per shift to operate two boards.

Based on 1970 wage rates, the annual payout for nine 911 operators ranges from a minimum of \$36,693.00 to a maximum of \$49,329.00.

#### Fire Department

Given the present volume of incoming 911 calls, the Fire Department estimates it would initially require four more operators. If the volume of calls proved this number inadequate then an additional four operators would be required.

The annual payout for the fire alarm operators on 911 could vary from \$26,127.36 (minimum pay for four operators) to \$71,366.40 (maximum pay for eight operators).

Theoretically, the savings in salaries by maintaining the present staff of 911 operators ranges from - \$10,566.00 to \$21,937.00. A mid-range figure would yield an annual savings of \$16,301.52 in operator wages by maintaining the present 911 operators.

Another cost associated with the transfer of operations from the Police to the Fire Department is the estimated fixed cost of equipment transfer. A conditional cost estimate provided by Edmonton Telephones for transferring the 911 equipment from the Police to the Fire Communications Center is \$30,500.00. This estimate does not include the cost of installing transmission equipment for the interim use of emergency locals. The time required for equipment relocation is approximately sixteen months.

Thus, Recommendations #1 and #2 suggesting the retention of the present 911 system and operations in the Police Department is supported by the fact that the transfer of 911 to the Fire Department offers no obvious economic advantage in operation.

#### FUTURE FACILITY AND SPACE REQUIREMENTS FOR 911

Of the four 911 Communications boards at the Police Department, only two are regularly staffed. The other two units are on reserve as back-up boards to accommodate an overflow of emergency calls or break-downs.

A current survey of four months activity revealed that 911 operators process an average of 3.8 calls per hour. This has not changed significantly from the number of calls processed in the same time span the previous year. The greatest variance in the

number of 911 calls processed in any two months compared is approximately 8%.

Based on record history, little volume change for 911 calls received can be projected for the next two to three years. Present staff and location can adequately serve the needs of the 911 operations for the next few years.

### CONCLUSION

Using the criteria of future space and facility requirements, economy of operations, and calibre of 911 service, it is recommended that 911 remain in its present state in preference to transferring the equipment and operations to the Fire Department. However, this should not negate future considerations for improvements to the 911 system. There are certain factors that may provide future possibilities for improving 911. These may include Edmonton Telephones transferring their administrative staff to their new Main Wire Center from their present location at the Churchill Wire Center by 1976 and the computerization of the Fire Department's communications system. The 911 emergency communications system and its function should be periodically reviewed to assure its best possible operation and a continued high standard of service.

END