

ITEM	3
MANAGER'S REPORT NO.	54
COUNCIL MEETING	1980 09 02

RE: FIRE PREVENTION CONTROL STUDY AND MASTER PLAN
 (ITEM 8, REPORT NO. 8, 1978 NOVEMBER 14)
 (ITEM 3, REPORT NO. 64, 1979 SEPTEMBER 24)
 (ITEM 8, REPORT NO. 17, 1980 MARCH 03)
 (ITEM 1, REPORT NO. 46, 1980 JULY 07)

BACKGROUND

1. On 1980 July 07, Council received a report on the goals and objectives of the Fire Prevention Control Study and Master Plan.
2. Council made comments and asked questions during the discussion of the report on July 07. The matter was referred back to staff without any action being taken on the 18 objectives that were proposed.
3. The Municipal Manager, in response to the concerns raised by Council, subsequently reviewed the general approach to the study with the Director of Fire Services. This review led to a modification of the approach and a change in the thrust of the study.
4. Council, in a letter dated 1980 July 25 from the Municipal Manager, was informed of the modification and change. This letter also contained a request to direct any questions or comments to Director Nairn by August 08.

No further questions or comments were received from Council.
5. The attached report from the Chairman of the Fire Study Technical Committee is a reply to Council's request for consideration, clarification and additional information on this matter.
6. As noted in the attached flow chart, the next step in the process is to define, compare and analyze alternative proposals and submit a corresponding report to Council.

RECOMMENDATION

1. THAT the attached report from the Chairman of the Fire Study Technical Committee be received for information purposes.

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ITEM	3
MANAGER'S REPORT NO.	54
COUNCIL MEETING	1980 09 02

THE CORPORATION OF THE DISTRICT OF BURNABY

108

TO: MUNICIPAL MANAGER 1980 July 24
FROM: FIRE STUDY TECHNICAL COMMITTEE CHAIRMAN
RE: FIRE PREVENTION CONTROL STUDY AND MASTER PLAN

This is in response to the matters raised at the Council Meeting of 1980 July 07. This memorandum is divided into:

Part One - Overview of Current Status, Focus, and Intent of the Fire Services Study.

Part Two - Reply to Questions in memorandum from Municipal Clerk to Mayor and Aldermen (Entitled "Fire Prevention Control Study and Master Plan", and dated 1980 07 10).

PART ONE - OVERVIEW OF CURRENT STATUS, FOCUS, AND INTENT OF FIRE SERVICES STUDY

Though specific questions will be answered in Part Two it is hoped that the following overview of the current status of the study, its focus, and its intent, will provide some insight into the matters raised at the 1980 07 07 Council Meeting.

A. STATUS OF STUDY

In general terms, following Council approval of the activation of the project the Technical Committee was constituted.

Under the direction of the Technical Committee research was undertaken to identify community fire service problems and to define the fire situation.

As the result of the research and the definition of the fire situation several problems became apparent. For example, a survey of practices in other communities indicated that our firefighting teams were not able to reach fires within response times that other communities were experiencing or intending to achieve.

There were other obvious problems such as a high incidence of fires caused by careless smoking, high casualty rates, etc.

Goals and objectives were then developed which were directed at the problems which had surfaced.

An inaugural meeting of the Advisory Committee was held to explain the definition of the fire situation and the goals and objectives proposed. At a second meeting the Advisory Committee reviewed the proposals and gave approval to a revised list of goals and objectives.

B. FUTURE COURSE OF STUDY

(1) Change in General Format-

It was originally intended to obtain approval of goals and objectives and then to develop a series of attendant proposals which would be directed toward the attainment of those goals and objectives. The proposals would at a later stage have been analysed in terms of their costs and benefits and then, with costs and benefits listed, placed before Council for approval.

However, at the meeting of 1980 July 07 concern was expressed that the approval of objectives at the present stage of the study would involve a commitment by Council, and that such a commitment should not be made until an analysis of the implications of pursuing the objectives, in terms of costs and benefits, has been made.

ITEM	3
MANAGER'S REPORT NO.	54
COUNCIL MEETING	1980 09 02

In recognition of this view it is now intended to withdraw the request for approval of objectives at this time, but to follow alternative approaches to the point where they are analysed with respect to the resources required, the costs incurred, and the benefits obtained. When this analysis has been completed the alternative approaches will be placed before Council with recommendations.

The alternative approaches will be reviewed by the Technical and Advisory Committees before being placed before Council. Listed with the proposals will be the objectives which the proposals are intended to achieve, so that these objectives will be advanced for approval concurrent with the approval of the proposals.

This approach will ensure that Council is not involved in any commitment until such time as information is available to measure the effects of adopting any of the objectives advanced.

This results in an amended flow chart, which is attached hereto. The chart has been simplified by omitting selection and approval of criteria as separate steps. Criteria are, of course, used in developing alternative proposals but at this stage we do not feel this needs to be itemized and dealt with separately.

(2) Specific Intent-

It is intended that the following now be undertaken:

- i. Several standards will be examined and the fire hall site acquisition and construction program which would be necessary in the case of each standard, will be determined. Costs will be provided.

This step will be undertaken by comparing several different combinations of fire hall sites and measuring the response times to many different fire demand locations. While a series of possible alternative sites has already been picked out the measurement of the response times and distances will require the use of a programming-computer service for which there is an allocation of \$10,000 in the budget.

- ii. The alternative proposals advanced will show the reduced costs and the additional levels of risk which will have to be accepted if the longer response times are adopted.

- iii. A further computer analysis will indicate the extent to which the response times could be reduced if the Fire Department were able to control traffic lights. The next step will show to what extent the reduced response times will result in the reduction of any future fire hall sites which would otherwise be required.

The costs of a system of fire department traffic light control will be measured against savings brought about by any reduction in required fire hall sites. Based upon the results of the analysis recommendations to Council will be made.

- iv. One or more hypothetical buildings will be used to provide examples of the additional costs to private owners of buildings over three stories and 6,000 sq. ft., if the owners were required to install sprinklers and smoke detectors.

These costs will then be measured against savings in insurance costs which would be to the benefit of the building owners.

ITEM	3
MANAGER'S REPORT NO.	54
COUNCIL MEETING	1980 09 02

The reason for the 3 stories and 6,000 sq. ft. limit is to cut down on the number of serious fires occurring and spreading in buildings which require more than the standard equipment response.

A similar approach will be taken to estimate the cost to private owners of supplying smoke detectors to residences.

At this point the estimated costs to the private sector will be examined to determine whether it would be practical for such regulations to be put into effect or whether the costs would be unreasonable.

A judgement will then be made on the extent to which response time standards would be relaxed if the buildings were provided with these smoke detector and suppression devices. Following this step there will be a calculation of any reduction in the number of firehalls which would otherwise be required, and hence an estimate of public savings on construction, equipment and labour costs will be derived. The savings in cost to the public will be measured against the net cost to the private owners.

- v. The matter of Simon Fraser University's assuming financial responsibility for fire protection service on University lands will continue to be pursued, until a conclusion is reached.
- vi. The results of our completed study of the adequacy of the water system will be measured against the study being undertaken by the Insurance Advisory Organization. Depending upon the outcome of the comparison, recommendations could then be made with regard to improvements to the water system. Any such recommendations would be accompanied by costs upon presentation to Council.
- vii. A program will be developed to increase the number of successful prosecutions for arson, and to maintain a high standard of arson investigation, with the elimination of "unknown" causes of fires. Any costs attendant upon the implementation of this program will be listed as part of the proposal.
- viii. A program will be developed to maintain a high level of training for firefighters, including physical fitness programs. Any attendant costs of implementation will be listed with the proposal.
- ix. A change will be proposed in the reporting system for firefighting injuries, to separate the very minor ones from those requiring medical attention. If, counting only those injuries requiring medical attention, the Burnaby incidence is still higher when compared with other municipalities, a program will be introduced aimed at reducing injuries. Any attendant costs of implementation will be included as part of the proposal.
- x. The same approach as with (ix.) above will be taken with respect to the present high incidence of civilian casualties at fires.

- xi. An education program will be developed which will be directed at: -
- (a) Reduction of the incidence of careless smoking
 - (b) Reduction of the rate of false alarm calls
 - (c) Elimination of excessive calls from specific properties.

Attendant costs of implementation will be included as part of the program.

- xii. The cost to the Municipality of ambulance calls for heart attack victims and other emergency health needs will be calculated and the proposal will be that representation be made to the Province to improve the level of initial response by the Emergency Health Service.
- xiii. A program for dealing with open space fires will be developed together with the costs of implementation.

PART TWO - REPLY TO QUESTIONS IN MEMORANDUM FROM MUNICIPAL CLERK TO MAYOR AND ALDERMEN (Entitled "Fire Prevention Control Study and Master Plan" and dated 1980 07 10).

The following is in reply to the specific matters raised at the Council meeting of 1980 07 07, as listed in the above indicated memorandum.

1. "The Committee should provide some idea of the impact of the cost, personnel, and time associated with the objectives as contained in the report."

Originally it was intended that objectives be approved first and that proposals arising from them would then be analyzed and costed prior to any recommendation for implementation.

Now, however, as described in "PART ONE" the various proposals will be analyzed and costed first. At the time the proposals are placed before Council with costs, the objectives which the proposals are intended to achieve, will be listed. (For further explanation, see "PART ONE", Section B, Subsection (1).)

2. "What effect do the National Building Code Regulations have on the response time required."

It is true that Building Code regulations have been expanded to control flame spread. But while the Codes can regulate the type of construction of buildings they do not regulate the contents; e.g. the type of furniture and appointments, etc., in houses. The increased use of plastics in furnishings results in an increase in flame spread.

A further point relevant to this question is that higher land values promote more dense occupancy of the land and so space separations become less.

3. "In reference to the portion of the report entitled "Objectives" specifically Objective No. 6, what right does the Municipality have to insist on retroactive requirements."

The Municipality does not have the right to apply retroactive legislation unless Provincial Codes have been amended accordingly.

4. "With respect to the Fire Prevention Control Study and Master Plan - Flow Chart, when will all costs be associated with the various steps as contained in the Flow Chart."

As stated under (1) above, the change in the order of the program now proposed will involve analysis and costing of proposals before approval of objectives is sought.

5. "With reference to page 3 of the report where reference is made to making sprinkler systems and smoke alarms preconnected to a central alarm station mandatory in all buildings over three storeys and exceeding 6,000 sq.ft. by 1985 and the original objective to install smoke detectors connected to a central alarm system in all residences by 1986, the Members of Council requested a legal opinion on whether Council had the legal right to enforce this type of legislation."

Comments under (3) above apply.

6. "With reference to the objectives item 17, it is stated that a four-wheel drive vehicle for reaching fires in grasslands or brush is currently on order. It was questioned as to why this vehicle is on order at this time."

The four-wheel drive vehicle is a replacement for the present "International" vehicle. The new vehicle will have the same function as the vehicle it replaces. It will be used to provide fire suppression in areas inaccessible to standard vehicles; secondly it will be used to transport accident victims and other medical cases in areas difficult to reach with a conventional vehicle during and after snowstorms.

7. "Will we have a prioritized order of objectives?"

The objectives advanced in the 1980 June 19 report are interrelated and to an extent some of them run in parallel. At this stage, it does not appear that it would be of any particular value to say that one objective is more important than another. Taking the revised approach referred to above whereby objectives are not advanced until proposals have been analyzed and costed, it would appear more productive to place the various proposals and programs in order of priority at that time, when their costs and benefits are known. The proposals can at that time be measured against one another by weighting the importance of the objectives and assessing the extent to which the proposals meet these objectives.

8. "Council would like to see the recommendations that prioritized the goals accompanied by a chart which indicates how the Committee made that decision. In other words, something may be very expensive but the emergency needs give it a 10 out of 10 rating."

The comments under (7) above apply here.

9. "Council requested that a record be obtained if there are in fact computer services currently working within developments that give advanced warning of a fire."

The benefit of advanced warning systems within buildings connected to a Central Alarm System and monitored by a computer is currently under study by the Province and by the B.C. Telephone Company and by various cablevision companies. It is reasonable to expect that such a system will be available within the next few years.

10. "Can the Fire Department work with the Greater Vancouver Regional District insofar as the control of traffic lights by Fire Department vehicles."

We have written to the City of Calgary to determine the relative merits of a "hard wire" total computerized control of intersections versus the individual control of specific intersections as in the "Opticom" method. Following receipt of this information the question of whether control of traffic lights by the Fire Department could be undertaken on a regional basis through the G.V.R.D. will be explored.

11. One further point was brought out at the Council meeting which was not included in the 1980 07 10 memorandum. It was stated that expenditures arising from implementing the objectives in the report must be measured against other municipal requirements; e.g. roads, police, etc.

When the proposals in the Fire Service report have been developed, analyzed and costed, they will be measured against other needs in the municipality before recommendations are presented. This will be done as part of the routine Capital Improvement Program Committee process, whereby competing proposals arising from the activities of different Municipal Departments are measured against one another in the light of the municipality's financial limitations, and placed in order of priority.

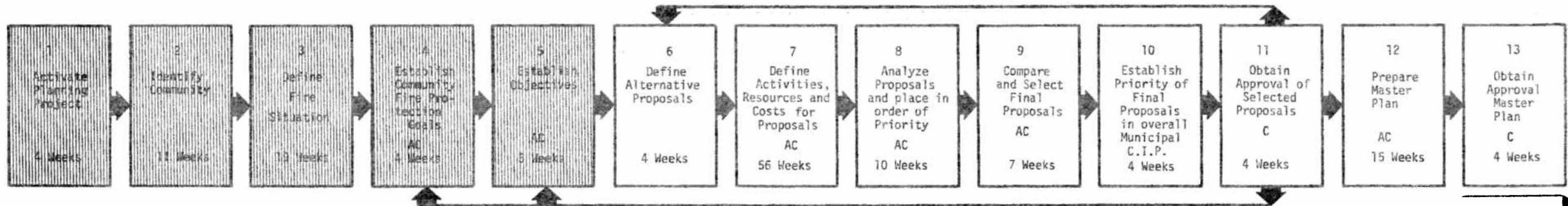

T. G. NAIRN, CHAIRMAN
FIRE STUDY TECHNICAL COMMITTEE

CRL:lf

c.c. - Municipal Manager
Municipal Treasurer
Municipal Engineer
Director of Planning
Chief Building Inspector
Director - Fire Services
Planner II (CRL)

FIRE PREVENTION CONTROL STUDY- FLOWCHART - REVISED

- (1) Where "AC" appears in one of the boxes below this means that the advice of the Advisory Committee will be sought at that stage.
- (2) Where "C" appears this means that Council approval will be sought at that stage.



ITEM
MANAGER'S REPORT NO. 3
COUNCIL MEETING 1980 09 02 54

114