

FIRE PROTECTION HISTORY-PART 224: 1917 (FIRE PROTECTION FOR HIGH VALUE DISTRICTS)

By Richard Schulte

The twenty-first Annual Meeting of the National Fire Protection Association was held in Washington, D. C. in May 1917. One of the subjects discussed at this meeting was the protection of "High Value Districts". The following is a transcript of the discussion on this subject:

*"The Chair: The next topic is High Value Districts—Mr. Albert Blauvelt. Mr. Blauvelt is not here. Is Mr. Ekern, Secretary of the Committee, here? **This report on High Value Districts is the first report of this Committee, which was created last year. It was printed in advance, and probably has been read by most of you.***

Report of Committee on High Value Districts.

*Albert Blauvelt (Chicago), Chairman,
Herman L. Ekern (Chicago), Secretary,*

A. T. Bell (Atlantic City), George W. Booth (New York), Harry W. Bringhurst (Seattle), J. J. Conway (Cincinnati), George W. Elliot (Philadelphia), R. W. Hargadine (St. Paul), E. P. Heaton (Toronto), Frank E. Henderson (St. Louis), S. W. English (Austin, Tex.), John Kenlon (New York), J. H. Kenney (Baltimore), Rodolph Latulippe (Montreal), Elliot Middleton (Detroit), John A. O'Keefe (Boston), J. G. Pepper (New Orleans), F. B. Quackenboss (Nashville), Geo. M. Robertson (San Francisco), A. M. Schoen (Atlanta), H. G. Seibels (Birmingham), E. A. Sterling (Chicago), J. W. Stevens (Portland, Ore.), Ralph P. Stoddard (Cleveland), Clem E. Wheeler, (Milwaukee[]).

During the past year the committee has only been able to reach a partial alignment of the several large topics included in the work title.

The committee finds itself confronted by the fact that high value districts are by no means at all well defined in many cities.

In certain cities but one fairly well defined high value district is to be found. In other and perhaps smaller cities are to be found districts which are high value in a relative sense as compared to the balance of the town and yet cannot be looked upon as high value districts in comparison with the greater cities.

It is also to be noted that some of the larger cities have grown along asymmetrical lines and, as in consequence, have developed more than one high value district which in turn leaves open the question as to whether a recommendation should be made for treating such highest value district alone or separate treatment for each of the centers of value each in some sort of financial consistency to the values involved, thereby in turn calling for considerable variation of engineering consideration as applying to various centres in any one such city. These varieties of condition, if followed out with full detail, would offer a task greater than the committee could possibly hope to cover within any reasonable length of time.

The indications, therefore, are that some criterion or definition must needs be reached in order to decide when it is that a high value district, so viewed in relation to its own city, shall be disregarded by the committee because of not having comparative importance as related to other districts in greater cities.

Some scheme of valuation must, therefore, be evolved and it is likely that the committee will arrive at a basis for valuation upon a price per cubic foot.

In order to arrive at even so simple a figure it will be necessary to consult the more skilled architects and various building appraisers as to an average replacement value.

During the present extremely inflated markets it has been found that there is a strong disinclination on the part of the best judges to make any estimate either as to present or future replacement values.

While this does not discourage the committee in its endeavors, it becomes manifest that more time will be required in order to develop an approximate unit value for comparison of districts.

In a general way there are some indications that high value districts, carrying one hundred million dollars per square mile, will be regarded as coming within the scope of the committee's work and that districts of lesser density of value will be wholly disregarded.

Such conclusion, however, is not to be lightly reached and has not as yet been fully canvassed by the entire Committee.

The present impossibility of any fairly authoritative approximation of a unit of value upon a cubic basis, leaves the committee temporarily with no means of knowing the average number of stories to be taken as outlining the theoretical border of a high value district.

Another indication of the complexity of the subject of high value districts lies in the fact that the trend of thought of the day is toward the recognition of automatic sprinklers as a prime mode of treatment.

Without pausing to argue whether such thought is one of preconception, or is later to be shown as vindicated by economic fact, there is no difference of opinion among students as to the great power of the public fire department to aid or to hinder, the automatic sprinkler systems in the cities.

*Your committee has not, in a direct sense, access to the necessary data to substantiate for or to argue against those who take a sanguine view of city department co-operation. We are fortunate, however, in having a representative of the National Board of Fire Underwriters on the committee and member Booth has kindly undertaken to secure for the committee **actual working data calculated to cast some economic light upon the actual and also the possible co-operative resources of the public fire department as related to automatic sprinklers upon a large number of the principal fires of record.** This in itself is an undertaking of months and indispensable for even a preliminary estimate as to the fire cost saving value of automatic sprinklers as compared to the fixed charges thereof in paid fire department districts.*

Such correspondence as the committee has thus far received from fire chiefs indicates that labor union movements in the form of platoon systems are a disturbing factor, in that the added difficulties of administration thus brought upon a fire chief at the present day, tend to prevent him from giving any careful consideration or making up any recommendations toward a broad treatment of the high value district of his particular city.

Secretary Ekern has prepared a questionnaire[.] It is the thought of the Secretary to obtain broad information from civic bodies, Boards of Trade, Chambers of Commerce, as well as from the Boards of Fire Commissioners of the various cities, all with a view of ascertaining the actual state of thought and degree of preparedness, if any, toward a consistent plan for financial treatment of high value districts together with the admitted complex prior necessity for legislative action such as must in all public business be first gone through with before appropriations can be obtained; whether for the purpose of paying engineers' fees for plan development or for the purpose of actual physical work upon some definite engineering plan toward the betterment of a high value district.

Your committee finds that the subject of high value districts is embarrassed by reason of the large number of several advocacies which exist.

One group of believers in high value district protection is inclined to think that motorizing all fire departments is the most promising first line of procedure.

Others again attach less importance to motorizing and lay stress upon any one of the several plans for high pressure service, for example, a high pressure service having a central pumping station, or, a high pressure service having small pipe grid-iron with distributed pumping stations or a high pressure service having a small pipe grid-iron fed by very lofty gravity tanks suitably distributed to reduce friction loss, or, extensions of high pressure service from existing fire boats.

This general subject is one in which the committee will be obliged to fall back upon the underwriting data being developed by the statistical compilations of the National Board of Fire Underwriters inasmuch as certain cities having very high pressure reservoirs already enjoy, throughout all portions of said cities, every advantage claimed or claimable by any and all of the advocates of high pressure systems.

The committee, therefore, must ascertain whether cities so favored do or do not show a definitely lower fire cost than cities having fire department facilities of the ordinary order.

Further, with relation to the special advocacies for high value districts, we have the group of students who lay great stress upon horizontal floor divisions with a view to restricting spread of fires in those large risks which are termed conflagration breeders. Due attention must also be given to the merit which obtains in other recommendations which go for the extensive introduction of automatic fire doors in all fire walls allied to large areas, particularly upon the principle, of sudden heat rise as compared to the older principle of a definite critical temperature for fire door release.

The National Board of Fire Underwriters, as it is well known, have outstanding a number of large city reports in which definite increases of normal water works capacity have been recommended and it is the feeling of your Committee that any recommendation toward the treatment of any given high value district cannot consistently fail to take under consideration the due weight to be attached to any National Board recommendations.

Various popular concepts also will require to be a meed of thought. We assume that members of the National Fire Protection Association would hardly be inclined to give serious consideration to the use of dynamite or of water curtains or outside sprinklers or any vertical division fire escape method in a high value district plan. Yet as each of these thoughts has a certain amount of newspaper credence it is our expectation to touch upon same in a final report.

The Committee has given some study to the question as to whether the existing fire limits now identified by the common councils of the several cities will or will not be of any value in arriving at a demarcation or border definition of that which may be rightly termed a high value district proper.

The indications are already quite clear that the demarcation of a high value district proper must necessarily lie well within existing fire limits and, therefore, the subject of treatment of a high value district resolves itself in a sense into a proposition for fire limits within fire limits, that is to say the high value district to be a specially treated fire limits within the present or ordinary fire limits.

Another special advocacy which has the support of powerful financial interests is that of the proponents of complete incombustible construction for cities.

It is estimated, however, that this school of thought will not enter into the problem of high value district treatment to any serious extent for a number of years on account of the practically prohibitive cost of a sufficient number of wholly incombustible buildings together with the fact that combustible contents must be better protected than now regardless of buildings.

There is this to be said, however, that the argument in favor of fireproof construction, as exemplified in actual practice, tends to lend itself also to the promotion of protected window or protected wall openings.

The indications are that in any scheme for high value protection due recognition must be made of the principle of employment of protected wall openings if for no other reason than because there will always be in every high value district a certain proportion, of incombustible office buildings which in all probability will not be piped with fusible outlets, and yet cannot be converted into conflagration stops without some form of window protection.

As will be gathered from the general review of the high value situation as set forth, the Committee has been principally hampered thus far by the impossibility of obtaining any unit upon which to value city districts to arrive at an approximation of that which should be termed a high value district and that which should not.

We trust, however, that sufficient has been said to members to indicate the breadth of the subject in hand and to express our hope of a more definite formulation, in a later year, from out of the various complexities which pertain to the great cities.

Mr. Walter A. Hull (Bureau of Standards, U. S.): *When I first read the report of this new committee, it seemed to me as if they were trying to cover an awful lot of ground, as if, possibly, they were trying to solve all of the more general problems of fire resistance, but in that connection another thought presented itself, which was this, that when a man goes into a new piece of work the scope of the task that he sets before himself is very apt to be an indication or measure of his capacity and willingness to do a large work. It seems to me that in considering the scope of the work that this committee has outlined for itself we can take it in the light of a promise, and that it is a good indication. I wish to move its acceptance.*

(Mr. Hull's motion was adopted.)

The Great Chicago Fire destroyed a large portion of that city, including the central business district, in October 1871. Boston was partially destroyed by a Great Fire in 1872. The Great Fires in Chicago and Boston were followed by major conflagrations in Vancouver (1886), Seattle (1889), Baltimore (1904), Toronto (1904), San Francisco (1906), Houston (1912) and Atlanta (1917). Various remedies to prevent these conflagrations were tried including the use of high pressure water supply systems, however, it appears that the "Age of the Great Fires" finally came to an end with the introduction of motorized fire apparatus.

Although the above transcript reflects a debate over the efficacy of high pressure water supply systems versus that of motorized fire apparatus in 1917, the fact that few high pressure water systems exist in the United States anymore clearly shows that motorized fire apparatus were a more cost efficient and reliable means of delivering water to a fire.

(The City of San Francisco still maintains the high pressure water supply system installed after the San Francisco Earthquake and Fire.)

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