

Building Codes vs Preservation of Historic Property

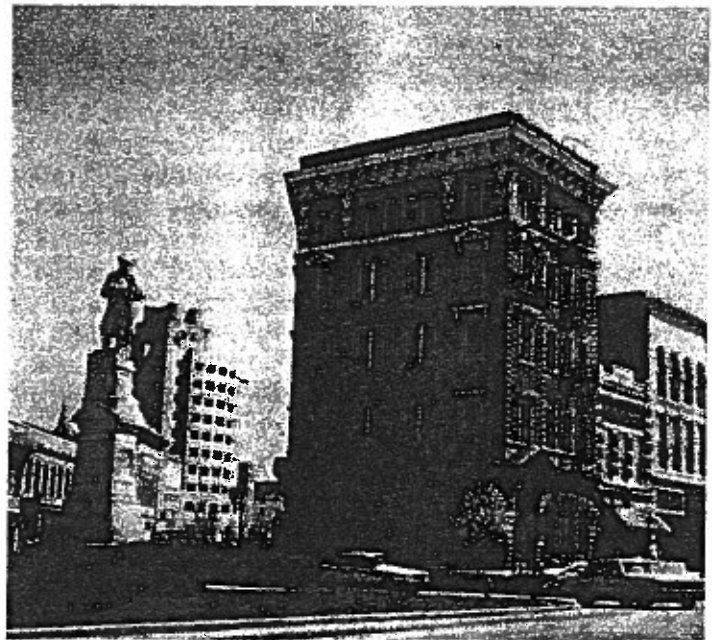
by Stephen V. Skalko, P.E.

Many times, in historic preservation and conservation circles, we here the comment that Building Codes stifle rehabilitation, restoration or reuse of buildings with historical or architectural significance. While undoubtedly that sometimes occurs, realistically it does not have to occur as often as said. In actuality the goals of Building Codes are not necessarily at odds with the goals of preserving historic buildings. The key is a proper approach to preservation of historical property working within the framework of the community's Building Code. To address the proper approach lets first review some of the goals of building codes typically adopted by local government.

In this country there are one of three "Model Building Codes" that most local jurisdictions (city or county) adopt for regulation of building improvements. They are the *Standard Building Code*¹, the *BOCA National Building Code*² and the *Uniform Building Code*³. Their spheres of influence are the Southeast, the Northeast and the Western parts of the United States respectively.

The intent of all three codes are to provide the minimum requirements in buildings, to secure the beneficial interests of public safety, health and general welfare, by regulating all new construction, additions, alterations and repairs of buildings. These requirements, developed over time, are based on previous years of experience on what requirements were found lacking to provide safe buildings (i.e. reviews of deficiencies from past building disasters) and changes to incorporate constantly changing construction technology, whether it be design trends, occupant needs or new materials and methods of construction. Naturally, when a project under consideration is an existing building, with historical or architectural significance, the latest codes often reflect requirements that were not previously required or provided in these older buildings.

For example, the code requires at least two means of exiting from the upper floors of a building. The purpose in requiring two exits is based on the premise that should a fire or other emergency block escape through one of the exits then a second exit is available to the building occupants. Numerous pre-1950s buildings were only provided with one exit stair, since that was all the code required when some of these buildings were originally built.



The Hart Building in Macon, Georgia is an example of how building codes and preservation interface.

To achieve the goal of safe buildings for the public the code specifies a construction permitting procedure for the construction of new buildings as well as the addition, alteration or repair of existing buildings. Hence, the dilemma. The code requires that the building undergoing the alteration or repair conform to the building code as a condition for issuance of the building permit. If an existing building has inadequate exits and a proposal for major renovation is submitted to the Building Department then the expectation will be to address the inadequate exits as part of the project.

Of course constructing an additional stair tower on the exterior of a building could adversely affect the historical or architectural esthetics of the building. By the same token adding a new stair tower internally could also add costs, affect significant building features or use up valuable floor space such that the economic viability of the project is out of balance. If requiring additional stairs results in the project being scrapped then the historic preservation goal will not be met. Building code goals are also jeopardized.

Another goal of building codes is to protect property. If the building being considered for renovation is vacant and remains vacant usually it will be subject to deterioration and vandalism. Vagrants typically seek out these types of buildings in inclement weather. It is very common for fires to be started for warmth and cooking. It is also very common for these fires to go unattended and start a fire in the vacant building. Should they occur then not only does the fire threaten the vacant building but can also pose a danger to adjacent property. This is not consistent with the property protection goal of the building code.

Sometimes the building under consideration is legally occupied but in need of capital expenditures to improve comfort, esthetics, function and long term maintenance. If the improvement project becomes stalled then not implementing improvements does nothing to further the occupant safety goal of the building code. The fact is unimproved or deteriorating historic buildings are contrary to the goals of building codes.

Fortunately, all three model codes have specific sections to address "historically significant" buildings. Generally the sections say that a building, under consideration for alterations, restorations or repairs, does not have to conform to all of the requirements of the latest adopted Building Code provided: the building has been officially designated

as historical by appropriate authorities (i.e. local Historic Review Boards, Building Boards of Appeal, State or local Preservation Offices, etc.) and, the building is judged safe by the Building Official. At first glance it might seem that the code gives buildings with historical significance a blank check for code compliance. This is definitely not the case! Instead these sections are intended to recognize the dilemma discussed above and outline an approach to provide for sensitive application of the code. To review this approach lets first examine the requirement for designation as historically significant.

Each of the Model Codes, though using somewhat different code language, clearly expects an officially sanctioned procedure to be followed in establishing the building's historical designation. One reason for this is to avoid an argument or debate between the project proponent (i.e. architect, developer, owner, etc.) and the Building Official on whether or not the building has significant historical features. Using a legally established entity, such as an Historical Review Board or a State or local Historical Office or Preservation Commission, places the "historically significant" decision into the hands of a group that is assumed well qualified to exercise proper judgement for the community. Secondly this procedure assures the general public that, when the historical building provisions of the Building Code are applied, the building in question qualifies for the special considerations intended in the code. Special considerations bring into play the second condition of the code section. The building must be safe to occupy according to the Building Official. Existing buildings being considered for renovation must be assessed in relation to the requirements in the present building code. The assessment should include fire safety items such as the occupancy proposed in relation to the type of construction permitted, the number and types of exits that exist or are required and other fire safety features that exist or are required by the code. The assessment should address any structural requirements that arise from the proposed renovation such as increased floor live loads. This assessment can be used to evaluate what, if any, additional fire safety and structural issues should be considered, to make the building safe, once the renovation project is complete.

The assessment also becomes a tool for the design team and the Building Official to use in arriving at solutions to insure the intent of the code for a safe building is met. The historical buildings provisions permit the Building Official to use judgement in accepting design solutions that, though not

specifically stated in the code, when implemented will secure an equivalent level of safety. These solutions can include fire safety features such as fire rated compartmentation, fire alarm systems and sprinkler protection as alternatives to the number of exits or excessive travel distances. Of course each building must be assessed on an individual basis to determine the acceptable solutions particular to that building.

An example is the restoration of the Hart Building in Macon, Georgia. This building, built in 1902, is a five story masonry and wood frame structure with notable architectural features on the exterior. It is located on a very prominent corner in the heart of downtown Macon. Figure 1 shows the original floor plan with a single corridor serving separate offices on each floor. The upper floors of the building had been vacant for many years and were considered unacceptable, from a fire safety point of view, because those floors were served by only one exit stair that was completely open from top to bottom, and surrounded an open elevator shaft. In the event of a fire on any lower the exit stair could quickly become unusable and fire spread to upper floors was imminent. The alternative for escape was an outside fire escape ladder that was

only accessible through other tenants offices.

Today's code requires two means of exit from a building's upper floors. The Hart Building however, is so small in floor plan (approximately 1700 sq. ft.) that providing two stairs would use up valuable lease space. Additionally adding an exterior stair would be detrimental to the original architectural features of the building's facade.

The solution, through sensitive application of the building and fire safety codes, involved increasing the fire resistance ability of the building structure; developing a single, properly enclosed exit stair with pressurization capability; installation of automatic sprinkler protection; installation of a manual fire alarm system; and restricting the use of each floor to single tenants. Figure 2 reflects the final floor plan and fire safety features. These measures, combined with the good fire department access, resulted in a successful renovation project of a building with historical architectural significance to downtown Macon.

Preserving buildings with historical or architecturally significant features is important to preserving the heritage of our communities. Providing buildings that are safe to occupy and do not pose a danger to the public or adjacent property is also important. Utilizing the historical buildings provisions in building codes, which require appropriate historical building safety assessment reviews, is one way to meet preservation and building safety goals for the public good simultaneously.

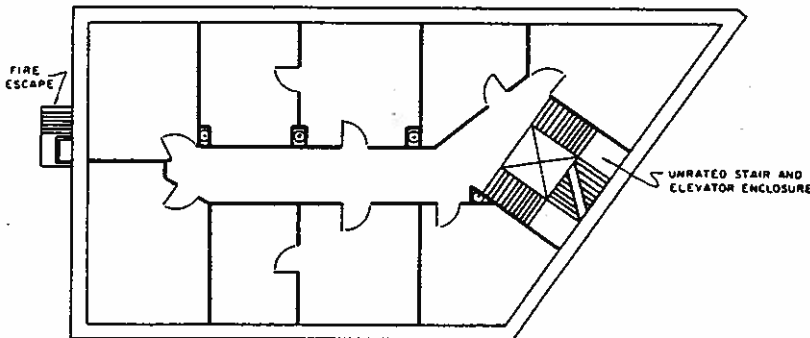


Figure 1—The Hart Building—Typical existing floor plan

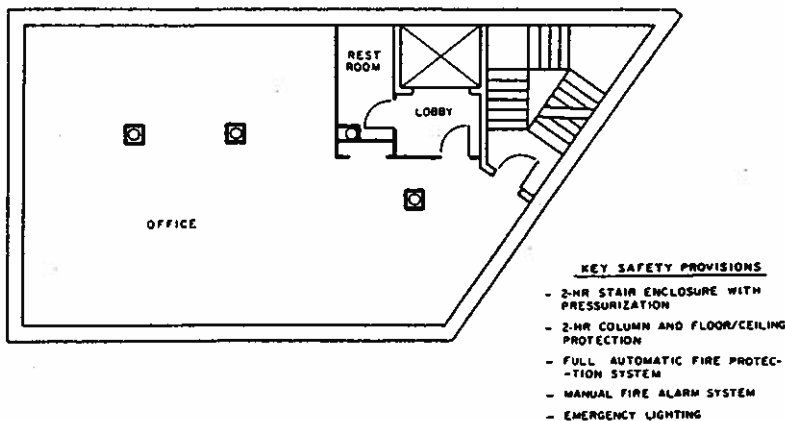


Figure 2—The Hart Building—Typical proposed floor plan

- 1 *Standard Building Code*, developed by the Southern Building Code Congress, International, Birmingham, Alabama.
- 2 *BOCA National Building Code*, developed by the Building Officials and Code Administrators, International, Inc. Country Club, Illinois.
- 3 *Uniform Building Code*, developed by the International Conference of Building Officials, Whittier, California.

Stephen V. Skalko, P.E., is a Code and Standards Engineer for the Portland Cement Association. He was formerly a building official for the City of Macon, Georgia.