

A “Balanced” Approach to Building Regulation

by Richard Schulte

"Last year [2009] will forever be known for the collapse of the construction market. Construction starts dropped by 47% compared to 2008 and were down 58% from the peak for construction starts experienced in 2006." Roger Ferch, President, American Institute of Steel Construction

"In any event, a net 880,000 construction jobs were lost from February 2009 to February 2010." Randall Hoven

Obviously, the building construction industry is suffering through a recession like no other in our lifetime. Unemployment in the field is rampant and workers in the construction field are suffering both the financial and psychological effects of the recession. Will the construction industry recover from this debacle? Sooner or later, there will be a recovery, but how far off that recovery is, no one knows.

What has this got to do with building codes? Well, the collapse of the construction industry should give pause for a reflection on the future of the industry and part of that reflection should include how building code regulations impact the industry.

Obviously, building regulations affect the cost of building construction and the cost of construction impacts the number of projects which will eventually be constructed. Just like the cost of any good or service affects the number of goods or services which will be purchased, construction costs also have the same effect. Construction projects which are feasible at lower costs simply may not be feasible at higher costs. Given this, there is little doubt that building code provisions have an impact on the number of buildings constructed.

Before the debacle in the construction industry occurred in 2009, no doubt that many professionals in the building code field would have said that the cost of building construction should not be considered to be a significant factor in determining what safety features should be mandated by the building code. Perhaps, 2009/2010 will be “water-shed” years and those involved in writing codes will once again begin to see that there needs to be a “balance” between building safety and construction costs.

It is easy to say that safety is the most important issue addressed by building codes and that the cost to provide building safety is simply irrelevant. However, when the reasonableness of code requirements is disregarded, the code actually becomes an impediment to the improvement of the level of safety provided for both individual buildings and entire communities.

One example of this concept is the use and re-use of existing buildings. Where the requirements for new building construction are strictly applied to the re-use of existing buildings, the cost of the redevelopment of existing buildings is not only increased, but the likelihood that an existing building will be redeveloped or re-utilized decreases. With the reasonable application of building code provisions to existing buildings, the re-use of existing buildings is not only encouraged, but the likelihood that an owner will simply abandon a building becomes less because the value of the existing building is increased.

Similar conclusions can be reached for new building construction too. When reasonable building code provisions are adopted, the construction of new buildings is encouraged, while the adoption of more restrictive code provisions for new building construction means that fewer new buildings, or smaller new buildings, will be constructed. Given that often the construction of new buildings means the revitalization of parts of a community, discouraging the construction of new buildings by means of more restrictive building code requirements means that the boost to the local economy provided by new building construction is lost.

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Of course, by making code requirements more reasonable, that is less restrictive, it would appear that we are making our buildings less “safe”, but this isn’t necessarily the case. In too many instances, the code requirements contained in the model building code used throughout the United States, the International Building Code (IBC), have been “ratcheted” up from the very first edition of the Code, the 2000 edition. Are buildings constructed in accordance with the 2009 edition of the IBC significantly “safer” than those constructed in accordance with the 2000 edition of the IBC, or simply just a little bit more “safe”? If the answer to this question is only slightly “safer”, then we need to ask whether or not the increase in the level of safety is worth the increase in the construction costs.

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In the last decade or so, the term “balanced fire protection” has been coined as a justification for more restrictive building fire safety requirements. Along with this, the reliability of our most effective means of protecting building occupants from fire, sprinkler protection, has also been questioned. The proponents of the “balanced fire protection” concept define the term as

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a need for both passive fire protection (structural fire protection and building compartmentation) and active fire protection (sprinkler protection), but what has been left out from this concept is the need to provide code provisions which strike a “balance” between reasonable safety and cost. Hence, in essence, the debate over the last 10 years has been between two concepts-“balanced fire protection” versus “balanced” code provisions.

The advocates of “balanced fire protection” have asserted that sprinkler protection is not a completely reliable form of building fire protection and, hence, building codes need to require “back-up” passive fire protection in the event of sprinkler system failure. Yet the advocates of the “balanced fire protection” concept cannot point to a single instance where building codes allow the deletion of all other fire safety features in a building when sprinkler protection is provided. In other words, it can be argued that the concept of “balanced fire protection” has always been incorporated in our codes.

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While the concept of “balanced fire protection” gained credibility when it was first advanced as an argument for more restrictive building code requirements, the fact that the sprinkler reliability statistics quoted by the proponents of this concept indicated that sprinkler system failures occur far more often than is actually the case has tarnished this concept. Regardless, the

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damage to the reputation of the reliability of sprinkler systems has been done and more restrictive fire safety requirements have been included in the 2006 and 2009 editions of the International Building Code.

While many have felt that more restrictive code requirements were necessary to improve the 2000 edition of the International Building Code, the fact remains that the construction industry is mired in a deep recession. Could it be that the financial and psychological damage to those in the construction industry due to the recession is even worse than the losses which would be caused by a reduction in the level of safety mandated by building codes?

With over 800,000 construction workers unemployed in the United States at present, it is a given that the financial and psychological damage due to the recession surely will exceed the losses due to the adoption of less restrictive code requirements. Hence, it seems both logical and reasonable that building code professionals may want to take a second look at code requirements simply to assist the recovery

of the construction industry, and the concept which can be used to determine whether or not less restrictive provisions are in order is the concept of “balanced” code provisions.

A building code which strikes a “balance” between safety and cost will not only provide for the safety of the American public, but also encourage building construction. At this particular point in time, that’s exactly what the American construction industry needs.

Is adopting fire safety provisions which are less restrictive going “backwards”? No, indeed not. Adopting “balanced” code requirements is actually a way out of the “darkness” which has descended on the building code development process in recent years. Wasting precious capital on unnecessary fire safety features is simply a misguided effort to make America’s buildings “perfectly safe”. There is no such thing as a “100 percent safe” building-never has been, never will be. The best we can do is to make our buildings “99 percent safe” and then devote ourselves to other more pressing safety issues.

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The recommendations for making buildings “safer” included in the National Institute of Standards and Technology (NIST) World Trade Center (WTC) collapse investigations are just one example of an attempt to make high rise buildings “100 percent safe”. The level of safety provided for our high rise buildings was already at “99 percent” before the implementation of the NIST recommendations. The only thing really accomplished by implementing the NIST WTC recommendations is an increase in cost of constructing new tall buildings, which, of course, will lead to the construction of fewer tall buildings (or buildings of lesser height). What follows are fewer jobs in the construction industry (and all of the financial and psychological hardship that results from unemployment).

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