

# Response to “Building Codes and Housing” by David Listokin and David B. Hattis

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I commend David Listokin and David Hattis for their tremendous efforts in exploring the very messy subject of building codes and their impact on affordable housing and, for that matter, all development. Scholars such as Listokin and Hattis who investigate the structure and operations of building codes—as well as our colleagues in code organizations such as the National Conference of States on Building Codes and Standards, Inc. (NCSBCS), International Code Council (ICC), and the National Fire Protection Association (NFPA), and predecessors such as Francis Ventre and Charles Field—have all contributed to scholarship that attempts to go beyond anecdotes. Indeed, the critical need to go beyond anecdotes is the ultimate goal of this conference. Ironically, however, I would like to structure my comments on this article around five specific anecdotes presented in the literature.

## Anecdote 1: There Are Too Many Anecdotes

Anyone who works on the production side of housing knows that the homebuilding industry’s history is replete with building code anecdotes—e.g., how Trade Association X lobbied City Councilperson Y to amend the codes to favor its members’ products, or how Building Inspector A’s personal dislike of Builder B led to noticeable, although not documented, harshness on the construction site. Even more significant than the sum of these individual anecdotes is the fact that the development community reinforces the perception that codes and code officials are “barriers” to development and innovation. All the literature in the management of construction and architectural technology explicitly states this, although with few, if any, references or little empirical backing (Field and Rivkin, 1975; Cooke, 1977; Tatum, 1987; Bernstein and Lemer, 1996). As such, the industry has fully bought into the anecdotes.

Further, among those outside the building industry, another false perception exists that building codes are strictly technical documents. Among all the development regulations discussed today, building codes certainly appear to be among the most technical and have the longest history of structural, material, fire and hazard resistance, environmental, and architectural engineering testing and validation. Yet, the sheer volume and complexity of these technical standards often mask the fact that building codes and code practices are as socially constructed as they are technically determined, if not more so (Colwell and Kau,

1982; Martín, 1999; Wermiel, 2000). Building practitioners know this reality all too well, even though the perception persists in circles outside production development circles.

As with all social documents, we must contextualize building codes in their moments of creation, adoption, and enforcement. Our discussions about codes and the perceptions of codes today must be contextualized on many fronts: while uncovering patterns in actual code enactment is necessary, the analysis must take into consideration geographic, technological, and market segment (housing type) variations because these regulations are structured around such contexts. In fact, most of the interesting work done in the field looks at how codes develop in regional contexts. Looking at the codes nationally rarely tells us anything beyond anecdotes.

We also need to place the perceptions of codes in context, too. Under which economic and industrial conditions do builders and developers think of codes as a “big deal”? Listokin and Hattis (2005) rightfully discuss how codes currently are less a concern for the majority of housing starts (which are in southern and southwestern suburbs) than other development barriers. For housing innovation, similarly, codes also are only one of many perceived barriers to innovation, and not necessarily the highest (Koebel et al., 2003). The contemporary volume and location of housing production—as well as the acceptance of a standard housing “product”—likely have much to do with the current decreased perception of building codes as a barrier. In addition to current market conditions, then, how is it that the perception of building codes as a regulatory barrier has diminished recently despite the constant haranguing in industrial scholarship?

## Anecdote 2: Some Progress Has Been Made

Many changes in code administration have taken effect over the last decade, some of which are further elaborated in Peter May’s article in this conference (2005). These changes have been highly successful (anecdotally) and are worth reviewing here. These recent policy solutions and experiments, however, have been almost all based on anecdotal evidence.

The consolidation of model building codes, as well as the increased (albeit optional) flexibility included in their instructions, represents a dramatic step forward in code creation from even the three to four model regional codes available just a few years ago. Code adoption also has moved forward: as more states and cities are adopting the model codes with little amendment, many have taken efforts to examine their code regulation process for the first time in 6 months (especially for rehabilitation and renovation), and local press is paying particular attention to these adoption decisions. For example, Phoenix is the only major municipality to adopt the NFPA 5000 model code in a region that has heavily invested in the ICC codes.

The effect of code content on new, potentially cost-saving technological innovations has also been much discussed in the last decade. “Performance-based” standards—those that require only final, measured goals for a building rather than prescribing the materials, means, and methods of reaching that performance—are more commonly accepted in code hearings. These standards remain somewhat ineffective, but their inclusion speaks volumes about changed perceptions. The ICC’s National Evaluation Service (NES) sponsored a workshop in December 2003 on implementing alternative materials provisions in the code and suggested mechanisms for their implementation (such as placing some regulatory weight behind ICC NES’ technical evaluations). Numerous federal initiatives also have taken on the task of looking at regulatory effects on innovation, including Building America, ENERGY STAR, and especially the U.S. Department of Housing and Urban Development’s Partnership for Advancing Technology in Housing.

Code enforcement, however, is likely the regulatory process witnessing the most experimentation. Cities are adopting expedited processes (such as “one-stop shops”) for most building regulatory submissions and approvals, as well as collaborations between cities serving similar housing markets. In Arizona’s Maricopa County (one of the nation’s five fastest growing counties), building officials from multiple cities have formed the *Regional Plan Review Group*, whose mission is uniform residential plan review and inspection policies among the participating jurisdictions. This group also has devised mechanisms for a homebuilder to submit plans in one jurisdiction for approval in all.

In an effort to become more “business friendly,” as Peter May describes it, many jurisdictions are implementing new incentive programs for future regulatory approvals (such as holding regular meetings with builders) and making their current processes more transparent (for example, training builders on inspector requirements and even publishing inspector checklists). Some municipalities are toying with third-party or self-certification methods to compensate for their lack of resources, as well as to show good faith with builders (although most production builders already are contracting with third-party inspectors for litigation purposes). Numerous cities are adopting advanced information technologies for submissions, reviews, and even inspections (such as those described in the NCSBCS “streamlining” initiatives). These technologies also provide the best opportunity for gathering data about specific builders and their regulatory records, variances between building officials and cities, and ultimately, a much better understanding of the procedures by which building codes serve as barriers. Colleagues at Arizona State University, for example, currently are working with the Regional Plan Review Group to establish inspection report standards and reporting mechanisms from which this data can be gathered and assessed.

Given the wealth of positive changes in code creation, adoption, content, and enforcement, why are building codes included in this conference as a regulatory barrier?

### Anecdote 3: Although the Perception of Codes as a Barrier Has Decreased in Some Markets, Problems Persist

The burden of building regulation on this country’s housing builders and developers seems to come less from the actual restrictions of the codes than in their administration. Problems still arise in code creation (codes continue to be far from performance-based) and adoption (most jurisdictions continue to make amendments based on local political conditions rather than on climatic, geological, or material realities). Further, manufacturers’ lobbying efforts, inconsistent acceptance of technology across regions, and the inability of innovators to develop experimental prototypes suggest that the development of codes could still be improved.

Code enforcement, however, seems to be the most significant barrier to development. Specifically, plan reviewers in city departments often are caught in a bind between their need to thoroughly review planned proposals and the pressing needs from city planning departments and elected officials to approve new developments in those cities whose future tax base is predicated on their quick construction and occupancy. Extreme variations in plan reviews and inspections still exist not just between jurisdictions but also increasingly *within* jurisdictions. As one Phoenix-area builder has commented, many developers state that they would prefer consistent “by-the-book” enforcement to varying, oftentimes lax, enforcement. Building departments have much to improve along these lines, although they also face serious constraints: training programs for building regulators get cut from city budgets, inspectors and plan reviewers rarely discuss common approaches, and, often, cities grow to such large geographic areas that basic travel for inspectors becomes an intervening factor in their inspection reports. Despite their bringing in the most significant

levels of funds to city general fund coffers in many jurisdictions, most building departments suffer from limited resources and personnel.

Builders and developers, as regulated parties, also have some responsibility in the reality of the code burden. In a soon-to-be-published study by an Arizona State University colleague, a point review of one Arizona city's inspection failures showed that the number one reason for inspection failures by far came not from poor or improper construction (whether from shoddy construction or an overactive inspector), but from builders prematurely requesting inspections and being unprepared for them when the inspector comes onsite. This internal misstep causes the same delays and added cost and time for the builder as those stemming from unreasonable codes or stringent inspectors. This condition is a marker of internal inefficiencies in the building industry, particularly its information conduits between builders and trades, builders and plan reviewers, and trades and inspectors. These inefficiencies have even led some builders to rely on building departments' and inspectors' reports for their production processes: one Arizona builder reported knowing of other builders that use inspection failures as the "punch list," designating which work needs to be completed.

One last way in which problems with building regulations have actually worsened over the last few decades has been through the addition of regulations that may or may not be directly administered by building code departments, but that have direct effects on the physical qualities of homes in the same way as the building codes. Requirements such as Fair Housing and Americans with Disabilities Act design stipulations certainly have added costs—although, for some, very clear benefits. Green Building Programs that are optional in some jurisdictions, though increasingly required, not only add costs and time to housing development, but also may serve as a means for regional segregation; the city of Scottsdale (one of the wealthiest in the Phoenix area) has actively promoted its new Green Building Program. Design Review Boards, common not only in existing communities but increasingly in growing communities attempting to maintain the appearance of traditional communities, are adding many physical features to housing developments that add cost and time and often provide questionable subsequent benefits to neighborhood environments. Although these regulations should definitely be noted, none of the other articles in this conference address these burdens, most likely because their scope of control is the physical quality of individual housing units—much like building codes—and have yet to receive the amount of scholarly attention as land use concerns.

## Anecdote 4: There Is No Research

National surveys of building regulations have often added to the list of anecdotes without describing the real ways in which codes deter or delay development, because they are national (regulations vary widely) and they are surveys (which gauge perceptions more than processes). As such, we need to approach research in this area in the same way we approach anecdotes: we need to look at building codes on a regional basis and delve into the practical details of how they are adopted and enforced for different housing types on that basis. For example, we know that in regions of extreme population growth (and hence housing starts) where production builders produce the majority of homes, building codes are perceived to be less of a deterrent to development. We also know that many of these builders simply plan contingency funds for regulatory approvals and inspections and swallow the costs and time as a cost of doing business. For builders in those market segments in which swallowing costs is not an option (for example, small-unit remodeling or subsidized housing), however, we know that building codes can make or break a project. Keeping in mind that both scenarios could produce and currently are producing "affordable" housing, we need to examine how regional economic conditions determine the behavior of builders and building code departments as much as we examine the content

of the codes themselves. For potentially cost-saving innovations, the same structure can be framed to contextualize whether innovators with many resources behave differently from small inventors in different markets.

In short, we cannot separate code enforcement from code content in this country, and our research efforts should reflect this. Indeed, one reason why work in this research area has been so limited is because its subsequent effect on policy applications has been limited. Researchers should examine the effects of specific codes on housing costs by comparing two imaginary houses, one built pre-code and the other built post-code. These comparisons would give us some clarity about the effect of the specific code provision and also highlight debates regarding the definitions and measures of costs and benefits.

The actual added burden of—and variation in—enforcement probably plays just as significant a role in determining the costs of codes as the content. One option is to analyze one code provision with a fine-toothed comb—examine one specific code citation, its history of enactment, its variances in enforcement, and its longitudinal effect on time and cost. Unfortunately, this research would only give us a fraction of the costs that building codes add to development given the tens of thousands of homebuilding components, products, and processes. Because much of the material for this investigation is not documented or reported and definitely not consistent (for example, a plan reviewer simply saying she won't accept a new product), this work also would lead to further anecdotes.

Because basic data on enforcement are unavailable, the methods of measuring and gathering data on how cities enforce codes should be our first order of business. Similar to the suggestions that Quigley and Rosenthal (2005) make in their article for this conference, these taxonomies would not only help cities report on their own operations, but also would provide much-needed data sources for more extensive studies. As a side note, the suggestion of using the Insurance Services Office's (ISO's) Building Code Effectiveness Grading Schedule is an interesting one, although how ISO comes to these rankings and whether pursuing this secondary resource would actually be less fruitful than developing new measures based on data acquired from the actual cities (which, of course, would require cities to standardize reporting data) is still unclear. We need to get primary data that truly help us detail code content, structure, adoption, enforcement, and negotiation—all of which are determining variables to the added cost and burden of future development—which is most certainly not an easy task.

## **Anecdote 5: Nobody Wants To Take on the Leviathan of Building Codes**

I speculate that one of the reasons that the building code barrier persists both in practice and perception (and why few scholars study it) is because a significant change in the structure and content of building codes (for example, going totally performance-based) would require a significant evaluation of the construction industry's entire practices. Economists and policymakers refrain from this because of its too “technical” nature and the perceived diminishing returns from this exhaustive work. Homebuilders and developers naturally refrain because they have spent a century perfecting a production system based on these seemingly unfair and antiquated regulations. As such, we are left with anecdotes not only about building codes, but also about the homebuilding industry in general.

Certainly, if we define regulations that are burdensome as the “excessive rules, regulations, and red tape that add unnecessarily to the cost of housing” as others have, then the cultural and industrial norms of designing and constructing homes in the United States could certainly qualify strongly as a burden, maybe even as strongly as official building regulations (Schill, 2005). In many ways, we have accepted the ultimate anecdote about U.S. housing

design and construction: that Americans only want certain kinds of physical homes, such as a single-family, detached Cape Cod. Hopefully, through forums such as this, we can go beyond anecdotes of all kinds and get a better picture of reality.

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