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## Regulating the New Urbanism

By Peter Katz

"Just throw your existing zoning in the garbage." That's what New Urbanist architect-planner Andres Duany exhorts audiences to do in his lectures about the decline of America's suburbs.

When I first heard Duany express this view in the early 1990s, I was taken aback, as, I'm sure, most planners were. It seemed outrageous to suggest that zoning, the body of law that controls development in 99 percent of America's communities, could be so easily dismissed.

Since then, however, I've come to believe that Duany's prescription may not be so radical after all. His main point is that conventional zoning based on the segregation of land uses was never intended to deal with physical form, and that the "band-aid" measures (including design guidelines) that planners cobble onto existing ordinances to address this deficiency just make matters worse. Something else is needed, and that something else is what New Urbanists call form-based coding.

### What Is It?

As its name suggests, form-based coding seeks to regulate the form of the built environment. In contrast, conventional zoning primarily seeks to control land use and density, but is largely silent on matters of form beyond the most basic height, floor-area, and setback limits for individual buildings.

The new approach builds on the idea that physical form is a community's most intrinsic and enduring characteristic. It seeks to codify that form in a straightforward way so that planners, citizens, developers, and other stakeholders can move easily from a shared physical vision of a place to its built reality.

To understand the concept, think of the way neighborhoods change over time. In many cities, warehouse and industrial areas have morphed into trendy arts districts with galleries and restaurants at street level and loft housing above. The form of the buildings has remained fairly constant, while internal uses and activity patterns have been transformed.

Under the current, *use-based zoning* system, such a change would be considered drastic. The land-use category has gone from industrial, at one end of the spectrum, to residential, at the other, although, to the average onlooker, the place looks pretty much the same. In this example, a *form-based code* would regulate the part that had remained the same – the form of the building and the configuration of the street and sidewalk. Use would be regulated, too, but at a secondary, rather than primary, level of the code.

In some cities, planners have found ways to bend land-use zoning to enable this kind of reuse to promote the revitalization of older neighborhoods, particularly those with good architectural "bones." But such

modifications are typically made on a case-by-case basis or within narrowly defined special districts.

Meanwhile, in new growth areas and in most existing neighborhoods, use-based zoning remains the law of the land. One result is the suburbanization of city neighborhoods by provisions such as setback rules that force buildings far back on their lots and away from each other.

### **Getting Down to Work**

Generally, the creation of a form-based code is interwoven with a community visioning process. The process typically begins with a public design workshop, or charrette, lasting several days. The community's consensus vision is conveyed through a range of visuals, including perspective drawings, site analysis diagrams, and an *illustrative plan*. That plan, which resembles an aerial photo, includes proposed buildings (shown as rooftops), key natural features, and existing and planned public spaces.

The first step in coding is to translate the illustrative plan into a more diagrammatic *regulating plan* that indicates what goes where. This document, while similar in some ways to a zoning map, is far more detailed. It also omits any direct labeling of uses, a job that is handled in the building form standards described below.

In one kind of form-based code, the regulating plan assigns a building type or types to each available parcel of land. Other kinds of regulating plans indicate a range of building or frontage types that may be constructed in a certain area.

Clearly, when it comes to detailing the urban environment, one size does not fit all, and the new approach to coding recognizes that. Coding by building type provides the freedom to create one set of rules for one building type and another set for a different type. For example, a townhouse may function best with its main floor lifted a half-level above grade for interior privacy, with a front stoop for access. Yet a shopfront in the same neighborhood may be more accessible to customers if it is set at grade.

Although public buildings are very important to New Urbanist designers, they are typically not coded. Such buildings are usually indicated in the regulating plan by a conceptual footprint that serves as a placeholder until an actual design is formulated (often years in the future).

### **Nuts and Bolts**

The physical characteristics of each building type are summarized in the *building form standards* – a set of annotated building cross-sections and plan diagrams assembled on a single, letter-size sheet. In some cases, all the building types are combined into a matrix and formatted as a poster.

Regardless of layout, building form standards typically establish the following parameters.

*Building height* is a key standard. A maximum number of floors (or dimension-to-the-eave) is set to ensure that a building does not overwhelm its neighbors. Unlike use-based zoning, form-based codes also specify a minimum height in order to maintain a proper street wall.

*Siting* standards control the placement of structures in relation to fronting streets and adjacent building lots. Dimensions to front, side, and rear building lines, as well as the location and configuration of entrances, parking, yards, and courtyards, are specified.

Key building *elements* such as windows and doors, roof dormers, porches, stoops, balconies, and chimneys are also controlled. Standards cover basics such as quantity, configuration (including permitted encroachments), and size of elements.

*Uses* are also part of the building envelope standards, but the approach here is quite different from conventional zoning. Permissible uses, stated in general terms (e.g., retail, residential), are identified for each building type and labeled on the cross-section diagram.

This approach makes it easy to assign different uses to each floor of a mixed-use development and avoids

the problem of trying to communicate the same information on a flat map. (The plethora of colors, stripes, and cross-hatch patterns on most zoning maps shows how confusing this can be.)

*Thoroughfare standards* for a range of recommended street types may also be part of the code. Such standards are indicated by section diagrams with dimensions for travel and parking lanes, sidewalks, medians, and planting areas. Tree alignment and property lines are also shown.

Finally, many codes include a set of *landscape standards* listing appropriate tree and groundcover species. Most codes also provide a *glossary* that defines terms used in a specific way in the document.

These components constitute the basics of a form-base code. They control the urban design elements that New Urbanists are most concerned with. However, some communities – master-planned developments, special retail districts, historic districts, among others – may want to exert a higher level of control over the appearance of individual buildings. For this reason, some form-base codes include *architectural standards*.

This optional "dress code" controls exterior colors, materials, and certain construction techniques. Particular emphasis is given to cladding, doors, windows, stairs, and roofs. Style may also be included as part of the architectural standards, but not in every case. Many New Urbanists choose to avoid direct references to building style, fearing that too much specificity in this area will lead to an overly homogeneous, "themed" look.

#### **A Brief History**

While the term form-based coding has only recently emerged, the technique has been used for over 20 years. Andres Duany's Miami firm, Duany Plater-Zyberk & Company, first applied the approach in its 1982 code for Seaside, the highly publicized coastal resort town on Florida's panhandle.

The firm's principals, Duany and his wife, Elizabeth Plater-Zyberk, initially set out to design all the town's buildings themselves. But once the true scale of the project became evident, they realized that such a high level of design control would not be possible, or even desirable. Instead, they handed off the design responsibility to the lot purchasers or their architects. That decision led to a new challenge: finding a way to impart a distinctive character to specific areas within the development.

On study trips to historic southern communities, the design team saw that certain building types tended to dominate in certain parts of a town: shopfronts on the main square, rowhouses on side streets, and mansions flanking Main Street just beyond the edges of the downtown. The team also noted that, while building types were fairly consistent in a given area, there was always enough variety within the design of each building to avoid a cookie-cutter look.

The first Seaside code established a hierarchy of seven (later expanded to eight) "classes" of buildings for use in the new community. Each class was based on a traditional southern vernacular building type. The code specified the rudimentary physical characteristics of each class, controlling siting on the lot, building height, location of porches and outbuildings, and how parking should be handled.

The code progressed through a number of iterations, achieving its near-final form during an on-site design charrette in 1981. Shortly after that event, several architecture professors at Washington, D.C.'s Catholic University conducted a test of the code. They asked 140 students to design and build models of every building in the 80-acre master plan according to the rules set forth in the code. The students then combined their individual creations into a 16-foot-long composite model of the community.

Looking at the finished product, one could easily envision the town's streets and public spaces. The model also assumed an important diagnostic role. Recognizing the tendency of architecture students to push the design of each building to its limits, the code's creators were able to identify and fix a number of potential regulatory problems before the code was formally adopted.

After the firm's experience at Seaside, Duany Plater-Zyberk adapted form-base codes to work within the legal framework of a planned-unit development. The Kentlands in Gaithersburg, Maryland, is one early

example of that application. Since 1989, when its plan and code were created in a highly publicized charrette, DPZ has crafted similar documents to regulate the buildout of over 200 new and existing communities.

#### **Broadening the Circle**

Other Florida-based urban designers such as Victor Dover and Joe Kohl of Dover Kohl & Partners, Jaime Correa of Jaime Correa & Associates, and Erick Valle and Estella Valle of Valle Valle Inc. have employed form-base codes in a wide variety of Florida locations and elsewhere in the world. Most learned the technique while students at the University of Miami or while employed in the DPZ office.

Dover Kohl & Partners of South Miami, working in collaboration with DPZ, prepared a form-based development ordinance for Downtown Kendall, a proposed densification plan for the existing edge city just south of Miami. The 240-acre project site is adjacent to two commuter rail stations and a state highway.

Since the adoption of the ordinance, an estimated \$250 million in new construction permits have been issued. Some 3,400 new dwelling units, most in high-rise buildings (up to 25 stories), are now under construction in an area that previously had no residential population at all. While the recent wave of construction in Kendall was foreseen well before the code was adopted, many credit the regulations with helping the community achieve a true downtown development pattern rather than the patchwork typical of booming suburban areas.

Elsewhere around the United States, Florida urban designers and others with connections to the state have continued to refine the practice of form-based coding in a range of project types and situations.

Geoffrey Ferrell of Ferrell Madden Associates of Washington, D.C., in collaboration with Dover Kohl & Partners, conducted an eight-day charrette that resulted in the adoption in February 2003 of a plan and form-base code for the Columbia Pike Corridor in Arlington, Virginia. (Ferrell is a former DPZ employee who served as director of urban design at the Treasure Coast Regional Planning Council during the mid-1990s.) The team's plan focused on the detailed design of four mixed-use centers along a 3.5-mile section of the historic corridor that is minutes away from the Pentagon and downtown Washington.

A year after the adoption of the code, Arlington County planners approved Columbia Station, a mixed-use development consisting of 257 housing units above 42,000 square feet of street-fronting retail. Future plans call for the integration of bus rapid transit or light rail along the corridor.

The city of Hercules, California, retained South Miami-based Dover Kohl to create a plan and form-base code for a patchwork of mostly brownfield sites in that suburban municipality, located 45 minutes northeast of San Francisco. One goal of the plan was to rebalance residential and commercial uses in a community that once had a strong industrial base.

Community Development Director Stephen Lawton credits the plan and streamlined structure of the accompanying codes with helping the city deal with a backlog of development proposals. According to Lawton: "The greater clarity of the form-base codes made it easy for skeptical citizens to understand what was being proposed, and ultimately accept growth at a level of intensity necessary to achieve financial stability. This was something we'd long sought, but had been unable to achieve with conventional zoning."

In addition to their use at the project or neighborhood scale, several communities have, over the years, attempted to apply form-base codes at the municipal or regional scale. In 1991, DPZ, working in collaboration with attorney Sam Poole and Professor Gary Greenan of the University of Miami, created the nation's first TND (Traditional Neighborhood Design) Ordinance. An early precursor of today's form-base code, the ordinance was adopted by Miami-Dade County as an alternative to its existing use-based zoning. Although the new ordinance contained a variety of incentives aimed at increasing density and decreasing parking and infrastructure requirements, developers were slow to recognize its potential benefits. Several high profile plans were created in response to the ordinance, but none have yet been built.

To date, most form-base codes have been crafted individually in response to the needs of a specific community or site. Now there is a new generation of standardized form-base codes derived from the SmartCode, a template developed by DPZ and licensed by the Municipal Code Corporation in Tallahassee, Florida. The SmartCode template defines a series of preconfigured (but customizable) zones based on the "transect"—a framework for organizing a metropolitan area into a series of zones, ranging from most natural to most urban.

The first community to adopt the SmartCode since its licensure is Petaluma, California, which wrote a variation of the code into law in July 2003. Working with a team of California-based consultants, Petaluma adopted the code for a 400-acre portion of its downtown in just nine months, after a seven-year effort to complete and adopt a more conventional, use-based plan and zoning ordinance for the site.

Other communities including Cotati, California; Belmont, North Carolina; Onandaga County, New York; West Palm Beach, Florida; and Coconut Grove, a neighborhood of Miami, Florida, have incorporated, or are incorporating, the SmartCode in whole or in part into their municipal development ordinances.

### **Entering the Mainstream**

As more communities begin to incorporate New Urbanist and smart growth principles into their planning strategies, the practice of form-based coding is likely to spread.

How much that will happen depends on several factors: the availability of qualified consultants (just a handful of firms now practice true form-based coding); the dissemination of knowledge about the technique (little has been written on the subject, and there are few places to learn about it); and a continuing legal concern about overly prescriptive design guidelines that are often mistaken for form-base codes.

The good news is that one state – California – recently included a strong endorsement of form-based coding in its general plan guidelines. The document refers to the code as a "useful implementation measure for achieving certain general plan goals, such as walkable neighborhoods and mixed-use and transit-oriented development." Last summer, Governor Arnold Schwarzenegger signed Assembly Bill 1268, making California the first state to specifically enable the practice of form-based development regulation.

The bill's language is brief and to the point:

*The text and diagrams in the land use element [of the general plan] that address the location and extent of land uses, and the zoning ordinances that implement these provisions, may also express community intentions regarding urban form and design. These expressions may differentiate neighborhoods, districts, and corridors, provide for a mixture of land uses and housing types within each, and provide specific measures for regulating relationships between buildings and outdoor public areas, including streets.*

One can only hope that Florida, which was the laboratory for the initial development of form-base codes and the principal exporter of the practice, will be quick to follow California's lead. Indeed, if this innovative and promising regulatory approach does become enabled in the state's land-use laws, the visionary concepts of the state's New Urbanist design community will move a giant step closer to implementation.

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