1 / Introduction

Why Form-Based Codes?

WHEN DID WE STOP building neighborhoods where kids can ride their bikes to school? Why can't new subdivisions be more like the older neighborhoods that people love? How can I prevent suburban sprawl from destroying the character of my community and the quality of the natural environment? Why are more urban neighborhoods and small-town downtowns not being revitalized?

These and other related questions are becoming increasingly common across the country. The unfortunate reality is that the primary pattern of land development in the United States for decades has been suburban sprawl. The detrimental impacts of sprawl are becoming clearer and more critical—to our physical and mental health; to our family and community relationships; to the independence of our children, elderly, disabled, and impoverished; and to our environment.¹

At the same time, the quality of our public realm has deteriorated. (The *public realm* is comprised of public open spaces, such as plazas, squares, and parks, and the space created and partly enclosed by the building faces on the opposite sides of a street. This space includes any front setback areas as well as the street right-of-way itself with its traffic lanes, any parking lanes, and sidewalks.) Our towns are not the great places we know are possible, and they often do not foster a sense of civic pride. They lack vibrant centers that promote healthy civic interaction,2 and they lack a sense of place unique to themselves. In addition, the demographics of American households are changing dramatically, creating the demand for more choices in where and how we live.

Unfortunately, as developers have attempted to create projects that respond to these issues and demands, they have encountered obstacles in





Fig. 1.1 Types of places that Form-Based Codes can protect and/or enable

existing zoning codes. And when communities have attempted to rewrite their zoning codes to accommodate these types of projects—or better yet, to require them—they have found conventional zoning techniques inadequate.

Fortunately, an alternative method of land development regulation has been created and is gaining momentum across the country as a powerful tool to effect change in the way our communities are built: The Form-Based Code.

Form-Based Code

A method of regulating development to achieve a specific urban form. Form-Based Codes create a predictable public realm primarily by controlling physical form, with a lesser focus on land use, through city or county regulations.³

A Critical Juncture

For these reasons, planning and zoning in the United States are at a critical juncture, needed to assist in the transition from the sprawling land development patterns of the last century to more compact, mixed-use, and interconnected patterns that can be applied to the creation of new communities, as well the revitalization of existing neighborhoods and town centers.

Form-Based Codes (FBCs) have been developed specifically to empower communities both to enable and to require better development patterns and individual projects. They are a cutting-edge tool for helping improve the quality of our built environment and our communities, as well as for fighting sprawl and all its detrimental effects. (See the sidebar "Linking Form-Based Codes and Sustainability").

And they have begun to show dramatic results: Communities are supporting proposed projects on parcels where there had been opposition for years.⁴ Areas that had been continuously neglected are seeing renewal driven by private investment. Suburban areas are getting vibrant centers that they've never had, and the value of compact mixed-use projects, including those created under FBCs, often increases more quickly than other projects in the same area. In 2003, the sales prices per square foot for attached housing (e.g., condominiums and townhouses) was higher than that of detached housing units for the first time in American history.⁵

Interestingly, those working under implemented FBCs are their biggest proponents: city planners are excited to have a regulatory framework that has a clear intent and is easy to understand and administer; developers and builders are enthusiastic about having clear direction from the new regulations and often a streamlined approval process; and residents and elected officials are delighted to see development creating quality places that build upon the unique characteristics of their communities.

Why This Book?

Because of these dramatic results and the quality projects they are fostering, Form-Based Codes as planning and urban design tools have quickly become accepted and encouraged by professional planning organizations,⁶ builders' associations,⁷ realtors' associations,⁸ health experts, city staff, elected officials, community members, and developers.⁹ As word has spread, the demand for information related to FBCs has grown, but there are currently few available resources and no comprehensive ones.¹⁰

Because of this lack of information as well as the absence of recognized standards, problems are beginning to arise from the misunderstanding of and improper implementation of Form-Based Coding concepts. Mistakes are being made that could easily be avoided. (See *Common Mistakes* in the appendix.) Unfortunately,

the problems with these codes are not likely to be discovered until after the code is completed and the first few project applications are submitted that meet the code's requirements, but not the community's vision.

This book is intended to help prevent these problems by closing the information gap through a holistic look at the latest practices in Form-Based Coding. Based on their study of a wide variety of FBCs and related practices, as well as on personal experience implementing and administering them, the authors assess and describe what has happened to date while beginning to establish a common set of principles and standards for moving the practice of Form-Based Coding forward. They discuss the components of FBCs and the process by which they are created, and they present ten diverse case studies that represent the most advanced applications of this tool. The intention is for readers to use this book as a resource as they participate in the evolution of the practice and application of Form-Based Codes.

The book *Growing Cooler: The Evidence on Urban Development and Climate Change*¹¹ presents compelling evidence that a change to more compact, blended-density, mixed-use development patterns, and a regulatory framework that promotes this type of development, plays a critical role in reducing carbon emissions in the United States.

The direct link between carbon emission and current development patterns is vehicle miles traveled (VMT). The book states that "technological improvements in vehicles and fuels are likely to be offset by continuing, robust growth in VMT," due to current segregated and sprawling development patterns.

However, the authors assert that "smart growth could, by itself reduce the total transportation re-

lated CO_2 emissions from current trends by 7 to 10 percent as of 2050. This reduction is feasible with land-use changes alone." They calculate that shifting 60 percent of new growth to compact patterns could save 85 million metric tons of CO_2 annually.

The study concludes that "the key to substantial greenhouse gas (GHG) reductions is to get all policies, funding, incentives, practices, rules, codes, and regulations... to create the right conditions for smart growth."

The authors of this book would add that because of the effectiveness Form-Based Codes have shown in facilitating smart growth, they are a powerful tool for achieving these goals of sustainable patterns of growth and development. Linking Form-Based Codes and Sustainability

A Brief History of Zoning

FORM-BASED CODES (FBCs) are radically revising the historical trajectory of zoning in the United States. A profound departure from the land-use zoning of the twentieth century, FBCs have significant social, cultural, economic, and environmental implications. In order to understand why FBCs are now needed, we must look briefly (very briefly) at the history of conventional zoning in the United States, the damage to American cities it has caused, and why, absent visionary and heroic zoning administration, it was incapable of producing any other outcome.

The nearly 100-year history of land-use zoning in the United States has seen a variety of evolutionary changes in the intent and scope of municipal development regulations. The initial measures of regulation in the early twentieth century were based on the authority of cities to exercise their police power (i.e., the protec-

tion of public health, safety, and welfare). Thus, the earliest regulations were intended to avoid or minimize the worst consequences of uncontrolled development and noxious land uses.

Cities began the process that has evolved into current American zoning practice by initially requiring the separation of buildings to limit the spread of fire and provide access to sunlight and air. They later limited building height to the reach of local firefighting equipment. They separated smoke-producing industry from residential uses. They isolated single-family homes from all other types of development. Eventually the practice of separating "incompatible" land uses led to a near universal segregation of each primary land-use type from others; and cities characterized by residential uses in one area, commercial in another, and industrial in still another became commonplace.

The first example of land-use zoning regulating the future use of property was in Los Angeles in 1904, while the first examples of exclusive single-family residential zones were in both Berkeley and New York City in 1916. These first instances of land-use segregation were rationalized by the concept that certain land uses function compatibly and synergistically in proximity with one another, that others do not, and that the latter must be kept physically separate from uses with which they may conflict. However, it was often the case that original efforts to segregate land uses were more the result of elitist attempts to protect property values and exclude "undesirables" from certain areas of cities. (See the sidebar "No Garment Lofts on Fifth Avenue.")

The initial creation of exclusive single-family zones was also a product of the widespread perception at the time that multifamily housing was inherently substandard and undesirable. This public bias that has lingered for decades was even reinforced by the 1926 U.S. Supreme Court case, *Village of Euclid v. Ambler Realty Company* (272 U.S. 365), which otherwise validated the constitutionality of comprehensive zoning, and eventually led to the coining of the term "Euclidean zoning."

In *The Creative Destruction of Manhattan, 1900—1940* (University of Chicago Press, 2001), Max Page reviewed the process by which the Fifth Avenue Association pursued the process of convincing New York City to segregate certain land uses on Fifth Avenue by prohibiting garment lofts, because of their detrimental effects on the "high class stores" along the avenue.

"In a long statement to the Fifth Avenue Commission in 1913, the Fifth Avenue Association's lawyer, Bruce Falconer, argued that lofts 'have practically ruined that part of the Avenue' between 14th and 23rd

With particular reference to apartment houses, it is pointed out that the development of detached house sections is greatly retarded by the coming of apartment houses, which has sometimes resulted in destroying the entire section for private house purposes; that in such sections very often the apartment house is a mere parasite, constructed in order to take advantage of the open spaces and attractive surroundings created by the residential character of the district. Moreover, the coming of one apartment house is followed by others, interfering by their height and bulk with the free circulation of air and monopolizing the rays of the sun which otherwise would fall upon the smaller homes, and bringing, as their necessary accompaniments, the disturbing noises incident to increased traffic and business, and the occupation, by means of moving and parked automobiles, of larger portions of the streets, thus detracting from their safety and depriving children of the privilege of quiet and open spaces for play, enjoyed by those in more favored localities—until, finally, the residential character of the neighborhood and its desirability as a place of detached residences are utterly destroyed. Under these circumstances, apartment houses, which in a different environment would be not only entirely unobjectionable but highly desirable, come very near to being nuisances.

Streets. They 'have utterly changed its former high-class character, and have had a derogatory effect upon the entire neighborhood': 'These buildings are crowded with hundreds and thousands of garment workers and operators who swarm down upon the Avenue for the lunch hour between 12 and 1 o'clock. They stand upon or move slowly along the sidewalks and choke them up. Pedestrians thread their way through the crowds as best they may.' The influx of immigrant workers, claims Falconer, had frightened away women shoppers, depressed property values, and encouraged an exodus of 'high-class shops and stores.'"

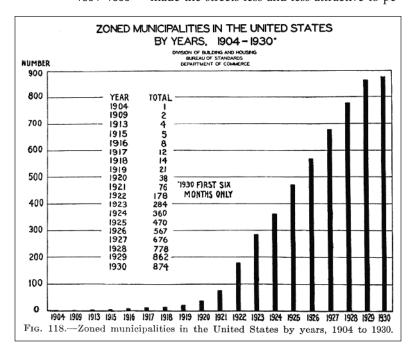
No Garment Lofts on Fifth Avenue

Conventional Zoning Unleashed

The adverse impacts of early zoning regulations were not fully realized until the 1950s, a period of rapid economic and housing growth, which began to highlight the shortcomings of the segregation of land uses. The condition now called sprawl began when the parents of the baby boomers returned from World War II and created an unprecedented demand for housing (with the single-family home being the common dream), in the context of a zoning system that entirely separated workplaces and shopping from exclusively residential areas.

The segregation of uses inevitably required travel between them, and the dominance of single-family housing in expansive, decentralized residential areas inevitably consumed large amounts of land while increasing travel distances and making the provision of public transportation more expensive and inefficient. The cost and lack of interest in public transit in an auto-dominated society then progressively led to public streets being designed to accommodate ever-increasing traffic volumes, which made the streets less and less attractive to pe-

Fig. 1.2 Zoned municipalities in the United States from 1904–1930



destrians for walking (as if there were anything useful within walking distance).

Stating these facts is not to suggest that any were accidental. They were understood at the time, and intended, though many communities have been reevaluating their desirability since the 1980s. It is important to note that these development patterns are also a product of a planning process larger than that of drafting a zoning code, typically involving the preparation and maintenance of a "comprehensive plan," which can set the stage for a code that either facilitates sprawl or produces smart growth.

Attempted "Band-Aids"

As the problems of conventional zoning became more apparent over time, various modifications were implemented to try and make it work better. Ultimately the additional layers of "fixes" complicated the system even further. In the 1960s and 1970s, "Performance Zoning" was developed to provide increased flexibility in the number and types of land uses allowed in various zones by focusing on their effects on their surroundings and adjacent land uses as a basis for determining whether they could be allowed in specific zones. In the same time period, "Incentive-Based Zoning" was introduced to more gently "encourage" developers to develop specific uses in particular locations where they would be of advantage to the city, and in return developers would be provided "incentives" in the form of increases in allowed residential density, building height, Floor-Area Ratios (FAR), or lot coverage. These modifications to the regulatory system were applied in limited situations and ultimately did not make municipal development management work more efficiently for the wide range of development project types that were being proposed.

Beginning in the 1980s, many conventional code updates across the country focused on

simplifying and clarifying zoning regulations, as well as reconsidering the restrictive segregation of uses that had characterized most zoning practice up to that point. So, many seemingly endless lists of permitted and conditional uses were replaced with more concise tables and matrices that instead identified fewer "generic" land-use types (for example, "general retail" often replaced a lengthy recital of specific types of retail stores and products). At the same time, the intent of specific zones with respect to the full complement of uses they allowed was often reconsidered, and a less restrictive, broader mix of uses was introduced, sometimes even allowing a mix of commercial and residential uses.

While these Band-Aids have attempted to fix the system, they have had limited success, and many communities remain dissatisfied with the character and quality of the places that conventional zoning has fostered (or as often, their lack of character and quality). In addition, zoning today is expected to accomplish much more. Some communities want zoning regulations that will help revitalize downtowns, create economically vital commercial areas that attract pedestrians, or otherwise facilitate development that embodies "smart growth" and "sustainability." Still others need more effective tools to help protect the existing character and quality of particular places. Many communities need to accommodate higher residential densities to increase housing supplies when land resources are limited, and must address citizen opposition to multifamily housing developments based on claims that they will cause neighborhood deterioration. But when communities have attempted to address these issues, the tools of conventional zoning have often proven inadequate.

A New Alternative Emerges

While public agency planners were beginning to streamline conventional zoning codes in the

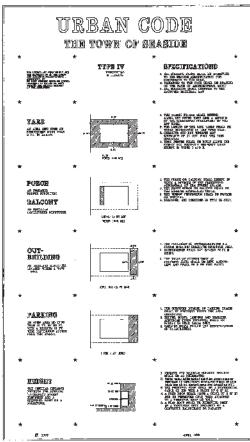


Fig. 1.3 Building Type IV regulations from the Form-Based Code for Seaside, Florida, by Duany Plater-Zyberk (Image © Duany Plater-Zyberk & Company)

1980s, a group of town planners and architects dedicated to revitalizing and promoting walkable, mixed-use, sustainable communities as described in the principles of Smart Growth and the Charter of the New Urbanism worked both individually and collaboratively to formulate, test, and refine an alternative to conventional zoning. This alternative approach began to look at communities more in terms of variations in the scale and intensity of development than in differences in land uses, and its advocates proposed a complete overhaul of the existing zoning system.

The first "on the ground" examples of the new approach were seen in the Southeast, and in the West soon after. The Development Code for Seaside, Florida, drafted by Duany Plater-Zyberk in 1981, was one of the first modern-day applications of Form-Based Coding. (See Figure 1.3.) It regulated development for Seaside with a catalog of building types that were tied

10

to specific lots on the plan. The entire code was graphically presented on one poster. Over the course of the 1980s and into the early 1990s, several cities and counties adopted Form-Based Codes in the form of Traditional Neighborhood Development (TND) ordinances, including Key West and Dade County, Florida, and Belmont, North Carolina.

As the turn of the century arrived, the practice of Form-Based Coding continued to advance and its regulatory approach began to be extended to existing developed areas, as well as new project "greenfield" areas. Milestones included the adoption in 1998 of the City of Sonoma Development Code, prepared by Paul C. Crawford and Moule & Polyzoides, with Bruce Jacobson, Ron Pflugrath, and the City of Sonoma's Community Development Director, David Goodi-

son; the release of the first version of the Smart-Code by Duany Plater-Zyberk & Company in 2000; and the adoption of the Central Hercules Code, prepared by Dover, Kohl and Partners, by Hercules, California, in 2001.

Some of these codes regulated what types and scales of buildings were appropriate in certain areas rather than in others. They also typically coordinated standards for thoroughfares (numbers and widths of traffic lanes, width and land-scaping of sidewalks, and so on) with those for building form. This alternative approach to coding was referred to by different names, including "traditional neighborhood development (TND) ordinances" and "form codes," but in 2001, Chicago consultant Carol Wyant coined the term *Form-Based Codes*, which has been the common name since.

The Form-Based Codes Institute

The Form-Based Codes Institute (FBCI) was established in 2004 by Peter Katz, author of *The New Urbanism*, together with Carol Wyant, and 15 other New Urbanist architects, planners, and attorneys, all Form-Based Coding practitioners who collectively serve as the FBCI board of directors. The intent of the FBCI is to define Form-Based Coding, to establish best-practice standards, and to advance the practice of Form-Based Codes (FBCs) as a means of providing a regulatory framework for sustainable development. The founding board also included the authors of this book, as well as Victor Dover, Andrés Duany, Geoffrey Ferrell, Joe Kohl, Mary Madden, Stephen Mouzon, Stefanos Polyzoides, Samuel Poole, Steve Price, Robert Sitkowski, Daniel Slone, and Bill Spikowski.

A nonprofit corporation, FBCI has received continuing financial support from the Richard H. Driehaus Foundation. Since its formation, FBCI has developed and taught a series of three professional development courses on the preparation, adoption, and administration of FBCs. The FBCI board members have served as volunteer faculty, and the courses have been hosted by the Virginia Institute of Technology, Rutgers University, and Arizona State University at different venues around the country. More information, including a checklist for identifying FBCs and a sample Request for Qualifications (RFQ) to find consultants to prepare an FBC, can be found on the FBCI Web site, www.formbasedcodes.org.

A New Approach

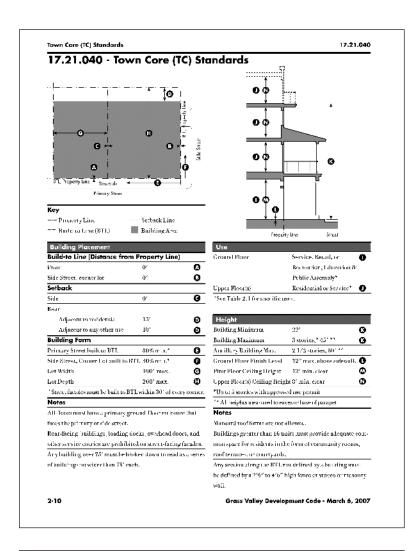
FORM-BASED CODES are turning a page in zoning history with their new approach to development regulation. They differ from conventional zoning codes in terms of the process by which they are prepared, the substance of the standards they contain, the mechanisms by which they are implemented, and the built form they produce. (See the table on page 13.)

Form-Based Codes are vision-based and prescriptive, requiring that all development work together to create the place envisioned by the community. This requires that the community create a detailed vision at the start of the coding process and then draft and administer the FBC to enforce that vision, an inherently proactive process. While conventional zoning practices sometimes incorporate visioning processes, that visioning work is typically at a macro level scale, lacking a discussion of the details necessary to envision and implement a great place.

FBCs are holistic, addressing both private and public space design to create a whole place, including buildings, streets, sidewalks, parks, and parking. They regulate private development for the impact it has on the public realm.

FBCs are place-based, building upon and enhancing the unique characteristics of the community and region. To accomplish this, they are inherently customizable, able to regulate a specific, unique vision for each place.

Form-Based Codes are based on spatial organizing principles, such as the rural-to-urban transect, that identify and reinforce an urban hierarchy. (See more about the transect and other organizing principles in the section on Regulating Plans in Chapter 2.) Envisioning and regulating places in this way enable a sense of continuity throughout the community with smooth and often imperceptible transitions be-



Potential Uses for Form-Based Codes

Form-Based Codes can be used to implement:

- Complete Zoning and Development Code Updates
- 2. Downtown Master Plans
- 3. Corridor Revitalization Plans
- 4. Neighborhood Revitalization Plans
- 5. Specific Plan Development Standards
- 6. Regional Plan Implementation
- 7. Comprehensive Plan Implementation
- 8. Historic Resource Preservation Planning
- 9. Transit Village Implementation
- 10. Land Conservation through Clustered, Hamlet-Style Development
- 11. Greyfield Redevelopment
- 12. Campus Master Planning
- 13. University/Community Interface Plans
- 14. Subdivision Ordinances

tween regulatory zones rather than the hardedge separation and buffering between singleuse zones that is common in places regulated by conventional zoning codes.

Form-Based Codes regulate the details that are most important for the successful implementation of walkable, human-scaled neighborhoods, focusing primarily on urban form, while also addressing use and other necessary factors. These details include certain aspects of the buildings as they form the walls of the public space, including their placement, height, width, and the particular way they interact with the public space (called the "frontage"). They also include the design and layout of streets and blocks, typically requiring narrower streets laid out in an interconnected, gridded network to accommodate pedestrians and bicyclists, as well as automobiles and transit. FBCs regulate the location of parking to create beneficial impacts, such as protecting pedestrians from moving traffic, while minimizing negative impacts, and they regulate an appropriate mix of compatible uses and building types, enabling diverse, vibrant places.

Finally, because they regulate these details to the level necessary to ensure adherence to the community's vision, FBCs can also provide a streamlined development review and approval process requiring little or no subjective review, thus encouraging appropriate development.

Yet, while FBCs differ radically from conventional zoning in many ways, they are similar in a few ways. FBCs also isolate noxious uses, such as heavy manufacturing and airports, and they generally only regulate private buildings as they affect the public good, leaving plenty of room for individual tastes and styles. As necessary, they may also contain provisions similar to conventional zoning for such issues as nonconforming uses and affordable housing.

With their new approach to development regulation, Form-Based Codes have the potential to change the human habitat substantially by providing communities with a tool that can help reinforce their local character and culture; revitalize and encourage reinvestment in urban, historic neighborhoods and town centers; and promote the creation of compact, walkable neighborhoods. FBCs can also play an important role in promoting sustainable planning practices by supporting and regulating development patterns that respond to global climate change and the destruction of our environment.

Scope of This Book

This book is laid out in three primary sections: Components (Chapter 2), Process (Chapter 3), and Case Studies (Chapter 4). The components chapter introduces and defines the elements of an FBC and explains why each is important. The process chapter gives a thorough overview of the FBC process from start to postadoption implementation, with the overall process and each of the subprocesses represented in diagrams and supporting graphics. The case studies present a diverse set of FBCs to demon-



strate the wide variety of possible applications and provide examples of current best practices. At the end of the book, there are a series of appendices to provide additional information, such as a list of references, a timeline of Form-Based Coding, and a series of common mistakes to avoid.

Form-Based Coding inherently involves urban design and a public visioning process, but it is not feasible to cover all three topics in depth in one book. (See the sidebar "Form-Based Codes in Context.") The urban design details in this book focus on enabling walkable, mixeduse, sustainable communities from small, rural towns to large, urban cities—the basic te-

Fig. 1.4 (Far left)
Regulations for the form, placement, and use of buildings from the Grass Valley FBC by Opticos Design and Crawford, Multari & Clark Associates

Fig. 1.5 (Above) FBCs address the public realm as a whole, regulating the design of the thoroughfares as well as the placement and form of buildings as the walls of the public space. (Image from the Sarasota County FBC by Dover, Kohl & Partners and Spikowski Planning Associates)

Conventional Planning and Zoning Codes	Form-Based Codes	
Auto-oriented, segregated land-use planning principles	Mixed use, walkable, compact development- oriented principles	
Organized around single-use zones	Based on spatial organizing principles that identify and reinforce an urban hierarchy, such as the rural- to-urban transect	
Use is primary	Physical form and character are primary, with secondary attention to use	
Reactive to individual development proposals	Proactive community visioning	
Proscriptive regulations, regulating what is not permitted, as well as unpredictable numeric parameters, like density and FAR	Prescriptive regulations, describing what is required, such as build-to lines and combined min/max building heights	
Regulates to create buildings	Regulates to create places	

nets of the New Urbanism and Smart Growth movements, which the authors all strongly advocate. An effective public process is necessary to create and build support for the community's vision, as well as the FBC that will facilitate it. This book discusses some details of urban design and the public process, but only to the extent that they are necessary to understand Form-Based Coding. Suggested books and articles about New Urbanism, Smart Growth, and public visioning processes are listed among the references in the appendix.

Form-Based Codes in Context

by Peter KatzPresident, Form-Based

Codes Institute

Form-Based Codes are increasingly seen as a regulatory tool that could make planners' lives easier. Indeed, they have been linked to breakthrough successes in some of the toughest planning projects in the country. And while the successes are real, the news reports haven't been telling the full story.

The most important piece of missing information is that Form-Based Codes do not work on their own. They are embedded in a suite of best practices that also includes high-quality urban design—a compelling plan, in other words—and a participatory planning methodology known as the "charrette process." Together, these linked practices form a kind of "virtuous circle" that I've come to associate with successful planning outcomes.

The process works in the following way:

During the first few days of a charrette, citizens are shown startling new visions of their community that bear little resemblance to what is there now. On first viewing, they're often taken aback. But as citizens begin to consider new possibilities, they start to wonder whether they really could have that beautiful public square or the new branch library like the one shown in the design team's renderings. And while such musings are interspersed with fears of increased density and related impacts, community members frequently come to support, and feel a sense of ownership of, ambitious growth proposals that include the features they most want in their neighborhood.

Once accepted, however, citizens again become skeptical as to whether the stunning images they're seeing could ever be realized. After all, most have seen renderings of grand plans that never got off the ground. In cases where something did get built, the final results may not have measured up to expectations generated by the initial renderings.

Form-Based Codes help to allay such concerns. The codes work best when they are developed in draft form during the multiday charrette. Presenting the proposed ordinance alongside the team's renderings brings increased confidence that what is drawn might actually be built. Furthermore, by riding the wave of enthusiasm that often accompanies the charrette process, the form-based ordinances can be written into law much more quickly, thus minimizing the inevitable watering-down process that can severely compromise a worthy development plan.

Finally, the greater precision of the Form-Based Code and the hands-on involvement of the "town architect" lead to more predictable implementation of the plan. With this step, the virtuous circle closes and gains strength as it repeats itself: a positive development experience gives citizens greater confidence in local government's ability to guide future growth and to keep private interests aligned with the goals of the community. That trust empowers local government to take on new planning challenges, knowing that there is a high probability of future success to justify their ongoing investment of time, money, and political capital.