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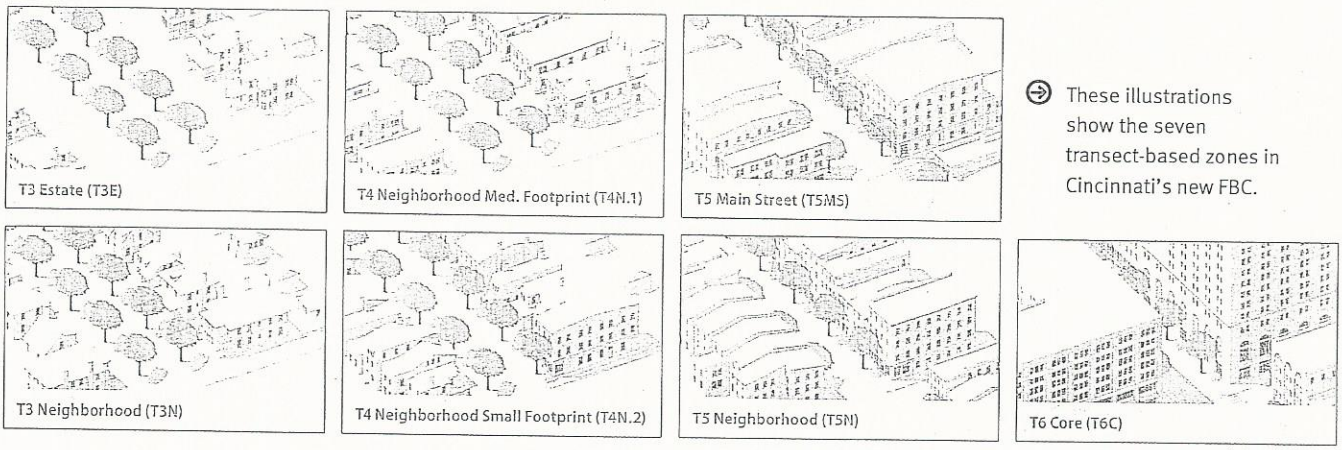
PRACTICE FORM-BASED ZONING

Avoiding Common Form-Based Code Mistakes, Part 1

By Daniel Parolek



These illustrations show the seven transect-based zones in Cincinnati's new FBC.

Opticos Design, Inc.

Most cities have a broken zoning system that is not delivering the type of development they want or need to be able to respond to shifting market demands for walkable urban places or other trends that will enable them to compete as 21st century cities or regions. As Rouse and Zobl explained in the May 2004 issue of *Zoning Practice*, there are two fundamental problems with Euclidean zoning: (1) separating uses and limiting density has led to excessive land consumption and (2) proscriptive development standards have proven ineffective in protecting traditional urban neighborhoods from incompatible development. Consequently, it's no surprise that a growing number of communities have expressed interest in the form-based code (FBC) as a potential solution to the problems posed by conventional, Euclidean, zoning.

While form-based coding was conceptualized as a comprehensive, communitywide approach to regulating the form of development in a city or region, at the time of Rouse and Zobl's article, most FBCs applied only to specific neighborhoods or districts. The good news is that the theory has now been proven in practice.

Since 2004, citywide FBCs have spread rapidly to large cities like Miami and Denver; medium-sized cities like Cincinnati; towns like Flagstaff, Arizona, and Livermore, California; and even small rural communities like Kingsburg, California. At the county level, Lee, North St. Lucie, and Sarasota counties in Florida have all adopted FBCs, and Beaufort County, South Carolina, and Kauai County (the entire island), Hawaii, are currently working on new codes. Even in the sprawling Phoenix region, Mesa, Arizona, has adopted a FBC to prepare its downtown to capture the transformative potential of transit, and Phoenix is about to embark on an FBC effort after an early failed attempt. In fact, as of November 2012, there were more than 250 adopted FBCs across the country, with 82 percent adopted since 2003 (Borys and Talen).

Most cities have a broken zoning system that is not delivering the type of development they want or need.

In this same period, the proliferation of articles on form-based coding in trade publications such as *Urban Land*, *The Urban Lawyer*, *Economic Development Journal*, and *Builder* testifies to spreading interest among developers, land-use attorneys, economic development professionals, and home builders. In 2004, a group of early form-based coding practitioners and advocates founded the Form-Based Codes Institute to promote best practices and expand awareness, and the first comprehensive book on the topic, *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers*, appeared in 2008.

The flip side of this wave of adoptions is that many cities have experienced ineffective or failed past attempts at form-based coding. There are two primary reasons for this. First, there is a shortage of practitioners who can do form-based coding well. The combination of technical zoning knowledge and understanding of how to write effective regulations—combined with the need for strong urban design skills that enables the FBC writer to understand what makes a community unique, what will make it better, and what built results the code writing will influence—is not a common set of skills taught to planners or architects. Second, many cities do not have the knowledge to know what to ask for or demand of their consultants in a form-based coding process. An estimated half of the cities asking for FBCs are simply getting "user-friendly" updates that do not address the core problems in the code.

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About the Author

Daniel Parolek is coauthor of the first comprehensive book on FBCs, *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers*. He is a founding board member of the Form-Based Codes Institute, and founding principal of Opticos Design, Inc., a California Benefit Corporation. Opticos's recent and current form-based coding work includes a citywide FBC for Cincinnati, Ohio, FBCs for downtown Mesa, Arizona, and three major commercial corridors in Richmond, California, and a SmartCode update for Petaluma, California's SMART Station Area.

Fortunately, this is changing as senior planning staff members learn more about the best practices of form-based coding, schools begin to teach more courses in smart growth planning and form-based coding, and people continue to educate themselves on these topics.

The form-based coding approach and methodology presented in the articles mentioned above represent a paradigm shift in the way we write zoning codes, not just an attempt to add an additional layer of form-based regulations on a use-based system. The intent of this two-part series is to give communities the knowledge to know what to ask for and what to request of their consultants, and for consultants to understand how to select the most effective form-based code approach. These two articles will address common form-based coding misconceptions and highlight common mistakes to avoid based on up-to-date best practice standards learned from the most recent applications. They will also compare different approaches for regulating urban form and give them appropriate labels so they are not confused or used interchangeably.

COMMON MISCONCEPTIONS

Even with the growing application of FBCs to neighborhoods, cities, and regions across the country, many communities remain hesitant to embrace form-based coding. Undoubtedly, some of this hesitation is rooted in common misconceptions related to FBCs.

Form-Based Codes Are Relatively Untested

Contrary to popular belief, FBCs have been tested in the marketplace. Here are statistics from just two projects to summarize the potential economic benefits of an FBC. First, along the Columbia Pike corridor in Arlington County, Virginia, more than 1,300 units and almost 250,000 square feet of nonresidential space have been built in eight different projects with complex infill conditions under the Columbia Pike Form-Based Code since its adoption in 2004. Second, from 2005 to 2008, the taxable value of properties subject to FBCs in Nashville, Tennessee, increased in value by an average of 75 percent and one area, Ridgeview, showed a 2,000 percent increase in value. This was compared to a 27 percent increase in value in

COMPONENTS OF A FORM-BASED CODE

Communities should analyze how effective the entire FBC system, not its individual components, is for responding to planning trends and goals. FBCs are more than just mixed use zoning districts. Here is an overview of standard and optional components:

- **Building Form Standards:** Building form standards are form-based zone standards that replace the existing zone standards. They are the core component of an FBC and typically regulate the configuration, features, and functions (uses) for buildings that define and shape the public realm. To be the most effective, their content should be generated primarily by community character documentation as opposed to the preexisting zone standards for each area.
- **Regulating Plan:** A regulating plan is the map assigning the code's various standards to physical locations, including the form-based zone standards. It replaces the zoning map in a form-based code. In a citywide form-based code it is the same as the zoning map and will have form-based and non-form-based zones on it. It is usually applied in a more fine-grained manner than a zoning map, taking existing and intended form into account.
- **Frontage Type Standards:** Frontage type standards regulate the appropriate transition from the private realm to the public realm. The ultimate intent of frontage standards is to ensure, after a building is located correctly, that its interface with the public realm and the transition between the two are detailed appropriately.
- **Public Space Standards:** Public space standards are specifications for the elements within the public realm, including thoroughfares and civic spaces. Thoroughfare standards incorporate detailed requirements for sidewalk, parking lane, and travel lane widths and street tree locations. Civic space standards regulate parameters, such as maximum and minimum size, and introduce a range of nonsuburban civic space types into a city or town.
- **Building Type Standards:** Many FBCs include building type standards that are supplemental to the building form standards. They introduce an appropriate range of building types that are allowed within each form-based zone and regulate form characteristics specific to each type. To be effectively regulated, especially when applied at a larger scale, building type standards should be tied back directly to zone standards.

areas not subject to a FBC. Keep in mind this construction and the property value increase took place, in part, during one of the largest economic recessions in this country's history. Has this gotten your attention yet?

Form-Based Codes Are for Greenfields

While it is true that modern form-based coding was pioneered by the planners of Seaside, Florida, 30 years ago, FBCs have since proven to be an effective tool for regulating complex urban environments. For the past 10 to 15 years, the practice of form-based coding has focused on replacing existing zoning in existing urban environments. This can be seen in the examples introduced above and the growing list of non-greenfield FBCs (Borys and Talen 2012).

FBCs Are Just Guidelines

An effective FBC replaces the existing zoning and eliminates the need for guidelines. See the section below that compares different approaches to regulating urban form.

Form-Based Coding Is Too Complicated

Form-based coding is sometimes seen as being too complicated because the practice is relatively new and not well understood. Unlike conventional zoning, it integrates urban design as an integral part of the coding process. From a procedural perspective, applying a FBC is not any more complicated than a typical rezoning, but writing a successful FBC does require a different skill set than a conventional zoning ordinance. The FBC process engages the community, builds upon the unique characteristics that communities value, and, in the end, is a document that anyone can pick up and easily understand and use. If the task of applying FBCs seems daunting, start small and let it spread.

Form-Based Coding Is a Boilerplate Approach

Often this misconception originates from inappropriate use of the SmartCode template. The SmartCode is a free model FBC created by Duany Plater Zyberk & Company, and while it is true that many communities have adopted FBCs based on the SmartCode, the code's authors never intended a community to adopt it in whole or in part without first calibrating it to a specific local context. Furthermore, many FBCs are not rooted in the SmartCode at all.

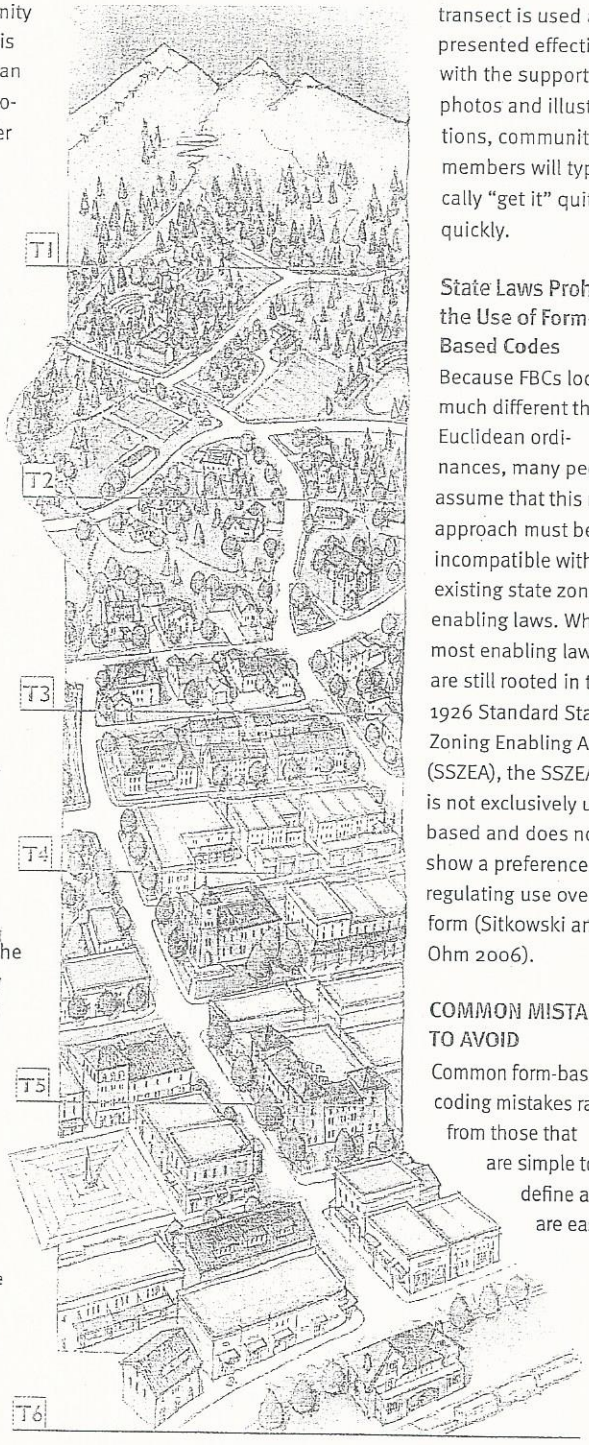
In reality, the extensive community character documentation and analysis phase completed in a FBC process is often far more extensive than any community character assessment that is typically done for a Euclidean code, and this extensive process enables the code writer to extract the unique DNA from a community's urban form and make that the basis for the framework and regulations within the code. This documentation, analysis, and calibration stage will be summarized in part two of this series next month and is discussed comprehensively in *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers*.

Form-Based Codes Do Not Regulate Use

While form-based coding uses form rather than use for its framework or organizing principle, FBCs are not silent on use and do include use tables. The use regulations simply become tertiary to the form standards instead of being the primary regulation, and they are simplified and vetted by the code writer so as not to compromise the intent of the FBC. The approach to use tables within FBCs will also be discussed in more detail next month.

The Urban-to-Rural Transect Is Not an Effective Organizing Principle

The primary misconception about the urban-to-rural transect is that it is too simplistic to capture the variety present in complex built environments. In reality, applications in Miami; Cincinnati; Mesa; El Paso, Texas; Birmingham, Alabama; and the code in progress for Beaufort County, South Carolina, clearly illustrate the complexity and effectiveness of the transect as a zoning tool and its ability to reinforce unique characteristics and patterns of a wide range of places. If the transect is used and presented effectively, with the support of photos and illustrations, community members will typically "get it" quite quickly.



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This illustration of Flagstaff, Arizona's transect illustrates different contexts in the city that became the basis for its form-based zones.

State Laws Prohibit the Use of Form-Based Codes

Because FBCs look much different than Euclidean ordinances, many people assume that this new approach must be incompatible with existing state zoning enabling laws. While most enabling laws are still rooted in the 1926 Standard State Zoning Enabling Act (SSZEA), the SSZEA is not exclusively use based and does not show a preference for regulating use over form (Sitkowski and Ohm 2006).

COMMON MISTAKES TO AVOID

Common form-based coding mistakes range from those that are simple to define and are easily

corrected, to those that are more technical and relate to overall approach and methodology, and thus take more thought to carefully address. A group of these common mistakes, both easy and technical, are addressed in this issue, but the list will be continued next month in part two.

Using FBCs to Regulate Suburban Contexts

The primary intent of form-based coding is to effectively regulate walkable urban areas. When you try to use them to regulate drivable suburban areas (i.e., areas that are intended to remain drivable suburban areas) this will compromise the clarity and effectiveness of the code and possibly raise false expectations. This means that in a citywide application you will typically have a form-based system in place to regulate walkable urban or desired walkable urban areas (i.e., sprawl repair or greenfield development) and a refined Euclidean system to regulate drivable suburban areas effectively. In essence, this is the key to an effective hybrid code.

Confusing Other, Less Effective Zoning Approaches with Form-Based Coding

Because the practice of form-based coding is still relatively new and represents a major change in the methodology of zoning, it is often hard for communities to know what to ask for or what to look for in a consultant's experience. In addition, because form-based coding seems to be the latest "buzz" in zoning practice, almost every code project is being labeled form-based zoning or form-based coding, which threatens to distort and dilute the meaning of the concept. For example, FBCs are not design guidelines or graphical representations of existing Euclidean standards. And FBCs are not synonymous with any zoning district or ordinance that enables a mix of uses. (See table on pages 6 and 7.)

DISTINGUISHING AMONG DIFFERENT ZONING APPROACHES

The information below and the table supporting this article are intended to clarify and classify different zoning approaches to prevent further confusion about what an FBC is and to enable comparison for cities and code writers alike. These are generally organized from least to most comprehensive and effective.

Adding Graphics to an Otherwise Conventional, Use-Based Code

An FBC is not simply a conventional code with graphics added to it. Even though taking this step can make a document a bit easier to use and understand, it does not address the core problems that are inherent in almost every existing zoning code, which is their inability to effectively regulate urban form. Taking this step often confuses users because they think they are using a new code and then get frustrated when they realize the core problems have not been addressed. This is not a recommended approach.

Adding Design Guidelines Without Changing Base Zoning Districts

In this approach, the code writer is simply adding another layer of regulations or policy direction (depending upon how they are adopted) but not addressing the problems inherent in the existing zoning code, and when completed, the guidelines often conflict with the zoning standards, making it difficult to administer and confusing to users. Simply said, adding this additional layer of regulation decreases clarity and predictability. Meanwhile, a well-written FBC incorporates the elements that, in a Euclidean system, might historically be included in site planning guidelines and makes them integral to the zoning code.

Adding Mixed Use Districts to an Otherwise Conventional Use-Based Code

Starting in the mid- to late-1990s many communities added mixed use districts to their existing zoning codes in an attempt to make walkable, urban development easier and to facilitate neighborhood revitalization. The problem was that, in too many cases, these districts included proscriptive numerical dimensional standards and did not signal a clear intent on form. Furthermore, other suburban-oriented regulations in the code, such as parking and landscaping requirements, compromised the end result of these districts or limited their use by developers.

Reorganizing the Code and Adding Graphics

This method takes the first approach one step further by cleaning up administration and procedures and restructuring the code organization, in addition to adding graphics. This will make a code much easier to understand, but it is still not addressing the core problem of suburban DNA and tendencies of a code to incentivize auto-dependent development. Use is still the organizing principle. The first few projects will likely provide disappointing results after such a large coding effort. Such results only reinforce the misconception that built form cannot be regulated effectively and is best addressed in arbitrary design review meetings.

Integrating a Complete FBC Into an Otherwise Use-Based Code

This is an excellent approach when you do not have the budget or are not in a good position to do a complete code rewrite. This approach puts a framework in place for targeted application of a complete FBC, and if it is done correctly, it can grow to cover other parts of a city as the budget, political will, or other factors enable it. An example is Mesa's parallel FBC, which was written for initial application to its downtown to respond to the implementation of light rail but done in a way that could either be used by the city in future planning and coding efforts or by property owners of larger sites that met a certain set of criteria, such as a large grayfield site. What is often not understood about this approach is that it is not simply adding some new form-based standards or form-based zones but rather creating a complete, parallel code within an existing zoning code.

To be most effective, the FBC should be mandatory, replacing the zoning for one or more

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mapped districts. In states with strong private property rights concerns, a mandatory FBC effort may be politically infeasible. When a mandatory code is not possible, an optional FBC overlay may still be an effective alternative. In this approach, property owners have an option of developing under conventional zoning or under the FBC. At first glance, this may seem similar to a planned development district, but unlike a planned development, the FBC is mapped to one or more areas and does not require a rezoning. The future of these areas has been predetermined by the visioning and coding process and is not subject to site-by-site negotiation. The Columbia Pike FBC is an excellent example of this optional overlay approach.

Using Form as an Organizing Principle for the Zoning Code

This is the most comprehensive approach and, when done well, the most effective approach to form-based coding. In this approach, the table of contents of the code document is structured with a form-first philosophy. Every provision from the preexisting code is vetted for its applicability to the form-first operating system before it is transferred so that it does not compromise the intent. All regulations, including parking, landscaping, lighting, and signage, relate to context rather than to a specific use. This approach is perfect for a community that has made a strong commitment to promote smarter, more sustainable growth, transit-oriented development, or simply non-auto-dependent development that reinforces its unique character.

Miami 21, the citywide code for Miami, which received APA's 2011 National Planning Excellence for Best Practice award, is the most comprehensive application of this approach to date. Most of the city of is mapped with form-based zones. This was possible because a majority of the city is urban in character, and the process had strong support from then-Mayor Manny Diaz.

Livermore, California, used this approach to make infill a priority and to reinforce its commitment to promoting redevelopment. Even though the form-based zones were only mapped on a limited basis in Livermore, the system was in place to default to walkable urban development instead of making it the exception, reinforcing the city's smart growth policies and allowing the FBC to spread geographically in the future without any major changes or additional work on the code.

Flagstaff, Arizona, also used form as the organizing principle for its new code. Flagstaff's process replaced a problematic performance-based system that had a primary objective of protecting natural resources with a form-based approach that promotes appropriate urbanism, while still protecting natural resources.

This approach can work effectively in small towns as well. For example, Kingsburg, California, is an agricultural community in California's Central Valley with a population of approximately 11,500 people. It adopted this approach successfully within its zoning code to preserve its small-town character.

In the cases of Livermore, Flagstaff, and Kingsburg, the suburban parts of the city, where there was no intent to change them, is still mapped with used-based zones; these zones reside on the map next to form-based zones. In addition, the cleaned-up use-based regulations reside next to the form-based regulations in the code. If the city decides to transform these suburban areas into walk-

LESS COMPREHENSIVE & EFFECTIVE ▲ — MORE COMPREHENSIVE & EFFECTIVE ▼

Typical Approaches to Zoning Urban Form (from least to most effective)	What Should this Approach be Called?	Organizing Principle	New Components Created and Included
1. Adding graphics to a Euclidean, use-based code	Graphics-Based Code	Use	Primarily additional graphics and tables, content has minor changes only
2. Adding design guidelines/ site planning guidelines to a Euclidean, use-based code	Design Guidelines or Design Standards	Use	Components similar to FBC components may be created, but they do not replace the cod so they may not be as carefully vetted and may create conflicts within the zoning code
3. Adding mixed use zones to a Euclidean, use-based code	Targeted Mixed Use Zone Application	Use typically, sometimes form	New base zones and zone standards only
4. Adding graphics, reorganizing code, cleaning up administration, and minor changes to development standards	Code Clean Up and Re-organization	Use	Mostly just translating existing information into tables and creating drawings to support existing code information
5. Optional Form-Based Code overlay	Form-Based Code Overlay	Form	All typical FBC elements included, process rethought for FBC application
6. Integrating a complete form-based code within a preexisting zoning code	Parallel Form-Based Code	Form for FBC section, use for the rest of the preexisting code	All typical FBC elements included, process and all general standards (parking, landscaping etc.) rethought for FBC application
7. Using form as an organizing principle for the entire zoning code and using form-based code components as the driver for your table of contents	Citywide Form-Based Code	Form	All typical FBC elements included, process and all general standards (parking, landscaping etc.) rethought for FBC application; administration and procedures, variances, etc., are all rethought to support the FB

Form-Based Codes

Form-Based Codes

Is the overall Code reorganized for Usability?	Likely Cost Range	Considerations for this Approach
Not in this example	Low, primarily because it is a graphic design-usability exercise only	This is completely ineffective and should be avoided. This is what you will often get if your budget is too low for a true FBC: It will look good, but will not produce predictable results. Does not address obstacles for good development or process-related issues inherent in most zoning codes.
No	Low, primarily because it does not address the problems with underlying zoning	Mostly ineffective due to typical issues inherent in existing code that are not addressed; may even contradict zoning. Adds another layer of regulations that confuses intent and negatively impacts usability and administration.
No	Low, primarily because this approach entails creating only new base zones	Effectiveness depends highly on quality and clarity of existing code and development review process. If administration and the code document structure are good, detailed visioning is completed, and the mixed use zones are not oversimplified, this can begin to show good results. Existing parking, use tables, landscaping standards, etc., must be vetted.
Yes	Medium to high depending on scale of city or county	Addresses many of the issues above but ultimately still has use as an organizing principle, which limits the effectiveness of the code and stops it short of being an FBC. Does not typically complete documentation and analysis of place to extract the DNA that becomes the basis for the code but rather uses existing zone standards as starting point and makes changes to those.
No	Low to medium, depending primarily on extent of visioning completed	Administration, parking, landscaping, and all other elements within code must be vetted and coordinated with intent of the FBC and potentially included in the FBC and replaced when the overlay is triggered.
Sometimes	Medium, primarily due to the fact that a complete, parallel code is being created to replace the existing code in targeted areas	Administration, parking, landscaping, and all other elements within code must be vetted and coordinated with intent of the FBC Division. If you are doing a complete code rewrite and you choose this approach, you are writing two complete, parallel code documents, which is not a good use of resources. This approach is still sending a message that the default is drivable suburban development and that FBCs are the exception.
Yes	High, slightly higher than #4 due to charrettes for FBC Focus Areas, extensive documentation and analysis phase, and careful vetting of all standards	In this approach, the structure of the entire zoning code is completely rethought, a new operating system is established, and thus the entire table of contents of the code document is structured with a form-first philosophy. Every last bit of content from the preexisting code is vetted for its applicability to the form-first operating system before it is transferred so that it does not compromise the intent. This approach is perfect for a city that has made a strong commitment in its city policies to promote smarter, more sustainable growth. Let Euclidean zoning regulate drivable suburban contexts, and the FBC regulate walkable urban contexts. It is called a citywide form-based code not because the entire city has form-based coding applied, but rather the entire city has been assessed and the FBC applied to where it makes sense. The FBC application can then easily spread.

able urban places, it can apply the form-based zones to these areas, after visioning, without requiring a new coding effort. Note that it is best to call these hybrid codes, not hybrid FBCs, because it is not the FBC that is hybrid but rather the entire code because it has both form-based and Euclidean components.

CONCLUSIONS

The application and interest in form-based coding has exploded across disciplines since *Zoning Practice*'s introduction to the topic in 2004. This is largely due to the ineffectiveness of a Euclidean zoning to address the demands of 21st century cities, towns, and regions for walkable urbanism, diverse housing choices, more sustainable development patterns, and the desire to reinforce unique community character. The FBC, when applied correctly, has proven to be an extremely effective zoning tool for addressing these demands.

Stay tuned. The next issue of *Zoning Practice* will cover more common mistakes to avoid in form-based coding, including omitting an extensive documentation and analysis phase, not refining land-use tables, using the urban to rural transect incorrectly, not graphically assessing your existing zone standards, using too many graphics, and not linking your form-based coding and comprehensive planning efforts.

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