

An Introduction to Form-Based Codes

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As communities confront the need to update their zoning ordinances, many are discussing form-based codes. But quite a large percentage of those are not quite sure what this relatively new planning and zoning tool is all about.

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use second, with the purpose of achieving a particular type of “place” or built environment based on a community vision.

Some may ask, “isn't that what zoning does?” But towns, cities, and counties across the country are increasingly finding that conventional zoning is not fulfilling this essential goal.

Not only does most zoning fail to implement plans for the future, many towns and cities are also realizing that their current zoning ordinances would not even allow them to rebuild their historic centers and neighborhoods. At the same time, more and more people are concerned about sprawl and its impact on our health, our pocketbooks, our time, and our environment - - despite the fact that most of the sprawling development in the U.S. today is built exactly according to our development regulations.

How Did We Get Here?

Zoning, as we know it, was born as a result of the Industrial Revolution -- with smokestack industries producing unhealthy environments and overcrowded tenements creating unsanitary living conditions -- as a means to isolate and segregate incompatible land uses. Throughout the 20th Century, towns and cities attempted to separate uses at an increasingly fine grain (i.e., not just residential separated from commercial and industrial, but retail from office, single-family residential from multi-family, and even large houses on large lots separated from small houses on small lots) with local zoning ordinances becoming increasingly complex -- with dubious results.

Editor's Note: for more on the origins of zoning in America, see Professor Laurence Gerckens' "[American Zoning & the Physical Isolation of Uses](#)" and "[Single-Family-Only Zones](#)."

After the Second World War, land development became a fragmented process driven by economies of scale. Technical specialists controlled individual facets of the development process -- the traffic engineers designed the streets and sidewalks, the fire department controlled the relationship between buildings and infrastructure, the parks department managed parks, and planners administered zoning codes that determined minimum lot sizes and what land uses were allowed in different zones. Attorneys codified all of the rules that dictated what could or could not be done. Each discipline typically worked in isolation.





Same goal—very different outcome: Build affordable multi-family housing near transportation corridors. In the first image, all of the technical requirements regarding density, building setbacks, landscaping berms, travel and turn lanes, and curb radii came first ... with disappointing results. In the second, “placemaking” is given priority, with the technical specialists contributing to, rather than controlling, the result to produce a more complete human environment and public realm. Illustrations by Steve Price, Urban Advantage.

The resulting built environment reflected whatever could be developed after the specialists had their say -- usually a hodgepodge of unintended consequences rather than the product of a coherent vision.

Unfortunately, many of these practices have continued to this day.

These regulations have been largely dependent on abstract numerical tools such as

“dwelling units per acre” and “floor area ratios” that provide an artificial and misleading level of specificity and precision. A density of 20 dwelling units per acre can result in many different building forms. Although FAR requirements may be carried out to a decimal point, this density parameter will not tell you how tall a building can be (absent other height limitations) or how it will relate to the street or to adjacent buildings. An FAR of 1.0 can result in a one-story building that completely covers the lot or a 3-story building that sits on only 33% of the lot.



Regulations such as “dwelling units per acre” are blunt instruments. The townhouses above were built in the same community by different developers, both at 20 units per acre, following the same zoning regulations. (Note that both pictures show building fronts.) credit: Mary Madden/Ferrell Madden.

This system has yielded several unintended consequences. Among the most significant:

⇒ **We have developed millions of acres in which it is virtually impossible to live**

without an automobile. Not only is this expensive and time consuming for able-bodied adults, it isolates those individuals who cannot drive due to age (young and old) or physical disability. Walking (as a means of transportation) in these locations is inefficient at best, typically uninviting, and frequently unsafe. As we've come to recognize, continued reliance on automobiles for all activities of daily life is a major contributor to climate change and our obesity epidemic. *Editor's Note: For more on this point, see "[Wow, That's Quite a Cut](#)" (about the Portland, Oregon, metro area's efforts to reduce the mode share of single-occupant vehicles and lower vehicle miles traveled) and "[A Call to Action ... and to Walking](#)" (with data on the obesity epidemic and how it relates to physical activity).*

Is it any wonder that new development is typically opposed?

⇒ **We have built “developments” or “projects” without a “sense of place,” with little or no relationship or physical connection to one another** (to such an extent that we often require buffering and setbacks

between them!) Is it any wonder that new development is typically opposed, based on the assumption it will make things worse -- rather than add value by making a community more complete.

⇒ Last, but not least, **conventional zoning has focused on privately owned land and ignored the “public realm” -- that part of a town or city that belongs to all of us.** In many cities, over one-third of the publicly owned land area is located in the public right-of-way -- the streets and sidewalks

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-- but it is typically treated, not as a hospitable human environment, but as a “traffic sewer” toward which new buildings turn their backs.

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But this was not always the case, and many communities are realizing that a vital public realm is a valuable asset that promotes community identity, creates a sense of place, and provides economic development opportunities.

Are towns and cities prepared to change their approach? Do they have the right tools? The goal of form-based codes is to turn this fragmented micro-management of use, density, and public spaces by technical specialists on its head. Using form-based codes, communities first determine the type of physical place they want and then draft regulations to produce that end result -- using interdisciplinary teams that coordinate regulation of uses, building locations and forms, streets, sidewalks, and other public spaces. The remaining articles in this series will describe how this is done.

Misconception #1 -- Form-Based Codes Are Not Zoning

Form-based codes differ considerably from conventional zoning, but they are still zoning.

They divide a community into different districts based on the character and intensity of land development, as well as the desired urban form. They are based upon a shared vision of the kind of place the community desires, not on separating a community into different use areas.

All land development regulations that regulate private land are adopted by local governments under the authority of state laws generally referred to as “zoning enabling acts.” ¹ Form-based codes are zoning, but they are also more than zoning. They also regulate things that are not typically part of zoning, such as the design of streets, sidewalks, and other public spaces. These parts of the “public realm” are generally in public ownership and are usually regulated through such tools as public works manuals and subdivision regulations.

Form-based codes recognize that all of these pieces of our fragmented land use regulatory system (zoning, subdivision, and public works) are interrelated. As a result, FBCs put the regulations together in one place where their relationships are illustrated and easy to understand.

Next in Part 2: How form-based codes have evolved. Plus a look at the importance of urban form and the public realm, and key differences between form-based codes and conventional zoning.

Where Do We Go Now?

Over the past few decades, towns and cities have increasingly come to recognize the problems with conventional zoning. Many began using planned unit developments, clustering, or similar tools that do an end-run around conventional zoning, allowing mixed-

use compact development and preserving open space. However, most of these PUD ordinances still rely on conventional zoning techniques as the regulating mechanisms and, because they represent a giant loophole to enable a developer to avoid the existing zoning, the nature of the resulting development is unpredictable.

PUDs are generally not based on a detailed community vision for a specific place and seldom produce new development that is integrated with the adjacent community.

PUDs are generally not based on a detailed community vision for a specific place and seldom produce new development that is integrated with the adjacent community. Rather, they are based on the financial goals of a developer in a specific real estate market, and frequently result in large-scale, stand-alone, “pods” of development. To the extent that they mix different uses, it is usually in separate areas that are not walkable and that exacerbate traffic problems.

The prevalence of PUDs and other forms of negotiated development is a sure sign that an existing zoning ordinance is completely broken and vulnerable to political deal making. It is little wonder that these developments are widely opposed by surrounding neighborhoods.

The earliest modern form-based codes were developed by adapting the PUD process (despite its inherent flaws), because it was the only zoning tool available that offered sufficient flexibility. Innovative developers wanted to build new walkable, "traditional neighborhoods" with smaller lots, a range of housing types, narrower streets, and mixed-use centers. They found that they were not allowed to do this under the existing zoning and subdivision regulations so they had to use the PUD process to escape the confines of the existing zoning. This enabled them to design a development based on a holistic vision of a place (with more detail and specific parameters for form and character than the PUD process normally required).

This creative adaptation of the PUD tool focused on the placement, scale, and form of the buildings; the street network; the creation of public spaces; and mixing of uses in a more coherent and walkable setting. The PUD process allowed these visionary developers to experiment with forms of development that were not allowed under existing zoning, leading to the invention of the modern form-based code.

Following on the heels of these "traditional neighborhood" form-based codes written for PUDs (usually in undeveloped "greenfield" locations), cities began recognizing the potential usefulness of form-based codes for regulating infill and redevelopment for historic town centers and revitalization districts.

In these locations -- where the preservation and enhancement of the

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existing urban fabric was important -- existing zoning codes, with their typically suburban-oriented standards for setbacks and on-site parking, made redevelopment an arduous process, with disappointing results.

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Other cities began using FBCs to direct the transformation of aging auto-oriented corridors -- where the public realm had been non-existent or dominated by large-scale thoroughfares with surface parking lots at the front and buildings placed at the rear of the lots. Communities developed corridor master plans that completely re-envisioned the character, scale, and orientation of the corridor, with the goal of creating mixed-use, walkable centers and neighborhoods.



Before: typical existing conditions produced by the conventional zoning system.



Form-based code: new standards for the public realm & private development.



After: potential private development following new form-based standards.

credit: Steve Price, Urban Advantage

The use of form-based codes is continuing to expand. A few cities and towns have replaced entire zoning ordinances, but more commonly, FBCs are used in more limited areas. In addition to the downtowns and corridors described above, FBCs have been used to implement transit-oriented development, transform dead malls (or grayfields) into new

pedestrian-friendly, mixed-use neighborhoods, and create new walkable, mixed-use communities.



Public participation is key to development of an effective form-based code. Charrettes are often used as part of this process. More on public participation and charrettes in Part 4 of our article. Photo courtesy of Ferrell Madden.

Misconception #2 -- Form-Based Codes Require High Density and Mixed Use Everywhere

Whether or not a form-based code requires high density and/or mixed use depends upon the community vision plan that it implements.

Generally, form-based codes have higher density in a downtown core area, where there is also mixed use. This gives a community the critical mass needed to support commerce as well as a true “center” and sense of place.

FBCs can also specify lower-density areas outside of the core, with less mixing of uses. However, many desirable uses that are not usually permitted in conventional zoning codes, such as traditional neighborhood corner stores with upstairs apartments, are specifically permitted in form-based codes if they are part of the community’s vision.

Such non-residential or mixed uses must satisfy building form and placement criteria so that they fit into the fabric of the neighborhood. By requiring buildings to be multi-story and adjoin the sidewalk, these codes do not permit typical single-story franchise convenience stores with big parking lots in front. Both are retail uses, but the traditional pedestrian-oriented neighborhood corner store has a very different form than the car-oriented convenience store franchise.

Urban Form and the Public Realm

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What are they?

While architecture is about the design of individual buildings, urban form is about the physical design of cities and town -- how the pieces fit together. It's also definitely more than just cosmetic improvements such as brick sidewalks

and period light poles with banners. Urban form can exist at any scale, from a tiny hamlet to a major urban center. It is not necessarily about cities, but rather about shaping a place that is comfortable, inviting, and walkable.

The public realm is an integral component of urban form. It is more than just parks, squares, greens, and plazas -- though those are important. The public realm is generally described as the entire space between one building façade and another across the street. It includes streets, sidewalks, and on-street parking, as well as the verge (also referred to in various parts of the country by terms such as tree lawns, tree belts, sidewalk buffers, and parking strips).

The public realm also includes privately owned land that contributes to the visual environment of the streetscape. In mixed-use downtown areas this may include the land between a building's front facade and the sidewalk. In more residential areas, it may include entire front yards. The fact that private land that borders a public sidewalk is considered to be part of the public realm does not make it public space. Rather, it is private space that is visually accessible to the public and therefore shapes how we experience the streetscape as a whole.

Think about the ways in which buildings interact with streets and sidewalks to shape public space and make it feel either inviting or forbidding

- How tall are the buildings and how close are they to the sidewalk?
- How wide are the sidewalks?
- Do the building facades have doors and windows along the sidewalk?
- Are there street trees?
- How many lanes of traffic are there and how wide are they?
- Is there an interconnected network of streets and blocks?
- Are the blocks short or long?
- Are there alleys and courtyards?
- Where is the parking?
- Are there civic buildings?
- What about special public spaces, such as greens, squares and plazas?
- Is it just as easy to walk around the area as to drive?
- Does it feel safe to walk or are the cars going too fast?

These are all aspects of urban form that directly affect the public realm.

The uses within the buildings help to further define the character of the public realm -- if they are retail, the sidewalks will be more active during business hours; if they are residential, the street may be quieter during the day and lively at night and on the weekends. If they are mixed-use, with one activity below and a different one on the upper stories, streets will be more actively used at different times of the day.

Misconception #3 -- Form-based Codes Do Not Regulate Use

Both conventional zoning and form-based codes regulate use, but in very different ways.

However, since form-based codes are all about community character and how buildings shape the spaces around them, the uses that occur within buildings are not as important as the relationships of buildings and their facades to the public streetscape. Still, some uses clearly fit with a given type of community character better than others, so a form-based code will regulate use -- but with a much simpler kind of use table than is found in most zoning codes.

A major purpose of conventional zoning codes has always been the separation of uses from one another. Form-based codes mix uses that work together synergistically, such as retail shops and upper floor apartments or offices. The goal of creating walkable centers necessitates mixing of uses. It is important to recognize that form-based codes still aim to prevent the juxtaposition of

inherently incompatible uses, such as large factories and single-family homes.

For an example of a use table that is part of a form-based code, [see our next post](#).

Form-based codes are written with the creation (or preservation) of a specific urban form in mind -- to regulate private development so that it consciously shapes the public realm. The most beautiful building in the world is wasted if it sits on a busy thoroughfare, behind acres of parking, with multiple lanes of high-speed traffic, limited or no sidewalks, and no street trees.

To this end, FBCs integrate subdivision and zoning regulations (where state law allows), sidewalk and street standards, and rules for parks and other public spaces -- recognizing that public streets and sidewalks and private development work together to define the public realm and create vibrant, livable places. Without a vital public realm, there is truly no “there” there.

Differences From Conventional Zoning

In addition to their emphasis on form over use, how else do form-based codes differ from conventional zoning?

⇒ A well-written form-based code **uses plain English**, easy to understand for layman and professional alike.

⇒ FBCs are **highly graphic**, with diagrams and images to both regulate and illustrate intent. Diagrams and pictures are often a more concise and understandable way to regulate

form.

⇒ FBCs **start with a vision and plan for a place, not from arbitrary numerical parameters** typically found in a conventional zoning code. Conventional zoning standards are not based upon the desired physical character of a specific place. They apply in a broad-brush manner throughout a zoning district, even if the physical characteristics of parts of the zoning district are entirely different from one another.

⇒ FBCs **use clear, objective standards** wherever possible that are **based on a place-based physical plan prepared through a public process**. The FBC consists of detailed regulations that implement a specific vision for the form and character of future development.

⇒ FBCs **streamline the administrative review and approval processes**. If the objective standards laid out in the plan and code are satisfied, most development is allowed by right, increasing certainty for neighbors and developers alike.

⇒ FBCs are fairly **prescriptive for those issues that fundamentally affect the public realm** -- such as building height and placement on the lot, and windows and doors on the street -- **and more flexible on issues such as land uses** (often using broad ranges rather than exhaustive lists of possible uses).

⇒ FBCs **assume that building uses will change over time** -- if the physical form is appropriate for the location, such changes should require minimal review or regulation.

In Part 3, a look at the typical elements found in a form-based code.



In Parts 1 and 2 we described the fundamentals of form-based codes (FBCs), explained why the development of FBCs is important to communities, and looked at key differences between FBCs and a conventional zoning code. In today's post, we will address in greater detail the typical elements of a FBC and how they enable it to shape public space and create walkable, pedestrian-friendly places.

As a starting point, it is important to emphasize that while a form-based code is a type of zoning code, it is more than a zoning code because it encompasses a wider range of issues than just zoning of privately owned land.

The main purpose of a FBC is to create inviting and comfortable public spaces, including streets, sidewalks, plazas, public squares, and other places where people gather outdoors in public.

Because a FBC also functions as zoning, it regulates land uses and the placement of buildings on lots.

Unlike conventional zoning, the focus of a FBC is on how buildings relate to the adjoining street, not on what uses occur inside of them.

FBCs use form as an “organizing principle” around which the other elements of regulation and design revolve. FBCs identify geographic areas or groups of areas and create “zones”

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for each that are based not on uses, but on desired community character, intensity of land use, and built form. Often these zones are tied to the urban-to-rural “transect,” which is a tool for categorizing character, intensity, and form. [For a more detailed explanation of the transect system.](#)

A FBC may be based on the transect, but it can also be organized using other tools, such as street types or geographic areas with distinctive physical characteristics. The important thing is that the system is based on a place-specific vision and intended outcome, not on the division of land into use categories.

The Regulating Plan

A regulating plan is essentially a fine-grained zoning map combined with a street plan, keyed to a set of standards ... Each street, block, or parcel must comply with illustrated standards in the FBC.

The most common tool for mapping a form-based code is a “regulating plan.” A regulating plan is essentially a fine-grained zoning map combined with a street plan and an open space plan, keyed to a set of development standards described below.

It is detailed to the level of individual streets, blocks, public spaces, and sometimes even lots or buildings, which is a level of detail not found in conventional zoning ordinances.

Each street, block, or parcel must comply with the illustrated standards in the FBC. Some city-wide FBCs contain

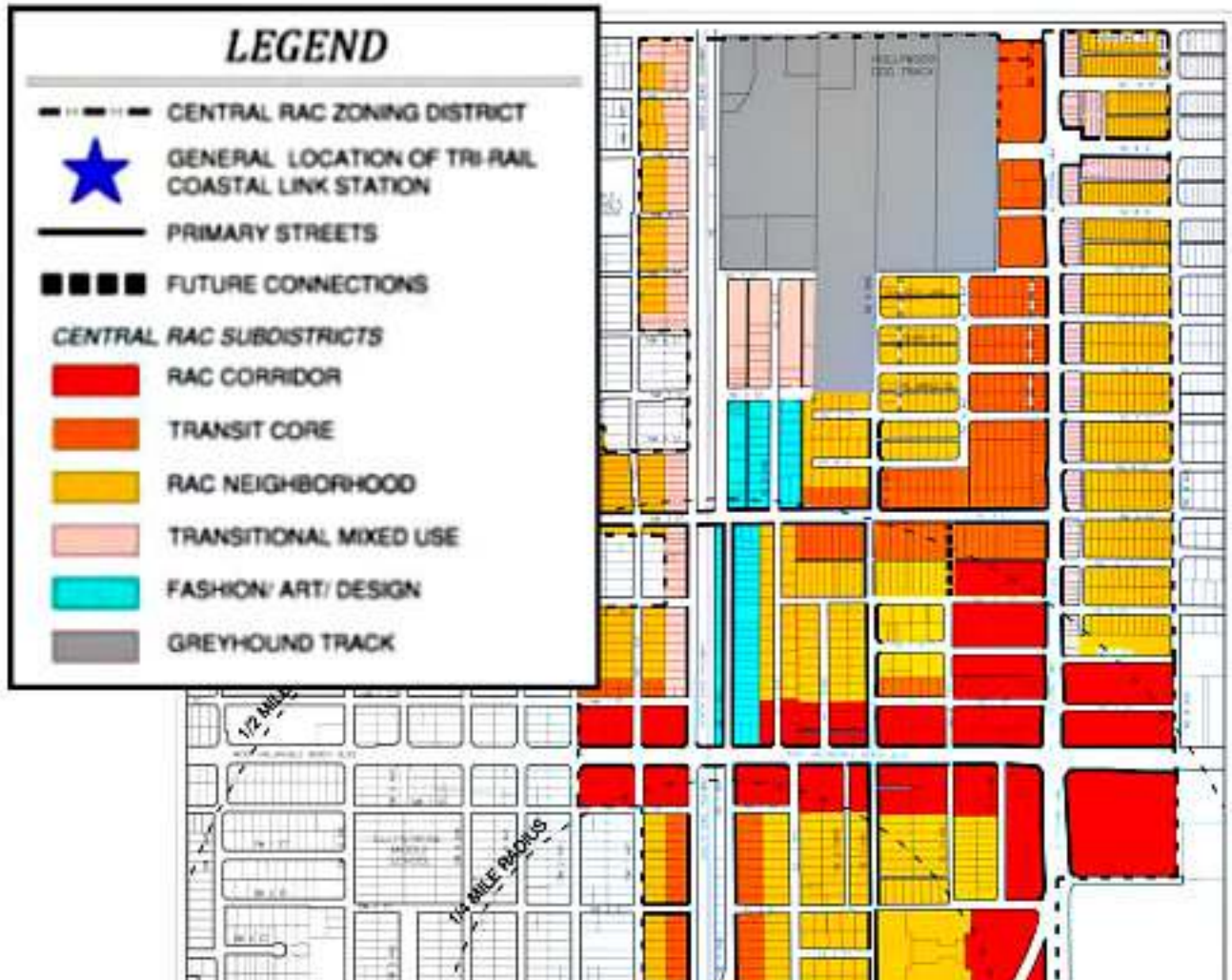
a mechanism for developing regulating plans neighborhood-by-neighborhood over time (e.g. Cincinnati), while others detail the regulating plan for the entire city all at once (e.g. Miami). Most FBCs cover only a limited area, not an entire city, and that specific area (such as a corridor, neighborhood center, or downtown) is governed by its own regulating plan.

EXHIBIT B: CENTRAL RAC FORM-BASED ZONING DISTRICT

9/2014

SECTION 32-193 ALLOWABLE USES

Figure 192 (a) - Central RAC Regulating Plan





Above: Regulating Plan for a regional activity center in Hallandale Beach, Florida, prepared by Treasure Coast Regional Planning Council and Spikowski Planning Associates (legend enlarged for easier viewing). Below: use table from the same plan.

EXHIBIT B: CENTRAL RAC FORM-BASED ZONING DISTRICT

9/2014

SECTION 32-193 ALLOWABLE USES

Table 32-193(a) – Allowable Uses by Subdistrict

	CENTRAL RAC SUBDISTRICTS					
	RAC Corridor	Transit Core	RAC Neigh- borhood	Trans. Mixed Use	Fashion Art Design	Grey- hound Track
RESIDENTIAL						
Single-family dwellings	-	-	P	-	P	-
Two-family (duplex) dwellings	-	P	P	-	P	P
Townhouse dwellings	P	P	P	P	P	P
Multi-family dwellings	P	P	P	P	P	P
Live/work units	P	P	C	P	P	P
Work/live units	P	P	-	P	P	P
Assisted living facilities	P	P	C	C	-	-
Nursing homes	P	P	C	C	-	-

Misconception #4 -- Form-Based Codes are “One-Size-Fits All”

Nothing could be further from the truth. A form-based code is based on a vision plan for an area and is very specific to that place.

A FBC addresses the physical context, such as natural areas, topography, and existing built environment, and is customized to what community residents have said they want, while also serving overall municipal planning objectives. It allows a neighborhood or city to express, develop, and maintain its distinctiveness.

Some FBCs apply city-wide, but most are crafted for the downtown, for another area in need of infill redevelopment or revitalization, or for a specific neighborhood that is either under pressure for development or economically depressed and would benefit from a well-conceived plan and implementing code.

FBC Development Standards

Among the kinds of standards associated with designation on a regulating plan are:

⇒ **Frontage types** -- these describe how the front facade of a building and the privately owned land between the building and the sidewalk relate to the streetscape. Examples of frontage types include Porch and Fence, Stoop, Shopfront (often with awnings), Forecourt,

TABLE 7. PRIVATE FRONTAGES

SMARTCODE

Municipality

TABLE 7: Private Frontages. The Private Frontage is the area between the building Facades and the Lot lines.

	SECTION	PLAN
	LOT PRIVATE FRONTAGE R.O.W. PUBLIC FRONTAGE	LOT PRIVATE FRONTAGE R.O.W. PUBLIC FRONTAGE
<p>a. Common Yard: a planted Frontage wherein the Facade is set back substantially from the Frontage Line. The front yard created remains unfenced and is visually continuous with adjacent yards, supporting a common landscape. The deep Setback provides a buffer from the higher speed Throughfares.</p>		
<p>b. Porch & Fence: a planted Frontage wherein the Facade is set back from the Frontage Line with an attached porch permitted to Encroach. A fence at the Frontage Line maintains street spatial definition. Porches shall be no less than 8 feet deep.</p>		
<p>c. Terrace or Lightwell: a Frontage wherein the Facade is set back from the Frontage line by an elevated terrace or a sunken Lightwell. This type buffers Residential use from urban Sidewalks and removes the private yard from public Encroachment. Terraces are suitable for conversion to outdoor cafes. Syn: Dooryard.</p>		
<p>d. Forecourt: a Frontage wherein a portion of the Facade is close to the Frontage Line and the central portion is set back. The Forecourt created is suitable for vehicular drop-offs. This type should be allocated in conjunction with other Frontage types. Large trees within the Forecourts may overhang the Sidewalks.</p>		
<p>e. Stoop: a Frontage wherein the Facade is aligned close to the Frontage Line with the first Story elevated from the Sidewalk sufficiently to secure privacy for the windows. The entrance is usually an exterior stair and landing. This type is recommended for ground-floor Residential use.</p>		
<p>f. Shopfront: a Frontage wherein the Facade is aligned close to the Frontage Line with the building entrance at Sidewalk grade. This type is conventional for Retail use. It has a substantial glazing on the Sidewalk level and an awning that may overlap the Sidewalk to within 2 feet of the Curb. Syn: Retail Frontage.</p>		

g. Gallery: a Frontage wherein the Facade is aligned close to the Frontage line with an attached cantilevered shed or a lightweight colonnade overlapping the Sidewalk. This type is conventional for Retail use. The Gallery shall be no less than 10 feet wide and should overlap the Sidewalk to within 2 feet of the Curb.

h. Arcade: a colonnade supporting habitable space that overlaps the Sidewalk, while the Facade at Sidewalk level remains at or behind the Frontage Line. This type is conventional for Retail use. The Arcade shall be no less than 12 feet wide and should overlap the Sidewalk to within 2 feet of the Curb. See Table 8.

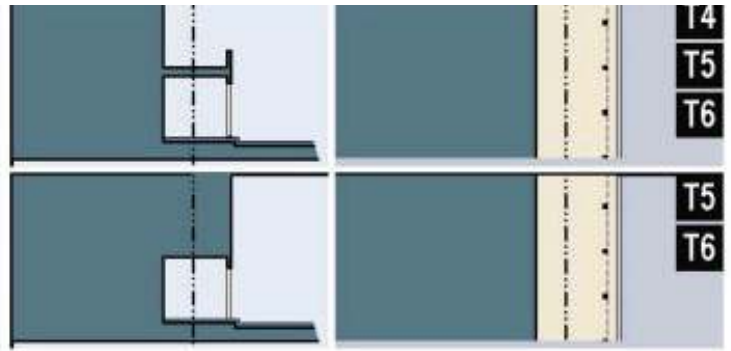


Illustration above of private frontage types. From the SmartCode Version 9.2. Click on illustration to access the pdf.

Frontage types get to the heart of what a FBC is all about: how buildings shape the public realm.

The regulation of frontage types may also cover such matters as window proportions, frequency of window and door openings, prohibition of blank walls, location and widths of porches or stoops, and requirements that buildings extend

along all or most of their frontage to effectively enclose the street space and form the walls of an “outdoor room.”

⇒ **Building types** -- these may be in addition to, or instead of, frontage types. They identify typical and appropriate types of buildings within each area of a regulating plan and cover much of the same information as frontage types but extend to the entire building (height, massing, lot coverage, etc.), not just to its front façade and the space in front of the building.

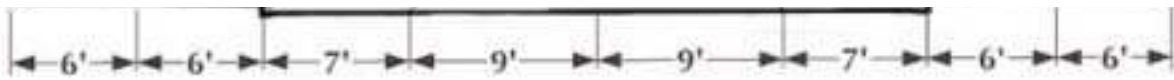
Frontage types get to the heart of what a form-based code is all about: how buildings shape the public realm.

The regulation of the streetscape is not traditionally part of zoning ... A major innovation in the FBC approach is integrating the regulation of the public and private into one coherent set of rules.

⇒ **Street and streetscape** -- In addition to regulating the buildings and private spaces in front of them, FBCs crucially regulate the publicly owned space of the street and sidewalk.

Detailed graphic cross-sections are typically used to identify portions of the street right-of-way (travel lanes, bike lanes, parking lanes, medians, crosswalks, etc.), as well as the adjoining public areas (curbs, gutters, planting strips, furnishing zones for street furniture, sidewalks, etc.).





Schematic cross-section of a mixed use street from the Sarasota County, Florida Form-Based Code.

The regulation of the streetscape is not traditionally part of zoning, and is usually regulated by municipal public works departments or, in the case of new streets, subdivision regulations.

A major innovation in the FBC approach is integrating the regulation of the public and private into one coherent set of rules establishing their relationships.

Street regulations in a FBC are often designed to keep vehicular speeds low in order to maximize pedestrian safety and comfort, encourage bicycling, and minimize the noise and intrusion of vehicles. Most FBCs are designed to accommodate cars and to provide for on-street parking, but to subordinate vehicular speed to pedestrian safety.



⇒ **Parking** -- FBCs generally require parking to be on-street, behind buildings, or in parking structures that have “liner” units or buildings at street level. ² Parking lots that front on a street are generally not permitted, and where they are allowed, they must be screened to maintain the street wall. The aim of all this is to activate street life -- by having retail or related uses

*Yes, there's plenty of parking above and behind.
Parking garage "liner" units in Staunton,
Virginia.*

because excessive inexpensive or free parking can actually induce demand and associated traffic, while a well-regulated market-based system with appropriate pricing mechanisms, can reduce parking demand.

Another common approach is the use of “shared parking” standards, which relieve individual developments from having to provide all parking on-site, while assuring that legitimate needs for parking are satisfied. Also, incentives for the conversion of private parking to public parking areas can ensure more efficient use of available parking spaces.

Too much surface parking is one of the biggest problems in making a place hospitable for walking. Since an area regulated by a FBC is intended to be pedestrian-oriented, it is assumed that people driving to it will park once and do all of their errands without moving their cars to other parking spaces -- or that they will arrive on foot or by bicycle or public transit.

line streets and sidewalks, not parking lots.

Most FBCs have little or no minimum parking requirement and sometimes have maximum parking limits. This is

Most FBCs have little or no minimum parking requirement ... a well-regulated market-based system with appropriate pricing mechanisms, can reduce parking demand.

Parking standards must be carefully crafted to the needs of a specific place, its development economics, and its access to transit.

Parking standards must be carefully crafted to the needs of a specific place, its development economics, and its access to transit. Other related policies, such as those setting parking fees, can also be very important in reducing parking demand. ³

⇒ **Public Space Standards** -- to guide the establishment and design of different

kinds of public space, ranging from pocket parks to squares, plazas, riparian corridors, bike paths, and large natural parks. Most of these are created on public land, but some may be located on large privately-developed parcels as part of an overall site plan acceptable to the developer. The criteria for location and design of these spaces are based on the community vision plan, taking into consideration community needs for usable, publicly accessible open space of a particular character (rather than the unplanned residual open space often set aside under conventional zoning).

⇒ **Landscape Standards** -- these standards ensure inclusion of green infrastructure integral to placemaking and ecological function. They also specify the location and types of different kinds of vegetation that shape and decorate public spaces. Tree canopies and the alignment of trees along a street or pedestrian way are especially important. (These standards may be a sub-section of the Street Standards described previously.)

The function of vegetation is to highlight, soften, and integrate the elements of the public realm, rather than to buffer them

Well-designed urban landscaping can

from one another -- which is often the purpose of landscaping under conventional zoning. Well-designed urban landscaping can integrate nature into walkable compact settlements, rather than leaving isolated fragments of nature in separated pods of development.

FBCs often have incentive provisions for green infrastructure such as roof gardens, bioswales, urban agriculture, and rain gardens where appropriate to the surrounding context.

⇒ **Architectural standards** -- few FBCs regulate architecture strictly, and architectural standards are optional elements of a FBC. Most FBCs have little or nothing to say about architectural style and allow for architectural creativity. Instead, most FBCs include very basic provisions that regulate building articulation, window proportions, rhythm of openings, prohibition of blank walls, and placement of signs -- all with the goal of reinforcing the pedestrian scale of development.

Some FBCs are adopted together with non-binding architectural guidelines that help explain what is desired without mandating any particular architectural style. FBCs are also sometimes accompanied by “pattern books” ⁴ that show the type of architecture that is desired, but not required.

In historic areas, the additional overlay of historic district regulations can provide greater protection of historic structures and more detailed design regulation to maintain the

integrate nature into walkable compact settlements, rather than leaving isolated fragments of nature in separated pods of development.

architectural integrity of a neighborhood or streetscape. These may be incorporated into a FBC or remain separate.

Misconception #5 -- Form-Based Codes Restrict Architectural Freedom and Creativity

Form-based codes may or may not regulate architecture -- many do not. This is entirely up to the community.

There is a difference between urban form, which is the way buildings shape a street and sidewalk, and architecture, which is the actual design of individual buildings. Form-based codes regulate urban form in order to create a pleasing public realm. However, many form-based codes allow modern as well as traditional architecture. There is no necessary connection between a form-based code and architectural regulation.

Administrative Procedures

In addition to the regulating plan and associated standards, most FBCs include streamlined administrative provisions that enable landowners and developers to obtain approval of most projects. This

An integral part of a FBC should be a set of streamlined procedures

can be done without additional extensive public review if the proposed development complies with all the requirements in the FBC. The rationale for this is that the entire area subject to the FBC has been studied and planned in a highly public setting and that the code has been adopted as the approved public vision by the municipality's legislative body.

for ensuring prompt and efficient project review and approval based on clearly articulated standards.

Deviations from codes may be permitted through some type of special approval process that is more involved and designed to ensure that such deviations do not compromise the basic placemaking intent of the code. An integral part of a FBC should be a set of streamlined procedures for ensuring prompt and efficient project review and approval based on clearly articulated standards.

Summing Up:

The typical elements described above do not appear in every FBC, but a FBC must contain sufficiently detailed requirements so that any educated person reading the document is able to understand the desired character of the area governed by the FBC, what the public realm will look like if the code is followed, and the procedures that must be followed to obtain development approvals.

FBCs, when prepared by experienced, well-trained consultants or staff, should be clearer and easier to use than conventional zoning codes. This makes FBCs attractive to a variety of constituencies: landowners, developers, neighbors, planning and zoning administrators, public officials, and the general public.

[Next in Part 4](#), we discuss the planning process for developing a form-based code.

The previous parts of this series described the fundamentals of Form-Based Codes (FBCs), how they differ from conventional zoning codes, why the development of FBCs is important to communities, and the typical elements of a FBC. In this final part, we'll discuss how the planning process can bring to life the vision for the community's future that a form-based code can help achieve.

This article is not intended to be a “recipe” for how to write a FBC, as that is a complicated subject that requires professional expertise. The [Form-Based Codes Institute](#) offers a series of training courses for professionals interesting in learning how to do this. Rather, our aim here is to provide an overview of how the local planning process relates to the development of a FBC.

Public Engagement

Essential to the development of a form-based code is an active public engagement process. A FBC is effective only if it implements a

A form-based code is effective only if it implements a community's vision for

community's vision for its future. Developing this community vision must be done early in the process, with the active involvement of those affected.

Community's vision for its future.

One of the best models for how to do this is the community “charrette,” which is a multi-day open public process with multiple feedback loops for the public to interact with a variety of professionals with complementary expertise in planning, urban design, architecture, transportation, law, public safety, real estate economics, and public administration. ⁵ The range of professionals involved is typically determined based on the specific context and issues likely to be addressed during the community planning process.

The idea is to get everyone in the same room together to work through differences and arrive at a common vision.





Charrette photos courtesy of Ferrell Madden.

The idea is to get everyone in the same room together to work through differences and arrive at a common vision. This is a highly structured and visual process.

This is a highly structured and visual process, where drawings are made, discussed, redrawn, and debated openly in public over several days.

There are other models for public engagement, but they are all based on the principles that make charrettes effective, that is, wide stakeholder involvement; several feedback loops to gather and respond to public input; and in-depth interaction between an interdisciplinary team of professionals, public officials, and citizens. The

professionals learn about the community and the community learns about key planning principles that become the basis for creating walkable, mixed-use places and provide the foundation for a good form-based code.

A charrette process typically culminates in a place-specific



“vision plan,” which is a heavily illustrated physical plan showing the results of the discussions held at the charrette, embodying the best thinking of the involved professionals and public working together. It is much more than a policy document, showing very specifically how the public realm should be shaped, as well as the nature, location, and character of public spaces and the relationships between buildings and the streets they frame.



Relationship to the Comprehensive Plan

The vision plan that emerges from a charrette or similar public engagement process should be made part of the comprehensive plan (also called the general plan or master plan depending on the state) for the community. Comprehensive plans in the past have typically emphasized elaborate statements of policy supported by extensive data and map information, without showing the proposed physical form of the community. While this information may be useful background, it is not nearly as important as the graphic formulation of the community’s vision of itself as a physical place.

A revolution is occurring in comprehensive planning, in



which plans are increasingly being done as “form plans” that not only express policies and goals for the future, but also describe specific physical forms that the community wishes to embrace at different scales, from the region to the municipality, to the street, block, and even lot.

In other words, the comprehensive plan is becoming more visual and showing what kind of place the community desires to be and how it should look. This is important in underpinning the development of a FBC, which translates the form plan into form-based regulations.



C is for Comp plan. Illustration by Paul Hoffman for PlannersWeb.

Comprehensive plans can help determine areas where greater walkability is desired and vehicular traffic needs to be slowed, as well as areas where more suburban, car-oriented styles of development make sense. Form planning thus identifies which areas of the community should have traditional walkable urban form and what that form should be, while also identifying areas suitable for suburban types of development.

Comprehensive plans can also identify different types of areas, where the primary goal for

future growth and development could be characterized as "**transformation**," "**enhancement**," or "**maintenance of existing character**." Most of a municipality would fall into one of these three categories.



Illustration by Paul Hoffman for PlannersWeb.

Transformation areas are places like abandoned industrial sites, underperforming shopping malls, aging auto-oriented corridors, or vacant office buildings. These areas are suitable for FBCs designed to completely change their existing character.

Enhancement areas are places that are already in fairly good condition, but would benefit from improvements to streetscapes, renovation of existing buildings, and construction of infill buildings to improve the public realm. FBCs in these areas would build on the strengths of the existing fabric, repair the areas that detract from it, and fill gaps in the fabric of buildings.

Maintenance areas are those urbanized neighborhoods that are in good shape physically and are economically stable, often appreciating in value. FBCs in these areas are typically designed to maintain the strengths of these areas and ensure that

any new development fits with the existing form and character. In stable, healthy residential neighborhoods, FBCs may not be necessary if the existing zoning seems to be working.

In suburban areas that already have a "sprawl" character, FBCs are not usually appropriate, unless the community decides to engage in "sprawl repair," for example, converting a moribund strip shopping area into a new mixed-use pedestrian-oriented town center. Where the community goal is to maintain existing suburban development patterns, the suburban-style zoning that created these areas is usually a suitable tool for maintaining them.

In suburban areas that already have a "sprawl" character, FBCs are not usually appropriate, unless the community decides to engage in "sprawl repair."

Undeveloped areas of forest, farmland, and highly constrained land (such as wetlands, steep slopes, and areas with poor soil conditions) are not generally regulated by a FBC if the community's intent is to preserve them in their forested, agricultural, or natural condition. The comprehensive plan should indicate if this is the goal for these areas and what preservation tools might be used to accomplish this goal.



Where forest or farmland sits at the edge of a developed area and is suitable for development expansion, the comprehensive plan can be a good tool for determining what kind of future development, if any, is envisioned. If the development would be walkable and urban in



*Illustration by Paul Hoffman for
PlannersWeb.*

nature, then a FBC would be an appropriate tool to deploy.

FBCs may also be especially helpful in areas that are planned to be locations for new transit stations or improved transit service, where “transit-oriented development” can add density and walkable mixed use to areas that are walking distance to high-frequency mass transit. These areas should also be identified in the comprehensive planning process. *Editor's Note:* For an introduction to transit-oriented development, see Hannah Twaddell's "[The](#)

[ABCs of TOD: Transit-Oriented Development.](#)"

Misconception #6 -- Form-Based Codes are a Panacea for all Land Use Problems

Form-based codes are *not* a panacea for every problem -- they *are* a tool for creating good urban form for walkable communities.

They should be crafted in a way that takes account of other issues of community concern, such as housing affordability, economic vitality, social justice, traffic management, climate resilience, energy conservation, obesity, stormwater

management, and so on.

These concerns can be built into a form-based code, just as they can be integrated into other forms of land use regulation, but there must be a conscious effort to do this, and adopting a form-based code will not, by itself, solve these other problems.

However, by encouraging compact mixed-use walkable development, form-based codes often have salutary effects by reducing energy consumption and dependence on the automobile.

Developing a Form-Based Code

As we've noted, the process of developing a form-based code often begins with a community charrette process. The first step of a charrette typically involves the documentation and analysis of existing conditions, identifying what is valued and worthy of



preservation, and what needs to change.

This step may also involve some kind of visual preference survey ⁶ in which the public weighs in on the types of buildings and streetscapes it would like to see.

Community involvement with this is vital and the charrette process can provide an excellent means for getting broad

community input.

From the analysis of existing conditions and the physical design process of the charrette, the

charrette team, in collaboration with the community, develops a “vision plan” or concept plan for the area that will be regulated by a FBC.

The vision plan usually involves an “illustrative plan view” diagram (looking at the site from above) as well as eye-level renderings of what a desirable streetscape and buildings would look like, along with computer simulated “before and after” images to assist the community in understanding potential change over time.

The vision plan should also take account of current -- and projected future -- market conditions and infrastructure plans and constraints, so that it is not just a fantasy plan, but is grounded in economic, physical, and fiscal reality.

Once there is broad agreement on the vision plan, it can be translated into a form-based code using the basic elements described in [the previous part of this article](#) (i.e., a detailed regulating plan, standards for buildings and building frontages, public space standards, street cross-sections, and administrative procedures).

Form-based codes make extensive use of graphic communication tools, such as diagrams, photo illustrations of intent, building frontage elevations, cross-sections, and plan view drawings. While the graphics in a vision plan are a good starting point, in order for them to

The vision plan should also take account of current -- and projected future -- market conditions and infrastructure plans and constraints, so that it is not just a fantasy plan, but is grounded in economic, physical, and fiscal reality.

be effective as a legal code, they must be drawn in a very precise manner, showing measurements with explanatory captions that make the meaning of any graphics very clear. This is where the skills of an attorney well-versed in urban design can be very helpful, as the kind of vague language that may be perfectly acceptable in a plan (or design guidelines) will not stand up to legal scrutiny when it is in a regulatory document, such as a form-based code. Therefore, there must be very clear graphics and graphic explanation, as well as clear text and definitions.

Misconception #7 -- Form-Based Codes are Too Expensive



Because form-based codes are tailored and customized to specific neighborhoods, corridors, and downtowns, they require considerable up-front investment in crafting a shared public vision, illustrating it graphically, and writing it into law.

Viewed in isolation, this can seem expensive. However, keep in mind the considerable expense and time most

cities and towns incur administering the development review process, negotiating “special use” projects, adjudicating land use disputes because of dysfunctional zoning codes, and writing voluminous but vague comprehensive planning documents.

In contrast FBCs should be less expensive in the long run because everyone knows what is expected, and administration and enforcement are more efficient.

Once a FBC has been drafted, discussed, and thoroughly vetted with various interested constituencies, it is adopted into law by the legislative body of the municipality. It then becomes part of the overall municipal code, usually as a zoning amendment, but it may also amend other sections of the code, such as street specifications and subdivision regulations.

Misconception #8 -- Form-Based Codes are Not Enforceable

Some “so-called” form-based codes are really just unenforceable design guidelines. A true form-based code is adopted as law under applicable state law provisions and is fully enforceable.

FBCs are administered through the normal zoning administrative process, but most approvals are done “by right” because the FBC contains enough specificity to reduce the amount of discretion that sends many development approvals through convoluted processes involving planning commissions, zoning appeals boards, design review committees, and city councils.

Adopting a FBC requires extra time up-front by a planning commission, but results in a much smaller workload for the commission over time, as more applications are approved in

a routine fashion administratively.

Is a Form-Based Code Right for My Community?

A form-based code is not a one-size-fits-all document. ... It has to be adapted to local conditions and priorities [and] be rooted in the community's values and objectives.

A form-based code is not a one-size-fits-all document. It must emerge from a planning and public participation process that includes the people who will be using it or will be affected by it. Therefore, it has to be adapted to local conditions and priorities. It must be rooted in the community's values and objectives as articulated through an open public process guided by experienced practitioners with expertise in a variety of disciplines.

As we've noted, form-based codes are not a panacea and are not appropriate everywhere. They are written

differently depending upon the goals of the community, the design intention of the vision plan, and the existing conditions and projected future changes in population, economy, and transportation. Key variables include whether an area is economically booming, depressed, or stable; whether or not robust public transportation is available; and whether the location is urban, suburban, or rural. Since the FBC is a "place-based" planning and zoning tool, different approaches may apply in different locations.

We've stressed that one of the key reasons to have a form-based code is to create or strengthen a walkable place with an attractive public realm -- a place where people will want to congregate because it feels like an “outdoor room.” For this reason FBCs can also spur economic development, breathing life into downtowns or specific neighborhoods.

The best way to determine whether or not a FBC is appropriate for your community is for you to learn as much as possible about FBCs and to engage the community about its own vision for the future. More information on form-based codes, including descriptions of upcoming courses and downloadable webinars is available at the [Form-Based Code Institute's website](#) and [Facebook page](#). An excellent publication that introduces form-based codes to communities [is also available for free download](#) (pdf file).



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Ms. Madden frequently speaks and writes on the topics of urban design and form-based codes. She co-authored “Place Making

with Form-Based Codes” for the September 2006 issue of Urban Land magazine, and was a contributor to the National Charrette Institute’s 2008 Best Practices Report, and to the APA/CNU publication Codifying New Urbanism: How to Reform Municipal Land Development Regulations.

Before joining Ferrell Madden LLC in 2001, Ms. Madden served in several positions at the U.S. Department of Housing and Urban Development. Earlier in her career, she was the co-director of the Mayors’ Institute on City Design. She currently serves as Chair of the Board of the Form-Based Codes Institute.



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land preservation.


Joel has written and revised dozens of zoning codes, both conventional and form-based, published numerous articles,

spoken at conferences, and co-authored reports, including "Codifying New Urbanism" for the Congress for the New Urbanism and the American Planning Association. He is a member of the Bar in New York, Massachusetts, and Connecticut, and received his Bachelors degree from Harvard and J.D. and Masters Degree in Urban Affairs from Boston University.




Over the years, Joel has written several articles for the *Planning Commissioners Journal*:

[Building Your Planning Process From the Ground Up](#); [Diagnosing Your Community Before You Plan](#); [Rethinking Conventional Zoning](#); [How Dimensional Standards Shape Residential Streets](#); and [Land Trusts and Planning Commissions: Forging Strategic Alliances](#).

Notes:

1. These state statutes and related case law generally allow the use of form-based codes, but sometimes there are legal nuances that require conformance with specific requirements of state law. A municipal zoning attorney familiar with form-based codes should review a proposed form-based code to ensure that it complies with applicable state law. 
2. A liner building is a building that is placed between a sidewalk and a parking structure to screen the parking structure and maintain an active street frontage instead of the dead space typically found next to a parking garage. Sometimes the front portion of the parking structure itself is designed to accommodate built-in storefronts or residential

units which are referred to as “liner units.” 

3. There is a growing body of research showing that typical parking standards found in most zoning codes are arbitrary and tend to induce vehicular traffic, increase the cost of development, and waste land and building space that could be put to more productive uses. Much of this research is based on the groundbreaking work of Prof. Donald Shoup of UCLA in his book *The High Cost of Free Parking*. This research shows that demand for parking is not fixed or use-based, but rather is a function of the price of parking and the availability of alternative transportation modes. *Editor's Note:* See also Hannah Twaddell's, "[No Such Thing as Free Parking?](#)" (*Planning Commissioners Journal*, Fall 2005) which discusses Shoup's book. 
4. *Editor's Note:* For more on the use of "pattern books," see Amy Souza's "Pattern Books: A Planning Tool" (*Planning Commissioners Journal*, Fall 2008). 
5. More information on charrettes is available from the [National Charrette Institute](#). For a more detailed look at the charrette process, see "[An Introduction to Charrettes](#)," by Bill Lennertz, Aarin Lutzenhiser, and Tamara Failor (*Planning Commissioners Journal*, Summer 2008). 
6. For more on visual preference surveys, see "[Understanding & Making Use of People's Visual Preferences](#)," by Anton C. Nelessen & James Constantine (*Planning Commissioners Journal*, March/April 1993). 