CMAP

Form-Based Codes: A Step-by-Step Guide for Communities

Acknowledgements

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Chicago Metropolitan Agency for Planning

The Chicago Metropolitan Agency for Planning (CMAP) is the region's official comprehensive planning organization. Its GO TO 2040 planning campaign is helping the region's seven counties and 284 communities to implement strategies that address transportation, housing, economic development, open space, the environment, and other quality of life issues.

See **www.cmap.illinois.gov** for more information.

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FBCI Form-Based Codes Institute

The Form-Based Codes Institute (FBCI) is a non-profit professional organization dedicated to advancing the understanding and use of form-based codes. FBCI pursues this objective through three main areas of action: developing standards for form-based codes, providing education, and creating a forum for discussion and advancement of form-based codes.

See **www.formbasedcodes.org** for more information.

Cover photo: Main Street, Antioch, Illinois. © 2013 Google, Image Date: August 2012.

Table of Contents

Purpose of Handbook	5
GO TO 2040	5
Who Should Use This Handbook?	5
Introduction: What are Form-Based Codes?	7
Conventional Zoning	8
Form-Based Codes	9
Should Your Community Adopt a Form-Based Code?	11
Different Methods	12
Step One: Scoping	15
Who Should Be Involved?	16
Define Your Form-Based Codes Area	16
Planning Process	16
Relationship with Existing Regulations	17
Organizing Principle	17
Template Codes	18
Step Two: Assessing Existing Conditions	21
Community Sub-Areas	22
Smaller Scale Details	23
Step Three: Visioning and Creating Regulations	25
Engaging the Community	26
Explaining and Illustrating the Zoning Districts	27
Creating the Regulating Plan and Zoning District Regulations	33
Optional Components That May be Included in a Form-Based Code	37
Creating the Development Review Process	40
Conclusion	43
Learn More	44

Hinsdale, Illinois.
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Purpose of Handbook

One of the central goals of the GO TO 2040 comprehensive regional plan is to make our region a better place to live. This means creating livable communities at the local level through planning and development decisions made by local government officials, developers, and individuals. This handbook provides a step-by-step guide to form-based codes, an alternative approach to zoning.

GO TO 2040

GO TO 2040 states that defining "livability" is a challenge simply because people's values and priorities are so diverse. However, when residents across the region describe their values and priorities, certain commonalities of livability emerge. Livable communities are healthy, safe, and walkable. Livable communities offer transportation choices that provide timely access to schools, jobs, services, and basic needs. Livable communities are imbued with strength and vitality, features which emerge from preserving the unique characteristics that give our diverse communities "a sense of place."

GO TO 2040 states that the building blocks of local planning are comprehensive plans, consistent ordinances and other regulations, and trained decision-makers. Local comprehensive plans are the vision of what a community wants to become and the steps needed to meet that goal. Most communities find that a first necessary step to implement a comprehensive plan is to update their zoning ordinance.

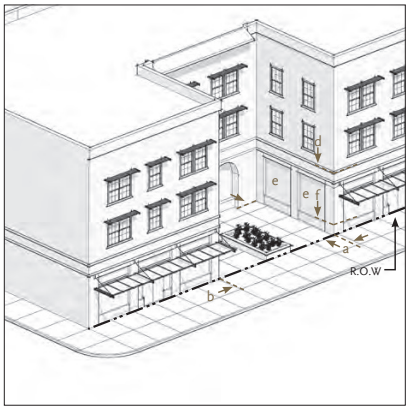
As communities have sought to reinvigorate their downtowns or create viable commercial corridors, many have found that conventional methods of zoning, oriented around regulating land use, may not address certain physical characteristics that contribute to the sense of place in a community. While it is important to consider which uses should occur in a given place, we live in a visual world, and conventional methods of zoning often do not sufficiently address the fundamental aesthetic character of our communities — existing or desired.

Form-based codes, which emphasize the physical character of development, offer an alternative. This handbook explains what form-based codes are and how they are created to help communities assess whether they may be right for them.

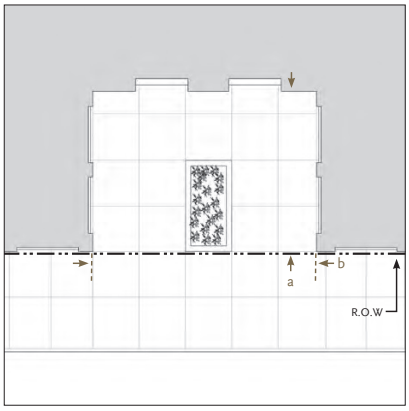
Who Should Use This Handbook?

Most communities lack the staff expertise and time necessary to develop a form-based code on their own and therefore choose to hire consultants to lead the effort and perform most of the work. However, it is vital that municipalities understand the scope of work that is required in the creation of a form-based code. Municipalities that educate themselves on the typical steps that are necessary will be in a better position to gauge the amount of outside assistance that is needed (and the amount of funding that will be required), write a more precise request for proposals (RFP), and evaluate consulting firms bidding for the project. Once the development of the form-based code is underway, well-informed municipal staff can better facilitate the process and monitor the work of hired consultants.

Municipal staff will be responsible for administering the new form-based code once it is adopted, and possessing an understanding of how it was created is likely to provide a more nuanced appreciation of the reasons behind the regulations, as well as the amount of hard work that went into its creation.

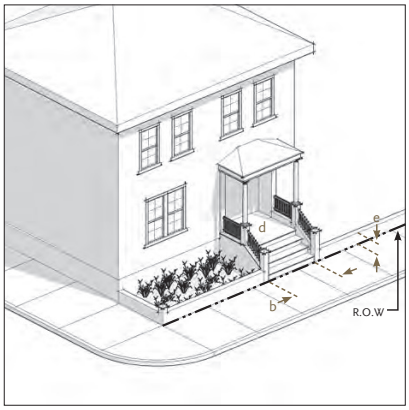


Axonometric Diagram: Forecourt

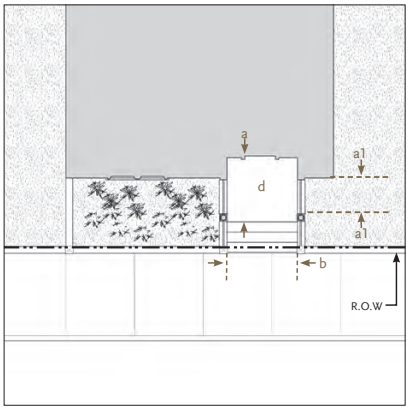


Plan Diagram: Forecourt

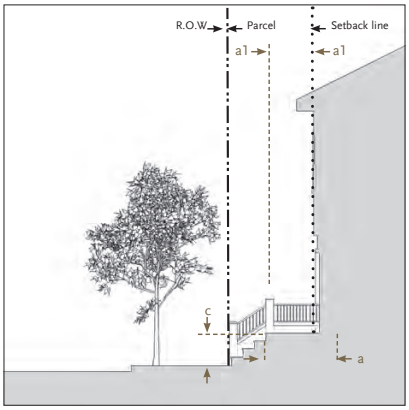
Section Diagram: Forecourt



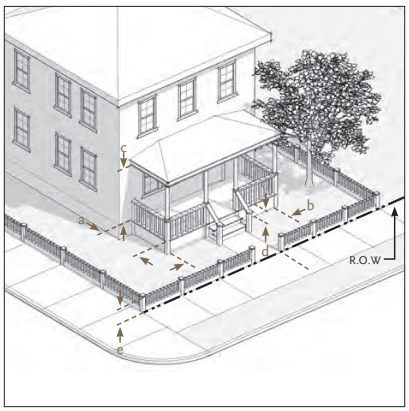
Axonometric Diagram: Frontyard / Porch



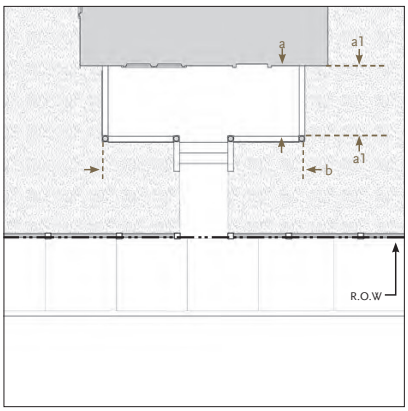
Plan Diagram: Stoop



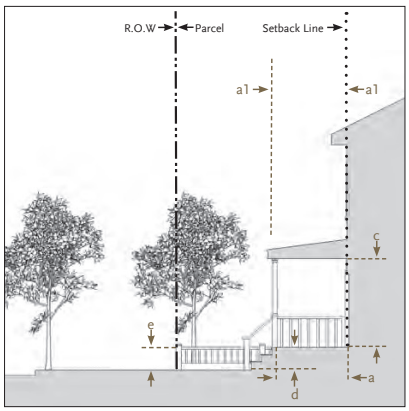
Section Diagram: Stoop



Axonometric Diagram : Frontyard / Porch



Plan Diagram: Frontyard / Porch



Section Diagram: Frontyard / Porch

Architectural Standardards - Frontage Types, Transit Zoning Code (2010), City of Santa Ana, California.
Credit: Moule & Polyzoides, Architects and Urbanists.

Introduction
What are Form-Based Codes?

Nearly everyone can identify things they like in their community and things they want to change. Whether a favorite house, street, or place, it's common to wonder why there isn't more of what we like and less of what we don't.

There are many reasons for this dissatisfaction with the physical character of many of our communities, especially the quality of the public realm. One reason is that conventional methods of zoning, which are focused on what uses are permitted, have often shaped the form of the built environment in unintended—and occasionally unwanted—ways.

Form-based codes include specification of what uses are permitted in a building or place, but focus on the physical character of development, particularly how it relates to the public realm that everyone shares. A growing number of communities across the country and in our region have found that form-based codes are a more precise and reliable tool for achieving what they want, preserving what they cherish, and preventing what they don't want.

Chicago suburbs from the air.
Credit: Flickr user Shawndra and Simon.

Conventional Zoning

Conventional methods of zoning arose out of the need to protect public health, safety, and welfare by preventing the most negative impacts of siting, size, and use of buildings. Limiting the spread of fire from one building to another, providing access to sunlight and air, and separating smoke-producing industry from residential uses are but a few of the worthy objectives that conventional zoning was intended to fulfill.

In addition to helping protect public health, safety, and welfare, conventional zoning was meant to protect property values by separating incompatible uses in a particular area or district. This separation is typically accomplished by creating single- or limited-use zones that segregate different land uses, such as residential and commercial.

Fueled in part by rapid national growth in population and gross domestic product that followed the end of World War II, the practice of separating "incompatible" land uses led to the near universal segregation of different land uses—often at great distance from one another. As a result, cities and towns have increasingly been placing residential uses in one area, commercial in another, and industrial in still another.

In particular, conventional zoning tends to isolate single-family homes from all other types of development. The development resulting from such zoning requirements often makes it difficult, if not impossible, to walk from home to purchase a quart of milk. Public transportation has become increasingly less efficient in these areas, and travel by personal automobile has often made more sense. Accordingly, maximizing the flow of traffic has been a top priority for street design, which has increasingly yielded streets designed for car travel, not pedestrians.

Over the decades, these and other related factors shaped the urban environment of many communities. Often a community's unique "sense of place" has been diminished—or, in many new communities, was never achieved in the first place.

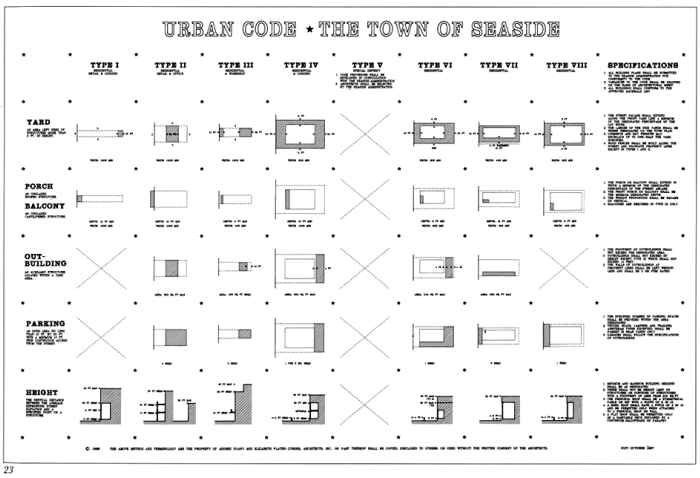
In general, conventional zoning:

- Separates uses related to daily activity, such as home, school, and work.
- Frequently promotes low-density development and relatively limited housing choices.
- Often encourages excessive land consumption and automobile dependency.
- Ends up focusing on what uses are not allowed, rather than encouraging what the community actually wants.
- Applies standards and design requirements generically, in a "one-size-fits-all" manner, throughout the entire community.
- Uses regulations such as floor area ratio, which can shape the form of development in ways that are hard to visualize beforehand and may encourage developers to "max out" the massing of a building within allowed limits, often at the expense of its architectural detailing and sensitivity to existing context.
- Regulates private development, but typically not the design or character of the streets that serve it. This usually leaves development of standards to the city engineer or public works department, which tend to focus on accommodating automobile traffic.

Ultimately, development and street standards in conventional zoning often do not promote the type of development envisioned by a community's comprehensive plan, and even when created with the best of intentions, they can undermine the very plans they are supposed to support.

Form-Based Codes

In the 1980s, a group of planners and architects sought to create an alternative to conventional zoning, focused less on use and more on scale, intensity of development, the shape of public spaces, and the interrelationships between buildings. During this period, the design firm Duany Plater-Zyberk & Company drafted what was effectively the first modern form-based code to guide the development of Seaside, Florida, a new community based on traditional neighborhood design principles. A radical departure from conventional zoning, the entire "Urban Code" for Seaside was graphically presented on one poster.



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Urban Code (1986), Town of Seaside, Florida.
Credit: Duany Plater-Zyberk & Company.

But what are form-based codes? Form-based codes are a method of development regulation, adopted into municipal or county law, that emphasizes the physical character of development (its form) and includes—but often de-emphasizes—the regulation of land uses. As in a conventional zoning ordinance, land uses are regulated, but land use is typically regulated more broadly, with land use categories in lieu of long lists of specific permitted uses.

A form-based code focuses on how development relates to the context of the surrounding community, especially the relationships between buildings and the street, pedestrians and vehicles, and public and private spaces. The code addresses these concerns by regulating site design, circulation, and overall building form.

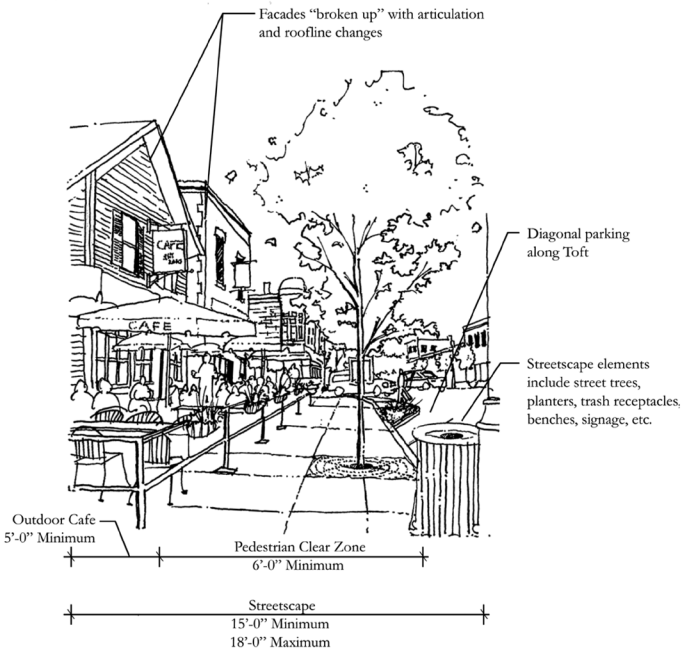
Due to this emphasis on design, form-based codes usually provide greater predictability about the visual aspects of development, including how well it fits in with the existing context of the community. They offer a community the means to create the physical development it wants and developers a clearer understanding of what the community seeks. Over time, these benefits can foster greater community acceptance of new development.

A form-based code can be customized to the vision of any community, including preserving and enhancing the existing character of one neighborhood or dramatically changing and improving the character of another. Typically, they do both.

But how do form-based codes differ from conventional zoning? In general, a form-based code:

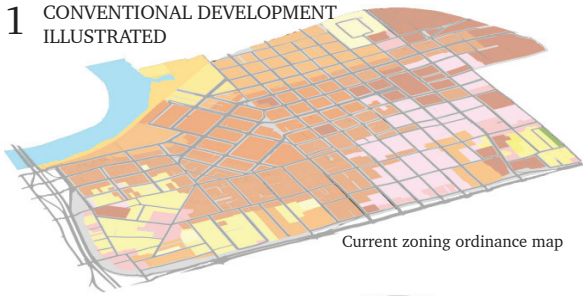
- Encourages a mix of land uses, often reducing the need to travel extensively as part of one's daily routine.
- Promotes a mix of housing types.
- Is "proactive," focusing on what the community wants and not what it dislikes.
- Results from a public design process, which creates consensus and a clear vision for a community, to be implemented by the form-based code.
- Tailors the requirements to fit specific places or neighborhoods by reflecting local architecture and overall character.
- Emphasizes site design and building form, which will last many years beyond specific numerical parameters such as density and use regulations that are likely to change over time.
- Addresses the design of the public realm and the importance that streetscape design and individual building character have in defining public spaces and a special "sense of place."
- Provides information that is easier to use than conventional zoning codes because it is shorter, more concise, and emphasizes illustrations over text.

Figure 3.22: Toft Avenue redevelopment and streetscape improvements



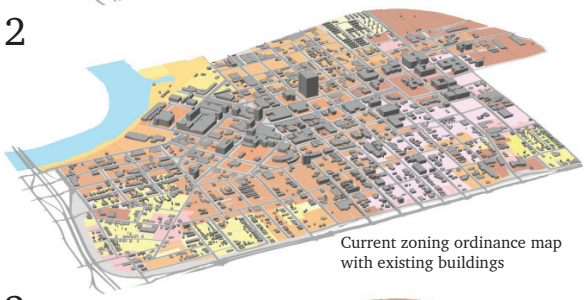
Toft Avenue improvements, Downtown Form-Based Code (2010), Village of Antioch, Illinois.
Credit: The Lakota Group.

1 CONVENTIONAL DEVELOPMENT ILLUSTRATED



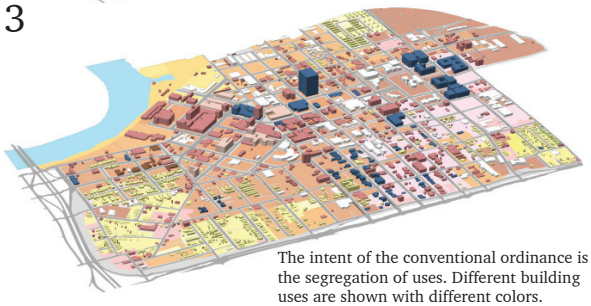
Current zoning ordinance map

2



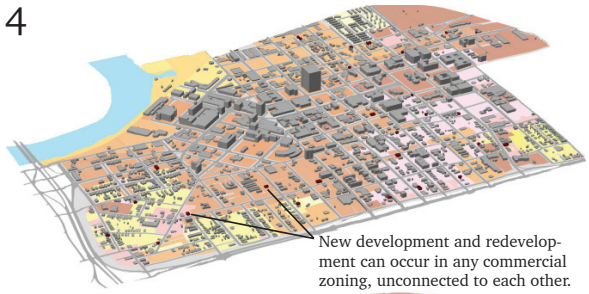
Current zoning ordinance map with existing buildings

3



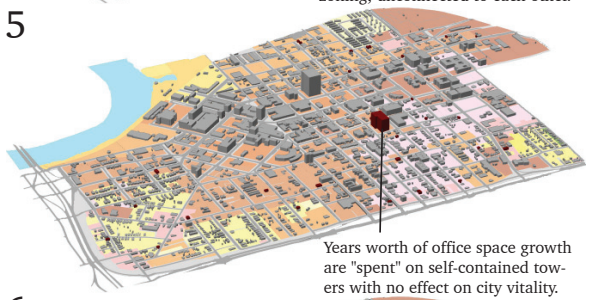
The intent of the conventional ordinance is the segregation of uses. Different building uses are shown with different colors.

4



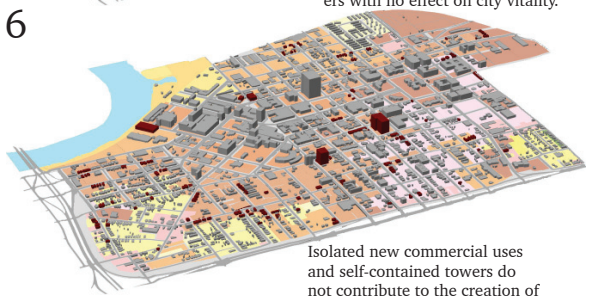
New development and redevelopment can occur in any commercial zoning, unconnected to each other.

5



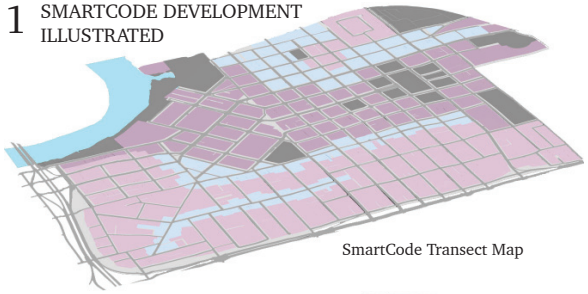
Years worth of office space growth are "spent" on self-contained towers with no effect on city vitality.

6



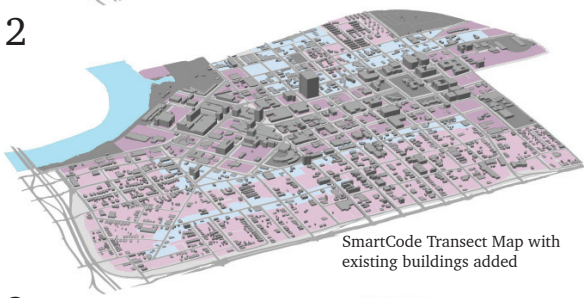
Isolated new commercial uses and self-contained towers do not contribute to the creation of complete neighborhoods.

1 SMARTCODE DEVELOPMENT ILLUSTRATED



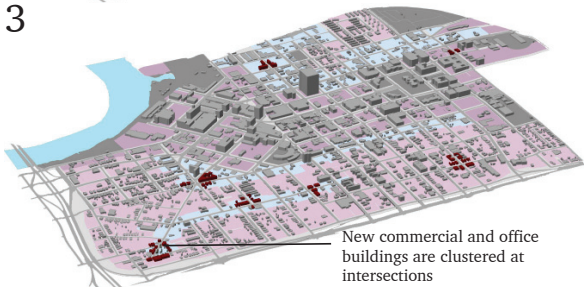
SmartCode Transect Map

2



SmartCode Transect Map with existing buildings added

3



New commercial and office buildings are clustered at intersections

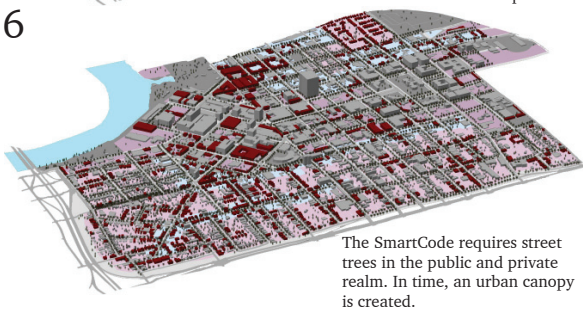
4

New residential units locate at intersections; planned corridor development connects intersections.

5

Clustered, mixed-use areas become neighborhoods and urban centers which attract new development.

6



The SmartCode requires street trees in the public and private realm. In time, an urban canopy is created.

Comparison of typical development patterns under conventional zoning and the SmartCode form-based code template, Downtown Montgomery Plan (2007), City of Montgomery, Alabama. Credit: Dover, Kohl & Partners.

Should Your Community Adopt a Form-Based Code?

Before embarking on the creation of a form-based code, a community needs to carefully consider whether a form-based code is the right tool to achieve community goals for the built environment.

Current regulations may be sufficient. A key indicator is whether the community has experienced a substantial amount of new development in recent years and if there is broad satisfaction with the built environment of a community (buildings, streets, public spaces, etc.). It is common for residents to express high satisfaction with their community's built environment when it has remained largely unchanged over several decades, often the result of strict preservation laws or low demand for new development.

A Means of Preservation and Transformation

If current regulations are not sufficient, form-based codes can preserve what residents love about the physical character of their community, ensuring that future development is in harmony with existing context or facilitating varying degrees of change. Either way, the main purpose of a form-based code is to proactively regulate the physical form and character of new development so that the community gets what it wants, rather than reacting to those elements of each development proposal on a piecemeal basis (or not at all).

It should be noted that while conventional architectural standards can be effective at preserving context, they are often applied subjectively. In addition, some architectural standards lack the necessary scope of regulation, leading to unforeseen consequences, such as new development that follows the letter of the law but only superficially fits in with existing context. For example, architectural standards may permit the construction of an outsized, modern building on a lot located between two historic cottages once the developer agrees to paste decorative shutters on the building's facade. Form-based codes are typically more comprehensive and directly address the aspects of building form that most impact the relationship between buildings and the public realm as a whole.

An Adaptable Approach

Form-based codes are not "one-size-fits-all," but are tailored to the local context, objectives, and means of each community. These considerations include the community's existing physical character and goals for preservation or transformation, as well as its local political landscape and what financial and staff resources are available to support the effort.

Increasing Predictability, Lowering Risk, and Expanding Options for Developers

Nevertheless, it is common for municipalities to be wary of adopting new development regulations, especially in difficult economic times. Although the adoption of any new form-based code will require developers, not to mention municipalities, to learn a new system of development regulation, comprehensive form-based codes have the potential to encourage and facilitate development more effectively than conventional regulations. Form-based codes are often easier to follow than conventional codes and ultimately more comprehensive, providing municipalities and potential developers with a system that, once learned, is more transparent, predictable, and thorough. As an added benefit, the need for review by a discretionary body such as a planning commission or design review board is often eliminated.

In addition, form-based codes typically—but not always—reduce regulation of what uses are allowed within buildings. This can expand the potential market for new development and result in structures that are more adaptable to different kinds of tenants, today and throughout the evolution of the community over many decades.

Photo simulation of proposed changes to Sheridan Road, Heart of Peoria Land Development Code (2007), Peoria, Illinois. Credit: Urban Advantage (www.urban-advantage.com).

Different Methods

There are many approaches to creating a form-based code. Nevertheless, most methods share many of the same steps and specific practices. The Form-Based Codes Institute (FBCI, www.formbasedcodes.org), led by Carol Wyant (who first coined the term "form-based codes"), is a non-profit professional organization dedicated to advancing the understanding and use of form-based codes. FBCI offers an introductory webinar on the "ABCs of Form-Based Codes" and advanced, two-day courses on creating, adopting, and administering form-based codes.

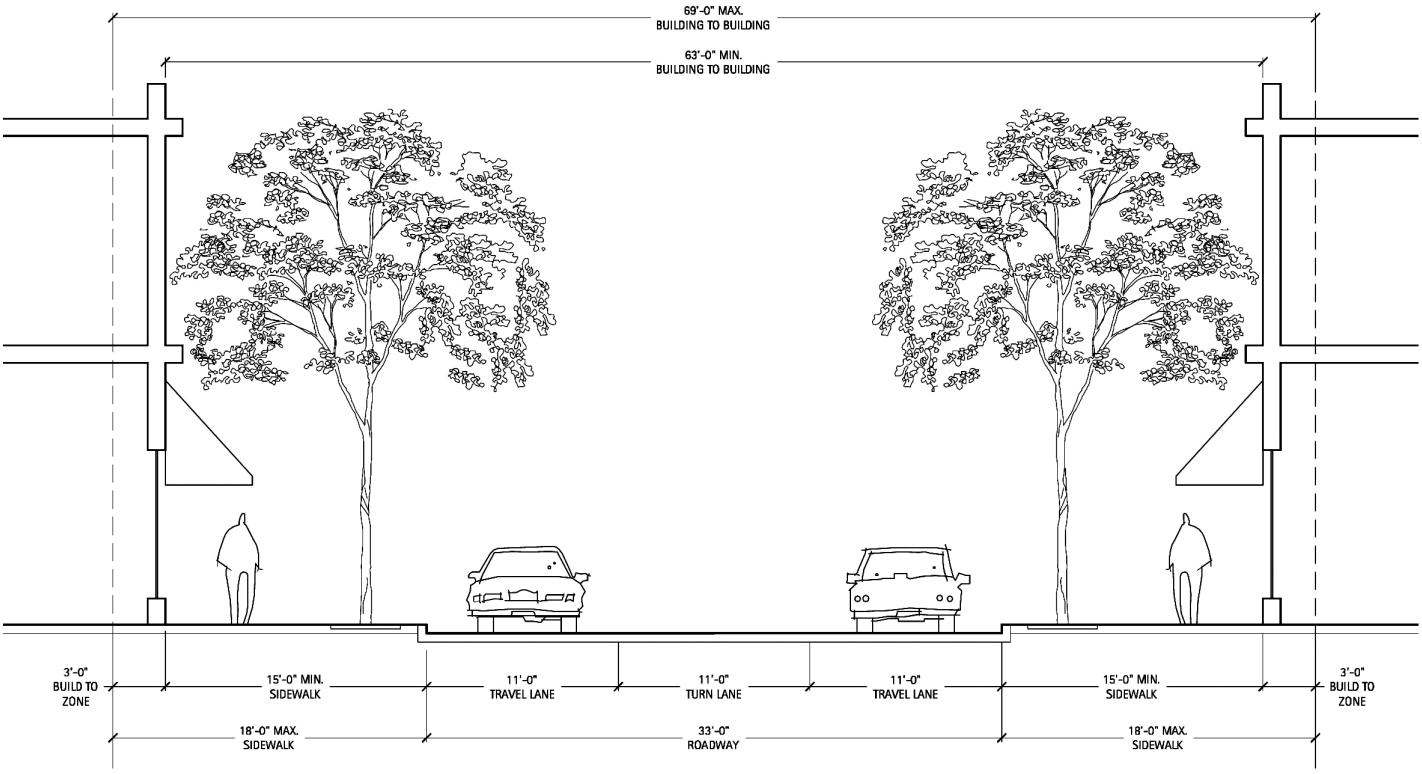
Architects Daniel and Karen Parolek of Opticos Design, Inc. are both on the FBCI Board of Directors and frequently serve as instructors for FBCI's courses and webinars. Drawing upon years of experience developing award-winning form-based codes for communities across the nation, they wrote (with Paul Crawford) the influential textbook *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers* (2008), which offers a highly-detailed, comprehensive process for creating a form-based code that impressively incorporates established best practices.

Their process may differ from that used by many consulting firms specializing in form-based codes, who often follow a highly customized process they've crafted over the years. But in order to provide municipalities in our region with an idea of what the creation of a form-based code could entail, a synopsis of the steps recommended by the authors follows. The steps include:

Step 1: Scoping defines the area of the community to be addressed through the form-based code and the extent to which form-based codes interact with existing regulations.

Step 2: Assessing Existing Conditions documents and analyzes the community's existing urban form at different scales, providing a basis for the creation of the form-based code.

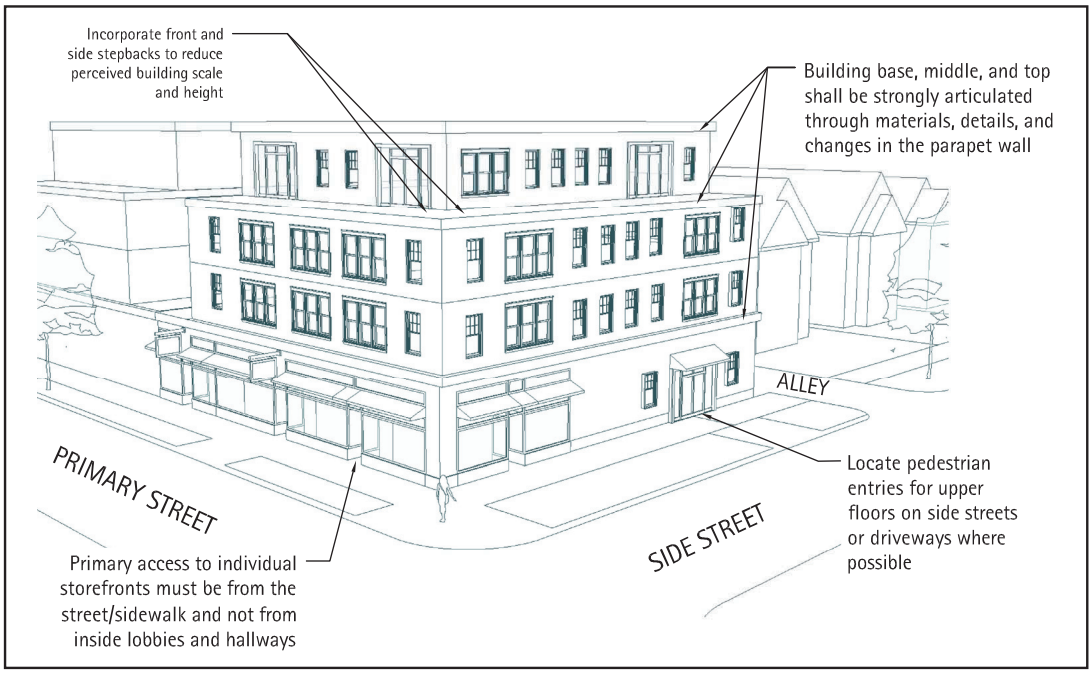
Step 3: Visioning and Creating Regulations defines the community's vision for its future and determines the specific regulations and procedures of the form-based code.



Thoroughfare standards for Orchard Street in Transitional Core District, Downtown Form-Based Code (2010), Village of Antioch, Illinois. Credit: The Lakota Group.

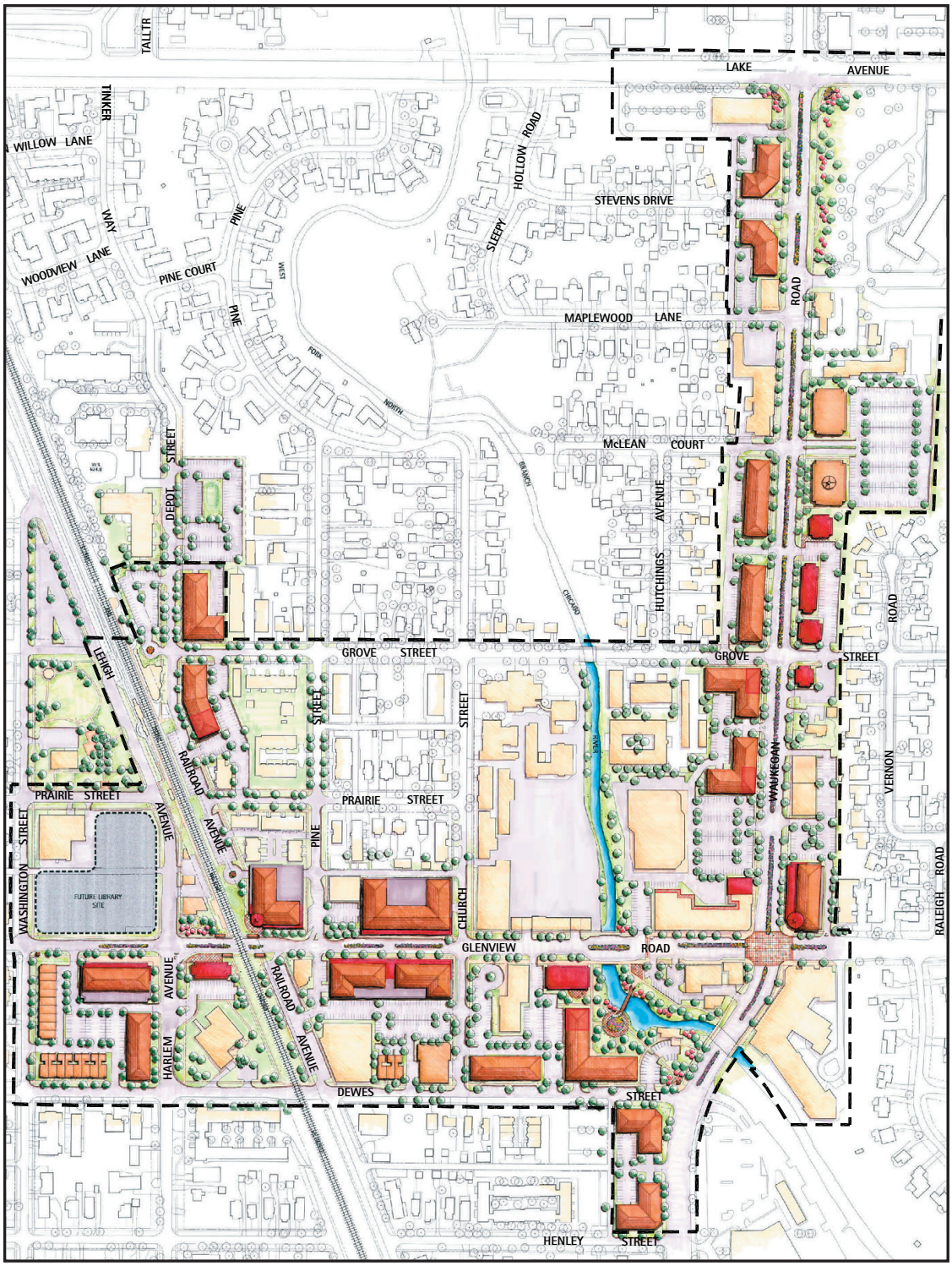
4.6.1 Mixed Use

Figure 4.1: Mixed-use Building on Corner Lot



Example of mixed-use building on corner lot with articulated architecture.

Design standards for mixed-use, Downtown Development Code (2008), Village of Glenview, Illinois. Credit: The Lakota Group.



Downtown Revitalization Plan (2006), Village of Glenview, Illinois. Credit: The Lakota Group.

Step One
Scoping

Once a municipality chooses to develop a form-based code, there are several questions the community will need to carefully consider at the beginning of the process, such as:

What staff should be involved?

How much help will we need from consultants?

Should the new form-based code cover the whole community, or just part of it?

How much change do we want?

The answers to these essential questions will determine the scope of the form-based code.

Who Should Be Involved?

Form-based codes address both the short- and long-term interests of several specialized areas. Therefore, it is vital to assemble a diverse team to lead the creation of the form-based code. Typically, this code team is composed of municipal staff with consultant assistance, frequently with the consultant team responsible for guiding the effort and completing the majority of tasks required by the planning process.

Photo simulation of proposed changes to Dexter Avenue, Downtown Montgomery Plan (2007), City of Montgomery, Alabama. Credit: Urban Advantage (www.urban-advantage.com).

Testing the Waters

Some municipalities may choose to first create a form-based code for a limited area before applying the techniques to more extensive areas or to the entire municipality. This may be due to uncertainty among elected officials and residents or a desire to create a pilot project that will provide an opportunity for municipal staff and elected officials to gain experience.

Municipal Staff

Key municipal departmental staff are essential to the creation of the form-based code, participating—at a minimum—in an initial assessment of the existing zoning regulations, community visioning sessions and workshops, and code drafting and review. Departments that typically participate include planning, public works, parks and recreation, economic development, police, and fire.

Consultant Assistance

Consultants are typically engaged to augment the expertise of the municipal staff and often to lead the effort. These consultants are usually planners, architects, or urban designers. Depending on the focus and objectives of the form-based code effort, the consultant team could also draw on expertise from disciplines such as transportation planning, market analysis, historic preservation, legal support, and public participation. FBCI provides sample Request for Qualifications (RFQs) and RFPs at www.formbasedcodes.org.

Define Your Form-Based Codes Area

Form-based codes can be applied at a variety of scales. Examples include:

- Sub-areas within a municipality:
  - Downtowns
  - Deteriorating strip commercial corridors
  - "Dead" big-box shopping centers
  - One or more undeveloped "greenfield" areas adjacent to a municipality that are intended to accommodate growth
  - Existing neighborhoods or other developed areas where infill development is intended to preserve or extend existing patterns of physical character
- Entire municipalities
- Counties or regions that include both urban areas and countryside
- Areas that have been targeted for economic revitalization, are undergoing changes in land ownership, or are the location of planned infrastructure improvements

Planning Process

Form-based codes are typically created by integrating a planning process with the drafting of specific rules for development. Communities will need to take into consideration the timing of the most recent comprehensive plan update and whether the update included sufficient engagement with the community and urban design specifications in the plan, as well as the amount of funding available for the development of the form-based code.

Relationship with Existing Regulations

There are several different methods for introducing form-based codes into an established zoning ordinance. Their suitability often depends upon the degree of change that is desired by the community and a realistic assessment of political feasibility.

Comprehensive Replacement of Existing Code

The form-based code replaces the existing conventional zoning code for all or part of a community, and all development within the area must abide by the regulations of the form-based code. This approach generally offers the widest range of opportunities for transforming a targeted area of a community while maintaining established character in others. It also offers the advantage of consistency in regulatory vocabulary and procedures throughout the code.

Hybrid Zoning Code

A hybrid code is one that combines form-based zoning districts, and potentially other form-based standards, with a conventional zoning approach. Form-based standards can be merged with the existing conventional code or created in conjunction with new conventional zoning standards. A hybrid code can take the form of a chapter within the code, similar to a special district or overlay. The hybrid form-based code is cross-referenced to other sections of the pre-existing code for selected development standards, such as parking dimensions or landscaping standards. Areas that fall within the form-based code boundaries are rezoned to new zoning districts per the code. Within these areas, any and all development must abide by the new regulations for the form-based zones. This approach can be used for a sub-area in the phased replacement of an existing code, and can also be an effective way of responding to pressure for physical change in "sensitive" areas of the community.

Optional/Parallel Code

The form-based code is created as a standalone code but does not replace the existing conventional zoning code. Instead, in specific areas defined in the form-based code, the developer is given the choice to build under the existing conventional zoning or the new form-based code. The property does not have to be rezoned, but once the developer chooses a code, the entire development project must abide by it.

There are advantages to this approach, but the challenges of administering even a single zoning code are significant, and two codes may create confusion about the community's commitment to the requirements and principles reflected in the form-based code. It may also result in developers attempting to pick and choose only those form-based code requirements that are most beneficial to their interests.

Organizing Principle

There are many different approaches to regulating the type, scale, form, and intensity of allowable development in a form-based code. Some common approaches are explained below, but it is important to note that any consulting firm that specializes in form-based codes is likely to have its own individualized approach.

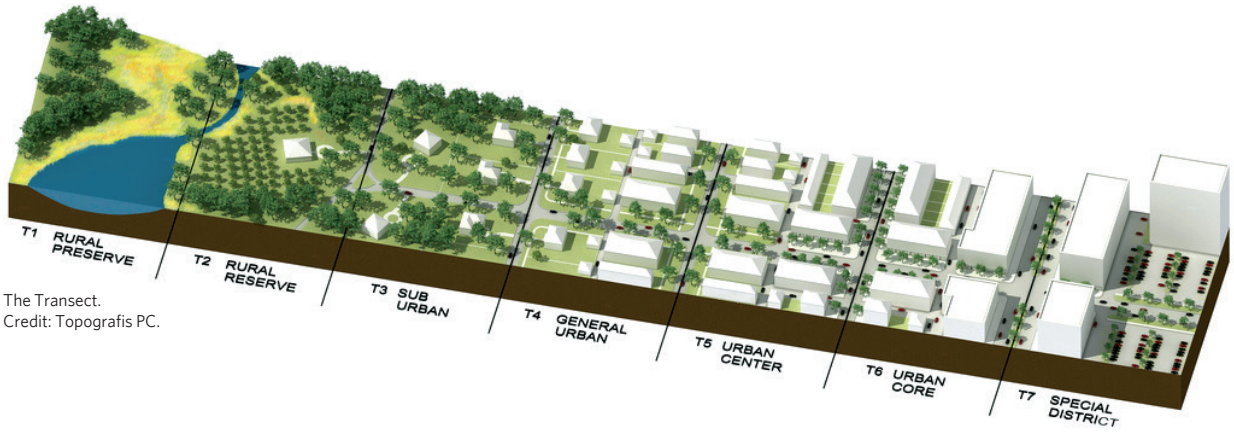
Transect-Based Codes

Many form-based codes are organized using the concept of a rural-to-urban "transect," in which zones are primarily classified by the physical intensity of the built form, the relationship between nature and the built environment, and the complexity of uses within the zone (please see diagram below explaining the concept). This allows for a gradual transition between different areas in a community. Applying the concept of the transect to a particular planning area often results in a modified version that responds to local conditions; indeed, this is how the transect-based SmartCode, a form-based code template, functions (an explanation of the SmartCode is provided on the following page).

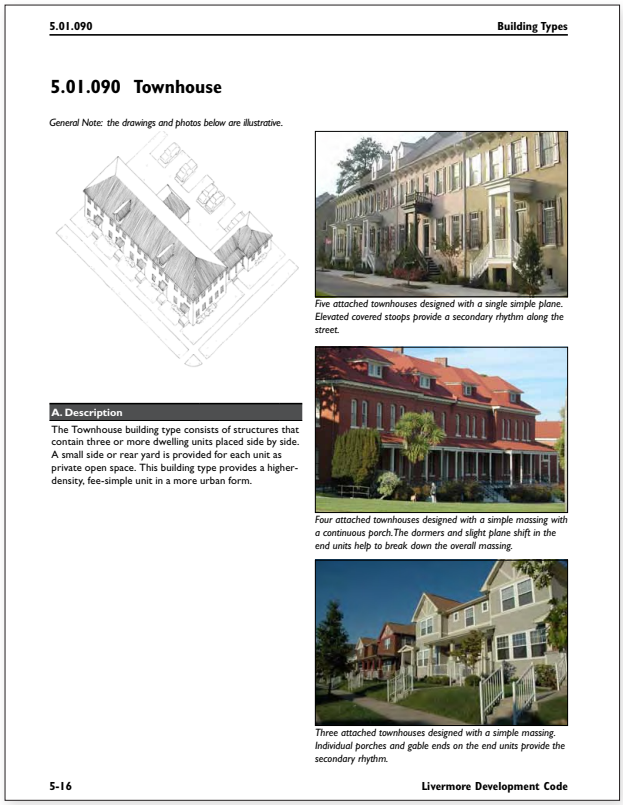
Building Type-Based Codes

In this common approach, the form-based code is organized through different building types, each defined by specific development standards regulating the configurations, features, and functions of buildings. The building types and their accompanying development standards are applied to different blocks and districts within the planning area.

This approach is thought to work best in smaller planning areas, especially infill development, where the compatibility of new development with existing buildings is a high priority. In this scenario, the use of building types can reinforce the existing character of a community.



The Transect.
Credit: Topografis PC.



5.01.090 Building Types

5.01.090 Townhouse

General Note: the drawings and photos below are illustrative.

A. Description

The Townhouse building type consists of structures that contain three or more dwelling units placed side by side. A small side or rear yard is provided for each unit as private open space. This building type provides a higher-density, fee-simple unit in a more urban form.

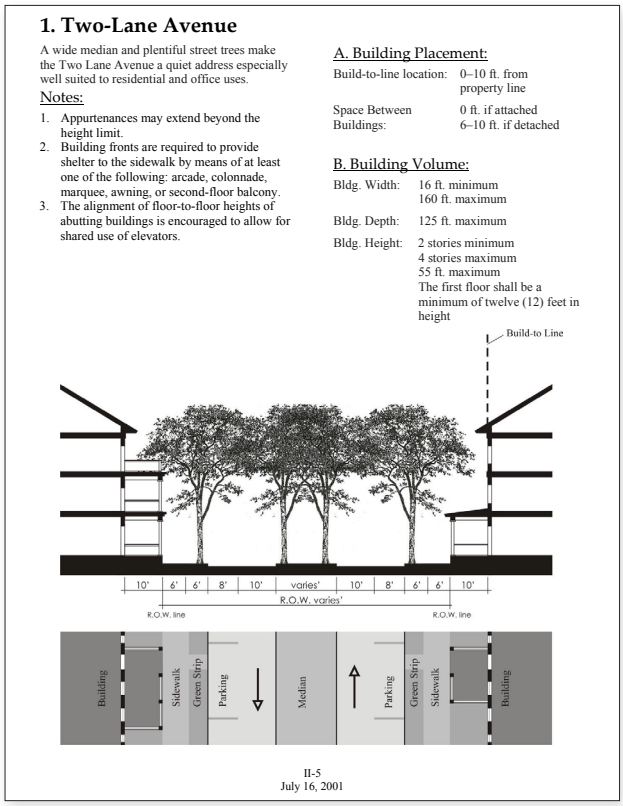
Five attached townhouses designed with a single simple plane. Elevated covered stoops provide a secondary rhythm along the street.

Four attached townhouses designed with a simple massing with a continuous porch. The dormers and slight plane shift in the end units help to break down the overall massing.

Three attached townhouses designed with a simple massing. Individual porches and gable ends on the end units provide the secondary rhythm.

5-16 Livermore Development Code

Building Types: Townhouse, Development Code (2010), City of Livermore, California. Credit: Opticos Design, Inc.



1. Two-Lane Avenue

A wide median and plentiful street trees make the Two Lane Avenue a quiet address especially well suited to residential and office uses.

Notes:

1. Appurtenances may extend beyond the height limit.
2. Building fronts are required to provide shelter to the sidewalk by means of at least one of the following: arcade, colonnade, marquee, awning, or second-floor balcony.
3. The alignment of floor-to-floor heights of abutting buildings is encouraged to allow for shared use of elevators.

A. Building Placement:

Build-to-line location:	0–10 ft. from property line
Space Between Buildings:	0 ft. if attached 6–10 ft. if detached

B. Building Volume:

Bldg. Width:	16 ft. minimum 160 ft. maximum
Bldg. Depth:	125 ft. maximum
Bldg. Height:	2 stories minimum 4 stories maximum 55 ft. maximum The first floor shall be a minimum of twelve (12) feet in height

II-5
July 16, 2001

Street Types: Two-Lane Avenue, Central Hercules Plan (2001), City of Hercules, California. Credit: Dover, Kohl & Partners.

Street-Based Codes

Street-based codes are form-based codes that are organized by different street types, such as boulevards, arterials, and collectors. Each street type is defined by the level of traffic the roadway is designed to accommodate, design speeds, pedestrian crossing times, the width of vehicle lanes and sidewalks, the configuration of on-street parking, the presence of medians bicycle lanes, and other factors, including how buildings are required to address the street (in terms of height, frontage type, and build-to lines). Street-based codes are typically illustrated using section drawings.

Template Codes

A form-based code can be designed and developed locally from scratch or based on a predetermined "template" that has been used elsewhere and can be customized to serve local needs.

SmartCode

The most notable currently available code template is the SmartCode. It was originally created by the architectural firm of Duany Plater-Zyberk & Company and has since undergone continual refinement by the firm, other planning and design professionals, and communities that have used the code.

The SmartCode is a comprehensive, transect-based form-based code template (or "model ordinance") that includes model language, standards, and requirements for multiple scales of development by public and private sectors, as well as administrative procedures for development review and approval. It is intended to be customized to the local context, priorities, and legal requirements of each community that uses it.

It has been used by several communities across the U.S., and in its largest implementation to date, it was used as the basis for the new development code for the City of Miami, Florida.

Considerations for Templates

If the form-based code will apply to an area composed of only one transect level, a transect-based approach such as the SmartCode may not be necessary. Also consider the extent to which local officials (particularly municipal attorneys) are confident that the template can be sufficiently calibrated to and customized to comply with applicable state law requirements, including consistency with the municipality's comprehensive plan.

Other templates

Consultant teams that have prepared more than a few form-based codes are likely to have developed at least one form-based code template. If the consultant team is based in the region, it is likely that their template will likely be customized to the local context and legal requirements of the municipality.

TABLE 14. SMARTCODE SUMMARY

SMARTCODE

Municipality

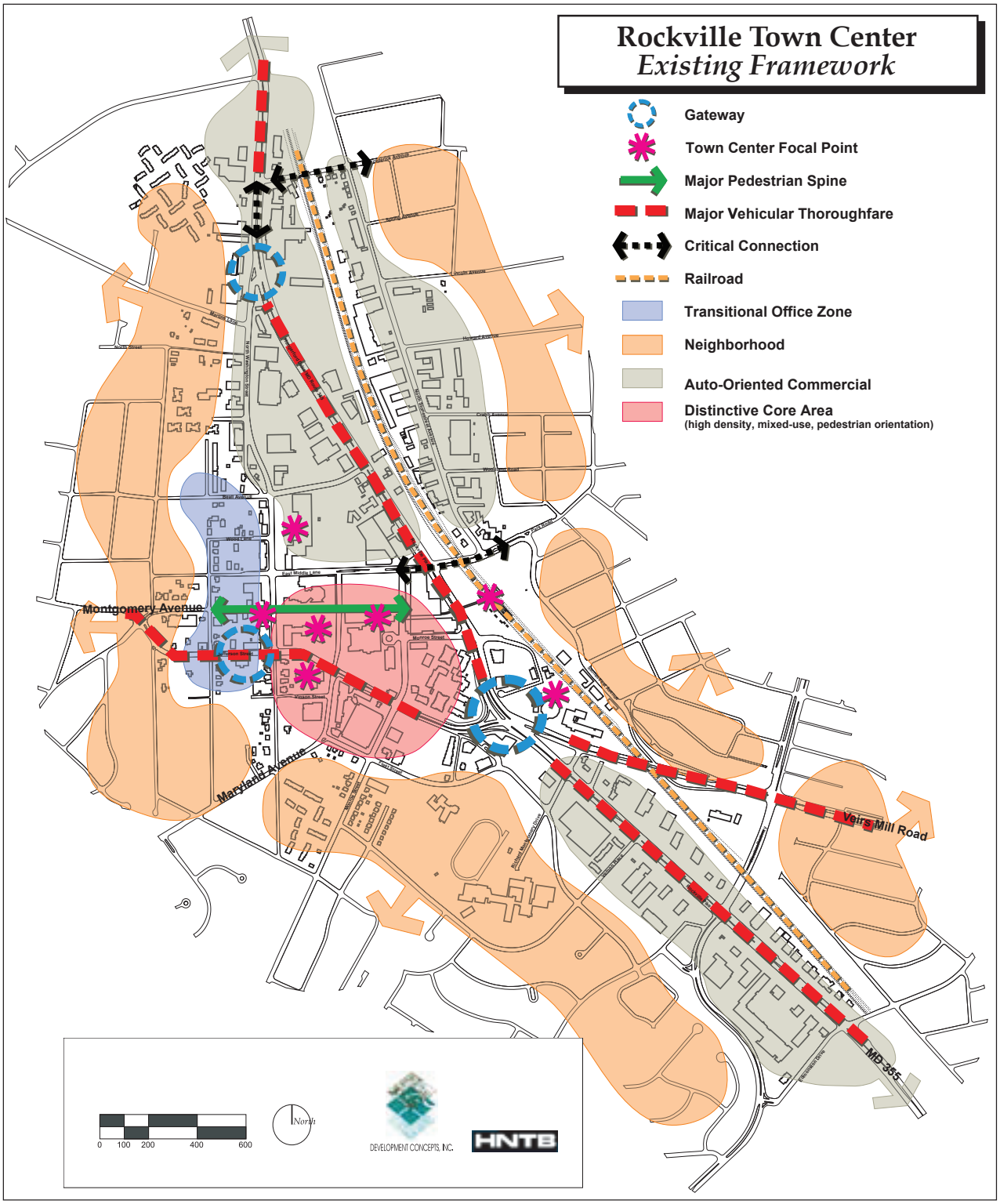
Note: All requirements in this Table are subject to calibration for local context.

	T1 NATURAL ZONE	T2 RURAL ZONE	T3 SUB-URBAN ZONE	T4 GENERAL URBAN ZONE	T5 URBAN CENTER ZONE	T6 URBAN CORE ZONE	SD SPECIAL DISTRICT	
a. ALLOCATION OF ZONES per Pedestrian Shed (applicable to Article 3 only)							(see Table 16)	
CLD requires	no minimum	50% min	10 - 30%	20 - 40%	not permitted	not permitted		
TND requires	no minimum	no minimum	10 - 30%	30 - 60 %	10 - 30%	not permitted		
RCD requires	no minimum	no minimum	not permitted	10 - 30%	10 - 30%	40 - 80%		
b. BASE RESIDENTIAL DENSITY (see Section 3.4)								
By Right	not applicable	1 unit / 20 ac avg.	2 units / ac. gross	4 units / ac. gross	6 units / ac. gross	12 units / ac. gross		
By TDR	by Variance	by Variance	6 units / ac. gross	12 units / ac. gross	24 units / ac. gross	96 units / ac. gross		
Other Functions	by Variance	by Variance	10 - 20%	20 - 30%	30 - 50%	50 - 70%		
c. BLOCK SIZE								
Block Perimeter	no maximum	no maximum	3000 ft. max	2400 ft. max	2000 ft. max	2000 ft. max *		
d. THOROUGHFARES (see Table 3 and Table 4)						* 3000 ft. max with parking structures		
HW	permitted	permitted	permitted	not permitted	not permitted	not permitted		
BV	not permitted	not permitted	permitted	permitted	permitted	permitted		
AV	not permitted	not permitted	permitted	permitted	permitted	permitted		
CS	not permitted	not permitted	not permitted	not permitted	permitted	permitted		
DR	not permitted	not permitted	permitted	permitted	permitted	permitted		
ST	not permitted	not permitted	permitted	permitted	permitted	not permitted		
RD	permitted	permitted	permitted	not permitted	not permitted	not permitted		
Rear Lane	permitted	permitted	permitted	permitted	not permitted	not permitted		
Rear Alley	not permitted	not permitted	permitted	required	required	required		
Path	permitted	permitted	permitted	permitted	not permitted	not permitted		
Passage	not permitted	not permitted	permitted	permitted	permitted	permitted		
Bicycle Trail	permitted	permitted	permitted	not permitted *	not permitted	not permitted		
Bicycle Lane	permitted	permitted	permitted	permitted	not permitted	not permitted		
Bicycle Route	permitted	permitted	permitted	permitted	permitted	permitted		
e. CIVIC SPACES (see Table 13)						* permitted within Open Spaces		
Park	permitted	permitted	permitted	by Warrant	by Warrant	by Warrant		
Green	not permitted	not permitted	permitted	permitted	permitted	not permitted		
Square	not permitted	not permitted	not permitted	permitted	permitted	permitted		
Plaza	not permitted	not permitted	not permitted	not permitted	permitted	permitted		
Playground	permitted	permitted	permitted	permitted	permitted	permitted		
f. LOT OCCUPATION								DISPOSITION
Lot Width	not applicable	by Warrant	72 ft. min 120 ft. max	18 ft. min 96 ft. max	18 ft. min 180 ft. max	18 ft. min 700 ft. max		DISPOSITION
Lot Coverage	not applicable	by Warrant	60% max	70% max	80% max	90% max		DISPOSITION
g. SETBACKS - PRINCIPAL BUILDING (see Table 15)								DISPOSITION
(g.1) Front Setback (Principal)	not applicable	48 ft. min	24 ft. min	6 ft. min 18 ft. max	2 ft. min 12 ft. max	2 ft. min 12 ft. max		DISPOSITION
(g.2) Front Setback (Secondary)	not applicable	48 ft. min	12 ft. min	6 ft. min 18 ft. max	2 ft. min 12 ft. max	2 ft. min 12 ft. max		DISPOSITION
(g.3) Side Setback	not applicable	96 ft. min	12 ft. min	0 ft. min	0 ft. min 24 ft. max	0 ft. min 24 ft. max		DISPOSITION
(g.4) Rear Setback	not applicable	96 ft. min	12 ft. min	3 ft. min *	3 ft. min *	0 ft. min		DISPOSITION
Frontage Buildout	not applicable	not applicable	40% min	60% min	80% min	80% min		DISPOSITION
h. SETBACKS - OUTBUILDING (see Table 15)								DISPOSITION
(h.1) Front Setback	not applicable	20 ft. min +bldg setback	20 ft. min +bldg setback	20 ft. min +bldg setback	40 ft. max from rear prop	not applicable		DISPOSITION
(h.2) Side Setback	not applicable	3 ft. or 6 ft.	3 ft. or 6 ft.	0 ft. min or 3 ft.	0 ft min	not applicable		DISPOSITION
(h.3) Rear Setback	not applicable	3 ft. min	3 ft. min	3 ft.	3 ft. max	not applicable		DISPOSITION
i. BUILDING DISPOSITION (see Table 9)								DISPOSITION
Edgeyard	permitted	permitted	permitted	permitted	not permitted	not permitted		DISPOSITION
Sideyard	not permitted	not permitted	not permitted	permitted	permitted	not permitted		DISPOSITION
Rearyard	not permitted	not permitted	not permitted	permitted	permitted	permitted		DISPOSITION
Courtyard	not permitted	not permitted	not permitted	not permitted	permitted	permitted		DISPOSITION
j. PRIVATE FRONTAGES (see Table 7)								CONFIGURATION
Common Yard	not applicable	permitted	permitted	not permitted	not permitted	not permitted		CONFIGURATION
Porch & Fence	not applicable	not permitted	permitted	permitted	not permitted	not permitted		CONFIGURATION
Terrace or Dooryard	not applicable	not permitted	not permitted	permitted	permitted	not permitted		CONFIGURATION
Forecourt	not applicable	not permitted	not permitted	permitted	permitted	permitted		CONFIGURATION
Stoop	not applicable	not permitted	not permitted	permitted	permitted	permitted		CONFIGURATION
Shopfront & Awning	not applicable	not permitted	not permitted	permitted	permitted	permitted		CONFIGURATION
Gallery	not applicable	not permitted	not permitted	permitted	permitted	permitted		CONFIGURATION
Arcade	not applicable	not permitted	not permitted	not permitted	permitted	permitted		CONFIGURATION
k. BUILDING CONFIGURATION (see Table 8)								CONFIGURATION
Principal Building	not applicable	2 Stories max	2 Stories max	3 Stories max, 2 min	5 Stories max, 2 min	8 Stories max, 2 min		CONFIGURATION
Outbuilding	not applicable	2 Stories max	2 Stories max	2 Stories max	2 Stories max	not applicable		CONFIGURATION
l. BUILDING FUNCTION (see Table 10 &Table 12)								FUNCTION
Residential	not applicable	restricted use	restricted use	limited use	open use	open use		FUNCTION
Lodging	not applicable	restricted use	restricted use	limited use	open use	open use		FUNCTION
Office	not applicable	restricted use	restricted use	limited use	open use	open use		FUNCTION
Retail	not applicable	restricted use	restricted use	limited use	open use	open use		FUNCTION

ARTICLE 5

ARTICLE 2, 3, 4

Summary of sample SmartCode requirements (intended to be calibrated to the context and needs of each community). Credit: Duany Plater-Zyberk & Company.



Existing Framework, Town Center Master Plan (2001), City of Rockville, Maryland. Credit: Development Concepts, Inc./HNTB.

Step Two
Assessing Existing Conditions

A form-based code guides development to build upon and strengthen the unique characteristics of a community, helping to preserve desired character. Before a form-based code is created, the code team identifies these unique characteristics by documenting and analyzing the community's existing urban form at different scales, from the broad characteristics of a community's neighborhoods to the specific architectural details of windows on typical houses within each neighborhood. The information gathered during this phase is organized and analyzed to provide a basis for the creation of the form-based code.

It should be noted that the following approach to documenting and analyzing existing conditions is not standardized, so a variety of approaches are possible. Many form-based code consultants choose a different process, such as documenting large and small scale elements simultaneously, rather than in two phases.

Community Sub-Areas

Site visit, Downtown Montgomery Plan (2007), City of Montgomery, Alabama. Credit: Dover, Kohl & Partners.

Documenting the existing conditions of a community's sub-areas helps the code team understand the composition of the community at a larger scale. Some common sub-areas that can be identified include:

Neighborhoods, which usually are areas that contain blocks or buildings that are unified in character or style. A neighborhood is often walkable and may have a clearly defined center or edge.

Districts, which are areas typically defined by a particular use or activity, such as light industrial districts.

Corridors, which can be man-made elements relating to movement, such as roads or railways, or natural elements such as rivers. Whether man-made or natural, these corridors often define boundaries within and between neighborhoods. However, roads that function as commercial corridors often serve as the center of many communities.

Preparation

Reviewing Background Documents

With the help of municipal staff, the code team should gather existing background documents, such as maps and past plans, for the area. These documents provide immediate context for the code team's analysis and will help them develop a form-based code that accommodates and works with existing regulations that will remain in effect after the form-based code is implemented. In addition, it is important for the code team to review any regulations that are being replaced in order to help understand the existing place and to learn from those regulations' successes and failures. Similarly, studying past plans can help the team to incorporate any previous visioning work that was completed by the community prior to the form-based code process.

Mapping Existing Conditions

To understand existing conditions and select areas to focus on during the site visit, the code team may create an existing conditions map with information such as public right-of-way lines, lot lines, building footprints, curbs and sidewalk locations, existing land uses, parking location, and natural features (such as rivers) that will impact development.

Analyzing Existing Conditions Maps

Existing conditions maps can be marked in response to any of the following questions:

- *Where are the centers or focal points?*
- *Which streets and roadways are regional connectors? Which are local connectors?*
- *Where are the green or pedestrian corridors?*
- *Which areas are currently slated for major changes in scale and/or use?*
- *Which places define the community's identity? Are historic developmental patterns intact in any of these places?*
- *Where do building and street patterns change and what might be the reason?*
- *Which neighborhoods would benefit from the preservation of their existing character?*
- *Are there any districts that are expressly zoned for a particular use or activity, such as light industry?*
- *Are there clear edges and transitions between neighborhoods?*
- *Which transect levels exist within the community?*

The code team will review these maps, looking for patterns and marking up the maps with the existing neighborhood, district, and corridor framework of the community. In addition, the team will usually mark the map in response to questions about the physical form of the community (please see inset above). If the team anticipates a transect-based form-based code (see page 17), it might begin to make an initial list of transect levels that are likely to be included in the form-based code.

Site Visit

Members of the code team will often visit the study area to determine the centers and boundaries of any neighborhoods, districts, and corridors, then mark them on a map (such as an existing conditions map created before the site visit).

Neighborhoods

For neighborhoods, the code team will often try to locate its center (which is a crossroad, commercial center, school, government building, or park) as well as its outer boundary (typically a street, rail line, or creek). The team is likely to take photographs intended to illustrate the physical character of each neighborhood; these photographs may be used later on to help the team determine which transect level is applicable to the neighborhood. The code team is likely to make an initial assessment of how much each neighborhood should change (such as "preserve," "preserve and enhance," "evolve," and "transform"). If relevant to the project, the team may note potential locations for new neighborhoods and neighborhood centers.

Districts

The code team usually will also mark any identified districts (on the existing conditions map, or equivalent), and take photographs of the area. If there are any districts, the team should assess the relationship of each district to the community, determining whether it is a healthy component of the community (such as an educational campus), an incompatible-use district (such as a heavy industrial area), or an area unnecessarily zoned as a district (such as single-use districts that could be appropriately placed within a mixed-use district). In addition, the team should consider whether each necessary district will need to expand in the future.

Corridors

The code team may also mark the location of any corridors, such as important roads, trails, or streams, and consider how the corridor is functioning as an element of the built environment and whether there is a balance between auto and pedestrian traffic.

Special Conditions

The team will usually note any other unique larger elements of the area, such as topography.

Organizing the Data

According to a methodology that is most helpful to them, the code team may create a series of spreadsheets, diagrams, or maps to organize the information from the site visit. Some teams may find it helpful to compile the data from all maps and diagrams onto a single summary diagram (some firms refer to this as an "existing framework diagram").

If developing a transect-based form-based code, the team will likely review the summary diagram for the various transect levels noted for each neighborhood during the first round of site visits. Any photographs taken during the site visit will usually be organized by transect level. The code team may then create an "existing transect diagram," which includes all neighborhoods and indicates which transect levels are found in each, usually illustrated by photographs from the site visits.

Smaller Scale Details

Documenting the existing conditions of smaller scale details provides dimensional measurements for the first draft of the form-based code, which will then be modified during the visioning and coding phases. Some of the basic elements to be documented by the code team are buildings (form, placement, frontages, types, and use), thoroughfares, lots and blocks, civic spaces (parks and plazas), and additional elements (such as architecture or landscaping) as desired by the community.

Preparation

Choosing Sampling Areas

To document the community at a smaller scale, the code team will usually select several "sampling areas." If developing a transect-based form-based code, the team will generally review the range of transect levels previously documented, and then select four or five sampling areas (often a block-long street) for each that seem to represent typical conditions that are desired by the community.

However, if the code team has chosen an approach other than a transect-based code, the sampling method will be slightly different. For example, if the form-based code is to be organized by building types, the code team will usually identify existing buildings in the community that exemplify the physical characteristics of each building type, and then select which ones should be documented (or "sampled"). It is also important to document the area(s) where new building types are to be applied in order to understand the impacts of applying new development standards to those areas.

Site Visit

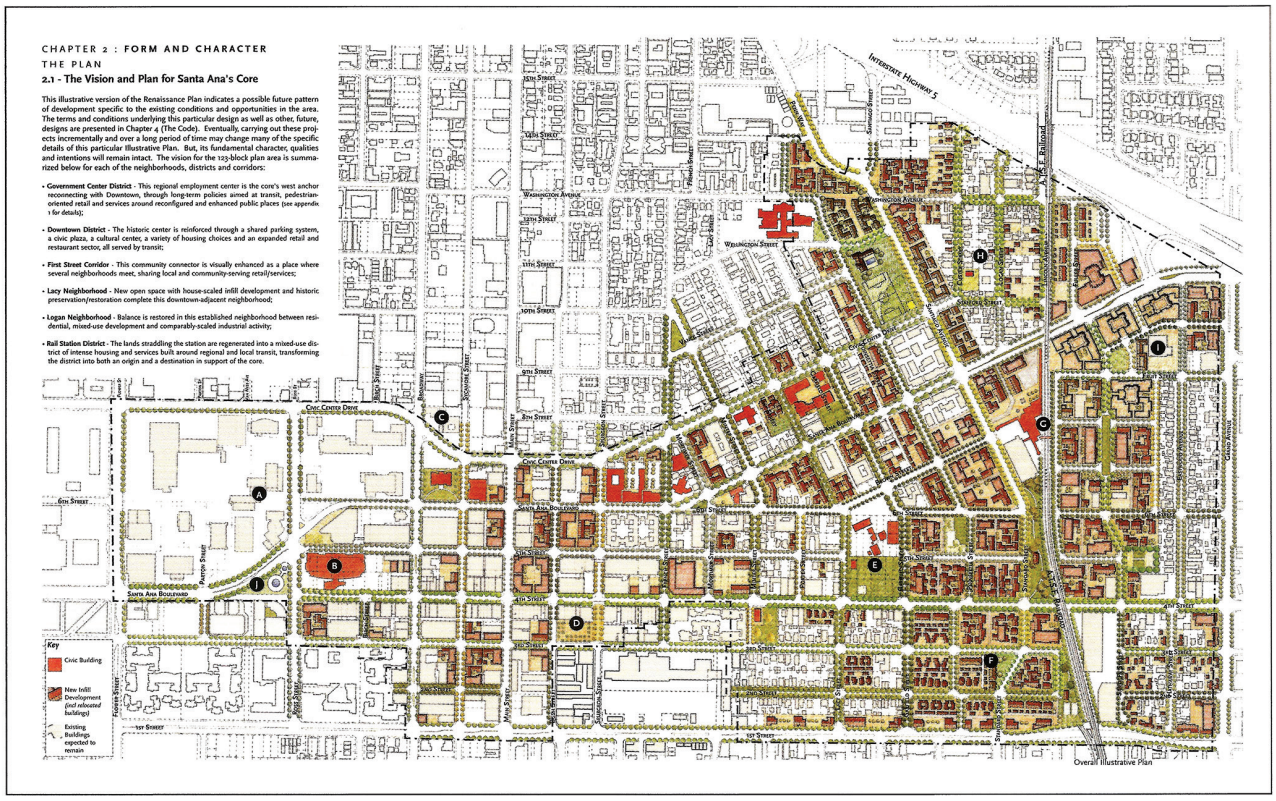
To document buildings for a transect-based form-based code, the code team will usually visit the areas they have chosen to sample, filling in details about the physical characteristics of each building and lot. Typically, this will include gathering measurements and other information about the form and dimensions of the building, its placement on the lot, the front of the building and its physical relationship to the street, number of parking spaces, and its associated land uses. The team may also take a variety of photos of the block, including building elevations and architectural features, views along the sidewalk, side street conditions, any alleys, and other views showing the relationship between buildings, landscaping, and the public realm.

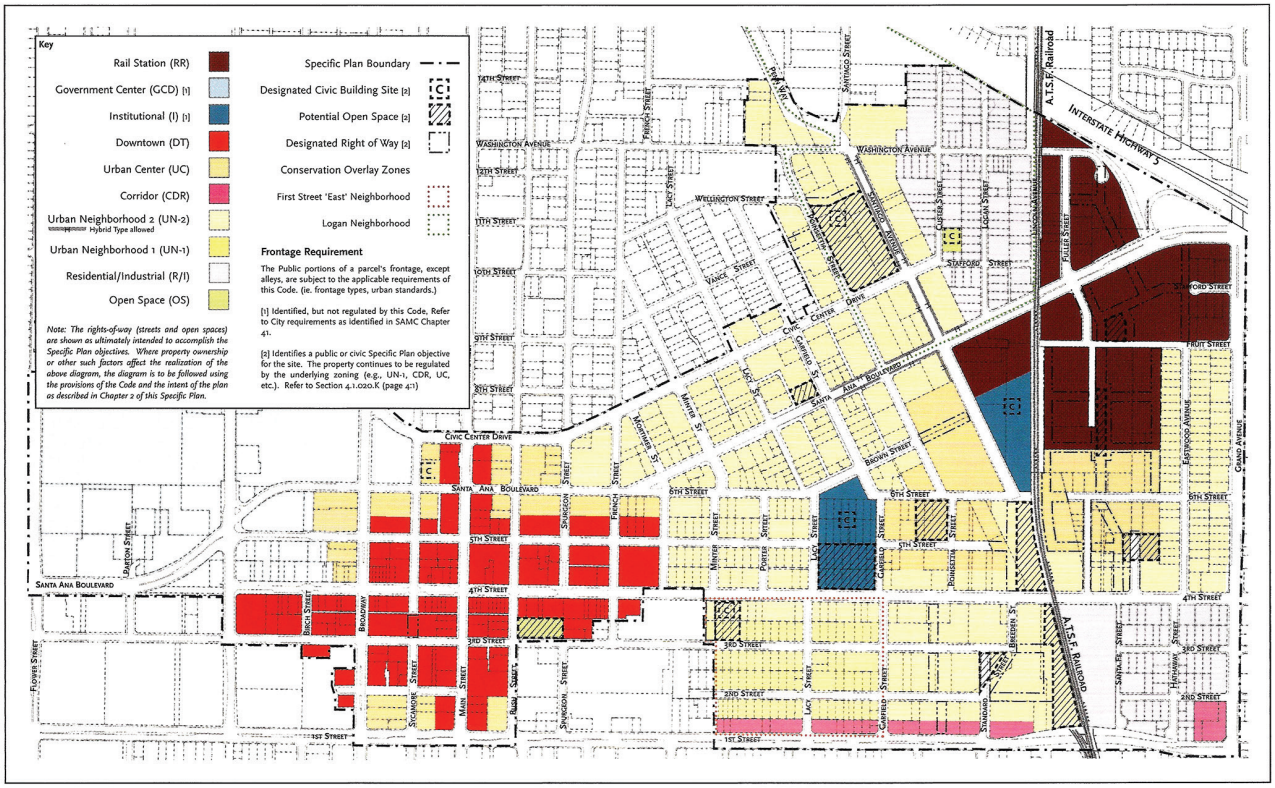
Organizing the Data

Once the documentation of smaller scale details in the community is complete, the code team will generally begin determining which values among those collected from the sampling areas are most representative of typical conditions. For example, in transect-based form-based codes, the values that best exemplify typical conditions of each sampling area are then used to determine the most representative values for each transect. As mentioned previously, these values will become the base measurements used in developing the actual regulations of the form-based code.

"Ground-Truthing" the Findings

This would be a good time for the code team to hold a meeting with community stakeholders, presenting what the team found and documented during the first round of site visits. Any maps, diagrams, or photo galleries created by the team would be shared with stakeholders, who should be asked whether any important areas were missed or documented incorrectly. Stakeholders should also be asked which areas are successful, which need improvement, and which are good models to replicate elsewhere.





Illustrative plan (top) and regulating plan (bottom), Transit Zoning Code (2010), City of Santa Ana, California.
Credit: Moule & Polyzoides, Architects and Urbanists.

Step Three
Visioning and Creating Regulations

A form-based code is intended to ensure a predictable outcome for the built environment. This requires the desired outcome—the "vision"—to be defined, in detail, by the community. Ideally, a community has already defined its desired outcome in part or in whole—for example, through the recent update of its comprehensive plan. If not, the code team works together with the community to create a detailed vision for its future.

Once this community vision is in place, the code team proceeds to create the specific regulations and procedures of the form-based code.

Public workshop, Village of Campton Hills, Illinois. Credit: Teska Associates, Inc.

Engaging the Community

The specific methods to reach a common community vision will vary, but the essential ingredient is active participation and discussion using a variety of methods, such as community workshops, design charrettes, and focus interviews with key stakeholders.

With the community actively engaged, a vision for the defined area is created. At this point in the process, some consulting firms will create a detailed drawing, sometimes called an "illustrative plan," that shows the envisioned layout of the community. It includes the locations of neighborhoods, districts, and corridors, as well as thoroughfares, civic spaces, buildings, and transit lines. While this drawing is not a necessary step, it may be helpful to communicate significant proposed changes in a community.

Kickoff Meeting

Often at this point in the process, the code team will hold a kickoff meeting with the community (although this may occur earlier in the process).

The meeting should provide residents with a brief, lucid explanation of form-based codes, the overall process, and their role in the creation of the form-based code. If the kickoff meeting occurs at this point in the process, it's likely that the team would present its findings from the documentation of existing conditions to the community. Maps, diagrams, or photo galleries that are easy for a layperson to understand should be exhibited to help explain the team's findings, as well as give the community something visual to respond to. Photo galleries that document the different areas and aspects of the community can be especially effective in helping residents understand new concepts relevant to the development of the form-based code, such as different transect levels or building types (and can help to give the code team credibility in understanding the community).

In response to the presentation, meeting participants typically will be asked which aspects of the community should remain, what should change, what should be a model for future development, and what they want overall. Four suggested categories for change are:

"Preserve"

The community wants to retain the existing physical character of one or more areas with distinct identities (i.e. neighborhoods, transit station areas, or downtowns) and to ensure that infill and redevelopment "fits in" with the existing context.

"Preserve and enhance"

The community wants to retain the existing physical character in one or more areas, but is interested in careful, targeted enhancements to them. This could include changes in the form of future private development or within the public realm (such as streets).

"Evolve"
The community wants to see desired physical change within the planning area over time, but is willing to allow change to occur more gradually, often according to the preferences of individual property owners within the planning area.

"Transform"
The community wants to see desired physical change occur within the shortest possible time. This often entails the combination of form-based codes that are more ambitious and rigorously enforced with other strategies, such as development incentives, housing density bonuses, accelerated processing of development applications, and street and streetscape improvements undertaken by the municipality.

The Importance of the Kick-Off Meeting

The kickoff meeting sets the tone for the creation of the community vision that will guide the form-based code. It's a collaborative effort that requires the input of a variety of stakeholders in the community (including the general public), along with key professionals necessary to complement the knowledge base and skill set within the community. A form-based code is a legal document that inherently affects and will need to be approved by the community, and an effective kickoff meeting is vital to its success.

After the Meeting

Following this meeting, the code team will usually take this feedback and information from the community, along with the products of their existing conditions analysis, and reevaluate larger elements (such as neighborhoods, districts, and corridors). If preparing a transect-based form-based code, the team will probably assign an intended transect level for each neighborhood, both existing and new, from the list of transect levels. In addition, the code team may designate the degree of change desired for existing neighborhoods (such as "preserve," "preserve and enhance," "evolve," and "transform"), based upon input gathered at the community meeting.

If applicable, the code team will also reexamine other elements they have documented and analyzed (such as existing thoroughfares, blocks, civic spaces, and buildings), based on public input.

Explaining and Illustrating the Zoning Districts

The regulations of most form-based codes are assigned by zoning district based upon classifications such as transect level, building type, or street type. At this stage, the code team will usually begin to define and illustrate the main characteristics of each district.

The team will also begin to determine which details and elements belong in each district, such as what types of uses, buildings, frontages, thoroughfares, or civic spaces are allowed. A summary of this information is often paired with a written vision description and illustration of the district on a single page or two, which may be presented to the public as a poster for feedback and eventually serve as the main explanation of the district in the final form-based code document.

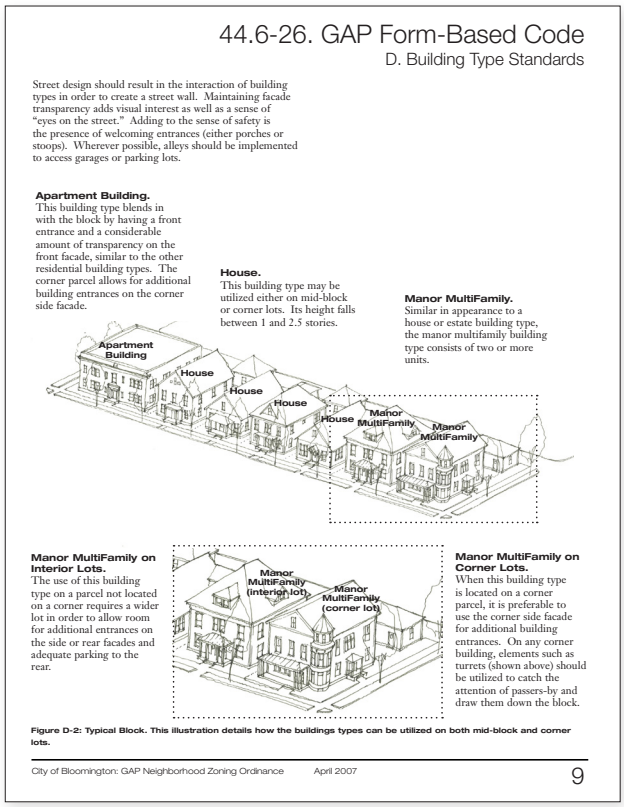
BOARDWALK FRONTAGE
The Boardwalk is one of the most memorable places in Virginia Beach. Cyclists, beachgoers, visitors, and residents intermix with cafes and clubs that address out onto the ground floors of the hotels that rise above. Hotels have a maximum base height of 75 feet with towers as high as 200 feet. The Boardwalk is made accessible by regular intersections with Beach Streets.

SHOPPING FRONTAGES
Premier retail addresses within the Oceanfront Resort Area. Shopfronts, outdoor cafe seating, and other commercial uses front wide sidewalks and slower-moving traffic. Residential, office and hotel uses are typically located above the shops and restaurant uses. Streets include 17th, 19th, 31st, and Atlantic Avenue.

GATEWAY FRONTAGES
Primary routes to, through, and from the Oceanfront Resort Area. While these routes typically carry a higher volume of traffic, they still offer ample accommodations for the pedestrian. Parking and service is also accessed primarily from Gateway streets. Pacific Avenue is an example of a Gateway street.

BEACH FRONTAGES
Ways in which residents and visitors access the Boardwalk. Beach streets have clear visual and physical access to the Boardwalk and are lined with a mix of residential front doors and lobbies alongside outdoor dining and small retail establishments.

Frontage types, Oceanfront Resort District Form-Based Code (2012), City of Virginia Beach, Virginia. Credit: Urban Design Associates.



44.6-26. GAP Form-Based Code

D. Building Type Standards

Street design should result in the interaction of building types in order to create a street wall. Maintaining facade transparency adds visual interest as well as a sense of "eyes on the street." Adding to the sense of safety is the presence of welcoming entrances (either porches or stoops). Wherever possible, alleys should be implemented to access garages or parking lots.

Apartment Building. This building type blends in with the block by having a front entrance and a considerable amount of transparency on the front facade, similar to the other residential building types. The corner parcel allows for additional building entrances on the corner side facade.

House. This building type may be utilized either on mid-block or corner lots. Its height falls between 1 and 2.5 stories.

Manor MultiFamily. Similar in appearance to a house or estate building type, the manor multifamily building type consists of two or more units.

Manor MultiFamily on Interior Lots. The use of this building type on a parcel not located on a corner requires a wider lot in order to allow room for additional entrances on the side or rear facades and adequate parking to the rear.

Manor MultiFamily on Corner Lots. When this building type is located on a corner parcel, it is preferable to use the corner side facade for additional building entrances. On any corner building, elements such as turrets (shown above) should be utilized to catch the attention of passers-by and draw them down the block.

Figure D-2: Typical Block. This illustration details how the buildings types can be utilized on both mid-block and corner lots.

City of Bloomington: GAP Neighborhood Zoning Ordinance April 2007 9

Building Type Standards, Gridley, Allin, & Prickett Neighborhood Form-Based Code (2007), City of Bloomington, Illinois. Credit: Farr Associates.

Specific to Building Types **1703-3.30**

Table 1703-3.30.A: Building Types General

Building Type	Transect Zones
Carriage House. This Building Type is an accessory structure typically located at the rear of a lot. It typically provides either a small residential unit, home office space, or other small commercial or service use that may be above a garage or at ground level. This Type is important for providing affordable housing opportunities and incubating small businesses within walkable neighborhoods.	T3E, T3N, T4N.1, T4N.2, T5MS, T5N.1, T5N.2, T5F, T6C
Detached House: Medium. This Building Type is a medium-sized detached structure on a medium-sized lot that incorporates one unit. It is typically located within a primarily single-family residential neighborhood in a walkable urban setting, potentially near a neighborhood main street.	T3E, T3N, T4N.1, T4N.2, T5MS, T5N.1, T5N.2, T5F, T6C
Detached House: Compact. This Building Type is a small detached structure on a small lot that incorporates one unit. It is typically located within a primarily single-family residential neighborhood in a walkable urban setting, potentially near a neighborhood main street. This Type enables appropriately-scaled, well-designed higher densities and is important for providing a broad choice of housing types and promoting walkability.	T3E, T3N, T4N.1, T4N.2, T5MS, T5N.1, T5N.2, T5F, T6C
Cottage Court. This Building Type consists of a series of small, detached structures, providing multiple units arranged to define a shared court that is typically perpendicular to the street. The shared court takes the place of a private rear yard and becomes an important community-enhancing element of this Type. This Type is appropriately-scaled to fit within primarily single-family or medium-density neighborhoods. It enables appropriately-scaled, well-designed higher densities and is important for providing a broad choice of housing types and promoting walkability.	T3E, T3N, T4N.1, T4N.2, T5MS, T5N.1, T5N.2, T5F, T6C
Duplex. This Building Type is a small- to medium-sized structure that consists of two side-by-side or stacked dwelling units, both facing the street and within a single building massing. This Type has the appearance of a medium to large single-family home and is appropriately scaled to fit within primarily single-family neighborhoods or medium-density neighborhoods. It enables appropriately-scaled, well-designed higher densities and is important for providing a broad choice of housing types and promoting walkability.	T3E, T3N, T4N.1, T4N.2, T5MS, T5N.1, T5N.2, T5F, T6C

Key T# Allowed T# Not Allowed

City of Cincinnati Form-Based Code **Public Review Draft: 9/21/12** **1703-3-3**

Building Types, Cincinnati Form-Based Code (Public Review Draft, 2012), City of Cincinnati, Ohio. Credit: Opticos Design, Inc.

The code team will also usually begin to create lists of other elements that will be regulated (such as the types of thoroughfares, civic spaces, building types, and frontages). The team will typically create a summary of each that includes descriptive text, illustrations, and diagrams as needed. For example, if thoroughfares will be regulated by the form-based code, the team will prepare a summary of each type of thoroughfare that is needed, usually including a section drawing of the intended thoroughfare design that indicates the basic standard dimensions that will be required.

Finally, the code team may assess whether there are any other optional elements the community wants to regulate, such as architectural style. If so, the team would usually determine the types (or styles) to be included in the vision and the code for these elements, and then create appropriate descriptive text and imagery for each.

Use Types

In conventional zoning, zoning districts are primarily defined by land use. Form-based codes emphasize the physical character of development (its form) and include the regulation of land uses.

Similar to conventional zoning, permitted and conditional or special uses are listed by district in most form-based codes. However, land uses may be regulated more broadly, with land use categories in lieu of long lists of specific permitted uses. Of course, form-based codes can also specify sub-types that are not allowed in certain locations or would be subject to discretionary review, such as businesses involving the sale of alcohol. Last, it is common for form-based codes to include requirements for the location of various uses within individual buildings (such as permitting office or residential uses on upper stories only).

Building Types

Some common building types used in form-based codes include "detached single-unit house," "townhouse," "duplex," "courtyard apartment," and "mixed-use building." Building types typically include bulk regulations (such as minimum lot width, maximum building height, building setbacks, etc.) that are usually defined by zoning district in a conventional zoning code, as well as some design and architectural parameters (such as roof type, location of parking, minimum transparency requirements, building materials, etc.).

Regulating which building types are allowed is not required in a form-based code, but it can help a community ensure a diverse stock of buildings, which is key to the creation (or preservation) of vibrant urban places. It is one of the means by which a community can avoid the damaging effects of some conventional zoning regulations, such as floor area ratio, which can encourage developers to focus on achieving maximum volume allowed for a lot. In addition, requiring a diverse mix of building types might be necessary to mitigate decades of standards that promote single-use development and discourage alternative building types.

5.2.2 Permitted Use Table

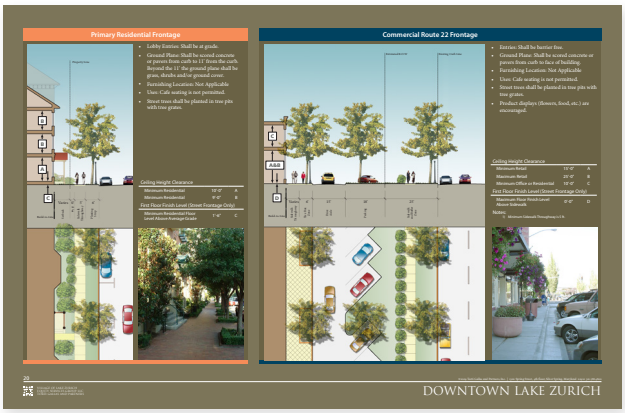
KEY: Blank cell = Not Permitted ■ = Permitted □ = Subject to Special Use Review

USE CATEGORY	SPECIFIC USE	R1	R2	R3	R4	R6	R7	R8	CN	CG	B1	N1	P1	I1	I2	I3	Use Standard
RESIDENTIAL																	
Household Living (see 5.6.2.A)	Single-Family	■	■	■	■	■	■	■									
	Two-Family (Duplex)	■	■	■	■	■	■	■									5.3.1A
	Townhouse					■	■	■	■	■							
	Apartment					■	■	■	■	■							
	Upper Story Residential								■	■	■	■					
	Live-Work								■	■	■	■					5.3.1B
Group Living (see 5.6.2.B)	Boarding House, Rooming House						□	□	□	□	■						
	Children's Home					□	□	□									
	Congregate Housing	□	□	□	□	□	□	□	□	□	□						
	Elderly Housing, Assisted Living Facility	□	□	□	□	□	□	□	□	□	□						
	Fraternity, Sorority, Student Dormitory											□					
	Family Care Facility	□■	□■	□■	□■	□■	□■	□■									5.3.1C
	Group Care Facility	□	□	□	□	□	□■	□■									5.3.1C
	Monastery, Convent	□	□	□	□	□	□	□	□	□	□						
	Nursing Home, Full-time Convalescent, Hospice, Life Care Center					□	□	□	□	□	□						
CIVIC																	
Community Service (see 5.6.3.A)	Museum, Library	□	□	□	□	□	□	□	■	■	■	■					
	Neighborhood Arts Center or Similar Community Facility (public)	□	□	□	□	□	□	□	■	■	■						
	Philanthropic Institution									■	■						
	Police, Fire, EMS Substation	□	□	□	□	□	□	□	■	■	■	■		■	■	■	
Day Care (see 5.6.3.B)	All day care, except as listed below:	□	□	□	□	□	□	□	■	■	■	■					
	Child Care Home (up to 8 children)	■	■	■	■	■	■	■									5.3.2A
	Day Care Center (8+ children)	□	□	□	□	□	□	□	■	■	■	■					5.3.2B
	Drop-in Child Care Center								■	■	■						
Educational Facility (see 5.6.3.C)	All educational facilities, except as listed below:	□	□	□	□	□	□	□	□	□	□						
	Academy (special training)								■	■	■	■					
	College, Community College, University											■					
	Job Training, Vocational Rehabilitation Service									■	■	■		■			
	School, Vocational, Business									■	■	■		■			
	School, Trade, no heavy equipment or truck operators									■	■	■		■			
Medical Facility (see 5.6.3.D)	All medical facilities, except as listed below:								□	■	■	■					
	Hospital, Medical Center											■					
	Medical or Dental Laboratory								■	■	■	■		■			
	Medical or Dental Clinic, Rehabilitative Clinic								■	■	■	■					
	Medical, Dental Office or Chiropractor								■	■	■	■					
Parks and Open Area (see 5.6.3.E)	All parks and open areas, except as listed below:	■	■	■	■	■	■	■	■	■	■	■		■	■	■	
	Cemetery, Mausoleum, Columbarium, Memorial Park	□	□	□	□	□	□	□	□	□	□	□					
	Game Preserve, Wildlife Management Area, Refuge, Animal																
Passenger Terminal (see 5.6.3.F)	Airport, Heliport																
	Bus, Train Passenger Terminal										□				■	■	
	Taxicab Dispatch Station, Limousine Service, Charter Service									□	□				■	■	
Place of Worship (see 5.6.3.G)	All places of worship	□	□	□	□	□	□	□	■	■	■	■					
Social Service Institution (see 5.6.3.H)	Alchohol Abuse Treatment, Drug Rehabilitation					□	□	□		□	■						
	Halfway House					□	□	□	□	□	□						5.3.1C
	Psychiatric Institution, Sanatorium										■	■					
	Single Room Occupancy						□	□	□	□	■						
	Social Service Facility, Soup kitchen, Transient Lodging or Shelter for the Homeless										□						
Utilities (see 5.6.3.I)	All minor utilities	□	□	□	□	□	□	□	■	■	■	□		■	■	■	5.3.2C
	All major utilities													□	□	□	
	Wireless Communication Facility	see 5.3.2D															
COMMERCIAL																	
Indoor Recreation (see 5.6.4.A)	All indoor recreation, except as listed below:								■	■	■						
	Auditorium, arena, stadium (indoor)									□	□						
	Convention Center										■						
	Indoor Shooting Range									□	□					□	
Office (see 5.6.4.B)	All offices								■	■	■			■			
Outdoor Recreation (see 5.6.4.C)	All outdoor recreation, except as listed below:									□	□				□	□	
	Outdoor Shooting Range														□	□	
	Stadium or Arena, Commercial Amphitheater										□						
Overnight Lodging (see 5.6.4.D)	Bed and Breakfast	□	□	□	□	□	□	□	■	■	■						5.3.3B
	Hotel, Motel, Inn, Extended Stay Facility								□	■	■	□					
	Youth Hostel									□	■						
Parking, Commercial (see 5.6.4.E)	All commercial parking									□	■	■	■	■	■		
Restaurant (see 5.6.4.F)	All restaurants, except as listed below:								■	■	■						
	Restaurant, Drive-in									■							

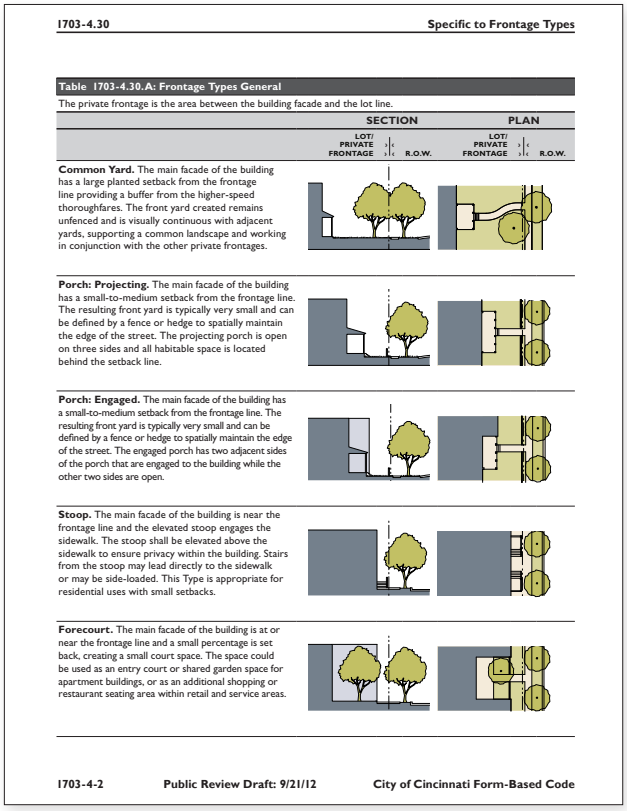
Permitted Use Table, Heart of Peoria Land Development Code (2007), Peoria, Illinois. Credit: Ferrell Madden/Code Studio.

Frontage Types

Frontage refers to the way that the building engages the public realm—typically the building's front side. Similar to standards regulating minimum and maximum building height, form-based codes often specify which types of frontages are allowed in each zone. The SmartCode, a form-based code template, includes eight standard frontage types: "common yard," "porch and fence," "terrace or light court," "forecourt" (where a portion of the façade is close to the frontage line and the central portion is set back), "stoop," "shop front and awning," "gallery," and "arcade."



Frontage standards, Form-Based Code Regulations (2008), Village of Lake Zurich, Illinois. Credit: Torti Gallas and Partners.



1703-4.30 Specific to Frontage Types

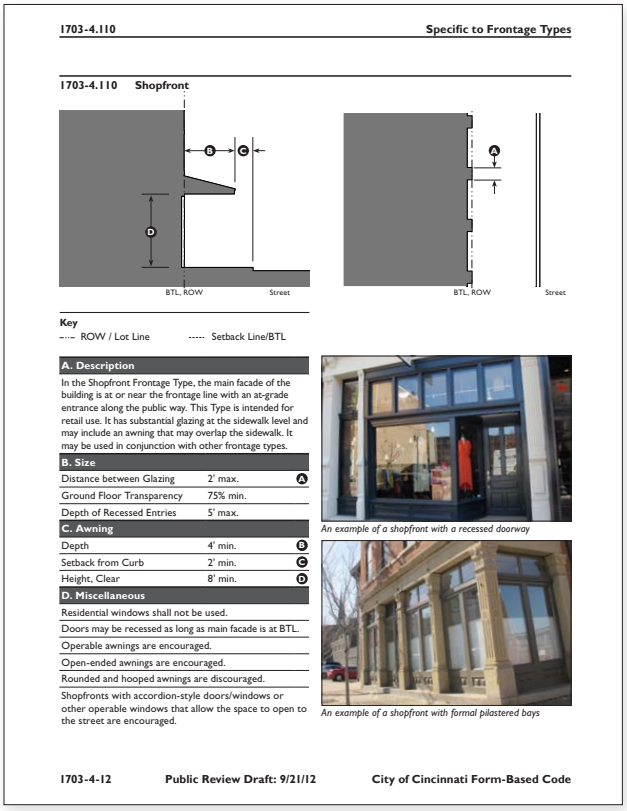
Table 1703-4.30.A: Frontage Types General

The private frontage is the area between the building facade and the lot line.

	SECTION	PLAN
	LOT/ PRIVATE FRONTAGE / R.O.W.	LOT/ PRIVATE FRONTAGE / R.O.W.
Common Yard. The main facade of the building has a large planted setback from the frontage line providing a buffer from the higher-speed thoroughfares. The front yard created remains unfenced and is visually continuous with adjacent yards, supporting a common landscape and working in conjunction with the other private frontages.		
Porch: Projecting. The main facade of the building has a small-to-medium setback from the frontage line. The resulting front yard is typically very small and can be defined by a fence or hedge to spatially maintain the edge of the street. The projecting porch is open on three sides and all habitable space is located behind the setback line.		
Porch: Engaged. The main facade of the building has a small-to-medium setback from the frontage line. The resulting front yard is typically very small and can be defined by a fence or hedge to spatially maintain the edge of the street. The engaged porch has two adjacent sides of the porch that are engaged to the building while the other two sides are open.		
Stoop. The main facade of the building is near the frontage line and the elevated stoop engages the sidewalk. The stoop shall be elevated above the sidewalk to ensure privacy within the building. Stairs from the stoop may lead directly to the sidewalk or may be side-loaded. This Type is appropriate for residential uses with small setbacks.		
Forecourt. The main facade of the building is at or near the frontage line and a small percentage is set back, creating a small court space. The space could be used as an entry court or shared garden space for apartment buildings, or as an additional shopping or restaurant seating area within retail and service areas.		

1703-4-2 Public Review Draft: 9/21/12 City of Cincinnati Form-Based Code

Frontage Types, Cincinnati Form-Based Code (Public Review Draft, 2012), City of Cincinnati, Ohio. Credit: Opticos Design, Inc.



1703-4.110 Specific to Frontage Types

1703-4.110 Shopfront

BTL, ROW Street

Key

ROW / Lot Line Setback Line/BTL

A. Description

In the Shopfront Frontage Type, the main facade of the building is at or near the frontage line with an at-grade entrance along the public way. This Type is intended for retail use. It has substantial glazing at the sidewalk level and may include an awning that may overlap the sidewalk. It may be used in conjunction with other frontage types.

B. Size

Distance between Glazing	2' max.	A
Ground Floor Transparency	75% min.	
Depth of Recessed Entries	5' max.	

C. Awning

Depth	4' min.	B
Setback from Curb	2' min.	C
Height, Clear	8' min.	D

D. Miscellaneous

Residential windows shall not be used.

Doors may be recessed as long as main facade is at BTL.

Operable awnings are encouraged.

Open-ended awnings are encouraged.

Rounded and hooped awnings are discouraged.

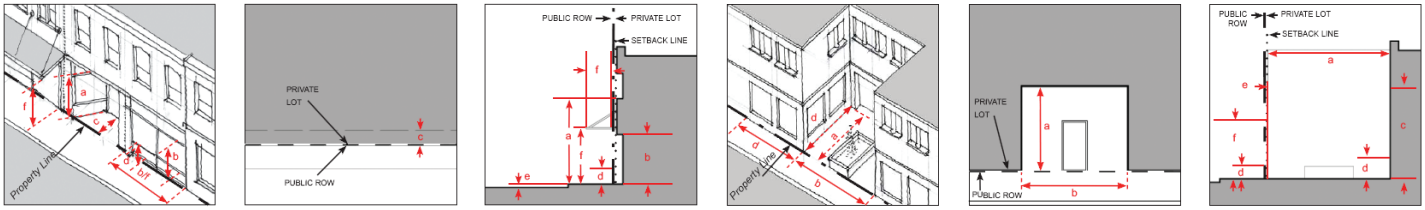
Shopfronts with accordion-style doors/windows or other operable windows that allow the space to open to the street are encouraged.

An example of a shopfront with a recessed doorway

An example of a shopfront with formal pilastered bays

1703-4-12 Public Review Draft: 9/21/12 City of Cincinnati Form-Based Code

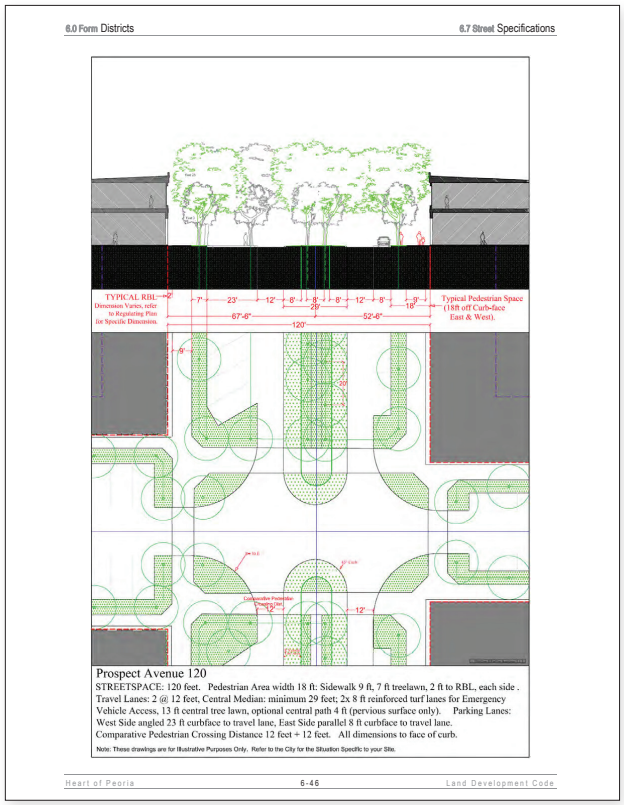
Frontage Types, Cincinnati Form-Based Code (Public Review Draft, 2012), City of Cincinnati, Ohio. Credit: Opticos Design, Inc.



Axonometric Diagram: Shopfront *Plan Diagram: Shopfront* *Section Diagram: Shopfront* *Axonometric Diagram: Forecourt* *Plan Diagram: Forecourt* *Section Diagram: Forecourt*

Frontage Types, Downtown Specific Plan (2007), City of Ventura, California. Credit: Moule & Polyzoides, Architects and Urbanists.

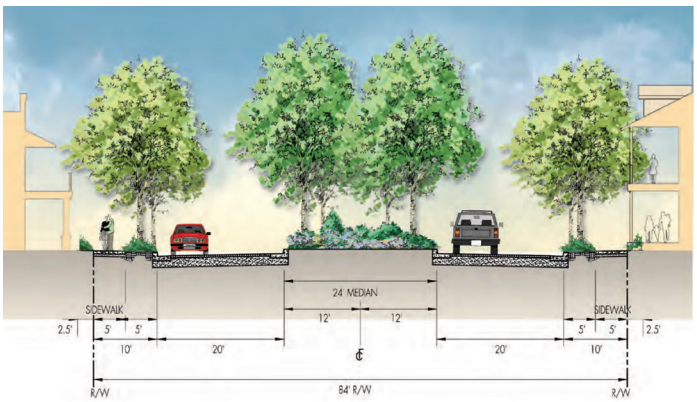
Concepts for Specific Streets, Transit Zoning Code (2010), City of Santa Ana, California. Credit: Moule & Polyzoides, Architects and Urbanists.



Street Specifications - Prospect Avenue, Heart of Peoria Land Development Code (2007), Peoria, Illinois. Credit: Ferrell Madden/Code Studio.

Thoroughfare Types

Thoroughfare types may include alleys, lanes, roads, streets, commercial/main streets, avenues, and boulevards. Each thoroughfare type could be assigned regulations such as the number and width of lanes designated for both vehicular and bicycle travel, the width of space allotted for pedestrians, the number and width of areas designated for on-street parking, and the type and spacing of trees and street lights.



Thoroughfare standards for "Neighborhood Center Boulevard," Loma Rica Ranch Specific Plan (2011), City of Grass Valley, California. Credit: Opticos Design, Inc.

Thoroughfares

Thoroughfares can serve many roles in a community, and are integral to their success. They are a means of travel to destinations, near and far, and as the primary public space in most communities, frequently they are the destination for shopping and other activities.

In communities that have not reached their potential, walkability is frequently a missing element. In *Street Design Guidelines for Healthy Neighborhoods* (Center for Livable Communities, 1999), Dan Burden, an expert in the creation of livable communities, has stated that "Walkable streets form the backbone of friendly, interactive, safe, secure neighborhoods." Focused on the safe and efficient flow of automobile traffic, most conventional thoroughfare standards are simply not up to the task of creating walkable communities.

Form-based codes can offer an opportunity to define thoroughfare standards that are carefully coordinated with other requirements, comprehensively addressing the needs of travel along with the broader needs of the public realm and the community as a whole. It should be noted, however, that if a community is mostly built out, thoroughfare standards are likely the responsibility of the public works department as they conduct ongoing maintenance and improvement of existing roadways, often working with minimal or insufficient budgets (making the implementation of new thoroughfare standards more challenging).

8.01.070 Urban Parks — Civic Spaces

8.01.070 Urban Parks

Description

Urban parks include larger open spaces available for civic purposes, commercial activity, and unstructured recreation, as well as smaller structured recreation facilities and other passive uses. These parks should have a more formal urban character and be defined by the surrounding building frontages and adjacent tree-lined streets. All buildings adjacent to the square must have a front onto the park. The landscape should consist of lawns, trees, and shrubs planted in formal patterns and furnished with paths and benches. Shaded areas for seating should be provided. A civic element or small structure such as a kiosk, open shelter, pergola, or fountain may be included at a prominent location.

Urban parks may be centrally located at the geographic heart of neighborhoods and/or at the intersection of important thoroughfares. They may also be located at the edges of neighborhoods in locations where several residential areas may benefit from recreational amenities, and serve as a transition between developed areas and natural open spaces.

Size & Location	
Min. Width	100'
Max. Width	N/A
Acreage	0.5 – 4.9 acres
Transect Zones	T4MS, T4MS-O

Character
Formally Disposed
Passive/Active (Unstructured) Open Space
Building Frontage along at least one side
All buildings must front this space
Must front at least two streets
Paths, lawns, and trees formally arranged
Walkways and plantings at all edges
Civic element at prominent location
Allowed/Typical Uses
Passive /Active (Unstructured) Open Space
Civic Uses, including Outdoor Pavilions, Open-Air Shelters, Outdoor Assembly, Outdoor Seating, Public Restrooms
Commercial Uses, including Farmers' Markets subject to Special Event Permit
Playgrounds
Limited Community Facilities, Meeting Rooms, Community Centers
Small Structured Recreational Facilities
Stormwater Management Techniques
Integrated Runoff
Bioretention Best Management Practices
Extended Detention Basins
Porous Pavers and Landscaping

8-8 Livermore Development Code

Civic Spaces - Urban Parks, Development Code (2010), City of Livermore, California. Credit: Opticos Design, Inc.

Civic Spaces 8.01.100 Playgrounds

8.01.100 Playgrounds

Description

Playgrounds are open spaces designed and equipped for the recreation of children. They shall be interspersed within residential areas so that every neighborhood or freestanding development area has at least one playground. Playgrounds may be freestanding or located within larger Plazas, Neighborhood Parks, Pocket Parks, or Civic Spaces.

Playgrounds should be quiet, safe places protected from the street, and should typically be placed so that children do not have to cross major, roads to get to them. Often playgrounds and tot-lots are interspersed within residential areas. An open shelter, play structures or interactive art and fountains may be included with landscaping between. Shaded areas and seating must be provided. Playgrounds may be included within larger parks and public spaces.

Size & Location	
Min. Width	n/a
Max. Width	n/a
Acreage	n/a
Transect Zones	All Transect Zones

Character
Focused Towards Children
Fenced with Minimal Exits
Independent of Building Frontage
Protected from Traffic
Allowed/Typical Uses
Passive /Active (Unstructured) Open Space
Low-Impact Civic Uses, including Picnic Facilities, Outdoor Seating
Play Structures, Interactive Art, Fountains
Stormwater Management Techniques
Bioretention Best Management Practices
Porous Pavers and Landscaping

Livermore Development Code 8-11

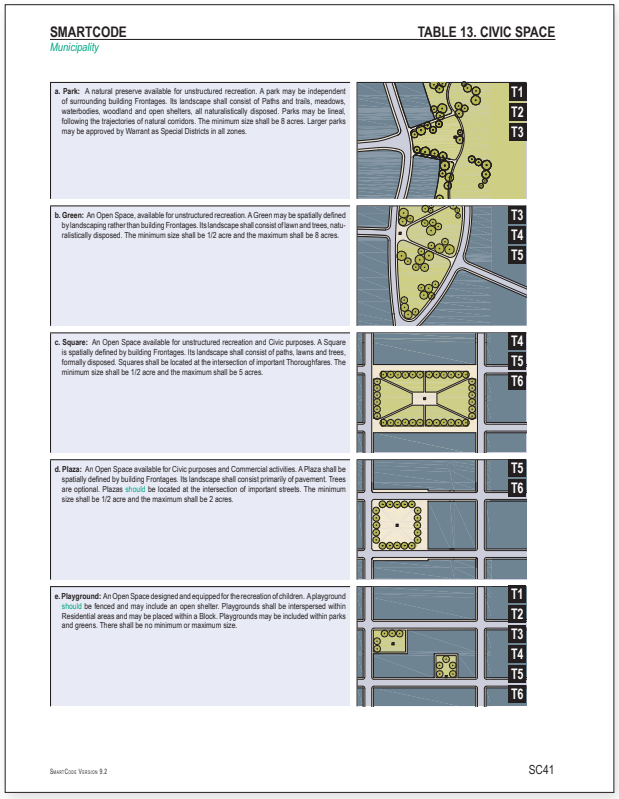
Civic Spaces - Playgrounds, Development Code (2010), City of Livermore, California. Credit: Opticos Design, Inc.

Civic Space Types

Civic space types are essentially open space or other public areas that may include parks, greens, squares, plazas, pocket parks, playgrounds, and playing fields. For civic space types, typical regulations include the minimum and maximum acreage of land required, requirements for the placement of civic spaces, the appropriate zones for each civic space type, the kind of recreation the civic space is intended to facilitate, and the overall intended look and feel of the space.

Civic Spaces

When wisely designed and located, abundant parks and other civic spaces make a community a more desirable place to live and work, improving the health of residents and the value of their homes. In addition, they can serve as a cherished place for residents, workers, and visitors to gather—within a block, neighborhood, or entire community—helping to define the identity of the area. As part of a comprehensive form-based code, wisely-developed standards can help communities make the most of rare opportunities to create new civic spaces.



SMARTCODE — TABLE 13. CIVIC SPACE

Municipality

a. Park: A natural preserve available for unstructured recreation. A park may be independent of surrounding building Frontages. Its landscape shall consist of Paths and trails, meadows, waterbodies, woodland and open shelters, all naturalistically disposed. Parks may be lineal, following the trajectories of natural corridors. The minimum size shall be 8 acres. Larger parks may be approved by Warrant as Special Districts in all zones.

T1 T2 T3

b. Green: An Open Space, available for unstructured recreation. A Green may be spatially defined by landscaping rather than building Frontages. Its landscape shall consist of lawn and trees, naturalistically disposed. The minimum size shall be 1/2 acre and the maximum shall be 8 acres.

T3 T4 T5

c. Square: An Open Space available for unstructured recreation and Civic purposes. A Square is spatially defined by building Frontages. Its landscape shall consist of paths, lawns and trees, formally disposed. Squares shall be located at the intersection of important Thoroughfares. The minimum size shall be 1/2 acre and the maximum shall be 5 acres.

T4 T5 T6

d. Plaza: An Open Space available for Civic purposes and Commercial activities. A Plaza shall be spatially defined by building Frontages. Its landscape shall consist primarily of pavement. Trees are optional. Plazas should be located at the intersection of important streets. The minimum size shall be 1/2 acre and the maximum shall be 2 acres.

T5 T6

e. Playground: An Open Space designed and equipped for the recreation of children. A playground should be fenced and may include an open shelter. Playgrounds shall be interspersed within Residential areas and may be placed within a Block. Playgrounds may be included within parks and greens. There shall be no minimum or maximum size.

T1 T2 T3 T4 T5 T6

SmartCode Version 9.2 SC41

Civic Space, SmartCode. Credit: Duany Plater-Zyberk & Company.

Creating the Regulating Plan and Zoning District Regulations

After establishing the general elements within each zoning district, the code team usually next determines the exact values of the form-based code's regulations, which are organized by district. Each district may contain one or more permitted building types. As the code team develops each district's specific regulations, they will typically also begin drafting the "regulating plan," which is akin to a zoning map and assigns the newly created zoning districts to specific physical locations, typically by color-coding the areas or lots where each of the districts apply.

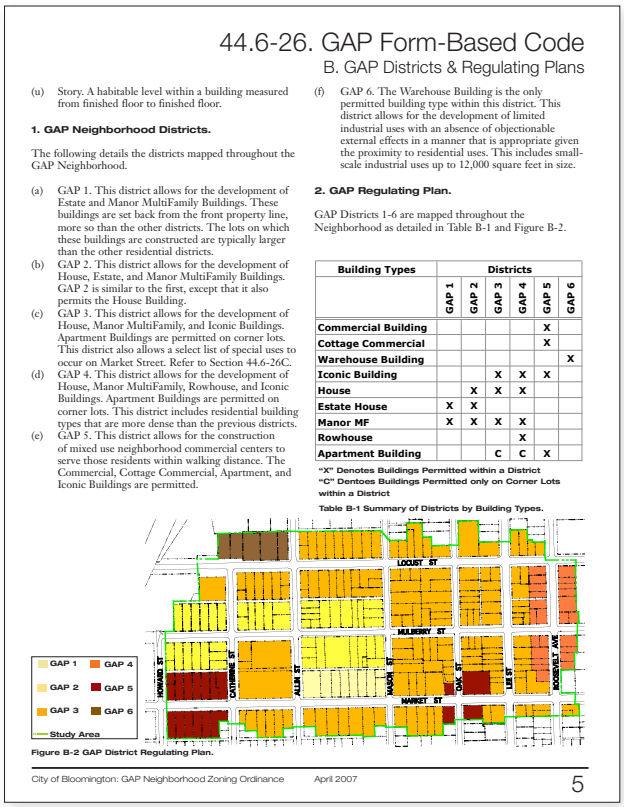
These areas are usually defined within a framework of streets and blocks, often with boundary lines falling at the rear of lots or at alleys, allowing harmonious transitions between different districts. The definition and demarcation of different districts depend upon what type of form-based code is being created—for example, whether it is a transect-based or street-based form-based code.

Meanwhile, the code team will also determine the specific regulations for each zoning district, often drawing from measurements that were determined to best exemplify the typical or representative conditions of zones that were "sampled" during the documentation of existing conditions.

When is the Regulating Plan Created?

The regulating plan is usually created as part of drafting the form-based code. For example, when a form-based code is developed to replace an existing development code, the existing zoning map is replaced with a regulating plan that implements the intentions of the community's vision by assigning specific boundaries for the new districts.

But for some form-based codes, a regulating plan may be created later. Examples of this include regulating plans that need to be created for larger infill or "greenfield" sites that were not planned during the development of the community's form-based code. In this scenario, a more precise regulating plan may be created as part of the application for a proposed development project, using the development standards from the community's form-based code that are relevant to the project.



44.6-26. GAP Form-Based Code

B. GAP Districts & Regulating Plans

(u) Story. A habitable level within a building measured from finished floor to finished floor.

1. GAP Neighborhood Districts.

The following details the districts mapped throughout the GAP Neighborhood.

(a) GAP 1. This district allows for the development of Estate and Manor MultiFamily Buildings. These buildings are set back from the front property line, more so than the other districts. The lots on which these buildings are constructed are typically larger than the other residential districts.

(b) GAP 2. This district allows for the development of House, Estate, and Manor MultiFamily Buildings. GAP 2 is similar to the first, except that it also permits the House Building.

(c) GAP 3. This district allows for the development of House, Manor MultiFamily, and Iconic Buildings. Apartment Buildings are permitted on corner lots. This district also allows a select list of special uses to occur on Market Street. Refer to Section 44.6-26C.

(d) GAP 4. This district allows for the development of House, Manor MultiFamily, Rowhouse, and Iconic Buildings. Apartment Buildings are permitted on corner lots. This district includes residential building types that are more dense than the previous districts.

(e) GAP 5. This district allows for the construction of mixed use neighborhood commercial centers to serve those residents within walking distance. The Commercial, Cottage Commercial, Apartment, and Iconic Buildings are permitted.

(f) GAP 6. The Warehouse Building is the only permitted building type within this district. This district allows for the development of limited industrial uses with an absence of objectionable external effects in a manner that is appropriate given the proximity to residential uses. This includes small-scale industrial uses up to 12,000 square feet in size.

2. GAP Regulating Plan.

GAP Districts 1-6 are mapped throughout the Neighborhood as detailed in Table B-1 and Figure B-2.

Building Types	Districts					
	GAP 1	GAP 2	GAP 3	GAP 4	GAP 5	GAP 6
Commercial Building					X	
Cottage Commercial					X	
Warehouse Building						X
Iconic Building			X	X	X	
House		X	X	X		
Estate House	X	X				
Manor MF	X	X	X	X		
Rowhouse				X		
Apartment Building			C	C	X	

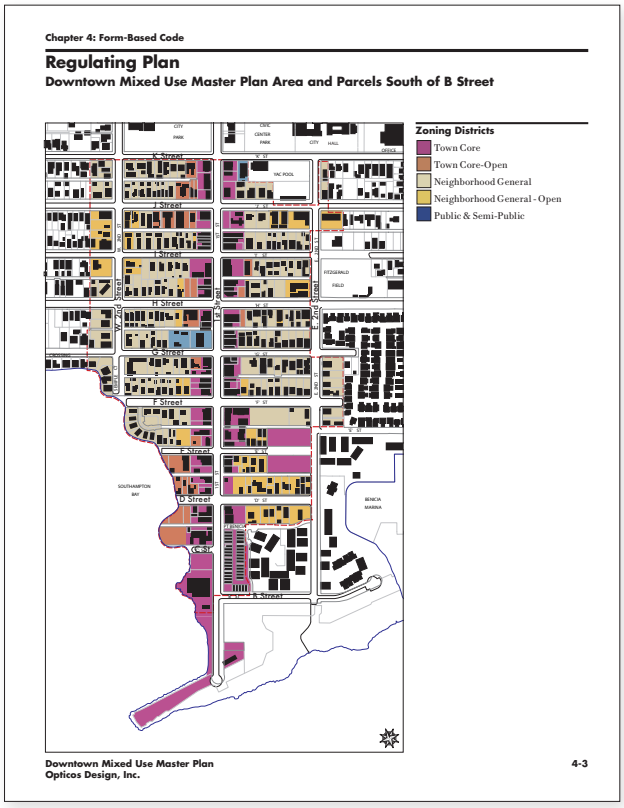
"X" Denotes Buildings Permitted within a District
"C" Dentoes Buildings Permitted only on Corner Lots within a District

Table B-1 Summary of Districts by Building Types.

Figure B-2 GAP District Regulating Plan.

City of Bloomington: GAP Neighborhood Zoning Ordinance April 2007 5

Regulating plan, Gridley, Allin, & Prickett Neighborhood Form-Based Code (2007), City of Bloomington, Illinois. Credit: Farr Associates.



Chapter 4: Form-Based Code

Regulating Plan

Downtown Mixed Use Master Plan Area and Parcels South of B Street

Downtown Mixed Use Master Plan
Opticos Design, Inc. 4-3

Regulating plan, Downtown Mixed Use Master Plan (2007), City of Benicia, California. Credit: Opticos Design, Inc.

The following are some of the regulations that are typically determined first by the code team:

Building Form Standards

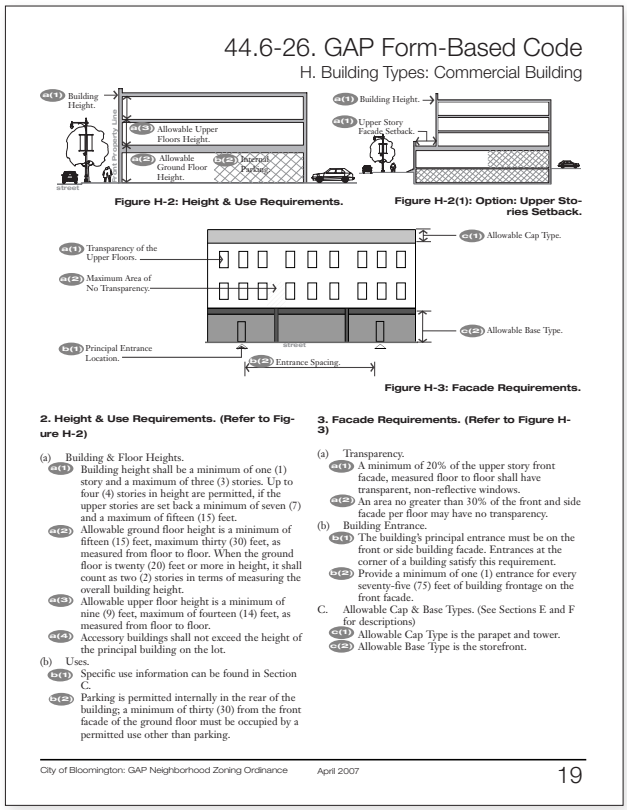
Building form standards typically include a broad set of requirements for the configuration, features, and functions of buildings that define and shape the public realm, such as building placement and form, lot sizes, parking, as well as allowed land uses, encroachments, and frontage and building types.

Building Placement

It would be difficult to overstate the importance of standards regulating the placement of buildings. Together with thoroughfare standards, they provide the foundation for establishing or preserving the character of a district. Some of the typical regulations for building placement standards include the build-to line, minimum setback, and minimum and maximum widths of lots (the latter to create the desired development scale).

Building Form

Regulations for building form also play a key role in establishing the character of a district. As the "walls" of public spaces, building façades are regulated for height to ensure the correct proportion. The maximum and minimum sizes of buildings are sometimes regulated to ensure that they are an appropriate size for the desired vision of the area, establishing a rich urban form through a harmonious range of building sizes. Some of the typical regulations



44.6-26. GAP Form-Based Code

H. Building Types: Commercial Building

Figure H-2: Height & Use Requirements.

Figure H-2(1): Option: Upper Stories Setback.

Figure H-3: Facade Requirements.

2. Height & Use Requirements. (Refer to Figure H-2)

(a) Building & Floor Heights.

a(1) Building height shall be a minimum of one (1) story and a maximum of three (3) stories. Up to four (4) stories in height are permitted, if the upper stories are set back a minimum of seven (7) and a maximum of fifteen (15) feet.

a(2) Allowable ground floor height is a minimum of fifteen (15) feet, maximum thirty (30) feet, as measured from floor to floor. When the ground floor is twenty (20) feet or more in height, it shall count as two (2) stories in terms of measuring the overall building height.

a(3) Allowable upper floor height is a minimum of nine (9) feet, maximum of fourteen (14) feet, as measured from floor to floor.

a(4) Accessory buildings shall not exceed the height of the principal building on the lot.

(b) Uses.

b(1) Specific use information can be found in Section C.

b(2) Parking is permitted internally in the rear of the building; a minimum of thirty (30) from the front facade of the ground floor must be occupied by a permitted use other than parking.

3. Facade Requirements. (Refer to Figure H-3)

(a) Transparency.

a(1) A minimum of 20% of the upper story front facade, measured floor to floor shall have transparent, non-reflective windows.

a(2) An area no greater than 30% of the front and side facade per floor may have no transparency.

(b) Building Entrance.

b(1) The building's principal entrance must be on the front or side building facade. Entrances at the corner of a building satisfy this requirement.

b(2) Provide a minimum of one (1) entrance for every seventy-five (75) feet of building frontage on the front facade.

C. Allowable Cap & Base Types. (See Sections E and F for descriptions)

c(1) Allowable Cap Type is the parapet and tower.

c(2) Allowable Base Type is the storefront.

City of Bloomington: GAP Neighborhood Zoning Ordinance April 2007 19

Building form standards, Gridley, Allin, & Prickett Neighborhood Form-Based Code (2007), City of Bloomington, Illinois. Credit: Farr Associates.

1703-3.140 Specific to Building Types

1703-3.140 Main Street Mixed-Use

Attached Main Street buildings form a unified streetscape along a vibrant commercial street.

A. Description

The Main Street Mixed-Use Building Type is a small- to medium-sized structure, typically attached, intended to provide a vertical mix of uses with ground-floor retail, or service uses and upper-floor service, or residential uses. This Type makes up the primary component of a neighborhood main street and portions of a downtown main street, therefore being a key component to providing walkability.

T3E T3N T4N.1 T4N.2 T5MS T5N.1 T5N.2 T5F T6C

Main Street building with bay windows and bright shopfronts

Key

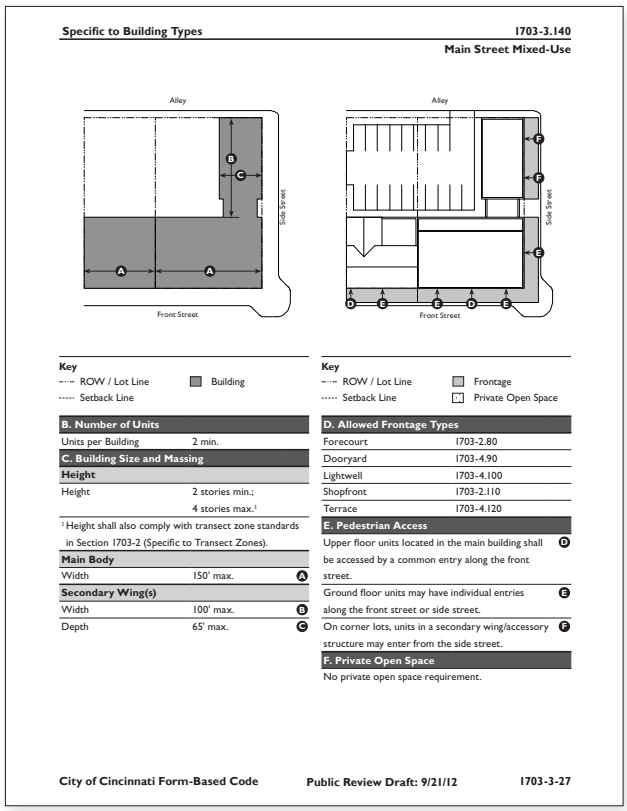
T# Allowed T# Not Allowed

Main Street building with a variety of shopfront sizes.

General Note: Photos on this page are illustrative, not regulatory.

1703-3-26 Public Review Draft: 9/21/12 City of Cincinnati Form-Based Code

Building form standards, Cincinnati Form-Based Code (Public Review Draft, 2012), City of Cincinnati, Ohio. Credit: Opticos Design, Inc.



Specific to Building Types 1703-3.140

Main Street Mixed-Use

Key

ROW / Lot Line
Setback Line
Building

Key

ROW / Lot Line
Setback Line
Frontage
Private Open Space

B. Number of Units		
Units per Building	2 min.	
C. Building Size and Massing		
Height		
Height	2 stories min.; 4 stories max.[1]	
[1] Height shall also comply with transect zone standards in Section 1703-2 (Specific to Transect Zones).		
Main Body		
Width	150' max.	A
Secondary Wing(s)		
Width	100' max.	B
Depth	65' max.	C

D. Allowed Frontage Types	
Forecourt	1703-2.80
Dooryard	1703-4.90
Lightwell	1703-4.100
Shopfront	1703-2.110
Terrace	1703-4.120

E. Pedestrian Access

Upper floor units located in the main building shall be accessed by a common entry along the front street. D

Ground floor units may have individual entries along the front street or side street. E

On corner lots, units in a secondary wing/accessory structure may enter from the side street. F

F. Private Open Space

No private open space requirement.

City of Cincinnati Form-Based Code Public Review Draft: 9/21/12 1703-3-27

Building form standards, Cincinnati Form-Based Code (Public Review Draft, 2012), City of Cincinnati, Ohio. Credit: Opticos Design, Inc.

for building form standards include maximum and minimum height, width, and depth of buildings, as well as the maximum and minimum heights of ground-floor and upper floor levels.

Allowed Encroachments

Encroachments involve building elements that may extend over the build-to line (which regulates the distance between the front property line and building facade) or into the setback, such as balconies, and bay windows. By specifying regulations for allowed encroachments in a form-based code, a community can enable a rich urban form.

Parking

The methods for regulating parking in a form-based code are similar to those in a conventional zoning ordinance. Minimum parking standards are typically established according to land uses, but also by zoning district classifications established by the form-based code that are defined by the intensity of development—such as "town center."

Surface parking lots and garages can have a damaging effect on the physical quality of the public realm, creating unattractive gaps between buildings as well as curb cuts that are potential hazards for pedestrians using the sidewalk. In response, form-based codes often seek to minimize these negative impacts by requiring parking to be located at the rear or side of buildings or at the center of blocks, rather than between the building and the street. Similarly, some form-based codes include maximum parking requirements and promote shared and on-street parking for areas of higher-density and mixed-use development that have good access to transit.

In addition to the mandatory number of off-street parking spaces, typical regulations for parking standards include the area on the lot in which parking is allowed, including setbacks, sizes of parking spaces, and travel lanes in parking lots.

Figure 3.18: Shared parking between uses

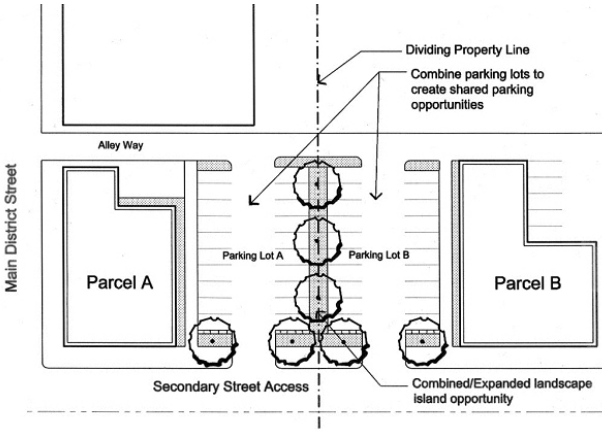
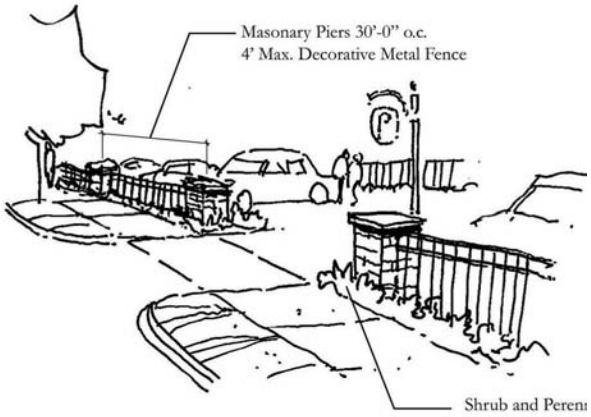


Figure 3.19: Parking lot screening



Parking Placement, Downtown Form-Based Code (2010), Village of Antioch, Illinois. Credit: The Lakota Group.

10.8 PARKING PLACEMENT

10.8.1 FRONT SETBACKS; PARKING LOCATED ADJACENT TO BUILDINGS
Within RR-T and RR-A districts where parking may be located adjacent to the building but not between the building and the front lot line, a minimum front setback of 7 feet is required for any such parking. (See Figure 9) Trees (a minimum of 2.5 inches caliper) and shrubs (a minimum of 24 inches in height) must be planted at the rate of one tree and 10 shrubs for every 40 feet of frontage.

Figure 9: Parking Setback in RR-T and RR-Districts

Parking Placement, Roosevelt Road Form-Based Zoning Districts (2010), Village of Oak Park, City of Berwyn, and Town of Cicero, Illinois. Credit: The Lakota Group.

Parking Strategies to Support Livable Communities

To help communities address their parking concerns with the end goal of making our communities more livable, CMAP created a step-by-step guide to municipal reform of parking policies, entitled *Parking Strategies to Support Livable Communities*. The guide can help municipal governments determine the appropriate steps for addressing their unique challenges and describes more than a dozen strategies to manage parking. It explains how to do a parking survey and effectively engage stakeholders, and also takes a detailed look at the costs of parking structures and available financing mechanisms.

SMARTCODE TABLES 10 & 11. BUILDING FUNCTION & PARKING CALCULATIONS

Municipality

TABLE 10: Building Function. This table categorizes Building Functions within Transect Zones. Parking requirements are correlated to functional intensity. For Specific Function and Use permitted By Right or by Warrant, see Table 12.

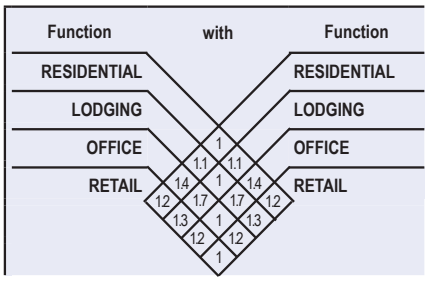
	T2 T3	T4	T5 T6
a. RESIDENTIAL	**Restricted Residential:** The number of dwellings on each Lot is restricted to one within a Principal Building and one within an Accessory Building, with 2.0 parking places for each. Both dwellings shall be under single ownership. The habitable area of the Accessory Unit shall not exceed 440 sf, excluding the parking area.	**Limited Residential:** The number of dwellings on each Lot is limited by the requirement of 1.5 parking places for each dwelling, a ratio which may be reduced according to the shared parking standards (See Table 11).	**Open Residential:** The number of dwellings on each Lot is limited by the requirement of 1.0 parking places for each dwelling, a ratio which may be reduced according to the shared parking standards (See Table 11).
b. LODGING	**Restricted Lodging:** The number of bedrooms available on each Lot for lodging is limited by the requirement of 1.0 assigned parking place for each bedroom, up to five, in addition to the parking requirement for the dwelling. The Lodging must be owner occupied. Food service may be provided in the a.m. The maximum length of stay shall not exceed ten days.	**Limited Lodging:** The number of bedrooms available on each Lot for lodging is limited by the requirement of 1.0 assigned parking places for each bedroom, up to twelve, in addition to the parking requirement for the dwelling. The Lodging must be owner occupied.Food service may be provided in the a.m. The maximum length of stay shall not exceed ten days.	**Open Lodging:** The number of bedrooms available on each Lot for lodging is limited by the requirement of 1.0 assigned parking places for each bedroom. Food service may be provided at all times. The area allocated for food service shall be calculated and provided with parking according to Retail Function.
c. OFFICE	**Restricted Office:** The building area available for office use on each Lot is restricted to the first Story of the Principal or the Accessory Building and by the requirement of 3.0 assigned parking places per 1000 square feet of net office space in addition to the parking requirement for each dwelling.	**Limited Office:** The building area available for office use on each Lot is limited to the first Story of the principal building and/or to the Accessory building, and by the requirement of 3.0 assigned parking places per 1000 square feet of net office space in addition to the parking requirement for each dwelling.	**Open Office:** The building area available for office use on each Lot is limited by the requirement of 2.0 assigned parking places per 1000 square feet of net office space.
d. RETAIL	**Restricted Retail:** The building area available for Retail use is restricted to one Block corner location at the first Story for each 300 dwelling units and by the requirement of 4.0 assigned parking places per 1000 square feet of net Retail space in addition to the parking requirement of each dwelling. The specific use shall be further limited to neighborhood store, or food service seating no more than 20.	**Limited Retail:** The building area available for Retail use is limited to the first Story of buildings at corner locations, not more than one per Block, and by the requirement of 4.0 assigned parking places per 1000 square feet of net Retail space in addition to the parking requirement of each dwelling. The specific use shall be further limited to neighborhood store, or food service seating no more than 40.	**Open Retail:** The building area available for Retail use is limited by the requirement of 3.0 assigned parking places per 1000 square feet of net Retail space. Retail spaces under 1500 square feet are exempt from parking requirements.
e. CIVIC	See Table 12	See Table 12	See Table 12
f. OTHER	See Table 12	See Table 12	See Table 12

TABLE 11: Parking Calculations. The Shared Parking Factor for two Functions, when divided into the sum of the two amounts as listed on the Required Parking table below, produces the Effective Parking needed for each site involved in sharing. Conversely, if the Sharing Factor is used as a multiplier, it indicates the amount of building allowed on each site given the parking available.

REQUIRED PARKING (See Table 10)

	T2 T3	T4	T5 T6
RESIDENTIAL	2.0 / dwelling	1.5 / dwelling	1.0 / dwelling
LODGING	1.0 / bedroom	1.0 / bedroom	1.0 / bedroom
OFFICE	3.0 / 1000 sq. ft.	3.0 / 1000 sq. ft.	2.0 / 1000 sq. ft.
RETAIL	4.0 / 1000 sq. ft.	4.0 / 1000 sq. ft.	3.0 / 1000 sq. ft.
CIVIC	To be determined by Warrant		
OTHER	To be determined by Warrant		

SHARED PARKING FACTOR



Building Function & Parking Calculations (sample), SmartCode. Credit: Duany Plater-Zyberk & Company.

Optional Components That May be Included in a Form-Based Code

Many form-based codes choose to include additional regulations, including standards for architectural, landscape, and block design, as well as green building. Other less-common standards address affordable housing, historic preservation, lighting, nonconforming uses, signage, and stormwater management.

Architectural Standards

Detailed standards regulating the exterior design features and materials of buildings are optional, but many communities have found that they are helpful in fulfilling the potential of a form-based code and achieving the community's vision.

Architectural standards can be included in a form-based code to complement the building form standards, which are required. While the code's building form standards set requirements for the main configuration, features, and functions of buildings that define and shape the public realm, architectural standards can go further, regulating the character and style of buildings, such as the proportion of windows, building materials, colors, trim design, and even the vertical and horizontal division of materials.

Some architectural standards are modest, and explained mostly through text; more elaborate standards may employ comprehensive diagrams (similar to those found in architecture pattern books) or rely on extensive photographs of buildings in the area that exemplify the architectural characteristics and styles the community wishes to preserve and foster in the future.

Multiple door & window shapes, sizes, & details — *Porches, tower, & brick chimneys* — *Informal garden layout*

True-divided lite sash windows w/ correct trim — *Porch w/ turned wood columns, milled details* * — *Native plantings, climbing vines, picket fence*

Door w/ lites, trimmed windows in bay — *Projecting bay windows, porch w/ brackets* — *Wrought iron fence, urns, and flower beds*

G. Openings

a. Windows and doors are vertically proportioned, vertically oriented.
b. Windows are multi-paned, front doors have lites. Double hung is the primary window type.
c. Ground floor openings are larger in height and width. Upper floor openings are larger then common and of a variety of sizes.
d. Trim includes head, jamb, & sill which project out from wall surface. Sill is further pronounced.
e. Shutters are functional and when closed cover entire window or door opening.
f. Windows are typically not deeply recessed.

H. Attached Elements

a. Porches, bay windows, brows, awnings, towers, finials, crenelations, and chimneys are the architectural elements attached to the main mass of their buildings which define and enrich their overall form.
b. Attached elements receive the majority of the detail on facades. They are mostly reduced in polychrome painted wood. Minor elements are of decorative iron and brick.
c. Porch columns and balustrades are narrowly spaced and highly detailed.

* Photo source: The Abrams Guide to American House Styles, by William Morgan.

I. Site Definition and Landscape

a. Front yards are generally small and well defined by low fence at property line, or stoop in townhouse condition.
b. Front fences are brick or stone base w/ wrought iron, iron without base, or wood picket.
c. Large shade trees are mixed with typically heavy foundation plantings. The plant palette allows staggered blooming times to provide year-round color. The layout is more natural, paying credence to the style's origins.

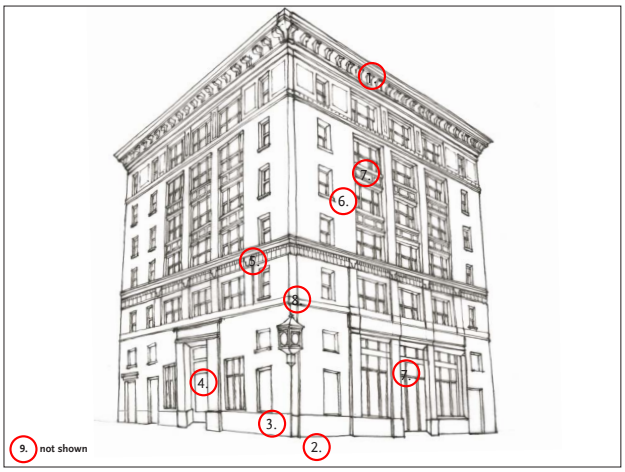
Architectural Style Guideline, Uptown Whittier Specific Plan (2008), City of Whittier, California. Credit: Moule & Polyzoides, Architects and Urbanists.

CHAPTER 4: **DEVELOPMENT CODE**
4.6 ARCHITECTURE STYLE GUIDELINES

4.6.4 Main Street

Introduction. Main Street style buildings are found on most pre-World War II U.S. main streets and frame town squares and plazas. This building type began in the late nineteenth century when, in the process of densifying towns and cities, housing was built over shop fronts. As a style in the U.S., it is derived from a number of historic precedents, including Spanish Colonial, Greek Revival, Victorian, Victorian Italianate, and Richardsonian Romanesque adapted to urban contexts and mixed uses. The type's simple, rectangular form is derived from a logical, repetitive structural framework which is expressed externally by the rhythmic placement of columns, storefronts, and openings on upper levels. Original frameworks were of load-bearing masonry, but the style easily adapted to iron and steel construction. Buildings sit on street fronts or corners, oriented directly to streets or town squares. This means that only one or two facades need detailed design attention.

The Main Street style is expressed through substantial materials - such as brick, stone, and heavy plaster. Upper story window openings are located in a rhythmic serial pattern in singles or groups. The plane of the wall is articulated by structural expressions - engaged columns and lintels over openings. The ground floor has expansive glass storefronts interrupted by structural columns with transoms to allow light to penetrate deep into the interior. Multi-story facades are typically divided into base, body, and top with the ground floor taller than the shorter upper floors. Buildings are topped by a flat roof line emphatically crowned at the eaves by a projecting cornice or a receding, stepped parapet.



Key Characteristics

1. **Roof -** flat roof with projecting cornice or parapet.
2. **Floor Plan/Elevation -** simple, rectangular plans with L-shaped or U-shaped variations.
3. **Base -** articulated base by change in material, change in plane, or both.
4. **Shading -** recessed arcades & entries, balconies, or fabric awnings.
5. **Form/Massing -** 1 to multiple stories, with base, middle, and top. Vertically proportioned with corner towers common.
6. **Walls -** flat planes of stone, brick, or plaster, punctuated by deep openings.
7. **Openings -** large storefront openings at ground, vertically proportioned, with transoms arranged in rhythmic pattern. Upper floors include combinations of small and large openings relating to ground level openings. Serial or symmetrical composition are typical.
8. **Articulation -** base, middle and top of facade are clearly defined by changes in material and horizontal banding. Ground floor and/or building-scaled base receive most detailed attention. Other details include cornices, balconies, awnings.
9. **Colors -** public buildings are more reserved, with muted colors. Otherwise, the palette is open to interpretation.

4:39 **UPTOWN WHITTIER SPECIFIC PLAN,** City of Whittier, California

Architectural Standards - Main Street, Uptown Whittier Specific Plan (2008), City of Whittier, California. Credit: Moule & Polyzoides, Architects and Urbanists.

Specifically, typical regulations for architectural standards include:

- The overall shape and size of buildings, categorized by building types, such as single-family homes, multi-family residences, and commercial buildings.
- Roof types, materials, and pitch, along with specifications for dormers, gables, skylights, etc.
- Massing elements that may be added to the main portion of a building, such as wings and bays.
- The composition of façade elements, such as locations of windows and doors, in relation to building corners and one another.
- The types of windows and doors which are allowed, with specifications for height and width, overall proportions, depth, ornamentation, shutters, etc.
- Other architectural elements that may define the local character of a community, such as eaves, cornices, porches, and balconies.
- Which materials are allowed, and how they can be used together.

Block Standards

To address larger project sites (typically larger than two acres) and encourage the creation of walkable neighborhoods, form-based codes may include block and subdivision standards to guide the division of large development sites into an interconnected network of new streets that follow the code's public space standards and smaller blocks that meet the code's standards for maximum block perimeter and length.

Whether to Include Architectural Standards

Whether architectural standards are necessary or appropriate depends on the intended scope and objectives of a community's form-based code, as well as the capabilities of those who will be administering the code. For some communities, developing good standards for the design of its blocks and thoroughfares in the public realm is sufficient or the most politically/economically feasible option.

Absence of architectural standards can yield development that is better than that which would be produced under conventional zoning, but which falls short of realizing the community vision. Communities that are developing a form-based code for special districts are likely to have high expectations for historic compatibility and design quality, and architectural standards will often need to be developed accordingly.

While the inclusion of wisely-developed architectural standards can help make administration of the form-based code more objective, to successfully administer a code with substantial architectural standards, communities will need to have staff with expertise in architectural design (which is somewhat uncommon), hire the consultant services of a "town architect" (an extra expense beyond the means of many communities), or assign the administration duties to a design commission (which can complicate the process, especially for developers, who are likely to be skeptical of the new form-based code anyway).

A. Site

Sites larger than 4 acres shall be subdivided further to create additional blocks.

B. Introduce Streets

Sites being subdivided into additional blocks shall introduce streets from the list of existing and allowable street types and comply with the block-size requirements in Section 4.6.3.

C. Introduce Alleys

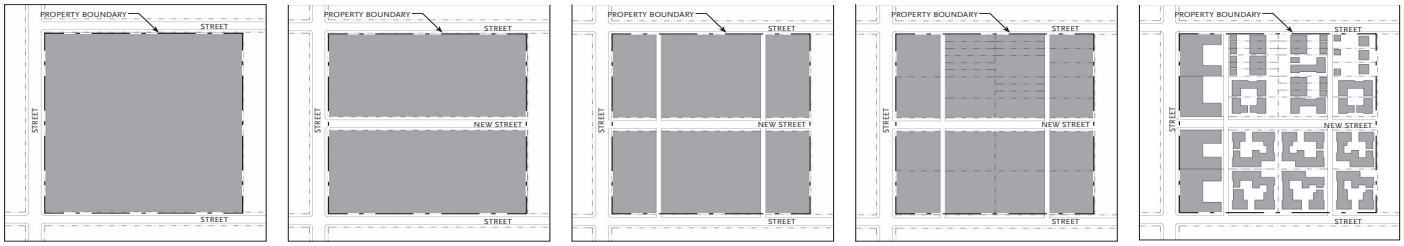
Access to blocks and their individual parcels is allowed only by alley/lane, side street or, in the case of residential development, via small side drives accessing multiple dwellings. The intent is to maintain the integrity and continuity of the streetscape without interruptions such as driveway access. Therefore, although residential development allows minor interruptions along the primary frontage, the introduction of rear service thoroughfares such as alleys and lanes is required.

D. Introduce Lots

Based on the type(s) of blocks created and the thoroughfare(s) that they front, lots (parcels) are introduced on each block to correspond with the allowable building types in Section 4.4.

E. Introduce Projects

Each lot is designed to receive a building per the allowable building types identified in Section 4.4 and can be arranged to suit the particular organization of buildings desired for each particular block. The allowable building types then are combined with the allowable Frontage Types in Section 4.5 per the Zone in Section 4.3 in which the lot is located, in order to generate a particular urban form and character.



Site to be sudivided: Illustrative Diagram *Introduce Streets: Illustrative Diagram* *Introduce Alleys: Illustrative Diagram* *Introduce Lots: Illustrative Diagram* *Introduce Projects: Illustrative Photo*

Procedure for Subdividing Land, Uptown Whittier Specific Plan (2008), City of Whittier, California. Credit: Moule & Polyzoides, Architects and Urbanists.

Landscape Standards

Some form-based codes include requirements to control the character and quality of the landscape within private spaces as it affects the public realm and the public good, such as requiring native species to address water usage, as well as screening parking lots from the street, buffering more or less intensive uses, and greening parking lots.

CHAPTER 2: FORM AND CHARACTER
2.2 LANDSCAPE AND PUBLIC REALM

G. Magnolia grandiflora 'Majestic Beauty TM'
Southern Magnolia

This broad tree will reach about 40' tall with equal spread, its large, simple leathery appearance makes the pyramidal magnolia grandiflora perfect for either a street or lawn tree. Its leaves are 4-8" long, and its powerfully fragrant blooms are carried throughout the summer and fall. If these plants are grafted, they are more predictable. Restricted root areas or heavy soils will slow the growth process.

Height: 40 feet
Urban Form: Oval

H. Pinus canariensis
Canary Island Pine

This graceful, slender-growing pine has a very wide form to about 70'. Its needles are long and drooping in bundles of 3. The foliage is a blue-green color, maturing to a dark green shade.

Height: 70 feet
Urban Form: Pyramid

I. Pistachia chinensis
Chinese Pistache

The Pistacia chinensis is a deciduous tree with broad, spreading growth to 50' in height. Its leaves have 10-16 leaflets, and the fall coloring arrives in beautiful shades of red, orange and yellow. The young trees are often gawky, but some become shapely with age.

Height: 50 feet
Urban Form: Vase

J. Platanus acerifolia 'Yarwood'
London Plane Tree

This tree is 50' high x 40' wide and has a broad pyramidal to rounded shape. Its very large leaves show off fall colors of yellow and brown, and it has a very high resistance to powdery mildew.

Height: 50 feet
Urban Form: Pyramid

K. Pyrus calleryana 'Bradford'
Bradford Callery Pear

The 'Bradford' is a deciduous tree that grows to a size of 30-35' with equal spread. Profuse clusters of single white flowers are borne in the spring from noticeably sweeping branches. This is an excellent flowering tree for streets.

Height: 30-35 feet
Urban Form: Vase

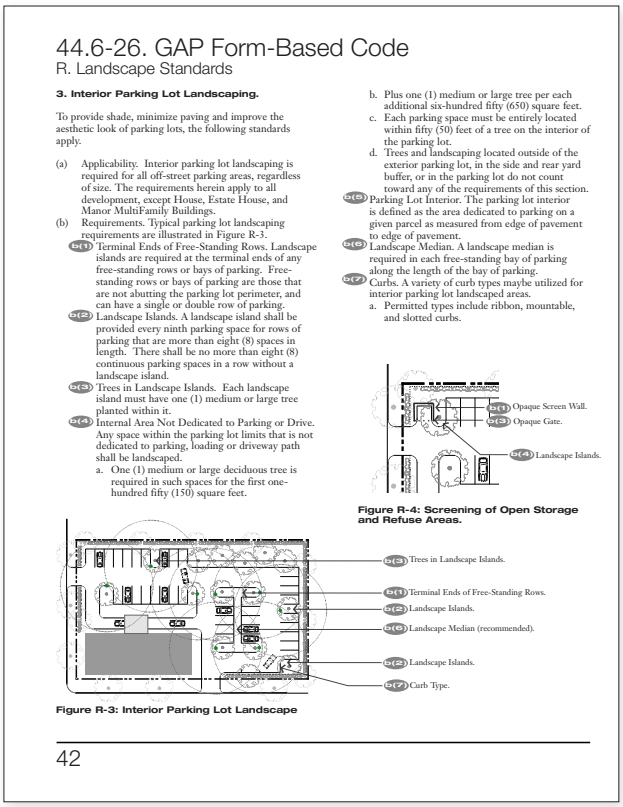
L. Sophora japonica
Japanese Pagoda Tree

The Japanese Pagoda Tree is a deciduous tree that grows to 25' with a round head and green bark. In the late summer, lovely panicles of white flowers will be seen. This plant is a dependable, small shade tree and should be grown under sunny conditions.

Height: 25 feet
Urban Form: Ball

UPTOWN WHITTIER SPECIFIC PLAN, City of Whittier, California

Landscape and Public Realm - Street Trees, Uptown Whittier Specific Plan (2008), City of Whittier, California. Credit: Moule & Polyzoides, Architects and Urbanists.



44.6-26. GAP Form-Based Code
R. Landscape Standards

3. Interior Parking Lot Landscaping.

To provide shade, minimize paving and improve the aesthetic look of parking lots, the following standards apply.

(a) Applicability. Interior parking lot landscaping is required for all off-street parking areas, regardless of size. The requirements herein apply to all development, except House, Estate House, and Manor MultiFamily Buildings.

(b) Requirements. Typical parking lot landscaping requirements are illustrated in Figure R-3.

b(1) Terminal Ends of Free-Standing Rows. Landscape islands are required at the terminal ends of any free-standing rows or bays of parking. Free-standing rows or bays of parking are those that are not abutting the parking lot perimeter, and can have a single or double row of parking.

b(2) Landscape Islands. A landscape island shall be provided every ninth parking space for rows of parking that are more than eight (8) spaces in length. There shall be no more than eight (8) continuous parking spaces in a row without a landscape island.

b(3) Trees in Landscape Islands. Each landscape island must have one (1) medium or large tree planted within it.

b(4) Internal Area Not Dedicated to Parking or Drive. Any space within the parking lot limits that is not dedicated to parking, loading or driveway path shall be landscaped.

a. One (1) medium or large deciduous tree is required in such spaces for the first one-hundred fifty (150) square feet.

b. Plus one (1) medium or large tree per each additional six-hundred fifty (650) square feet.

c. Each parking space must be entirely located within fifty (50) feet of a tree on the interior of the parking lot.

d. Trees and landscaping located outside of the exterior parking lot, in the side and rear yard buffer, or in the parking lot do not count toward any of the requirements of this section.

b(5) Parking Lot Interior. The parking lot interior is defined as the area dedicated to parking on a given parcel as measured from edge of pavement to edge of pavement.

b(6) Landscape Median. A landscape median is required in each free-standing bay of parking along the length of the bay of parking.

b(7) Curbs. A variety of curb types maybe utilized for interior parking lot landscaped areas.

a. Permitted types include ribbon, mountable, and slotted curbs.

b(1) Opaque Screen Wall.
b(3) Opaque Gate.
b(4) Landscape Islands.

Figure R-4: Screening of Open Storage and Refuse Areas.

b(3) Trees in Landscape Islands.
b(1) Terminal Ends of Free-Standing Rows.
b(2) Landscape Islands.
b(6) Landscape Median (recommended).
b(2) Landscape Islands.
b(7) Curb Type.

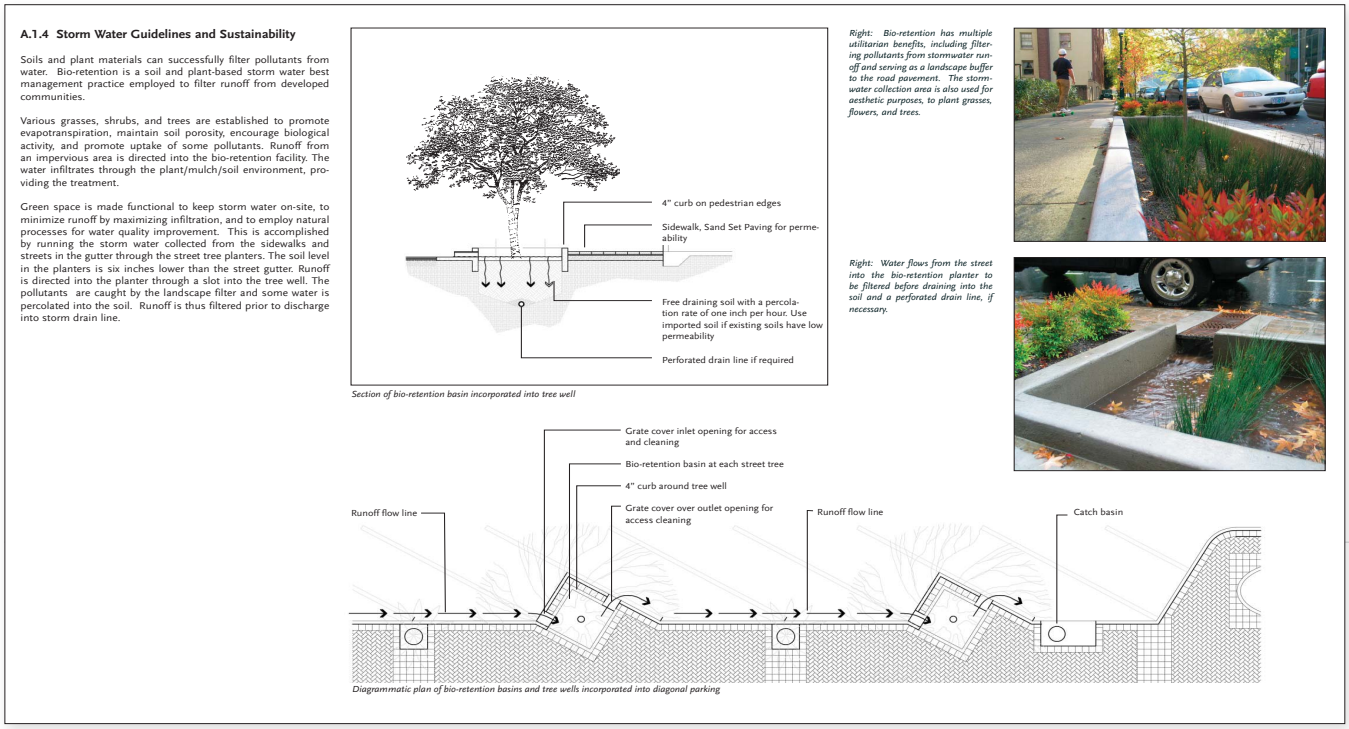
Figure R-3: Interior Parking Lot Landscape

42

Landscape Standards, Gridley, Allin, & Prickett Neighborhood Form-Based Code (2007), City of Bloomington, Illinois. Credit: Farr Associates.

Green Building Standards

Requirements for environmentally sensitive, energy efficient, and low carbon footprint buildings can assist in achieving community sustainability goals.



A.1.4 Storm Water Guidelines and Sustainability

Soils and plant materials can successfully filter pollutants from water. Bio-retention is a soil and plant-based storm water best management practice employed to filter runoff from developed communities.

Various grasses, shrubs, and trees are established to promote evapotranspiration, maintain soil porosity, encourage biological activity, and promote uptake of some pollutants. Runoff from an impervious area is directed into the bio-retention facility. The water infiltrates through the plant/mulch/soil environment, providing the treatment.

Green space is made functional to keep storm water on-site, to minimize runoff by maximizing infiltration, and to employ natural processes for water quality improvement. This is accomplished by running the storm water collected from the sidewalks and streets in the gutter through the street tree planters. The soil level in the planters is six inches lower than the street gutter. Runoff is directed into the planter through a slot into the tree well. The pollutants are caught by the landscape filter and some water is percolated into the soil. Runoff is thus filtered prior to discharge into storm drain line.

4" curb on pedestrian edges
Sidewalk, Sand Set Paving for permeability
Free draining soil with a percolation rate of one inch per hour. Use imported soil if existing soils have low permeability
Perforated drain line if required

Section of bio-retention basin incorporated into tree well

Right: Bio-retention has multiple utilitarian benefits, including filtering pollutants from stormwater runoff and serving as a landscape buffer to the road pavement. The stormwater collection area is also used for aesthetic purposes, to plant grasses, flowers, and trees.

Right: Water flows from the street into the bio-retention planter to be filtered before draining into the soil and a perforated drain line, if necessary.

Grate cover inlet opening for access and cleaning
Bio-retention basin at each street tree
4" curb around tree well
Grate cover over outlet opening for access cleaning
Runoff flow line
Runoff flow line
Catch basin

Diagrammatic plan of bio-retention basins and tree wells incorporated into diagonal parking

Stormwater Guidelines and Sustainability, Uptown Whittier Specific Plan (2008), City of Whittier, California. Credit: Moule & Polyzoides, Architects and Urbanists.

Creating the Development Review Process

Finally, the code team—presumably guided, if not led, by municipal staff and elected officials—should define the process necessary for the submission and approval of development proposals once the form-based code is in place.

These include procedures for submitting, reviewing, and approving proposed development projects, along with a variety of optional sub-procedures, such as historic preservation review and the consideration of nonconformities. Essential rules guiding overall code administration are also included, such as rules for the interpretation of code requirements or resolving perceived conflicts between the form-based code and other municipal code provisions.

Administrative vs. Discretionary Review

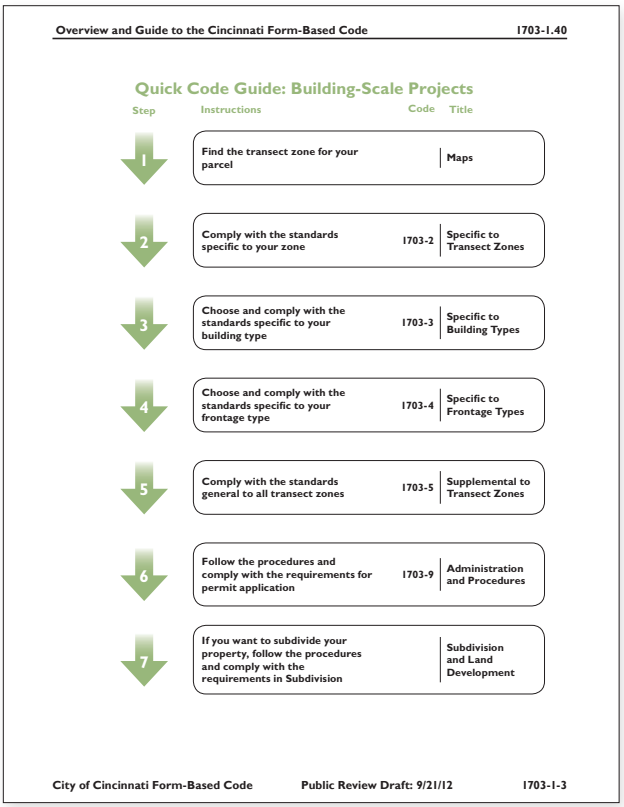
Defining the development review process can begin at the conclusion of the creation of the form-based code, or be tentatively established much earlier in the process, perhaps as one of the initial goals of the form-based code effort. One of the key questions will be whether submitted development proposals can largely be approved administratively by staff or if a discretionary body such as a planning commission or design review board is needed.

An important selling point for form-based codes is their potential to streamline the development review process. The requirements of a form-based code are aimed at ensuring predictability in the quality and character of future development, and have been defined by a very specific, comprehensive vision developed in conjunction with the community. Therefore, administrative review and approval should be possible for all projects that comply with applicable form-based code requirements. Similarly, one of the goals of a form-based code should be to make the review and approval process as easy as possible for existing municipal staff.

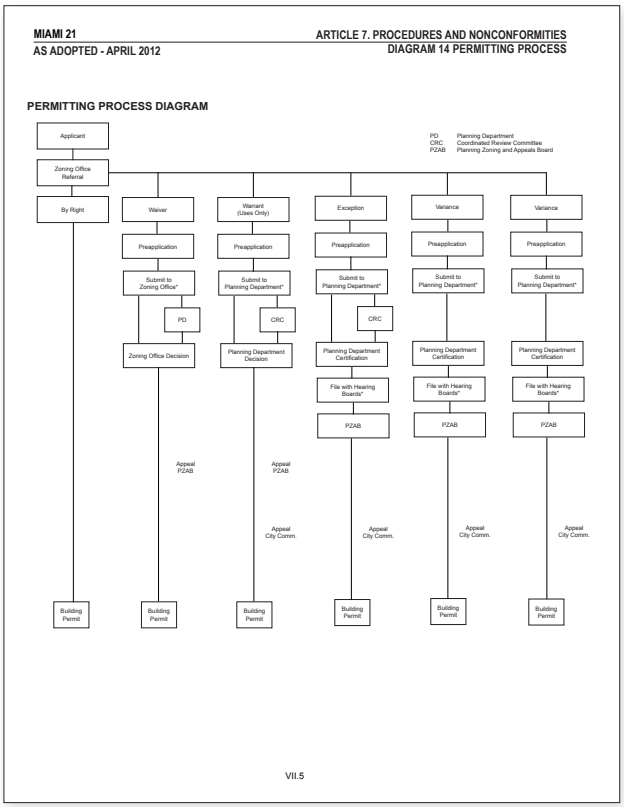
As a result, the substantial investment of time and other resources necessary to create a solid form-based code can be repaid by the reduction in time and resources necessary to review and assess individual development proposals in the future. In the end, administrative project review and approval can greatly reduce uncertainty and risk for developers, encouraging them to develop under it.

Variances

Some form-based codes will need to include a cautious variance process for dealing with development that is in-line with the community vision but proposed for sites with unusual characteristics that necessitate a relaxation or modification of specific requirements of the code.



Quick Code Guide - Building-Scale Projects, Cincinnati Form-Based Code (Public Review Draft, 2012), City of Cincinnati, Ohio. Credit: Opticos Design, Inc.



Permitting Process, Miami 21 Zoning Code (2012), City of Miami, Florida. Credit: Duany Plater-Zyberk & Company.

Nonconformities

Whether a community chooses to use conventional zoning approaches or a form-based code, the way in which it deals with development that does not conform with current standards—but which was legal when constructed—is an important indicator of the extent and speed of the changes it hopes to achieve by updating its zoning code. Determining the best approach depends on the local perceptions and priorities of the community; in some, a rigid approach may not be feasible in the near term, but delaying requirements for compliance or taking a case-by-case approach can threaten the effectiveness of the new form-based code.

Road Test the Code

Once the draft code provisions are completed, but before they are enacted, they should be tested using existing parcel dimensions and/or past or anticipated developments to determine how well the draft code addresses real world development and design issues. The code team and/or staff responsible for development review and approval (such as planning, public works, emergency services, and building officials) should apply the new form-based code procedures and requirements to determine whether the draft code would successfully implement the community's vision without being unnecessarily burdensome to the applicant. To thoroughly test the code, local developers should be invited to participate as well.

Monitor the Performance of the Code

After the code has been adopted, its performance should be systematically monitored by staff, applying criteria similar to that used to road test the code before adoption. The code can be amended as necessary on an annual basis.

2.0 Administration

2.1 REVIEW BODIES

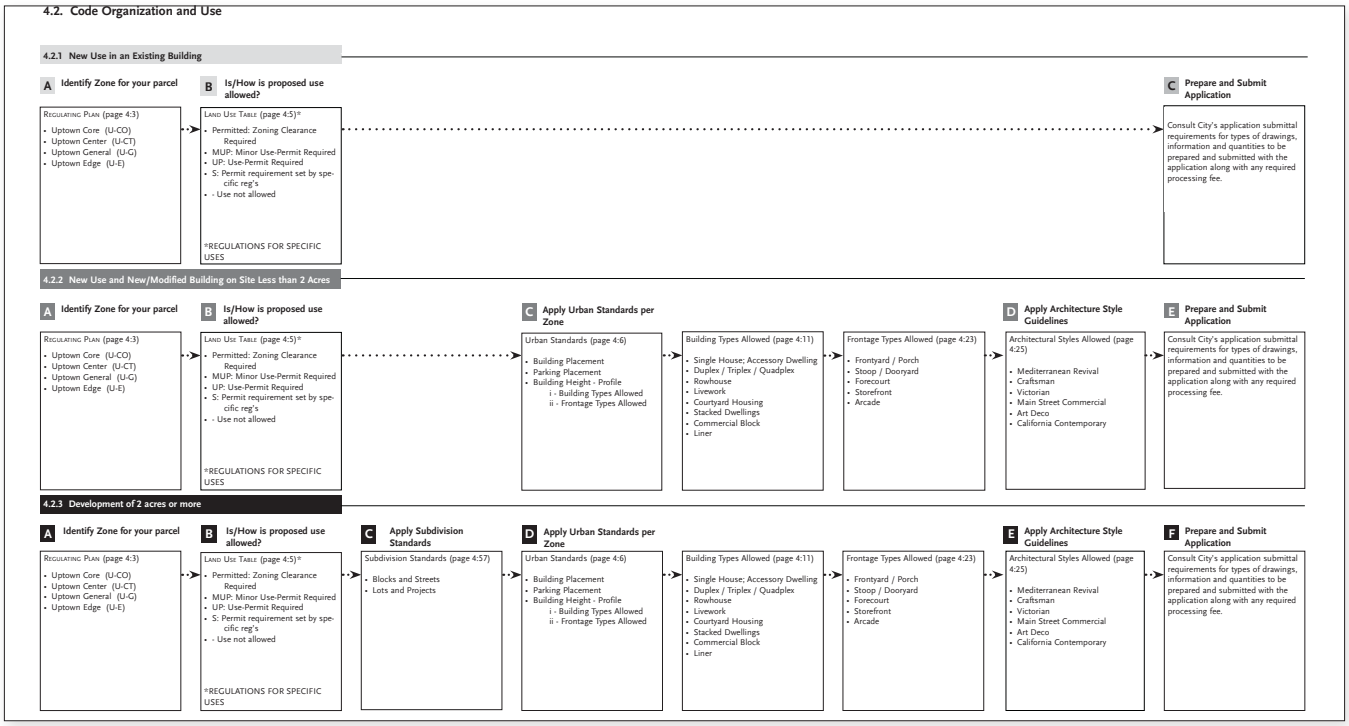
2.1.1 Summary of Review Authority

The following table summarizes the required review and approval authority provided under this development code.

	2.1.2	2.1.3	2.1.4	2.1.5	2.1.6	2.1.7	
Procedure	Zoning Administrator	Site Plan Review Board	Planning Commission	Zoning Commission	Zoning Board of Appeals	City Council	Reference
Zoning Compliance Certificates	D	R					2.2
Certificate of Occupancy	D						2.3
Administrative Deviation	D						2.4
Uses Permitted with Administrative Approval	D						2.5
Minor Variations without Site Plan Review	D						2.6
Minor Variations with Site Plan Review	D	R					2.6
Major Variations without Site Plan Review	R				<D>		2.6
Major Variations with Site Plan Review	R	R			<D>		2.6
Appeals					<D>		2.7
Amendments	R	R		<R>		<D>	2.8
Special Use	R	R		<R>		<D>	2.9
Official Development Plan	R	R		<R>		<D>	2.10
Critical Traffic Management Areas	R	R				<D>	2.11
Traffic Impact Analysis	R	R				R	2.12
Subdivision Plat (with waiver)	R		<R>			<D>	2.13
Subdivision Plat (without waiver)	D						2.13
Tract Survey	D						2.13
Multifamily Plan			<R>			<D>	2.13
Certificate of Appropriateness (oNC only)	R	R		<D>			7.1
Annexations	R		<R>			<D>	2.1.4

KEY: R = Review or Recommendation D = Final Decision <> = Public Hearing

Summary of Review Authority, Heart of Peoria Land Development Code (2007), Peoria, Illinois. Credit: Ferrell Madden/Code Studio.



Code Organization and Use, Uptown Whittier Specific Plan (2008), City of Whittier, California. Credit: Moule & Polyzoides, Architects and Urbanists.

Photo simulation of proposed changes to the intersection of Sycamore Avenue at San Pablo Boulevard, Central Hercules Plan (2001), City of Hercules, California.
Credit: Urban Advantage (www.urban-advantage.com).

Conclusion

There are many options for municipalities that want to preserve or encourage a particular sense of place in their community. However, most find it difficult to do so.

One reason is conventional zoning's narrow focus on what uses are permitted (or rather what uses are prohibited). While this approach has been remarkably successful at protecting the health and safety of the public over nearly a century, conventional zoning has neglected to provide guidance—some would say leadership—on what the physical character of our communities should be.

How Flexible?

Admittedly, our individual aesthetic preferences are diverse. Some critics contend that form-based codes threaten to dictate architectural style, which encourages the creation of "cookie cutter" communities as monotonous as those they are meant to surpass. Many of these same critics observe that form-based codes and other design standards tend to favor architectural styles or features from specific—and possibly idealized—eras in the past, rather than addressing the actual needs and preferences of people living today (porches that are charming but rarely used are often cited as an example). Some even believe that conventional zoning, by focusing on what uses are permitted, allows for greater freedom in the design of our communities, from large urban areas to the buildings we call home.

Advocates counter that form-based codes are exceedingly flexible, and can be made to not only allow but facilitate a broad scope of architectural, landscape, and urban design in a community. At the same time, many of them will acknowledge that the most successful form-based codes tend to be those in which the community has comprehensively identified the specific details of form that it wants and will require of future development.

Will It be Accepted by Developers?

Some developers have expressed unease about having to adapt to a new system of regulation and development review, often complaining that the existing development review process (typically following conventional methods of zoning and regulation) is already too onerous and frustrating. Indeed, it's not uncommon for communities with exacting standards regarding use to be attracted to form-based codes, but choose to simply add a new layer of regulation to existing requirements.

However, the development of a comprehensive form-based code usually requires a community to reassess its existing system of development regulation. In addition, the greater precision and predictability inherent in most form-based codes can offer a community the opportunity to streamline the development review process, often with the aim of persuading local developers to support the new code and, ultimately, to encourage the type of development wanted by the community.

An Approach Deserving Wider Recognition

In the end, form-based codes are but one approach available to communities, but it is one that deserves wider recognition among municipal staff and elected officials. The term "form-based codes" is becoming familiar to many, but relatively few understand how they work, how adaptable they can be, and what would be entailed in creating one for their community. CMAP hopes that this guide will help advance that understanding within our region.

Learn More

This guide to form-based codes is intended as an introduction. We hope that it will help local staff, elected officials, and residents in municipalities throughout our region determine whether a form-based code might be right for their community.

Most communities will want to gain a fuller understanding of the details of form-based codes before they embark on the process of creating one. Fortunately, many resources are available for communities that want to take that next step.

Form-Based Codes Institute

Based in Chicago, FBCI is a non-profit professional organization dedicated to advancing the understanding and use of form-based codes throughout the United States. As part of its core mission, FBCI develops standards for form-based codes, identifying the essential elements of a well-crafted code and highlighting the best examples for other communities to learn from.

FBCI's website (**www.formbasedcodes.org**) provides several resources on form-based codes, including definitions, sample codes that exhibit best practices, a posting of current RFPs from communities developing form-based codes, and a sample RFQ that municipalities can use, along with an evaluation checklist to help communities evaluate consultant qualifications and work proposals.

FBCI provides education for municipal staff, elected officials, and residents engaged in planning for their communities. At present, FBCI offers the following courses, led by several of the world's leading experts on form-based codes, who continually review and write codes in their work:

FBC 101e: ABCs of FBCs On-Line

An 8-hour web-based course that provides a comprehensive introduction to the principles and components of form-based codes, as powerful regulatory tools to shape community form and character. The course is composed of eight segments arranged in sequential order, with recorded presentations, reading assignments and a virtual field exercise, which can be completed at the convenience of the participant in a single day or during a period of up to six weeks.

FBC 201: Preparing a Form-Based Code - Design Considerations

An advanced course for individuals who have completed FBC 101e. During two days, participants gain an in-depth understanding of urban form for a regulatory framework, exploring design possibilities for greenfield sites, redevelopment sites, already built-out communities, and regional plans. Instructors explain how design principles are applied to create the basic elements of a form-based code (such as building form and public space standards), through lecture and case study, combined with "hands-on" participatory exercises.

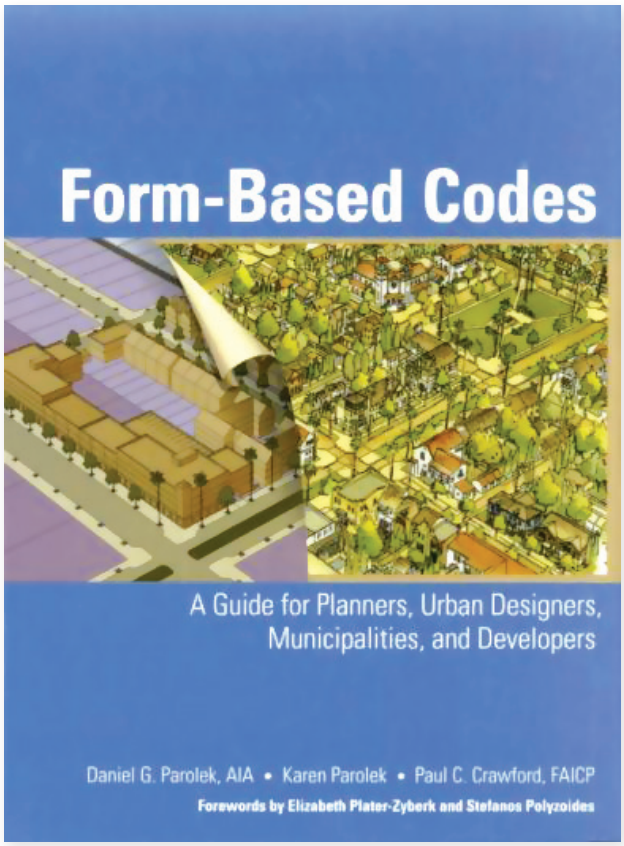
FBC 301: Completing, Adopting and Administering the Code

A two-day, advanced course for individuals who have completed FBC 101e, detailing the mechanics of creating, adopting, and administering a form-based code in a community, including:

- How to structure the coding process, including what must happen before and after the code is drafted.
- The legal aspects of adopting a form-based code (for example, its consistency with a comprehensive plan).
- What to keep or discard from an existing conventional code.
- The advantages and disadvantages of mandatory, parallel, and floating-zone form-based codes.
- The role of design standards within the development review process.
- How form-based codes are adopted and implemented.
- Insulating against potential challenges.

Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers

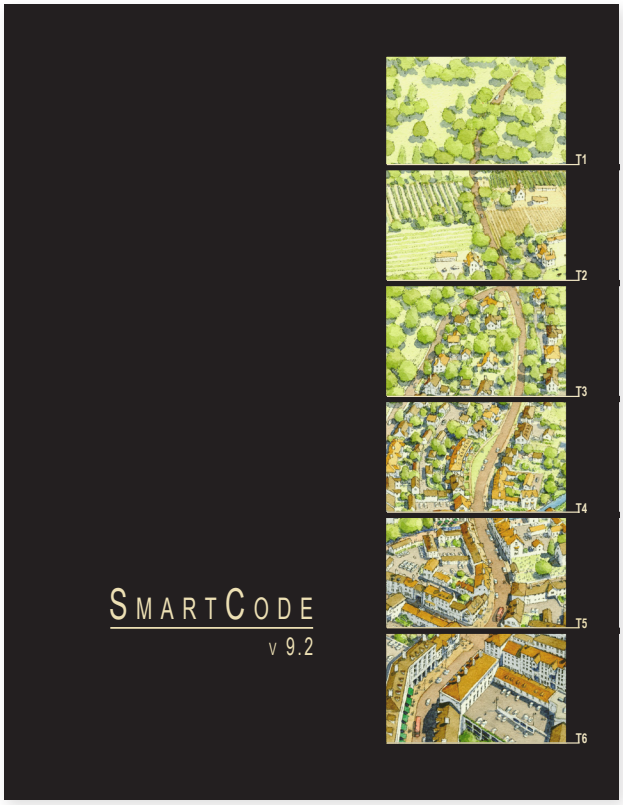
To explain how a form-based code can be developed, this guide follows the approach recommended by architects Daniel and Karen Parolek of Opticos Design, Inc. (**www.opticosdesign.com**), authors (with Paul Crawford) of *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers* (John Wiley & Sons, 2008). At present, their textbook offers the most comprehensive explanation of how form-based codes work and how they are created, drawing upon years of experience developing award-winning form-based codes for communities across the nation (many of which are featured in the images included in this guide). The book is lavishly illustrated with diagrams, maps, plans, and renderings from numerous case studies that demonstrate best practices in the creation of form-based codes.

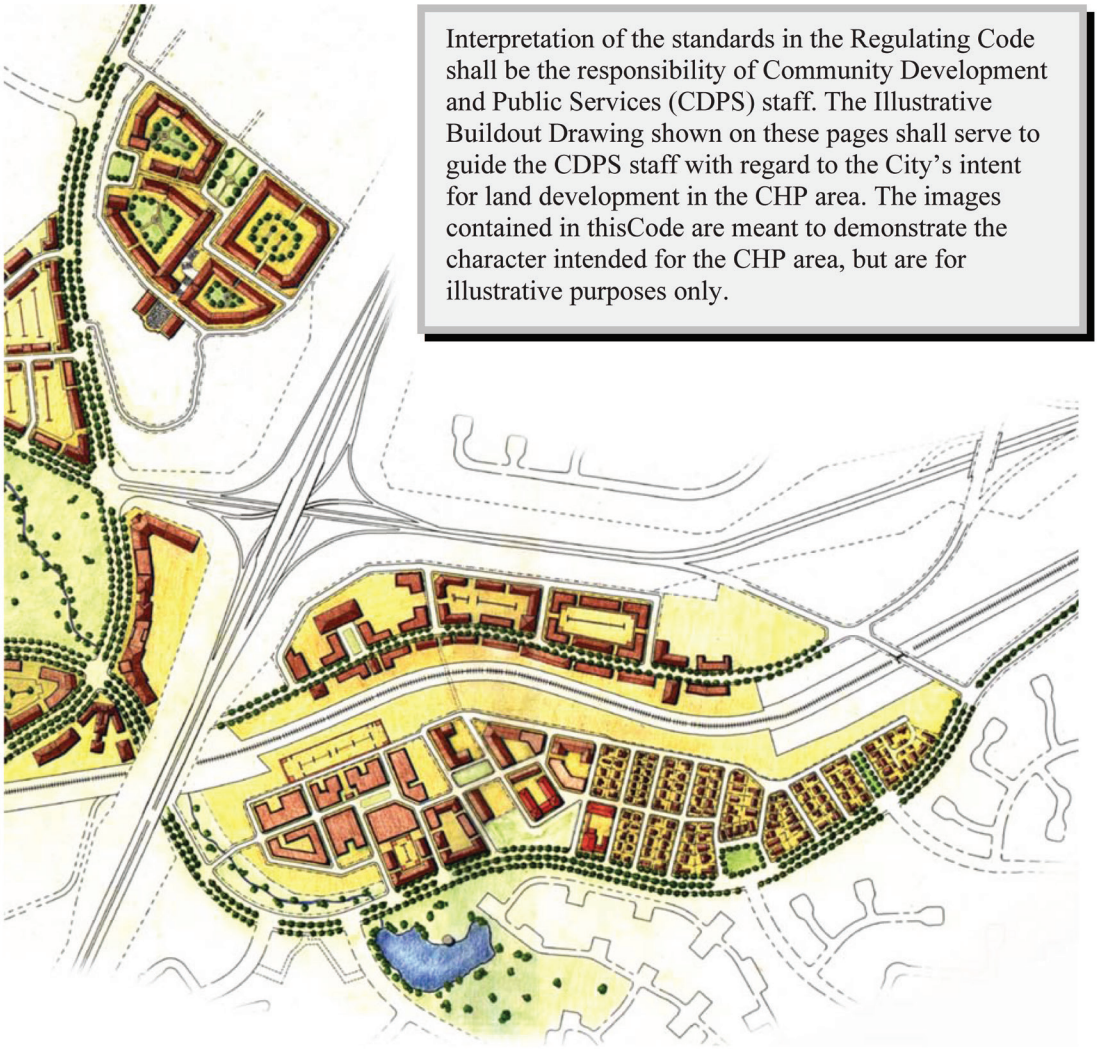


SmartCode

The SmartCode is a comprehensive, transect-based form-based code template (or "model ordinance") that includes model language, standards, and requirements for multiple scales of development by the public and private sectors, as well as administrative procedures for development review and approval. It is intended to be customized to the local context, priorities, and legal requirements of each community that uses it.

Approachable and relatively easy to follow, it has been used by several communities across the United States, and refined over the years due to the fact that it is "open source" and free of charge. It is available for download at **www.smartcodecentral.org**.





Interpretation of the standards in the Regulating Code shall be the responsibility of Community Development and Public Services (CDPS) staff. The Illustrative Buildout Drawing shown on these pages shall serve to guide the CDPS staff with regard to the City's intent for land development in the CHP area. The images contained in thisCode are meant to demonstrate the character intended for the CHP area, but are for illustrative purposes only.

How to Use the Regulating Code

1. Determine whether your use is permitted in the Central Hercules Plan area.
2. Determine whether your site falls within the Waterfront District, Central Quarter, Hospitality Corridor, or Hilltown.
3. Determine which Street Type your lot fronts. (If you have a corner lot, you must determine the primary space or street based on the hierarchy on page II-2. Review Chapter II for provisions about the Street Type that corresponds to the lot.
4. Review the Use Table (Chapter III) and the General Provisions (Chapter VI) which apply throughout the Central Hercules Plan area.
5. Review the Projecting Façade Elements and Architectural Regulations (Chapter IV) which contain specific rules for Buildings.

Central Hercules Plan (2001), City of Hercules, California.
Credit: Dover, Kohl & Partners.

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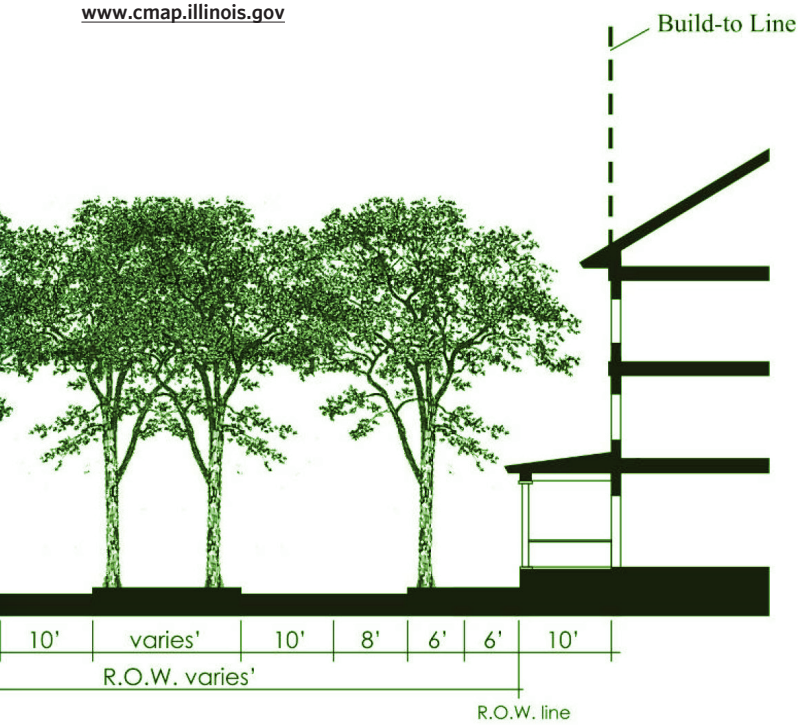

Attached Main Street buildings form a unified streetscape along a vibrant commercial street.

Main Street building with bay windows and bright shopfronts

Main Street building with a variety of shopfront sizes.

A. Description

The Main Street Mixed-Use Building Type is a small- to medium-sized structure, typically attached, intended to provide a vertical mix of uses with ground-floor retail, or service uses and upper-floor service, or residential uses. This Type makes up the primary component of a neighborhood main street and portions of a downtown main street, therefore being a key component to providing walkability.

T3E | T3N
T4N.1 | T4N.2
T5MS | T5N.1 | T5N.2 | T5F
T6C

Key

T# Allowed T# Not Allowed

General Note: Photos on this page are illustrative, not regulatory.