

From Form to Function: An Evaluation of the Effectiveness and Potential of Form-Based Zoning Codes

by

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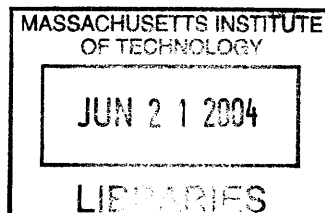
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ABSTRACT

This thesis analyzes the effectiveness and potential of form-based zoning codes, focusing on three research questions: (1) Are form-based codes a fundamentally-different alternative to Euclidean zoning, or are they simply a re-packaged version of design guidelines? (2) Do form-based codes spur better development (defined in New Urbanist terms) than traditional zoning ordinances? (3) Are form-based codes appropriate for use across the entire range of development environments (i.e., urban, suburban, and rural areas)?

The thesis answers these questions through an evaluation of case studies of two notable municipal form-based codes: the Columbia Pike Special Revitalization District Form Based Code in Arlington County, Virginia, and the Form Districts incorporated within the new Land Development Code for Jefferson County, Kentucky. For each case study, the thesis analyzes the political and regulatory frameworks, socio-economic makeup, and existing development patterns of the surrounding community. It then examines and evaluates the recently-implemented form-based code, considering the ordinance's intent, composition, and development consequences. After considering both case studies, the thesis formulates conclusions and broader implications regarding the current effectiveness and future potential of form-based zoning codes.

The author's research yields certain generalizable conclusions. While form-based codes are not a new idea, they are fundamentally distinct from either traditional Euclidean zoning or most urban design guidelines or standards, shifting the role of zoning from proscriptive to prescriptive and placing form rather than use at the center of the regulatory paradigm. Based on early indications, this change in emphasis appears to yield more consistent, more democratic, more contextual, and more pedestrian- and community-friendly development than that generated by typical zoning codes. And finally, the success of form-based coding seems to be tied less to the scale of development within which it is applied than to the levels of political and economic support that accompany it. It is important to recognize that form-based codes are still a relatively new innovation, and that only time will demonstrate whether they are in the long run successful in stimulating more and better development than more traditional zoning mechanisms. However, initial findings suggest that they hold the potential to yield impressive results.

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This thesis is dedicated to the memory of my grandfathers, Bob Hegedus and Ted Kohr.

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“A zoning code that speaks clearly is a practical prerequisite to fitting in, because it is through the zoning code that the developer learns what is allowed and expected. It is through the zoning code that society speaks.”

- David Sucher

“It is not possible to create something glorious, especially something new and glorious, by avoiding harm.”

- Michael O'Hare

CHAPTER 1: INTRODUCTION AND RESEARCH CONTEXT

1.1 Research context

Since its origins in the early twentieth century, the underlying intent of zoning has remained essentially unchanged: to protect the health and safety of residents – largely defined by the presence of detached single-family homes – from the perils associated with proximity to non-residential uses. Euclidean zoning, characterized by the separation of land uses into distinct residential, commercial, and industrial zones, has been largely successful in meeting this goal. Unfortunately, the segregation of uses has also led to sprawling development patterns, mediocre buildings, and faceless places – in the words of James Howard Kunstler, a “geography of nowhere.” This development paradigm has come under increasing assault throughout recent decades by the New Urbanists, a movement made up of architects, planners, citizen activists, and public officials that seek to replace sprawl with compact, mixed-use, and vibrant communities.

New Urbanists were quick to recognize the critical importance of zoning codes and related regulatory devices in the shaping of the built environment. As Andres Duany – a renowned architect and one of the founders and most zealous champions of new urbanism – put it, “I actually understood the importance of codes well before I understood urbanism. Codes are where the power lies.”¹ And in the eyes of Duany and many other New Urbanists, traditional zoning codes are largely to blame for the sorry and unsustainable state of countless urban and suburban environments. New Urbanist critiques of suburban sprawl and the traditional zoning codes that enable it have struck a chord with politicians, planners, and residents across the country, leading

¹ Zoning Reform Through Form-Based Codes. Videocassette. National Association of Realtors. 2003.

many to question the Euclidean zoning paradigm. However, while there is an increasing consensus on the ills that afflict current zoning, there is less agreement about ways to cure them.

One alternative to traditional Euclidean zoning championed by New Urbanists is the form-based code (FBC). FBCs represent a fundamentally different way of regulating land use, with a focus on physical form and a community's design vision rather than simply buffering incompatible uses. According to their New Urbanist proponents, FBCs will spur development that is more diverse, pedestrian-oriented, and sensitive to its local context than development that is regulated by standard zoning. However, there is currently little independent research that supports or refutes these claims.

1.2 Definition of research questions

Form-based zoning has only recently emerged as a viable regulatory option, and consequently has received little scholarly attention. This situation has been exacerbated by changes in terminology, as yesterday's "typological coding" or "street-based" coding has become today's "form-based coding." For the purposes of this thesis, I define form-based codes as codes that, in the words of Geoffrey Ferrell, a leading proponent of form-based zoning, "deal directly with building form and set only broad parameters for use."² In this thesis, I use an analysis of two different case studies – supported by more general research about form-based codes – to answer three basic questions. First, are form-based codes a fundamentally-different alternative to Euclidean zoning, or are they simply a re-packaged version of design guidelines? Second, do form-based codes spur better development (defined in New Urbanist terms) than traditional zoning ordinances? And finally,

² "Form-Based Coding: Building Form and Street Space." Geoffrey Ferrell Associates, L.L.C. website.
<http://www.geoffreyferrell.com/id69.htm>

are form-based codes appropriate for use across the entire range of development environments (i.e., urban, suburban, and rural areas)? Taken together, I feel that these questions cut to the heart of the effectiveness and potential of form-based codes.

My initial hypothesis in relation to the first question was that form-based codes do not fundamentally differ from the combination of traditional zoning and urban design guidelines (presuming that such zoning allows mixed-use districts). My hypothesis in relation to the second question was that post-FBC development would be better (defined in New Urbanist terms) – than pre-existing development patterns, but that this new development will not necessarily measure up well against all of the objectives that form-based codes presume to support. And my hypothesis in relation to the third question was that form-based codes would be as effective in rural areas as they were in urban or suburban areas.

Any answer to my research questions must be accompanied by a caveat acknowledging the hazards of applying the lessons of individual instances to other, inevitably different, situations. However, my research yielded certain generalizable conclusions. While form-based codes are not a new idea,³ they are fundamentally distinct from either traditional Euclidean zoning or most urban design guidelines or standards, shifting the role of zoning from proscriptive to prescriptive and placing form rather than use at the center of the regulatory paradigm. Based on early indications, this change in emphasis appears to yield notably better development.⁴ In general, FBCs seem to generate more consistent, more democratic, more contextual, and more pedestrian-

³ New Urbanists freely acknowledge the degree to which they draw upon ideals and practices of town planning widely utilized during the early 20th century.

⁴ It is important to emphasize that most form-based codes have been in place for a few years at most, so the jury is still out on the long-term development impact of FBCs. Nonetheless, initial development trends appear strongly favorable.

and community-friendly development than their Euclidean predecessors. The biggest weakness of form-based codes – at least, in the manner that they have been applied to date – seems to lie in their limited ability to affect the character of areas that are already heavily built-out.

1.3 Document structure

This thesis is divided into a number of chapters. Chapter 2 details my research methodology and addresses challenges and limitations that arose over the course of my research. Chapter 3 provides a brief overview of intellectual and regulatory precursors to form-based codes, covering the City Beautiful, the Garden City, traditional Euclidean zoning regulations, incentive zoning, and the incorporation of design guidelines and design review. Chapter 3 also gives background on the New Urbanist movement and the regulatory policies and tools that it has championed.

Chapter 4 looks specifically at form-based codes, examining their major components, then comparing and contrasting them with both traditional zoning codes and design guidelines. Chapter 5 examines a case study of a typical form-based code: the Columbia Pike Special Revitalization District Form Based Code in Arlington County, Virginia. Within this chapter, I provide a brief socio-economic overview of the community, identify differences between the pre-existing zoning ordinance and the form-based code, measure the difference between pre- and post-FBC development, and predict the FBC's long-term impact. Chapter 6 contains a similar analysis of a less typical, but equally important, case study: the Form Districts incorporated within the new Land Development Code for Jefferson County, Kentucky. Finally, Chapter 7 presents my conclusions, suggests broader implications for the future of form-based codes, addresses questions of implementation, and indicates areas for further research. The thesis also contains a number of appendices, including excerpts from the codes analyzed in both case studies.

CHAPTER 2: METHODOLOGY

2.1 Methodological overview

My research methodology consisted of five distinct phases: (1) review of the literature related to Euclidean zoning, design review, and form-based codes; (2) selection of criteria by which to evaluate post-FBC development; (3) selection of specific FBC case studies; (4) analysis of these case studies; and (5) formation of generalized conclusions about the effectiveness of FBCs and their potential for use in the future. This thesis incorporates the results of each of these phases.

2.1.1 Literature review

Form-based codes are a relatively recent phenomenon, and the body of literature that deals specifically with them is fairly limited. I started by examining books by leading New Urbanists, which together make up the bulk of the academic FBC literature. Over the past few years FBCs have also begun to appear, though infrequently, in articles in newspapers and other periodicals, the majority of which I reviewed. I was also able to find a significant amount of information related to form-based codes on the websites of New Urbanist practitioners, progressive municipal planning departments, and other planning-related organizations. Finally, I supplemented my review of FBC literature with material dealing with related fields, such as urban design guidelines and standards. The results of my literature review can be found in Chapter 3 (which discusses the history of zoning and urban design-related regulation) and Chapter 4 (which describes the typical makeup of form-based codes, then contrasts them with both traditional Euclidean zoning mechanisms and urban design guidelines).

2.1.2 Selection of FBC evaluation criteria

Given the level of New Urbanist support for form-based codes, it seems logical to assume that FBC-guided development should follow New Urbanist design principles, in contrast with the “sprawl” development that is generated by traditional Euclidean zoning. In my thesis, I tested this assumption, evaluating post-FBC development against the core design principles that underlie the Charter of the New Urbanism. The Charter lists 27 principles, organized at three different scales: (1) the region: metropolis, city, and town; (2) the neighborhood, the district, and the corridor; and (3) the block, the street, and the building. To narrow this list to a more workable number of criteria, I turned to the writings of Elizabeth Moule, a noted architect, co-founder, and current board member of the Congress for the New Urbanism. According to Moule, the Charter:

rests on three fundamental ideas or principles: slowness, ... inclusiveness, and legibility. The first value, slowness, embodies the hope that we can learn to make cities that enable contemplation and connectedness to place, rather than cities that reflect our desire for ever-increasing speed and efficiency ... Inclusiveness means that urban settlements should bring people together, not drive them apart, and ... the value that balances inclusiveness is legibility. Much of the charter is dedicated to making a more evident city form and a more transparent process for shaping the discussions and decisions about the structure of neighborhoods, cities, and regions.⁵

I used these three principles as criteria for my evaluation of the quality of post-FBC development. For *slowness*, I questioned whether the new development made any attempt to include high quality design and address the idea of a “sense of place,” rather than considering purely economic or efficiency concerns. For *inclusiveness*, I determined whether the development attempted to

⁵ Moule, Elizabeth. “The Charter of the New Urbanism,” in Todd W. Bressi (ed.). The Seaside Debates: A Critique of the New Urbanism. New York: Rizzoli Intl. Publications. 2002. 22-25.

bring people together either spacially or socio-economically. Finally, I examined *legibility* along two dimensions. First, I considered legibility of process, focusing on the degree to which new development incorporated community input through the use of a transparent process. And second, I considered legibility of form, as defined by Kevin Lynch in The Image of the City:

By [legibility] we mean the ease with which [the city's] parts can be recognized and can be organized into a coherent pattern. ... A legible city would be one whose districts or landmarks or pathways are easily identifiable and are easily grouped into an over-all pattern.⁶

2.1.3 Selection of FBC case studies

More than 20 years have passed since the creation of the first modern form-based code (a one-sheet poster designed to regulate development within the resort community of Seaside, Florida). Over these two decades, New Urbanists have been moderately successful in introducing the principles of what they call Traditional Neighborhood Design (TND) – including a mix of uses, compact, walkable development, and a strong street grid – into municipal zoning ordinances. Yet, while TND districts have become increasingly common, they have typically functioned as “plug-ins” or overlays to existing zoning ordinances, designed to pursue New Urbanist design aims within the text-based structure of Euclidean zoning. It is only in the past few years that cities and counties have begun to implement graphical form-based codes. Despite strong support from leading New Urbanists, such codes have only been enacted in a limited number of cities, and those that are in place are still relatively recent.

⁶ Lynch, Kevin. The Image of the City. Cambridge, Massachusetts: MIT Press, 1960. 2-3.

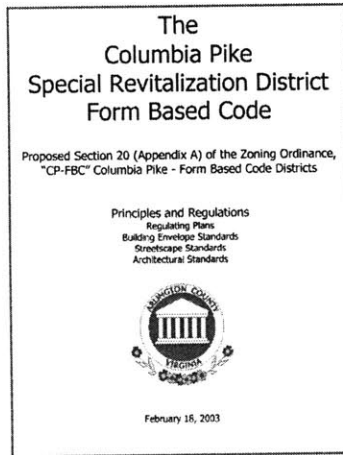


Figure 2-1. Columbia Pike Form Based Code

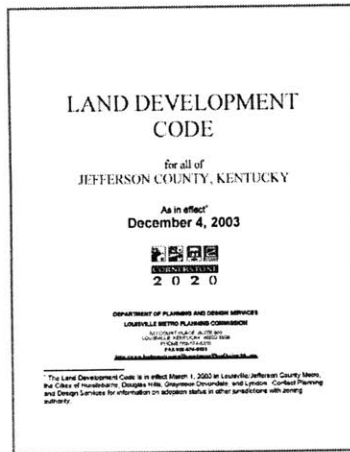


Figure 2-2. Jefferson County Land Development Code

In recognition of the short supply of well-established examples of form-based codes, I chose to focus my research on a few carefully-chosen case studies. Given financial and time limitations, I restricted my consideration of case studies to American cities and/or metropolitan areas located in the Midwest, Mid-Atlantic, or Northeastern regions. Fortunately, this geographic scope included two notable examples of form-based codes: the Columbia Pike Special Revitalization District Form Based Code in Arlington County, Virginia (Figure 2-1), and the Form Districts incorporated within the new Land Development Code for Jefferson County, Kentucky (Figure 2-2). In addition to their accessibility, these two cases possessed a number of other characteristics that made them attractive for research purposes. Both codes were implemented within reasonably-large municipal jurisdictions (Arlington County has around 200,000 residents and Jefferson County, including Louisville, is home to just over 700,000), and consequently addressed a wide range of development issues. Both codes were implemented by municipalities that had previously utilized largely Euclidean zoning ordinances. The Columbia Pike FBC was established for a single district, while Jefferson County’s form districts were applied county-wide; the contrast between the two allowed me to investigate the merits of form-based codes at different scales of operation. And finally, both codes have been highlighted by the American Planning Association as noteworthy. At the American Planning Association’s 2004 National Planning Conference, Jefferson County form districts served as the subject of a conference session, and the Columbia Pike FBC was the subject of a mobile workshop. Given these numerous attractive characteristics, I selected the Columbia Pike FBC and Jefferson County’s Form Districts for my two case studies.

2.1.4 Analysis of case studies

I began my analysis of each case study by studying the political framework, socio-economic makeup, and existing development patterns of the surrounding community. I examined both the pre-existing zoning ordinance and the recently-implemented form-based code, considering the documents' intent and major components. I also looked for differences in either the quantity or character of development before and after the enactment of the FBC. Throughout this process I drew upon information from a number of sources. I first researched both jurisdictions on the internet, surveying the websites of Arlington and Jefferson Counties, their respective departments of planning and economic development, community organizations, and a wide variety of planning-related internet resources. I conducted interviews – both in person and over the telephone – with a range of municipal planners, consultants, developers, and other involved parties. I conducted site visits to Arlington County and Jefferson County during January of 2004, during which I performed interviews and visited both the overall areas subject to the form-based codes and certain selected sites of planned development. After returning from the site visits I carried out follow-up research and interviews as needed. Building upon all of this information, I evaluated the effectiveness of each FBC, then predicted its likely future impact upon local development.

2.1.5 Formulation of broader conclusions

FBCs are inherently place-based instruments, intended to shape development in the context of regionally-specific design traditions, political structures, and economic factors. This specificity limits the degree to which conclusions about any individual FBC can be applied to other regions. Nonetheless, I was able to draw generalizations about the strengths and weaknesses of FBCs

based on themes or experiences common to each of my case studies. I also developed conclusions about the potential of FBCs for use in other regional or development contexts.

2.2 Methodological challenges and limitations

My choices of research questions and research methodology brought with them a number of challenges and limitations. These fell into three major categories: (1) questions of representativeness; (2) insufficient data and confounding factors; and (3) data-gathering concerns.

2.2.1 Questions of representativeness.

My research suffered from a limitation intrinsic to any case study approach: specific case studies may not be sufficiently representative of broader nationwide trends. Any research into form-based codes must inevitably confront this concern, given the relative scarcity of established FBCs. However, while form-based codes are uncommon, they tend to be composed in a fairly consistent manner. Form-based coding is practiced largely by a small group of planning firms, most of which have some connection to the firm of Duany Plater-Zyberk & Company (DPZ) – the firm responsible for the first modern form-based code.⁷ This shared background can be recognized in the basic framework and components that most FBCs share (regulating plans, building envelope standards, etc.). The Columbia Pike FBC shares this framework, these components, and a DPZ connection,⁸ and therefore seems likely to serve as a representative example of form-based coding. The Jefferson County form districts are less typical. Yet, as the

⁷ Katz, Peter. “An Introduction to Form-Based Development Regulations.” Draft Paper. Jan 5, 2003. 9.

⁸ The principal of the primary planning firm involved in the creation of the Columbia Pike FBC, Geoffrey Ferrell Associates, LLC, formerly worked for DPZ.

broadest scale application of form-based coding concepts to date, I felt that their case was equally worthy of research.

2.2.2 Insufficient data and confounding factors

My choice of case studies raised additional challenges. Both of the form-based codes that I studied had been in place for under two years, leading me to draw conclusions based on only a limited amount of post-FBC development. My analysis of development trends was also complicated by the influence of other potential confounding factors. Some of these factors presumably affected all municipalities, such as the nationwide economic downturn of the past three years. Others had a more localized impact, such as the 2003 merger of Louisville, Jefferson County, and other local jurisdictions into a consolidated metropolitan government. Regardless of scope, these and other factors played a role in shaping the development climate in each of my case studies, complicating any attempt to isolate the effects of form-based codes. While I was unable to enumerate the effects of these factors quantitatively, I did address them qualitatively during my interviews, questioning planners and developers about the interplay between FBCs and other economic factors. In the end, insufficient data and confounding factors led me to qualify many of my conclusions as “initial findings.”

2.2.3 Data-gathering concerns

My decision to utilize interviews as part of my research also raised challenges, including concerns about the availability and potential biases of interview subjects. To capitalize on the limited availability of some key interview subjects, I conducted interviews both on the phone and in person during my January site visits. In both cases, I attempted to minimize the potential for

interviewee bias by consciously seeking out individuals spanning the entire spectrum of planning and developing, from planners to developers to leaders of community organizations. Some degree of bias was probably unavoidable, but I feel that my holistic approach kept such bias to a minimum.

I recognize the validity and importance of each of these challenges and limitations. But despite these concerns, I am confident in both my choice of topic and of methodological approach. The conclusions that I have drawn – however qualified, couched as initial findings, and only partially applicable to a broader context – should prove valuable, even if only to serve as a starting point for future research. Form-based codes are cutting-edge planning instruments that have been presented as the answer to a wide range of land use problems, and yet they have received little scholarly attention. Consequently, the field of urban planning as a whole should benefit from my analysis of their effectiveness and potential.

CHAPTER 3: SETTING THE STAGE FOR FORM-BASED CODING

To understand the position of form-based codes within the history and literature of the planning field, one should consider the two most prominent strands that make up the DNA of FBCs: (1) an intellectual foundation that draws upon both the City Beautiful and the Garden City; and (2) a regulatory foundation that extends back to the passage of late 19th century American zoning ordinances.

3.1 Intellectual precursors to form-based codes

3.1.1 The city beautiful

Some of the earliest systematic attempts by American architects and policy-makers to address issues of city form were spurred by the City Beautiful movement. The central theme of this movement – embodied most dramatically by Chicago’s Columbian Exposition of 1893 – was the importance of creating a beautiful city, which “would in turn inspire its inhabitants to moral and civic virtue.”⁹ In the hopes of the movement’s proponents:

The civic center's beauty would reflect the souls of the city's inhabitants, inducing order, calm, and propriety therein, ... [and] the citizen's presence in the center, together with other citizens, would strengthen pride in the city and awaken a sense of community with fellow urban dwellers.¹⁰

⁹ “The City Beautiful Movement.” <http://xroads.virginia.edu/~CAP/CITYBEAUTIFUL/city.html>

¹⁰ Wilson, William H. *The City Beautiful Movement*. Baltimore: Johns Hopkins University Press, 1989. 92.

The City Beautiful emphasis on monumental architectural and planning concepts can be seen in many early- to mid-20th century plans for American cities, including the 1901 McMillan Plan for Washington, DC and Daniel Burnham's 1909 Plan for Chicago. And the movement's profound belief in the ability of a well-planned urban form to strengthen civic pride and community served as inspiration for future generations of urban reformers, including the New Urbanists.

3.1.2 The garden city

A second important intellectual precursor to New Urbanist and form-based codes was the Garden City movement. The early inspirations for the Garden City movement emerged in England in the late 1880s, led by the work of individuals such as William Morris, who in lectures for the socialist league promoted the concept of “decency of surroundings, [including] ample space, well-built clean health housing, [and] abundant garden space.”¹¹ These ideas were explored in greater detail in Ebenezer Howard's seminal 1902 book, Garden Cities of Tomorrow, and in early “garden cities” such as Letchworth, England. The first American garden city – Radburn, New Jersey – began construction in 1928.

Initially, garden cities were thought of primarily in terms of suburban and new town development. This changed in 1929, with the publishing of Clarence Perry's monograph on the “Neighborhood Unit” – one of the first attempts to apply garden city concepts at the neighborhood scale within cities. Perry's neighborhood unit – a self-contained residential area bounded by major streets, centered on a school, with neighborhood shops at intersections¹² – has

¹¹ “Letchworth: The First Garden City.” <http://www.letchworthgardencity.net/heritage/index-3.htm>

¹² “Pathways in American Planning History: A Thematic Chronology.”
<http://www.planning.org/pathways/plancomm.htm>

in recent decades served as a template for the “ideal” neighborhood size championed by New Urbanists.

3.2 Regulatory precursors to form-based codes

Form-based codes are built upon a tradition of American land use regulation that has spanned the past century, encompassing late 19th and early 20th century zoning ordinances, incentive zoning, design review and urban design standards, and the New Urbanism movement.

3.2.1 Traditional zoning

The history of zoning in America began with the 1867 passage of the first modern public land use zoning ordinance in San Francisco, designed to control the location of undesirable uses. Los Angeles followed in 1909, spurring a chain of lawsuits that ended in the U.S. Supreme Court’s 1915 ruling in *Hadacheck v. Sebastian*, in which the court upheld the City’s prohibition of brickyards within a residentially-zoned district. On the east coast, early zoning regulations focused more on building height and mass than on use, such as Massachusetts regulations that limited the heights of buildings and adjusted these heights in different zones (which were also found constitutional by the Supreme Court in *Welch v. Swasey* in 1909.¹³ The 1903 Zoning Code for Chicago also focused on the relationship between the physical characteristics of a building and the surrounding block, as shown in Figure 3-1.

In 1916, faced with the rampant growth of massive skyscrapers and the invasion of industrial uses into predominantly residential and business neighborhoods, New York City passed the nation’s first comprehensive zoning ordinance: the 1916 New York City Zoning Resolution. This

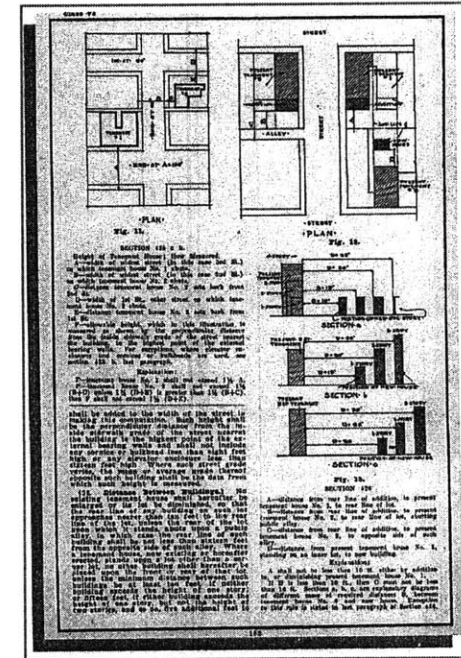


Figure 3-1. Portion of 1903 Chicago Zoning Code

¹³“Zoning.” Planning Commissioner’s Journal Website. <http://www.plannersweb.com/planning-abcs/z.html>

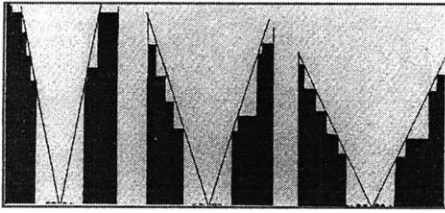


Figure 3-2. Setback lines in 1916 New York City zoning ordinance

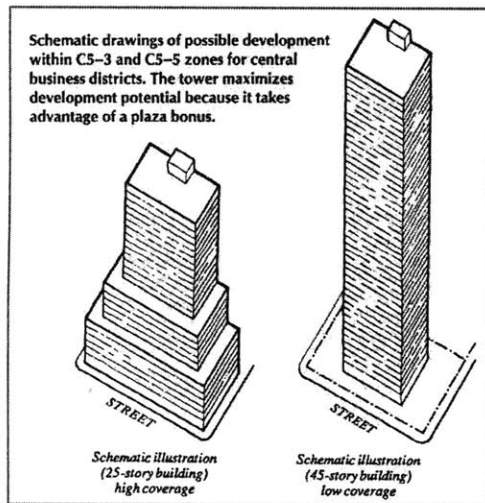


Figure 3-3. Impact of New York City plaza zoning bonuses

ordinance – the first attempt by an American city to simultaneously address land use, building height, and building mass – “helped to propel a wave of zoning that spread across the country in the 1920s.”¹⁴ It was also one of the first codified attempts by a major American city to regulate building setbacks and stepbacks, as shown in Figure 3-2. In 1926 the U.S. Supreme Court sanctioned comprehensive zoning, including the establishment of single-family residential districts, in the watershed case of *Euclid v. Ambler*. After this ruling, comprehensive “Euclidean” zoning – characterized primarily by the separation of uses into geographically-dispersed zones – spread across the nation, and single-family districts quickly became the most popular setting for new residential development.¹⁵

3.2.2 Incentive zoning

One of the next major developments in land use regulation, incentive zoning, was inaugurated in 1961 with the creation of the 1961 New York City Zoning Resolution. Among other regulatory changes, this ordinance “formally inaugurated the public policy of encouraging the provision of privately-owned public space” through the use of zoning incentives.¹⁶ Within this incentive program, a developer was given the right to build additional floor area in exchange for the provision of a plaza or arcade that would be made accessible to the public. The benefits of this tradeoff became clearly apparent in situations such as that shown in Figure 3-3.¹⁷

¹⁴ Willis, Carol. “A 3-D CBD: How the 1916 Zoning Law Shaped Manhattan’s Central Business Districts.” *Planning and Zoning New York City*. Ed. Todd W. Bressi. New Brunswick, New Jersey: Center for Urban Policy Research, 1993. 6.

¹⁵ Zoning.” Planning Commissioner’s Journal Website. <http://www.plannersweb.com/planning-abcs/z.html>

¹⁶ Kayden, Jerold S. *Privately Owned Public Space: The New York Experience*. New York: Wiley, 2000. 11.

¹⁷ In this illustration, the tower on the right is able to offer 20 percent more floor area than the tower on the left – as well as higher, more marketable floors – through the use of a plaza bonus.

3.2.3 Design guidelines/design review

The history of American design review largely began in the late 19th century with the creation of the first American municipal design review boards, spawned by the “City Beautiful” movement and its conviction that the aesthetics of a community were a matter of public concern. The New York City Arts Commission has reviewed all development on city property since 1898, and the National Capital Planning Commission has reviewed projects in Washington, DC, since the Commission’s founding in 1924. Design review was also supported by the historic preservation movement, starting in 1931 with Charleston’s historic preservation ordinance. By the end of the 1960s there were around 140 historic preservation boards that conducted design review; today there are over 1000.¹⁸

The Supreme Court legitimized design review as a public function in 1954 within its landmark decision in *Berman v. Parker*, in which it found that:

the concept of public welfare is broad and inclusive. The values it represents are spiritual as well as physical, aesthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well-balanced as well as carefully patrolled.

This decision led to the creation of thousands of design boards across the country. The rise of advocacy planning and increased public participation in the development process during the

¹⁸ Bender, Richard and Todd Bressi. “Design Review: A Review of Processes, Procedures, and Potential.” Center for Environmental Design Research, University of California, Berkeley. March 1989. 4.

1960s also impacted design review, raising expectations about the quality of the built environment and the degree of public involvement in its development.¹⁹

Today, design review takes place in practically all major urban areas (and many suburban and rural areas) across the country. Depending on the area, design review can take variety of forms. Some municipalities have an appointed design or architectural review board; others assign design review tasks to a planning commission, a zoning appeals board, or staff of the planning department. Some design review processes evaluate development in relation to a formal set of urban design guidelines. These guidelines typically fall within one of three categories: (1) prescriptive guidelines that are incorporated within zoning regulations; (2) prescriptive guidelines that are not part of the zoning regulations, but which specifically describe the desired design solution; or (3) descriptive guidelines that are not part of the zoning regulations and that describe statements of intentions, rather than specific design solutions.²⁰ Other communities forego guidelines altogether, leaving the criteria for evaluation to the discretion of their reviewers. Regardless of the actors or criteria, however, the general intent of design review remains constant: to assert some degree of public control over the physical form of development.

3.2.4 New Urbanist regulatory tools

While design review gave municipalities – and, by extension, the public – power over the physical form of particular development proposals, it alone was not sufficient to stem the rising tide of single-use, segregated sprawl development, which had become ubiquitous by the late 20th century. Over time, the opposition to sprawl gave birth to a new movement in planning and

¹⁹ Ibid. 5-6.

²⁰ Bender, Richard and Todd Bressi. “Design Review: A Review of Processes, Procedures, and Potential.” Center for Environmental Design Research, University of California, Berkeley. March 1989. 43.

architecture: New Urbanism. The precise beginning of the New Urbanist movement in America is difficult to identify, as Peter Katz, a leading New Urbanist architect and the first executive director of the Congress for the New Urbanism, explains:

“The history of the movement we know as New Urbanism is like a rope with many strands ... There is an East Coast strand ... that is concerned with the classical traditions of city making ... There is another strand that includes individuals who have been designing exemplary, small-scale infill projects in inner-city locations since the 1970s ... Still another strand involves those engaged at the metropolitan scale in places like New York, Chicago, and Boston during the 1980s and ‘90s ... and there are other threads that come from farther away – from England, Europe, Australia, and Latin America.”²¹

One early turning point occurred in the summer of 1991, when a dozen architects met for a spaghetti dinner at the California home of Judy Corbett, the head of the Local Government Commission (LGC), a Sacramento-based organization made up of local elected officials in California and other states. Over the course of that evening, those present drafted a set of principles for “alternative community design” and more sustainable settlement patterns for cities. These principles – named “the Ahwahnee Principles” after the lodge in Yosemite National Park where LGC was holding a kickoff conference for a major planning initiative – addressed design and development from the neighborhood to the metropolitan regional level, as well as recommendations about matters of process. This meeting also marked the first use of the term *New Urbanism* as a general name for the concepts under discussion.²²

²¹ Katz, Peter. “Notes on the History of the New Urbanism,” in Todd W. Bressi (ed.). The Seaside Debates: A Critique of the New Urbanism. New York: Rizzoli Intl. Publications. 2002. 33.

²² Ibid. 35.

In 1993 six of these architects founded the Congress for the New Urbanism (CNU), an organization intended to “issue a clear statement about the need to reform planning practice in America.”²³ The organization held its first annual Congress later that year, drawing close to 100 attendees.²⁴ In 1996 the fourth Congress ratified the Charter of the New Urbanism, a document that detailed the core principles of the young organization. After attending this meeting, Herbert Muschamp, architecture critic for the New York Times, wrote that the Congress for the New Urbanism was “the most important phenomenon to emerge in American architecture in the post-Cold War era.”²⁵ The movement and its membership have expanded over the years from their architectural origins, embracing planners, developers, public officials, and citizen activists. Today CNU’s membership includes more than 2,300 members in 20 countries and 49 states, and there are over 210 New Urbanist developments either complete or under construction in the United States.²⁶

The ideals and values of the New Urbanists are clearly set out within their Charter, which lists 27 core principles intended to “guide public policy, development practice, urban planning, and design.”²⁷ The document is structured around three fundamental ideas, as explained by Elizabeth Moule, a CNU co-founder and current member of its Board of Directors in The Seaside Debates, a chronicle of a 1998 symposium convened to present an academic critique of the New Urbanism:

²³ Ibid. 36.

²⁴ “CNU History.” Congress for the New Urbanism website.
<http://www.cnu.org/aboutcnu/index.cfm?formaction=history>

²⁵ Katz, Peter. “Notes on the History of the New Urbanism,” in Todd W. Bressi (ed.). The Seaside Debates: A Critique of the New Urbanism. New York: Rizzoli Intl. Publications. 2002. 37.

²⁶ “CNU History.”

²⁷ “Charter of the New Urbanism.” Congress for the New Urbanism. 1998.
http://www.cnu.org/cnu_reports/Charter.pdf

“slowness, inclusiveness, and legibility.”²⁸ These ideas are explained in greater detail (through the inclusion of an extended quote from Moule) in Section 2.1.2 of this thesis, within the context of my discussion of FBC evaluation criteria. In physical planning terms, these ideas typically lead to the creation of vibrant mixed-use communities structured around a strong grid of pedestrian-friendly streets, with priority given to the siting and treatment of public buildings.

Over the decade that it has been in place, the CNU has supported its goals through a variety of educational, lobbying, and regulatory measures. Among the most visible targets of its activism have been Euclidean zoning codes, which New Urbanists claim obstruct the creation of connected, inclusive, and legible cities through cumbersome regulatory mechanisms such as floor-to-area ratios (F.A.R.), minimum setback lines, and single-use districts. To New Urbanists, the problem is not simply the presence of regulation – as Andres Duany put it, “you can never replace a system of rules with the absence of rules”²⁹ – but rather the continued use of outdated, incomprehensible development codes designed to perpetuate the suburban development patterns of the past half century. If we as a society wish to create better communities, argue the New Urbanists, we need to start by creating a new set of codes. We need to shift the focus of our ordinances from proscriptive to prescriptive, and from use to form. We need to trade in our unwieldy volumes of legalese for clear, concise, graphically-based descriptions of the built form that we seek to achieve. And we need to build these descriptions upon the foundation of an inclusive, interactive, community-based visioning process. New Urbanists have packaged these

²⁸ Moule, Elizabeth. “The Charter of the New Urbanism,” in Todd W. Bressi (ed.). The Seaside Debates: A Critique of the New Urbanism. New York: Rizzoli Intl. Publications. 2002. 22.

²⁹ Duany, Andres. “Notes on the Lexicon of the New Urbanism,” in Todd W. Bressi (ed.). The Seaside Debates: A Critique of the New Urbanism. New York: Rizzoli Intl. Publications. 2002. 31.

shifts in regulatory content and approach within an alternative to traditional Euclidean zoning: the form-based code.

The term “form-based code” is recent in origin, coined by Carol Wyant, a Chicago-based planning consultant as a less imposing synonym for the “typological coding” that was being endorsed by leading New Urbanists such as Peter Katz and Geoffrey Ferrell.³⁰ However, the concepts underlying form-based zoning are not new. Like much of New Urbanism, form-based codes draw heavily upon the American planning and architectural traditions of the early 20th century, which emphasized compact neighborhood design. The first modern form-based code was created in 1982 during the planning of the coastal resort community of Seaside, Florida. The Seaside Urban Code is simple and straightforward, consisting of a one-page poster prescribing rules for building height, siting, and the treatment of yards and outbuildings for all private development (shown in Figure 3-4) and an accompanying set of prototypical street sections (shown in Figure 3-5). At the time, the Seaside Code’s graphical orientation represented a radical departure from the extensive text typical of zoning ordinances. Consequently, it received considerable academic and critical attention, but had relatively little immediate impact upon the conservative mainstream of American metropolitan planning.

As the New Urbanism movement gained momentum and visibility in the early- and mid-1990s, its adherents continued to advocate for changes to Euclidean zoning codes. However, their strategy was on the whole more incremental than radical, endorsing Traditional Neighborhood Development (TND) districts and ordinances, which promoted New Urbanist principles within the structure of existing zoning frameworks (use districts, text-heavy codes, etc.). TND

³⁰ Ferrell, Geoffrey. Personal interview. March 10, 2004.

ordinances have continued to proliferate over the past decade. Yet, apart from a few notable exceptions, such as the Town of Belmont, NC, these ordinances tend to apply only to individual districts, rather than city-wide.

Energized by the success of TND ordinances, some New Urbanists have begun to advocate for the implementation of form-based codes (FBCs). To date, such codes have been put in place in only a few cities and counties, and – similar to TND ordinances – most existing codes apply only to specified districts. Examples include Seaside, Woodford County, Kentucky, Waynesville, North Carolina, and the area surrounding the Pleasant Hill BART³¹ Station in Contra Costa County, California, as well as the Columbia Pike Form-Based Code in Arlington, Virginia, which I analyze as a case study in Chapter 5 of this thesis. In theory, FBCs could be applied at a wide variety of scales, ranging from the neighborhood to the metropolitan or regional level. However, Louisville-Jefferson County, Kentucky, is the only jurisdiction to date to employ form-based coding practices – through the use of “form districts” – at a scale larger than an individual district. I analyze Louisville’s code as another case study in Chapter 6.

³¹ Bay Area Rapid Transit

Some New Urbanists (including, most notably, Andres Duany) argue that form-based codes do not go far enough, and that physical form should be organized within an integrated system of zoning that covers the entire continuum of development, from the rural fringe to the urban core. This approach to zoning – usually referred to as “transect zoning” – draws upon the analytical concept of the transect, a cross-section of land that demonstrates the progression of nature and/or the built environment from its lowest to greatest levels of intensity. Building upon the scholarship and work of Sir Patrick Geddes, Ian McHarg, and Christopher Alexander, Duany and other New Urbanists advocate for the use of contextually-based design standards structured around the organizing framework of a rural-to-urban transect, as shown in Figure 3-6.³² Duany Plater-Zyberk & Company has codified this concept into a SmartCode[®], which can be licensed and customized by municipalities. To date, the most prominent use of transect zoning has been in Nashville-Davidson County, Tennessee, which incorporated a transect-based code into a 1999 revision of its zoning ordinance.

³² Duany, Andres. “Introduction to the Special Issue Dedicated to the Transect (DRAFT).” *The Journal of Urban Design*. August 26, 2002. 6. http://www.dpz.com/pdf/03_Journal_of_Urban_Design.pdf

CHAPTER 4: AN OVERVIEW OF FORM-BASED CODES

4.1 Major components

While no two form-based codes are identical, the majority share a number of common elements. Most form-based codes include three primary components: (1) a definitions section; (2) regulating plans; and (3) building envelope standards. A fourth component common to FBCs is architectural or streetscape standards.

4.1.1 Definitions

Zoning ordinances are legally-binding documents, with the power to shape development and limit property rights for all parcels within their jurisdiction. To effectively utilize this authority and influence, an ordinance must be clearly-written and spelled out in terms that are both understandable and legally-defensible. The clear and specific definition of key terms also supports the New Urbanist emphasis on legibility of form and process. For all of these reasons, FBCs typically include a section that deals strictly with definitions. These definitions cover other broad sections of the form-based code (e.g., “regulating plan,” “building envelope standards”), design or architectural elements (e.g., “ground floor,” “building corner”), and key actors involved in the Code’s administration (e.g., “administrative review team,” “town architect”). Terms that are defined within the “definitions” section of the Code are often written in CAPITAL letters elsewhere within the body of the document.

4.1.2 Regulating plans

Form-based codes' regulating plans play a role similar to Euclidean zoning ordinances' zoning maps, dividing the jurisdiction into zones within which specific sets of standards apply. Yet, regulating plans differ from zoning maps in three crucial respects.

First, true to their name, zoning maps typically delineate only “zones,” – relatively undifferentiated blocks of land that are defined simply through color-coding and the assignment of an often-cryptic designation (“S-3A,” “RA 14-26,” etc.). Regulating plans, in contrast, include much more detail, showing all streets and blocks within the area, property lines, and other regulatory information such as “required building lines,” “street tree alignment lines,” or other building envelope or setback lines. This additional detail helps the reader to understand and visualize the physical form of the development that the Code is intended to facilitate.³³ A guide to understanding a sample regulating plan is shown in Figure 4-1.

The presence of required building lines (RBLs) within FBC regulating plans is particularly notable. In contrast with minimum setbacks (their closest parallel in traditional Euclidean zoning), RBLs represent a deliberate attempt to control the relationship between building fronts and streetscape – usually working to maintain and strengthen a constant street wall. This relationship supports the New Urbanist values of *slowness* and *legibility* through the creation of a consistent and legible³⁴ “sense of place,” rather than the separation that is both suggested and generated by minimum setbacks. The importance of RBLs is also highlighted by their prominent placement within the graphical format of a regulating plan, rather than in the supporting text.

³³ Katz, Peter. “An Introduction to Form-Based Development Regulations.” 10-11.

³⁴ See definition in Section 2.1.2.

The use of required building lines also points to the second major distinction between regulating plans and zoning maps: regulating plans are based on an established design vision.³⁵ Typical zoning ordinances tend to be reactive rather than proactive, based largely on historical patterns of development and lacking a forward-looking design vision. Few American municipalities currently structure their development around a prescriptive design vision. Some communities have foregone the master planning process entirely, and many master plans do little to specifically address physical design. And among the communities with master plans that describe a design vision, very few have formalized the link between vision and regulation by codifying that vision within a regulatory zoning document. Form-based codes represent a rejection of the philosophy of regulation by hindsight or improvisation. They start with a community-based design vision – typically generated in a community design charrette, as described later in this chapter – then use that vision as a basis for zoning regulation. An FBC’s regulating plan illustrates the outline of this design vision.

The third major difference between regulating plans and zoning maps is that zoning maps designate areas based on use- or density-based zoning classifications, while regulating plans designate in reference to the building type or surrounding context.³⁶ For example, a typical zoning map might label a block as “R-40,” with “R” standing for residential (most likely the only type of development allowed in the zone without special permits) and “40” indicating the maximum number of units allowed per acre. More detailed zoning constraints (by-right and special permit uses, setbacks, bulk limits, etc.) would be described within the supporting zoning text. Such a hypothetical block is shown in Figure 4-2. In contrast, a regulating plan might

³⁵ Katz, Peter. “An Introduction to Form-Based Development Regulations.” 11.

³⁶ Ibid.

separate the same block into parcels with “main street frontage,” parcels with “avenue frontage,” and parcels with “neighborhood frontage.” Some regulating plans will instead make explicit reference to particular building types, using classifications such as “shopfront building frontage” and “townhouse frontage.” More detailed constraints (max. and min. height limits, siting considerations, etc.) are described in the building envelope standards specific to the parcel’s classification. Such a hypothetical block is shown in Figure 4-3. In either case, the focus of the regulating plan is on the *type* or *form* of buildings that are appropriate for the area, rather than the *density* or *use(s)* allowed. Density and use are addressed within the building envelope standards.

4.1.3 Building envelope standards

Within a form-based code, each zone (“main street frontage,” “townhouse frontage,” etc.) is assigned a unique set of building envelope standards that describe the general physical characteristics required for buildings that fall within that zone. These standards are presented through the use of clear, diagrammatic graphics and accompanying text, and typically include specifications for the allowed *height*, *siting*, *elements*, and *uses* for each building type.³⁷ A sample set of building envelope standards – designed for “workplace building sites” within the Pleasant Hill BART Station FBC – is shown in Figure 4-4.

Height. Height specifications indicate both minimum and maximum allowable building heights, typically measured in stories rather than feet. This section may also include specifications related to the heights of parking structures or streetwalls, as well as any allowable (or required) differentiation between the height of ground-floor and upper stories of buildings.

³⁷ Katz, Peter. “An Introduction to Form-Based Development Regulations.” 12.

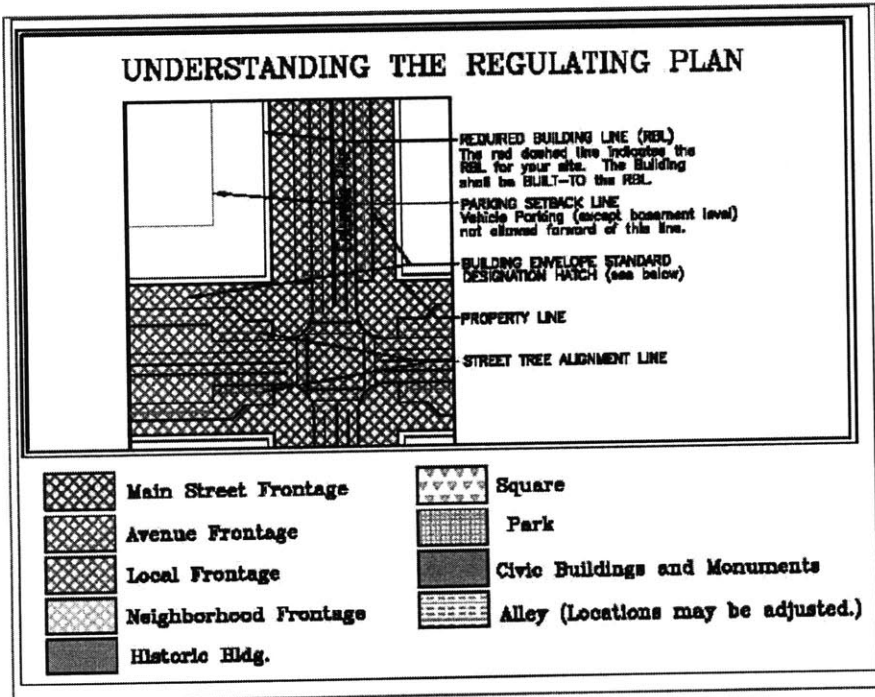


Figure 4-1. Understanding the regulating plan (Columbia Pike FBC)

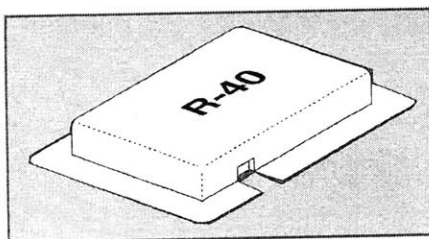


Figure 4-2. Block categorized under traditional zoning as "R-40"

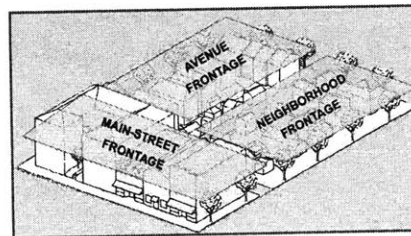


Figure 4-3. Block subdivided by an FBC's regulating plan

Pleasant Hill BART Station

Building Envelope Standards Workplace Building Sites

Height		<p>The building shall be between 2 and 4 storeys in height, except where otherwise noted here or on the REGULATING PLAN. Any parking structure w/in the block shall not exceed the eave height of any building w/in 75 feet.</p> <p>Any unbuilt RBL or COMMON LOT LINE shall have a STREET WALL built along it between 6 feet and 15 feet in height.</p> <p>The ground floor elevation shall be no more than 18 inches above the fronting sidewalk elevation.</p> <p>No less than 80% of the ground floor shall have at least 12 feet clear height.</p>
Siting		<p>The STREET facade shall be Built-To the REQUIRED BUILDING LINE (RBL) within 75 feet of any BUILDING CORNER, and Built-To not less than 75% of the RBL overall. There are no required side setbacks. Any unbuilt RBL shall have a STREET WALL along it, between 6 feet and 15 feet in height.</p> <p>*Parking for vehicles (autos, trailers, boats, etc.) shall be at least 20 feet from any STREET FRONTAGE (except for basement garages). Garage/parking entrances shall be no closer than 75 feet from any BUILDING CORNER (except where otherwise designated on the REGULATING PLAN).</p>
Elements		<p>FENESTRATION shall be between 30 and 70% for all building facades (measured for each facade and storey between 3 and 9 feet above the finished floor). Blank lengths of wall greater than 20 linear feet are prohibited along any RBL.</p>
Uses		<p>The ground floor shall be only non-residential uses such as Office and Retail.</p> <p>Upper floor uses may be either office or residential (including lodging operations).</p> <p>Functioning entry door(s) shall be along the RBL facade of the building facing Block E.</p> <p>The garage, parking for vehicles (autos, trailers, boats, etc.) shall be at least 20 feet from any STREET FRONTAGE (except for basement garages). *Except where otherwise designated on the REGULATING PLAN.</p>

November 2001

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Figure 4-4. Building Envelope Standards, Workplace Building Sites (Pleasant Hill BART Station)

Siting. Siting specifications describe the relationship between buildings and any required building lines (RBLs), setbacks, or open space. In urban areas, form-based codes tend to require buildings to extend along a substantial percentage of the RBL.³⁸ Siting specifications also address the positioning, size, and treatment of any on-site parking.

Elements. Elements specifications give rules for the treatment of major physical components of the building (entrances, porches, balconies, etc.). These rules and specifications are intended to support a vibrant pedestrian realm, and typically emphasize window coverage – a crucial component of an active, interesting streetscape.

Uses. Use specifications list the types of uses permitted within the building. In areas that are likely to generate significant amounts of pedestrian traffic, form-based codes favor a mix of uses, with retail, entertainment, or other pedestrian-oriented uses on the ground floor of buildings and residential or office above. In quieter, more residential areas, form-based codes usually allow primarily residential uses, with some live/work uses on the ground floor.

4.1.4 Architectural or streetscape standards

Depending upon the local regulatory environment, form-based codes may or may not include standards that address architectural style, facade, or ornamentation. Many communities – particularly those with a large proportion of historic or architecturally-notable structures – explicitly codify a wide variety of architectural standards, from construction techniques to allowed materials. Others leave this level of detail to the discretion of the developer. Some

³⁸ Requirements of 60-75% of RBL coverage are not uncommon.

FBCs also highlight the importance of streets through the inclusion of streetscape standards. In either case, architectural or streetscape standards play only a supporting role to the regulating plans and building envelope standards that make up the meat of the FBC. As Peter Katz, one of the most well-known advocates for form-based codes, told an assembled audience in 2003, “it’s not about good architecture, it’s about good rules.” Geoffrey Ferrell, another leading FBC supporter, echoed this sentiment at the same gathering, stating “it’s not how it looks; it’s how it lives.”³⁹

4.2 Charrette process

In keeping with New Urbanist aspirations toward *inclusiveness* and *legibility* of process, most form-based codes draw deeply from the results of an interactive, community-based design charrette. These charrettes, typically led by contracted design professionals or local planning officials, may involve hundreds of people, and can last as long as a week. Over the course of the week, community members discuss community priorities, address design constraints and issues specific to the area, and generate a design vision for the future of the neighborhood. The resultant FBC is usually little more than a codification of the design vision agreed to during the charrette.⁴⁰ In addition, a successful community design charrette can also yield other benefits, educating the community about urban design concepts and providing an opportunity for local residents to interact with developers and other involved parties in a non-confrontational setting.

³⁹ Form Based Coding and its Application to Chicago’s Zoning Reform. Videocassette. Peter Katz and Geoffrey Ferrell (underwritten by the Richard H. Driehaus Foundation). 2003.

⁴⁰ Ibid.

4.3 Comparison of form-based codes vs. other land use regulatory tools

Euclidean zoning codes, urban design standards, and form-based codes all represent municipal attempts to shape the development within their jurisdictions. However, form-based codes differ in dramatic ways from each of these other regulatory tools.

4.3.1 Form-based codes vs. Euclidean zoning ordinances

At a fundamental level, there are three major differences between FBCs and their more traditional regulatory counterparts: (1) Euclidean zoning codes focus on *use*, while FBCs focus on *form*; (2) Euclidean zoning codes reinforce *separation* of uses, while FBCs reinforce *integration* of uses; and (3) Euclidean zoning codes indicate only a *proscriptive* maximum building envelope, while FBCs offer a *prescriptive* vision for future development.

Use vs. form. It takes little more than a glance at any zoning map to recognize the centrality of use within traditional Euclidean zoning. Use serves as the foundation for zoning classifications, and “allowable uses” is typically the first section included within the supporting zoning ordinance. Even the name of the practice itself – “Euclidean zoning” – is use-based, drawn from the famous Supreme Court case that legitimized the use of a community’s police power in mandating the separation of different land uses. In marked contrast, form-based codes – as their name suggests – are based around considerations of form, rather than use. FBC regulating plans assign zones based on the appropriate form, and FBC building envelope standards highlight the importance of form through the generous use of graphics and diagrams, rather than the text-heavy legalism of a typical zoning ordinance.

Separation vs. integration. Despite the increasing – and increasingly apparent – costs of sprawl development, traditional Euclidean zoning ordinances largely continue to enforce a strict separation of land uses. As traditional zoning classifies and divides zones by use, its emphasis on separation seems logically consistent; for example, if “commercial” uses are allowed within “residential” zones, this weakens the residential use-based identity by which the zone is defined. Form-based codes avoid both concerns of logical consistency and the disadvantages of segregated single-use development by defining zones in a manner that embrace a mix of uses. “Avenue frontage” and “Workplace building frontage” zones can accommodate both residential and commercial uses, and the cross-sectional building diagram included within the “use” section of the building envelope standards is well-suited to indicate the distribution of uses across floors of multi-story buildings.

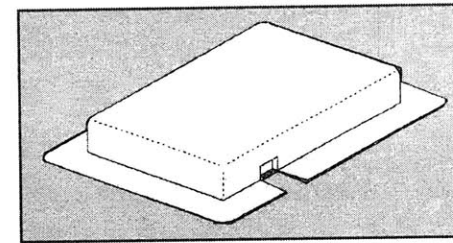


Figure 4-5. Maximum building envelope for hypothetical block

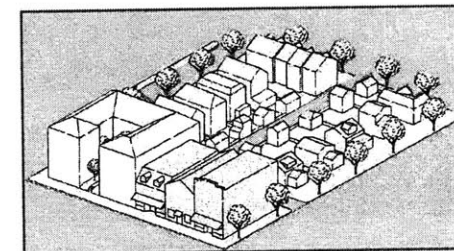


Figure 4-6. Same block under a form-based code

Proscriptive vs. prescriptive. Traditional Euclidean zoning codes offer a proscriptive catalogue of forbidden uses, minimum setbacks, and maximum massing. Consequently, it is difficult to imagine the eventual physical form of an area that is not currently built out; the clearest approximation of an uncertain future is the maximum building envelope. As an example, the maximum envelope for the hypothetical block from earlier in this chapter might look like Figure 4-5. In contrast, form-based codes provide prescriptive standards (minimum as well as maximum height limits, required building lines, etc.). As Peter Katz puts it, “the purpose of form-based codes is to develop a vision of what you’re looking for physically, then draw the straightest line to that point.”⁴¹ Given these standards, the future form of an area can be much more easily predicted. Under a form-based code, the same block might look like Figure 4-6.

⁴¹ Katz, Peter. Personal interview. March 10, 2004.

4.3.2 Form-based codes vs. urban design guidelines

The specifics of urban design guidelines (or urban design standards)⁴² can vary dramatically between municipalities. However, practically all urban design guidelines allow a notable degree of discretion as part of the design review process. This level of discretion marks the most substantial difference between form-based codes and urban design guidelines. In many cases, design guidelines represent a starting point for negotiations, leaving room for a great deal of debate. Depending upon the makeup of the committee reviewing the planned development (particularly in terms of design experience), this debate may end up as a race to “the lowest common denominator.” As Geoffrey Ferrell comments:

it’s almost like designing by committee with each project. There’s a problem with fairness on one hand, with consistency on the other. If you look at the results of design guidelines, I don’t think they’re that good.⁴³

In direct contrast to this process, form-based codes are designed to minimize the need for discretionary design review. Within an FBC, much of development is essentially “pre-designed,” – shaped by standards drawn directly from the code. This level of prescription allows FBCs to relegate “design review” of most small projects to an administrative process (effectively an exercise in checking boxes).⁴⁴ While major projects subject to an FBC require a more substantial review, even this review is substantially informed by the design vision laid out within the code.

⁴² In some municipal contexts, these terms are used synonymously, while in others they hold different meanings. For the purposes of my thesis, I consider them to be interchangeable.

⁴³ Ferrell interview.

⁴⁴ Ibid.

Form-based codes also address more fundamental issues of form than many urban design guidelines. Some municipal guidelines evaluate form comprehensively, providing direction related to building height, massing, and siting, as well as to the treatment of building façade.⁴⁵ However, many design guidelines deal primarily with surface articulation, and consequently function as a cosmetic overlay to the existing Euclidean zoning ordinance. While such guidelines may reduce the apparent scale of buildings or improve the appearance of their facades, they are likely to have little impact upon the underlying form of development. Form-based codes address issues of surface articulation within their building envelope standards (and potentially also in their architectural standards), but focus primarily on the underlying building form.

In keeping with the New Urbanist graphical orientation, the core differences between Euclidean zoning ordinances, urban design guidelines, and form-based codes can be described through the composite image shown in Figure 4-7. On top we see a block subject only to a traditional zoning code, with a development future defined largely by a maximum building envelope. In the middle we see a block subject to a traditional code and fairly typical urban design guidelines; while its face is more attractive than the block above, its underlying development future is no more certain. And finally, on the bottom we see a block subject to a form-based code. Its details may vary, but the basic form of its future development is predictable, based on a community-generated design vision, and spelled out in the FBC.

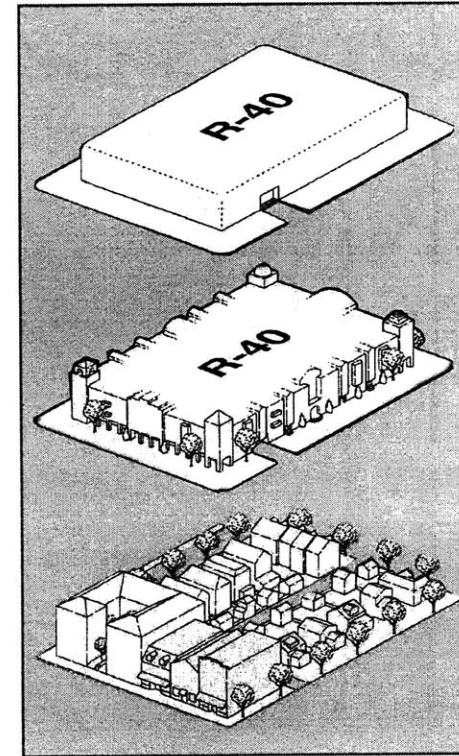


Figure 4-7. One block with three potential futures

⁴⁵ The Downtown Urban Design Guidelines for Boulder, Colorado, serve as a good example of a comprehensive design ordinance.

CHAPTER 5: A CASE STUDY OF THE COLUMBIA PIKE FORM-BASED CODE

5.1 Arlington County

Arlington County, Virginia, is a 26-square-mile urban area located directly across the Potomac River from Washington, DC, as shown in Figure 5-1. The County does not include any incorporated cities or towns, and is administered by a County Board and a County Manager. Arlington County had an estimated population of slightly less than 200,000 as of January 1, 2003 – an increase of 13.4 percent since 1990. The County has a population density of 7,513 people per square mile, placing it among the most densely-populated jurisdictions in the country. Arlington’s population is also fairly diverse. Over 30 percent of Arlington’s population is non-white, one in four residents was born outside of the United States, and one in three speaks a non-English language at home.⁴⁶

The economy of Arlington County is strong, with over 200,000 jobs, most of which fall within the Services (44 percent) and Government (28 percent) sectors. County employment is projected to increase dramatically over the coming decades, as shown in Figure 5-2, and Arlington’s unemployment rate in December 2002 was 2.2 percent – among the lowest in the region. The majority of Arlington County residents work in neighboring jurisdictions – most prominently the District of Columbia and adjacent Fairfax County – and Arlington County workers hail from throughout the Metropolitan Washington region, as shown in Figure 5-3.⁴⁷

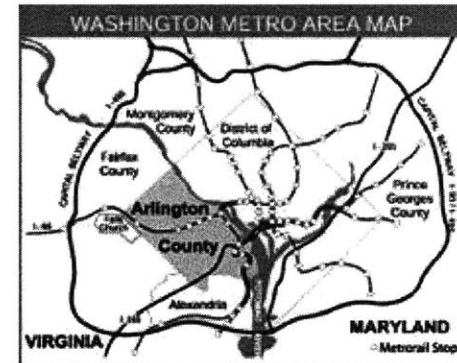


Figure 5-1. Washington, DC metropolitan area map

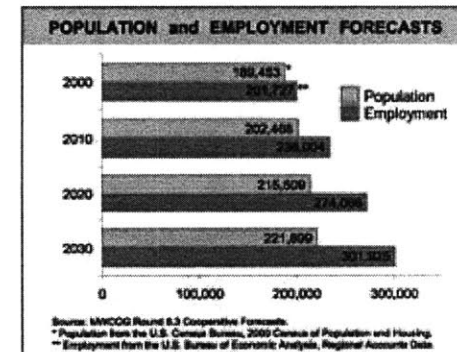


Figure 5-2. Arlington, VA, population and employment forecasts

⁴⁶ 2003 Profile of Arlington County, VA.
http://www.co.arlington.va.us/cphd/planning/data_maps/profile.htm

⁴⁷ Ibid.

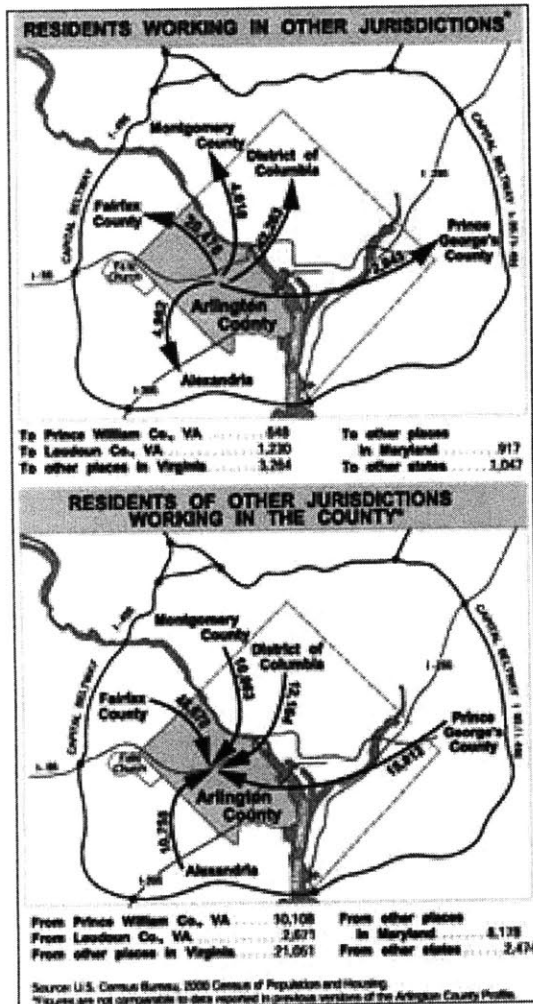


Figure 5-3. Inter-jurisdictional commuting within the DC metropolitan area

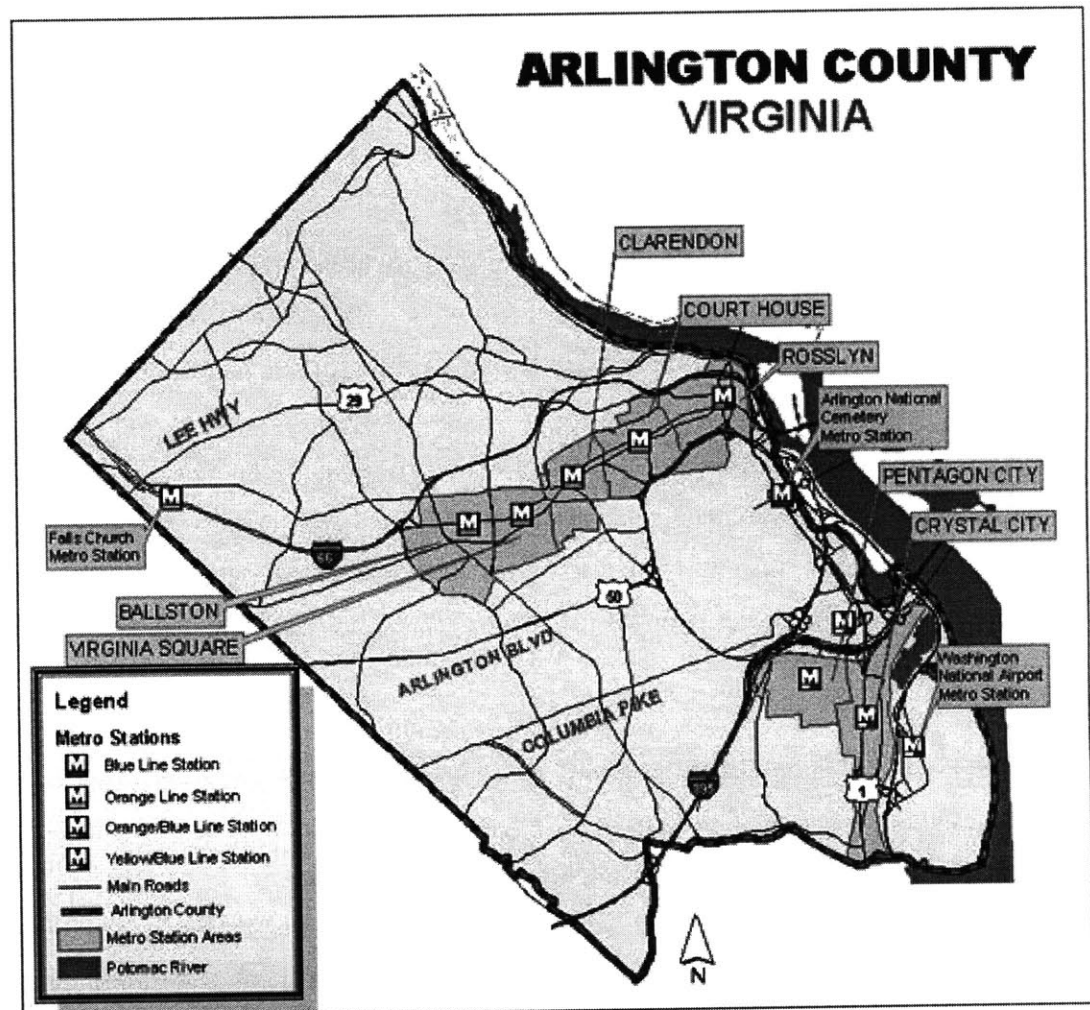


Figure 5-4. Map of Arlington County, VA

Arlington's most well-known attractions include the Pentagon, Arlington National Cemetery, and the U.S. Marine Corps War Memorial. However, Arlington is also home to many popular residential neighborhoods and over 50 million square feet of office space. The majority of this office space is located along the orange line and blue line corridors of the Washington Metropolitan Area Transit Authority subway system (Metro), shown in Figure 5-4. Throughout recent decades, Arlington County's planning and economic development efforts have also been focused primarily along these corridors. Almost 80 percent of Arlington's office space is privately-owned, and most of the remainder is leased by the Federal Government. Based on this tax base, the County is able to maintain the lowest tax rate in the Washington region.⁴⁸

5.2 Columbia Pike

Columbia Pike, also shown in Figure 5-4, is a major traffic thoroughfare across Arlington County. For years the Columbia Pike corridor served as a "Main Street" for Arlington, home to residential neighborhoods, community shopping areas, and religious institutions. However, since the 1970s the character of the Pike has been threatened by suburban commercial strip development, consisting primarily of freestanding fast food restaurants, convenience stores, and other auto-oriented uses.⁴⁹ Despite this automobile orientation, Columbia Pike has the highest bus ridership in the state of Virginia;⁵⁰ as Figure 5-5 shows, Metro Buses running along Columbia Pike have a ridership of almost 10,000 people per day. The area around Columbia Pike also has an identity as an affordable, diverse neighborhood. According to a 2001 Brookings Institution

⁴⁸ Ibid.

⁴⁹ "The Vision: Arlington's Main Street." Columbia Pike Community Forum.
<http://www.co.arlington.va.us/forums/columbia/concept/>

⁵⁰ Deane, Daniela. "Putting Main St. on the Map: Arlington Sharpens its Focus to Revitalize Columbia Pike." Washington Post. September 13, 2003. F1.

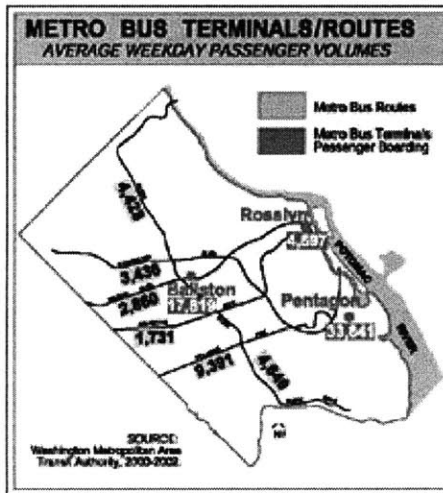


Figure 5-5. Arlington County bus ridership

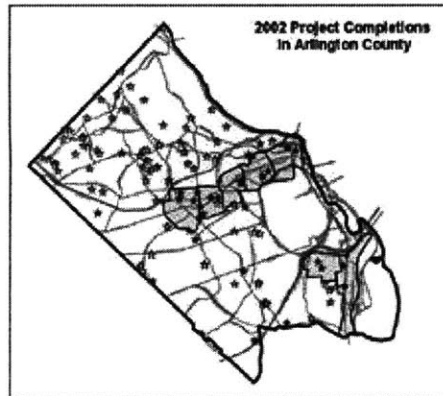


Figure 5-6. 2002 project completions in Arlington County

study, zip code 22204 – encompassing the area around Columbia Pike – is one of the most diverse areas in the metropolitan region, with residents hailing from around 130 different nations.⁵¹

Little of Arlington’s economic growth and development over the past few decades has taken place along Columbia Pike. The combination of high land prices, lengthy requirements for site plan review processes, and community opposition have hindered development,⁵² and the County’s focus on the orange and blue line corridors has kept planners’ attention away from the Pike. Consequently, the brunt of Arlington’s development – even as recent as 2002 – has continued along the orange and blue lines, as shown in Figure 5-6. Yet, as the metro corridors have reached buildout, County planners have recently turned to the Columbia Pike corridor as the next major area for economic and transit-oriented development.

5.3 The Columbia Pike Initiative

During the 1980s the Arlington County Board created a special revitalization district located along a key central section of Columbia Pike, then adopted “Columbia Pike 2000,” a plan to guide the development of this district. In 1986, with financial and organizational support from the County government, a coalition of local businesses, property owners, and civic associations founded the non-profit Columbia Pike Revitalization Organization (CPRO). CPRO initially focused primarily on the revitalization district, but by the late 1990s expanded its efforts to

⁵¹ Ibid.

⁵² Lynch, Timothy. Personal interview. January 16, 2004.

address the entire stretch of Columbia Pike from the county line to the Pentagon.⁵³ The special revitalization district and its surrounding land uses are shown in Figure 5-7. The majority of this land is occupied by neighborhood-level commercial uses, and the existing zoning classification, “C-2,” allows predominantly linear commercial development “located primarily along principal arterial streets as designated in the Master Transportation Plan.” As envisioned by the zoning code, such development should include a variety of retail, service, and office uses.⁵⁴ Other portions of the district are zoned for residential uses, including apartments and single-family detached homes.

⁵³ “Facts about CPRO.” Columbia Pike Revitalization Organization website.
<http://www.columbiapikepartnership.com/factsaboutcpro.htm>

⁵⁴ “C-2 Service Commercial – Community Business Districts.” Zoning Ordinance, County of Arlington, Virginia. Section 26. (Ord. No. 86-30, 6-1-87).

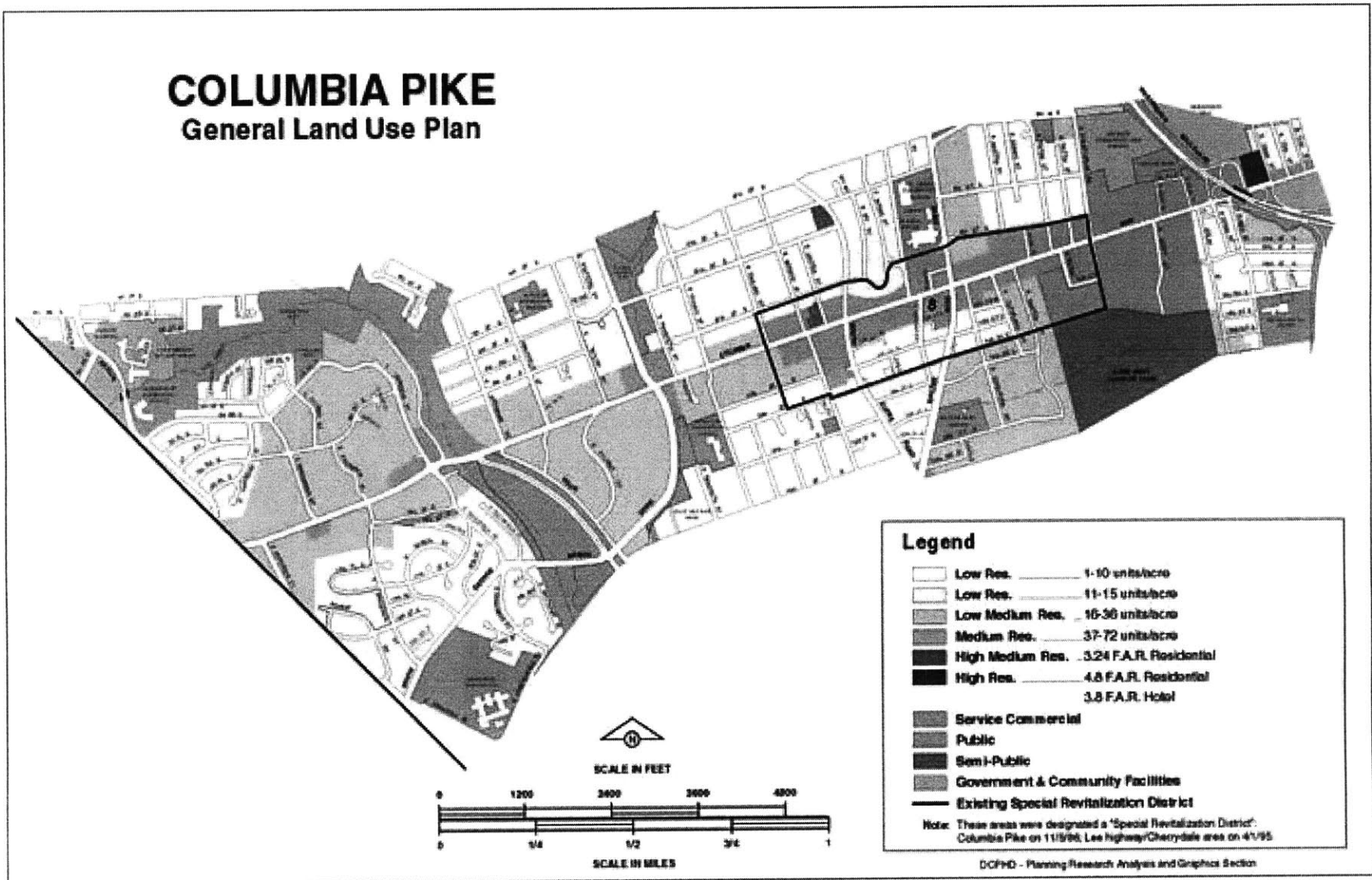


Figure 5-7. Columbia Pike general land use plan

In 1998 the Arlington County Board created the Columbia Pike Initiative, tasked with the mission to “create a safe, clean, vibrant and competitive Columbia Pike for now and future generations.”⁵⁵ To carry out this mission, Arlington embarked on a broad-based participatory process, holding hundreds of community meetings over a period of three years in an attempt to educate the community about development concerns and forge a unified vision for the future of the Pike. This vision – incorporating the concerns of neighborhood residents, property owners, the County government, members of the development community, and a variety of other interested parties, included five primary goals:

1. A community that is vibrant, with safe neighborhoods, active retail and office, and a variety of housing options and types, including a mix of renovation, revitalization, and/or redevelopment;
2. A community that is ethnically diverse and culturally rich;
3. A community is easily accessible by public transportation and on foot;
4. A community that has well-designed and attractive buildings, streetscapes, public art, and open spaces that link the commercial corridor with the surrounding neighborhoods; and
5. A corridor made up of distinct commercial mixed-use districts.⁵⁶

Building from this vision, the County adopted a Revitalization Plan in March of 2002, then held a community-based Columbia Pike design charrette that drew 750 participants in September of 2002. Over the course of the seven day charrette, Arlington’s planners and consultants worked with community members to transform their broad vision for the Pike into a series of land-use-

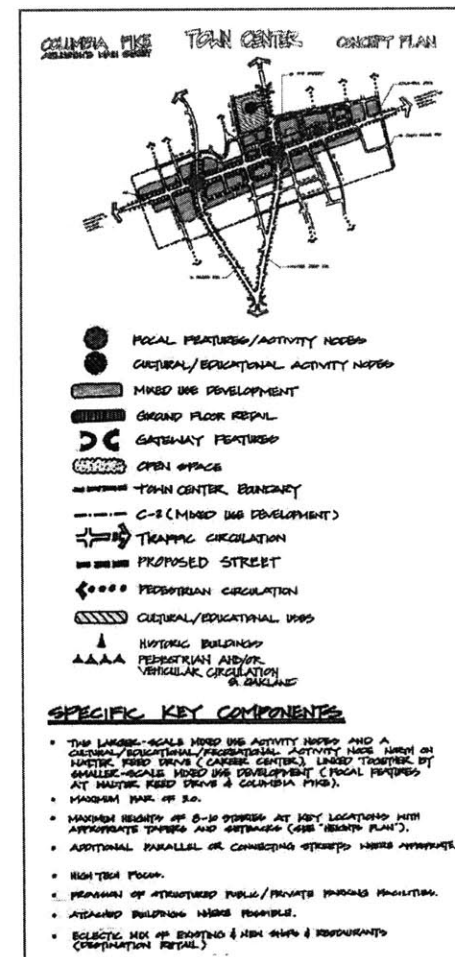


Figure 5-8. Concept plan for Columbia Pike “town center”

⁵⁵ “Columbia Pike Initiative.” Columbia Pike Revitalization Organization website. <http://www.columbiapikepartnership.com/CPI.htm>

⁵⁶ Arlington County Community Forums: Columbia Pike. <http://www.co.arlington.va.us/forums/columbia/concept/>

based concept plans, such as that shown in Figure 5-8. Taken together, the Revitalization Plan and the results of the design charrette served as the organizing framework for the creation of the Columbia Pike Special Revitalization District Form Based Code (FBC), which was enacted by the County in February of 2003.

5.4 Columbia Pike Form Based Code

5.4.1 Intent

The Columbia Pike Form Based Code (FBC) is a legally-binding document that regulates the form of development that takes place within the Columbia Pike Special Revitalization District. Adopted as Section 20 of the Arlington County Zoning Ordinance, the Columbia Pike FBC is designed to:

[regulate] land-use development, setting careful and clear controls on building form, with broad parameters on building use, to shape clear public space (good streets, neighborhoods and parks) with a healthy mix of uses.⁵⁷

The central focus of the FBC is on the regulation of built form to create and support:

a vital Main Street for [the] adjacent neighborhoods through [a] lively mix of uses with shopfronts, sidewalk cafes, and other commercial uses at street level overlooked by canopy shade trees, upper story residences and offices.⁵⁸

The requirements set forth in the Columbia Pike FBC supercede the pre-existing zoning within the Revitalization District, and the zoning districts that fall within the Revitalization District have

⁵⁷ Columbia Pike Special Revitalization District Form Based Code (Staff Draft 4). Arlington County, VA.
3.

⁵⁸ Ibid.

been amended to accommodate the Columbia Pike FBC. However, the Code is not designed to restrict the options of the area's property owners; rather, it is intended to function as an incentivized alternative to Arlington's standard development review and site planning processes. Property owners within the new form-based code (FBC) districts retain all of their previous by-right development rights, and have the option of going through the standard site planning review process.

5.4.2 Components

The Code is made up of six primary components: (1) definitions; (2) regulating plans; (3) building envelope standards; (4) streetscape standards; (5) architectural standards; and (6) administration. It is also accompanied by a variety of economic incentives for development that meets the Code's criteria.

Definitions. The definitions section of the FBC provides precise meanings for approximately 50 terms or phrases that are utilized within the Code, ranging from "accessory unit" to "where clearly visible from the street." Whenever these terms are used elsewhere throughout the Code, they are always presented in CAPITAL letters to explicitly exclude alternate [often commonly-used] meanings.

Regulating Plans. The regulating plans act as the foundation for the Columbia Pike FBC, defining the relationship between individual lots and the surrounding streets and assigning building envelope standards to each property. The regulating plans section of the FBC is included in Appendix A. The Code includes a separate regulating plan for each of the four areas of focus within the Columbia Pike community design charrette: the Town Center, the

Neighborhood Center, the Village Center, and the Western Gateway. These regulating plans are structured around maps that indicate the descending hierarchy of streets within each area of focus, designating lots with “Main-Street Frontage,” lots with “Avenue Frontage,” lots with “Local Frontage,” and lots with “Neighborhood Frontage.” Each of these designations carries with it a particular set of Building Envelope Standards (described later in this chapter). Regulating plan maps include a required building line (RBL) – a line to which a specified percentage of the building’s façade must be built – rather than more traditional minimum setback requirements. They include parking setback lines, prohibiting parking (other than on-street parallel parking) within the streetfront pedestrian realm. They also include street tree alignment lines, emphasizing the importance of street trees within the community’s vision for Columbia Pike.

In addition to the maps, the regulating plans section of the FBC specifies rules for new development, addressing the treatment of blocks and alleys, the interactions between different and adjacent building envelope standards, streetscape concerns (such as lighting and street trees), and parking-related regulations (e.g., minimum and maximum parking ratios and in-lieu parking fees). It provides a list of allowed retail uses (which are required on the ground level of all Main-Street and some Local sites). It identifies historic structures and historic facades that are located within the district and indicates special provisions that apply to these properties. Finally, this section details the responsibilities of developers and property owners related to the construction and maintenance of public streetscape improvements along their property.

Building Envelope Standards. The building envelope standards section of the Columbia Pike FBC sets “the basic parameters governing building construction, including the building envelope (in three dimensions) and certain required/permitted elements, such as balconies, stoops, and

street walls.”⁵⁹ This section includes two distinct components, both of which are included in Appendix B. First, it lists general guiding principles for building form within the district. These principles (using buildings to form street space, creating active building fronts – retail or otherwise – to support a vital pedestrian realm, placing parking behind or beside buildings, etc.) are overwhelmingly in keeping with a general New Urbanist design philosophy. Second, the section presents more detailed building standards for each of the four categories of building sites described within the Regulating Plans: Main-Street sites, Avenue sites, Local sites, and Neighborhood sites. These standards are designed to meet the needs of most properties. However, the Code also allows for special exceptions, which are administered through a process described in the Code’s administration section.

For each category of building sites (e.g., Main-Street sites), the FBC includes specifications addressing four areas: “height,” “siting,” “elements,” and “use.” Within each area, the FBC provides a single graphic, supplemented by supporting text. While the graphics differ from one another in the content that they display, each of the four is clear, diagrammatic, and designed to be as easily understood by a lay person as by a land use lawyer or zoning expert.

- **Height Specifications.** The *height* graphic shows minimum and maximum numbers of stories, floor-to-floor heights, and the height of required streetwalls (which must occupy otherwise unbuilt alley or lot line frontages). Supporting text reiterates these height specifications, as well as standards for the height of parking structures and variance between ground-floor and upper stories of buildings. A sample height graphic is shown in Figure 5-9.

⁵⁹ “Building Envelope Standards.” Columbia Pike Special Revitalization District Form Based Code (Staff Draft 4). 24.

- **Siting Specifications.** The *siting* graphic shows the relationship between the building, the required building line (RBL), any side or back setbacks, and the site's required open space. Supporting text reiterates these dimensions and prescribes the general treatment of facades and garage and parking entrances. A sample siting graphic is shown in Figure 5-10.
- **Elements Specifications.** The makeup of the *elements* graphic varies between different categories of building sites. For Main-Street sites, the elements graphic shows minimum and maximum requirements for streetfront windows. For Avenue, Local, and Neighborhood sites, the elements graphic also prescribes the general treatment of fences, balconies, and porches. Supporting text provides more detailed specifications for each of these elements. A sample elements graphic is shown in Figure 5-11.
- **Use Specifications.** The *use* graphic shows the allowed uses for buildings within the site. For Main-Street and Avenue sites, these allowed uses vary between ground-floor and upper-floors, with the ground floor reserved for retail, limited lobby, or office uses, while upper floors can hold office or residential uses. Local and Neighborhood sites allow residential and home occupational uses on all floors. Supporting text provides further detail about the specific uses allowed. A sample use graphic is shown in Figure 5-12.

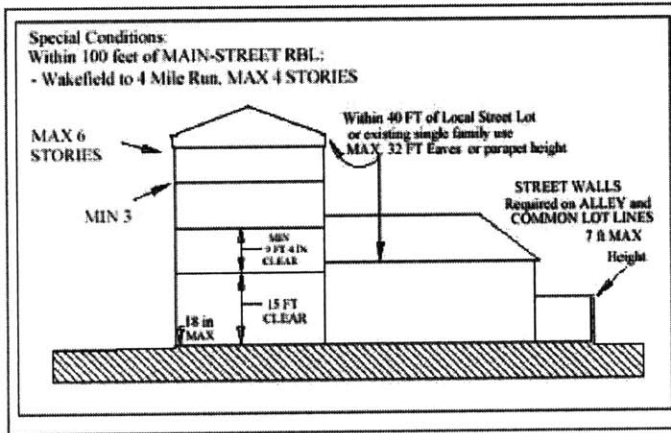


Figure 5-9. Height specifications graphic, main-street sites (Columbia Pike FBC)

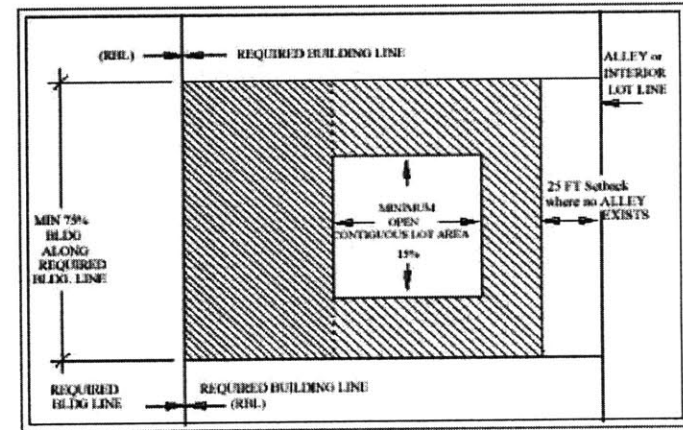


Figure 5-10. Siting specifications graphic, main-street sites (Columbia Pike FBC)

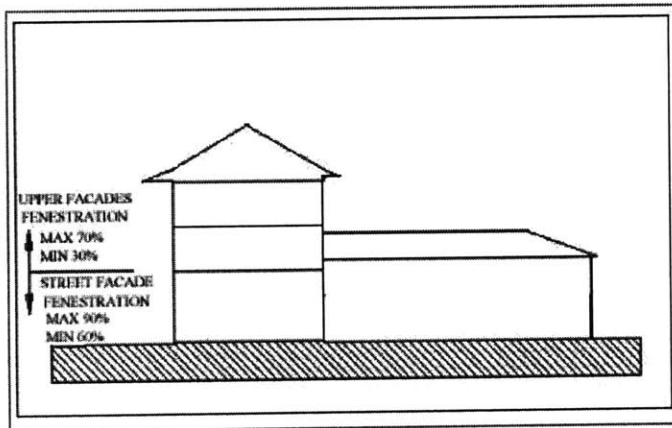


Figure 5-11. Elements specifications graphic, main-street sites (Columbia Pike FBC)

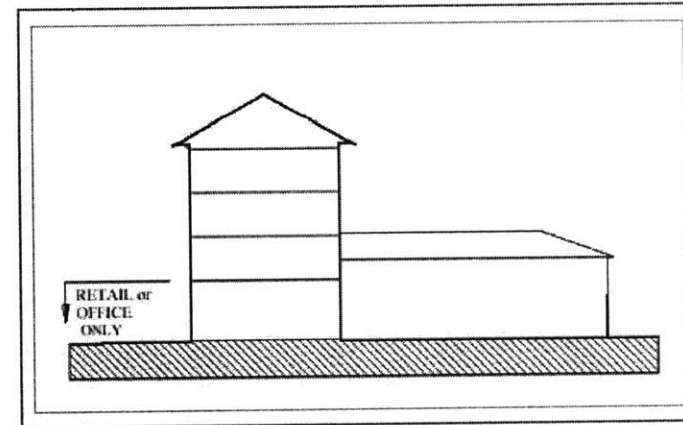


Figure 5-12. Use specifications graphic, main-street sites (Columbia Pike FBC)

Streetscape Standards. The streetscape standards section of the Columbia Pike FBC is intended to achieve three primary goals: (1) “ensure the coherence of [the area’s] streets;” (2) “assist building owners and operators with understanding the relationship between the street and their own lots;” and (3) “establish an environment which encourages and facilitates pedestrian activity.”⁶⁰ It addresses these goals by providing general principles for the treatment of both streetscape and the fronts and rears of buildings, stressing consistency and the importance of building facades as the public “face” of buildings. It includes minimum streetscape standards, mandating street trees (and detailing specific requirements for their species type, dimension, and location) and defining minimum sidewalk widths. Finally, it presents rules for dealing with squares and civic greens, ranging from materials to the configuration and treatment of surfaces. The Streetscape Standards section of the Columbia Pike FBC is included in Appendix C.

Architectural Standards. The Architectural Standards section of the Columbia Pike FBC is intended “to utilize a discipline of form when designing new buildings in order to foster a coherent Columbia Pike aesthetic.”⁶¹ To this end, it includes intent, guiding illustrations, and building standards for building walls, roofs and parapets, street walls, windows and doors, signage, and lighting and mechanical equipment. The statements of intent are fairly straightforward, and are accompanied by photographic illustrations of acceptable or unacceptable examples of the architectural element in question. The building standards provided tend to be highly detailed, ranging from allowable roof pitches to the size and type of lettering that may be placed at street entry doors. However, in all cases they apply only to those aspects of buildings

⁶⁰ “Streetscape Standards.” Columbia Pike Special Revitalization District Form Based Code (Staff Draft 4). 51.

⁶¹ “Architectural Standards.” Columbia Pike Special Revitalization District Form Based Code (Staff Draft 4). 55.

that are clearly visible from the street, limiting the standards' scope to building elements with direct impacts upon the public realm. The Architectural Standards section of the Columbia Pike FBC is included in Appendix D.

Administration. The Administration section of the FBC describes the two review processes that apply to any development within the special revitalization district that chooses to take advantage of the Form-Based Code development incentives: the by-right option (administrative review) or the special exception/use permit option. For each option, this section details both the permitting timeframe and the roles of all involved parties.

In combination with the new form-based code, Arlington County implemented a number of economic incentives for development that followed the dictates of the Code, including increasing the tax exemption for money spent on commercial rehabilitation, expediting the regulatory approval process (from 12+ months to 90 days), and allowing for shared parking zones. The County also implemented a tax-increment financing program to finance public infrastructure within the district. Such infrastructure was broadly defined, providing flexible funding for areas such as the provision of affordable housing and the subsidization of retail space for local businesses.

5.5 Development consequences of the form-based code

There can be little dispute over the role of the FBC (in combination with the accompanying economic incentives) in stimulating development along Columbia Pike. Two years ago – prior to the enactment of the FBC – there was essentially no development activity in the area. As Timothy Lynch, the Executive Director of the Columbia Pike Revitalization Organization, described:

we have a district where for 40 years nothing has happened (no vacancies, but no growth). This area has basically been filled with mom and pop stores, which shifted to chain stores, but gave the area no net gain. There's little retail variety here; people go to other places."⁶²

This disheartening picture was echoed by Richard Tucker, the Arlington County planner that is most directly involved with the Pike. According to Richard, "prior to the [development of the FBC] we had had no activity in development along the Pike other than a stand-alone bank and a stand-alone drugstore. That was all of our development over 20 years."⁶³

In contrast, post-FBC Columbia Pike has become one of the most vibrant real estate markets in the Washington, DC, area. Two new residential development projects totaling \$30 million in new development have been approved by the county since December 2002. Interestingly, neither of these projects fell within the boundaries or the jurisdiction of the FBC. However, both were informed by the community design vision contained within the Code, as well as the pro-growth stance of the county.⁶⁴

The first of these projects, a proposal to build 22 townhouses on a heavily-wooded property previously occupied by two single-family houses (referred to by County planners as the "Zetlin property"), measures up relatively well against my three New Urbanist evaluation criteria.

- **Slowness.** The Zetlin development will provide a density and scale of development that will ease the transition between Columbia Pike and nearby single-family detached homes.

⁶² Lynch interview.

⁶³ Tucker, Richard. Personal interview. January 6, 2004.

⁶⁴ Lynch, Timothy. "Form Based Code – What and How?" Land Development. Fall 2003: 28.

By orienting the condominiums primarily toward Columbia Pike, this development will also serve to activate the streetscape, buttressing the “main street” feel of the Pike.

- **Inclusiveness.** From a spatial perspective, the Zetlin development is very inclusive, bringing new residents and families into the neighborhood through the transformation of a sparsely-inhabited wooded plot into an active condominium development. The development is less socio-economically inclusive, as all units are priced at market rates. However, the developer has agreed to make a \$52,800 contribution to the county’s affordable housing fund.⁶⁵ The developer has also agreed to provide relocation payments and services to any current residents that are displaced by construction on the property.⁶⁶
- **Legibility.** The development process for the Zetlin proposal was legible, transparent, and structured very consciously to meet practically all of the principles outlined within the FBC. With the full support of the community – and close coordination with county planners – the Zetlin proposal was approved within a [rapid] 90-day period. The final proposal also substantially improved the physical legibility of the site by introducing denser residential development and reinforcing the Columbia Pike streetwall, both of which served to align the property better with its more developed surrounding context. Figure 5-13 shows the existing conditions on the Zetlin property, Figure 5-14 shows the surrounding context, and Figure 5-15 shows renderings of the planned project, demonstrating the improvements in legibility.

⁶⁵ Planning Department response to request for site plan approval for 4013 and 4029 Columbia Pike (RPC #23-033-029, -030, -032, -034). Arlington County, Virginia. PLA-3254. May 17, 2003. 4.

⁶⁶ Planning Department response to request for SPC #376 site plan approval (PLA-3254). Arlington County, Virginia. May 17, 2003. 15.

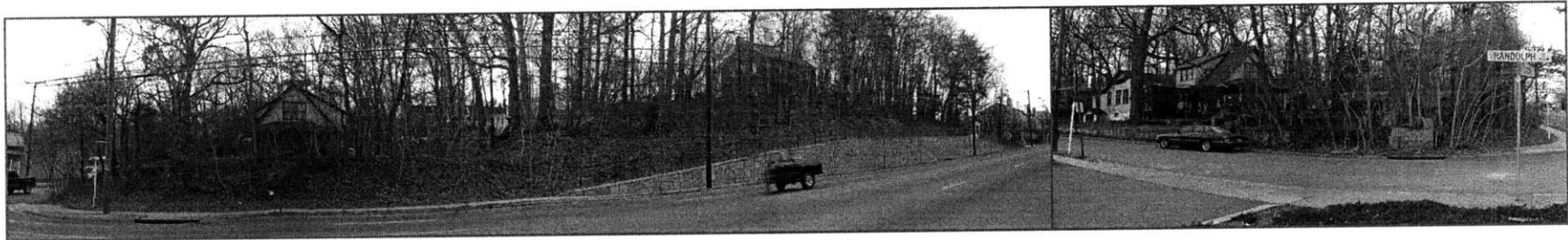


Figure 5-13. Zetlin property existing conditions (Columbia Pike frontage in left image, Randolph St. frontage in right image)

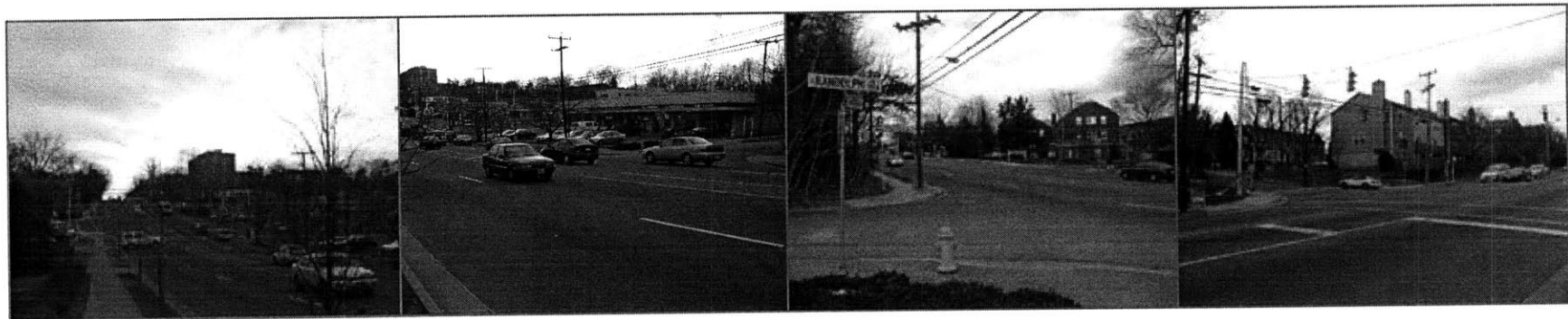


Figure 5-14. Surrounding properties along Columbia Pike

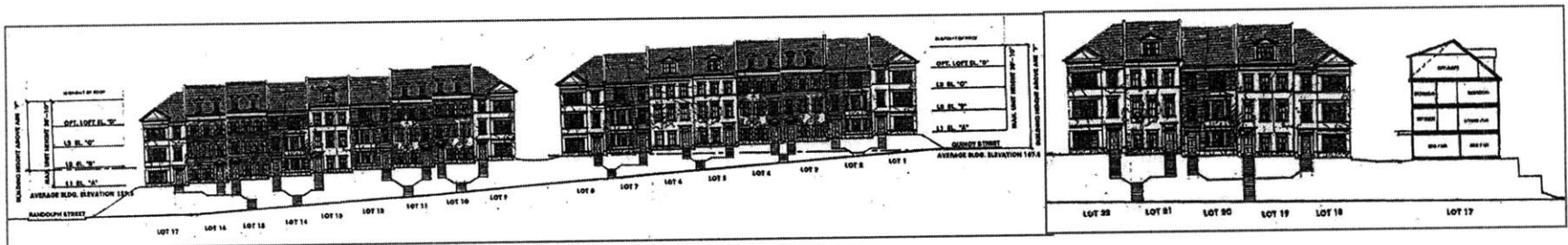


Figure 5-15. Renderings of planned Zetlin property development (Columbia Pike frontage in left image, Randolph St. frontage in right image)
NOTE: drawings not to scale.

The proposal's impact on physical legibility also extends to the Columbia Pike streetscape. A county-appointed task force is currently in the process of developing recommendations for improving the streetscape along the Columbia Pike Corridor, including potentially reserving rights-of-way for transit and/or bicycle lanes along the Pike. To maintain sufficient room for these anticipated improvements, the developer of the Zetlin Property has agreed to relocate the curb along Columbia Pike to allow for an additional eight feet of public right-of-way. In keeping with the FBC's vision of a wider, more pedestrian-friendly streetscape, the developer has also agreed to provide a six-foot wide sidewalk and a minimum four-foot wide utility/planting strip (each of which will be roughly double the width of the current version).⁶⁷

The second new project approved – a plan to rehabilitate two existing single-family houses and add 11 new townhouses and 11 additional single-family detached homes – also measured up well against my three evaluation criteria.

- **Slowness.** This development proposal centers on a cluster of green space in the middle of the development site. In addition to preserving a sizeable existing oak tree, this open space may in time grow to serve as a park for local residents.
- **Inclusiveness.** From a spatial perspective, this development will be very inclusive, adding a substantial amount of housing stock within a relatively compact urban area. Like the Zetlin proposal, this development will provide only market rate housing, limiting its socio-economic inclusiveness. However, the developer has agreed to make a

⁶⁷ Planning Department response to request for site plan approval for 4013 and 4029 Columbia Pike (RPC #23-033-029, -030, -032, -034). Arlington County, Virginia. PLA-3254. May 17, 2003. 4.

contribution to the county's affordable housing fund of \$86,400.⁶⁸ The developer has also agreed to provide relocation payments and services to any current residents that are displaced by construction on the property.⁶⁹

- **Legibility.** The developer of this project took a perspective on market demands and preferences that was less compatible with the form-based code (e.g., initially insisting on larger, more suburban-style setbacks than those allowed by the FBC). This divergence led to community opposition, which extended the approval period over six months. However, the legibility of the process – and the eventual impact of public opinion – was made apparent by the makeup of the final development proposal, which was largely in keeping with the Code.⁷⁰ The final proposal also improved the physical legibility of the site by introducing denser residential development and framing the adjoining South Glebe Road with houses, bringing the property closer to the character of the surrounding residential neighborhood. Figure 5-16 shows the existing conditions on this property, Figure 5-17 shows the surrounding context, and Figure 5-18 shows renderings of the planned project, demonstrating the improvements in legibility.

⁶⁸ Planning Department site plan approval and response to SP #373 rezoning request. (PLA-3352 SUPP). Arlington County, Virginia. September 13, 2003. 2.

⁶⁹ Ibid. 11.

⁷⁰ Tucker interview.



Figure 5-16. South Glebe property existing conditions (Columbia Pike frontage in left image, boarded up interior buildings in right image)

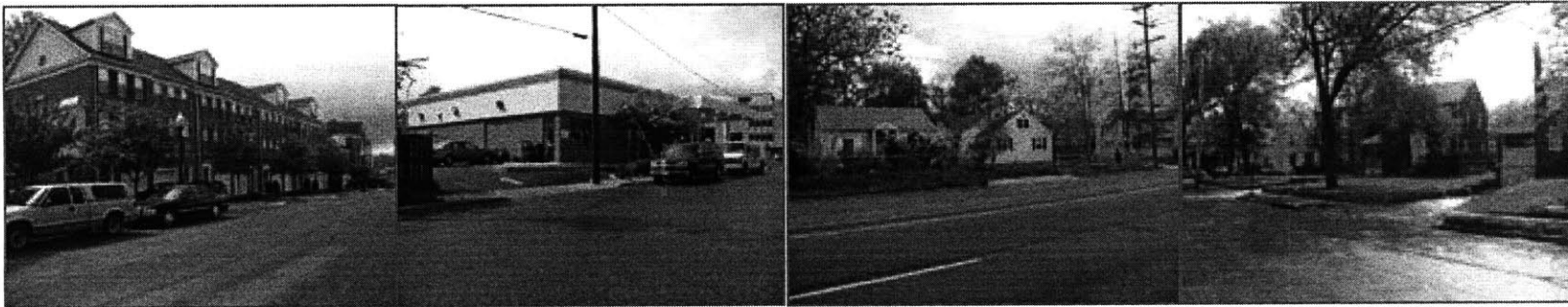


Figure 5-17. Properties near the planned development site

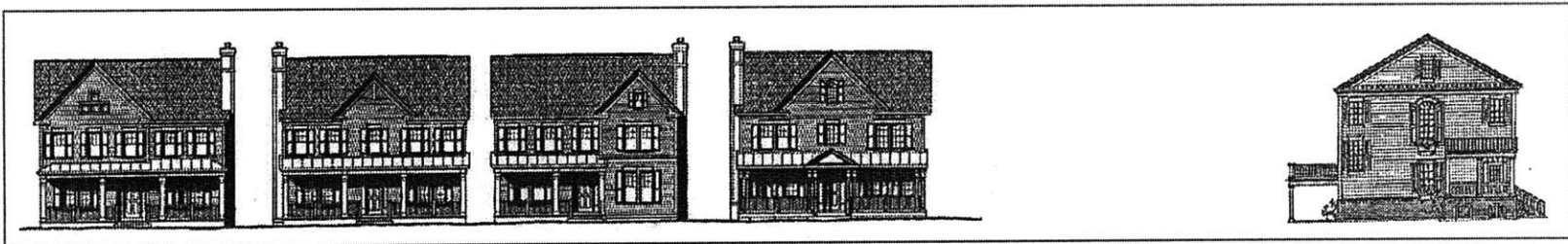


Figure 5-18. Elevation of planned buildings along Columbia Pike frontage
NOTE: Elevation does not include planned landscaping or streetscape elements. Drawings not to scale.

Additional – and more elaborate – projects are in various stages of negotiation and planning within the special revitalization district itself. A few major redevelopment projects are currently in the development pipeline, and the next six months will probably yield the approval of a project including 40,000 sq. ft. of retail, 200-300 condominium units, and sub-grade parking (once thought fiscally impossible along Columbia Pike). All told, over \$300 million in new development projects has been proposed for along the corridor in the fifteen months since the enactment of the FBC. The development community seems to have embraced the Code, and Lynch is optimistic about the Pike’s development future:

“The FBC has cut back on the need for developers to negotiate with the neighborhood for each individual project, [giving] the community and developers a common language. The community doesn’t have to worry that they’ll get some monstrosity, and developers don’t have to guess what people want,” says Lynch. “Now when I’m talking to developers I spend as much time getting them to believe that [the FBC] is this simple as I do actually explaining the code.”⁷¹

5.6 Overall evaluation of the form-based code

The Columbia Pike FBC is still in its infancy, and only time will tell whether in the long run it is successful in stimulating the quantity and quality of development necessary to turn a commercial arterial into a vital main street. Yet, by almost any measure, initial trends have been positive. New development is breaking ground in places that had limited prospects at the turn of the century, and both permitted and planned development seems to be of higher quality – at least, in relation to my evaluation criteria – than that generated by the pre-existing Euclidean zoning ordinance. The Columbia Pike FBC has both enshrined and empowered the community’s vision for its future form, bringing predictability to local development. Taken in combination with higher quality development, such predictability can only bode well for Columbia Pike.

⁷¹ Lynch interview.

CHAPTER 6: A CASE STUDY OF JEFFERSON COUNTY FORM DISTRICTS

6.1 Louisville and Jefferson County

On January 6, 2003, the city of Louisville, Kentucky merged with 110 nearby jurisdictions and the government of the surrounding Jefferson County, forming Louisville Metro, a consolidated metropolitan government that includes the 16th largest city in America. A map of Jefferson County is shown in Figure 6-1. Louisville Metro has jurisdiction over the entirety of Jefferson County, covering more than 385 square miles, with a population of nearly 700,000 residents, 220,000 of whom live in Louisville.⁷² A single Mayor administers the merged City-County government. Jefferson County is less than one-fourth as densely populated as Arlington County, with a population density of 1,801 people per square mile. Jefferson County is also much less diverse than Arlington County, with over 77 percent white residents and less than four percent of its residents born outside of the United States. Less than six percent of the residents of Jefferson County speak a language other than English at home.⁷³

Jefferson County's most renowned landmark is Churchill Downs, the most celebrated racetrack in the world and the site of the annual Kentucky Derby. Jefferson County is also home to the Louisville Slugger Museum and factory – including the 120-foot tall world's largest baseball bat, shown in Figure 6-2 – and Caesar's Glory of Rome, the largest floating casino in the World.⁷⁴ In

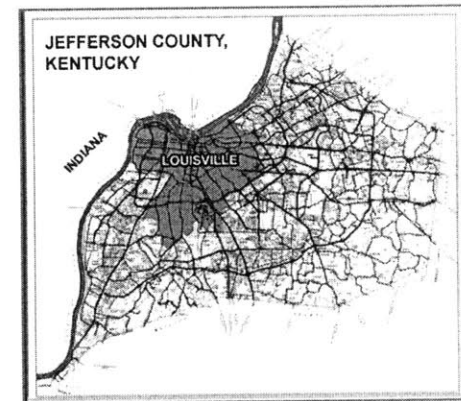


Figure 6-1. Map of Jefferson County, Kentucky

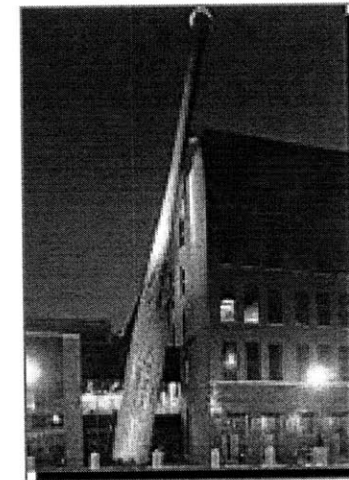


Figure 6-2. "Big bat" at Louisville Slugger Museum

⁷² "Welcome to Louisville." Louisville Metro Government. <http://www.loukymetro.org/welcome.asp>

⁷³ 2000 U.S. Census.

⁷⁴ "Attractions." Greater Louisville Convention and Visitors Bureau.

<http://www.greaterlouisville.com/content/community/frame.asp?target=attractions&homepg=&return=visiting.asp>

addition to its tourist attractions, Jefferson County also has a high quality of life, and was ranked the 14th best place to live in North America by the Millennial Edition of Places Rated Almanac, based on its cost of living, job outlook, transportation, higher education, health care, crime, the arts, recreation, and climate.⁷⁵ The County had around 365,000 jobs in 1990, 30 percent of which were located in downtown Louisville, and the most recent major projection of the County's long-term economic outlook predicted an additional 47,000 new jobs by 2020 (an increase of about 15 percent).⁷⁶ This projection was carried out in 1995, and consequently does not account for the effects of the recent national recession. However, Jefferson County has out-performed national averages in both per capita job and income growth over the last decade.⁷⁷ The existing land uses in Jefferson County are shown in Figure 6-3.

6.2 Cornerstone 2020

Kentucky law authorizes local governments to regulate land use and development only after the adoption of a Comprehensive Plan “which establishes the goals and public policies which define the governmental interest in such regulations.” By the early 1990s, Jefferson County decided that the time had come to update its existing Comprehensive Plan, which had been adopted in 1979. To meet this need, over 200 citizens of Jefferson County came together over a three-day period in the summer of 1993 to create a shared vision of what the County should be in the year 2020.⁷⁸

⁷⁵ “Living in Louisville.” Greater Louisville Convention and Visitors Bureau.
<http://www.greaterlouisville.com/content/community/living.asp>

⁷⁶ “Jefferson County Forecast of People, Jobs, and Housing: 1995 to 2020.” Louisville and Jefferson County Planning Commission. September 1995. 7.

⁷⁷ “Business Environment.” Greater Louisville, Inc. (Metro Chamber of Commerce).
<http://www.greaterlouisville.com/content/ed/business.asp>

⁷⁸ “Cornerstone 2020 Louisville and Jefferson County Comprehensive Plan.” Louisville and Jefferson County Planning Commission. June 15, 2000. 1.

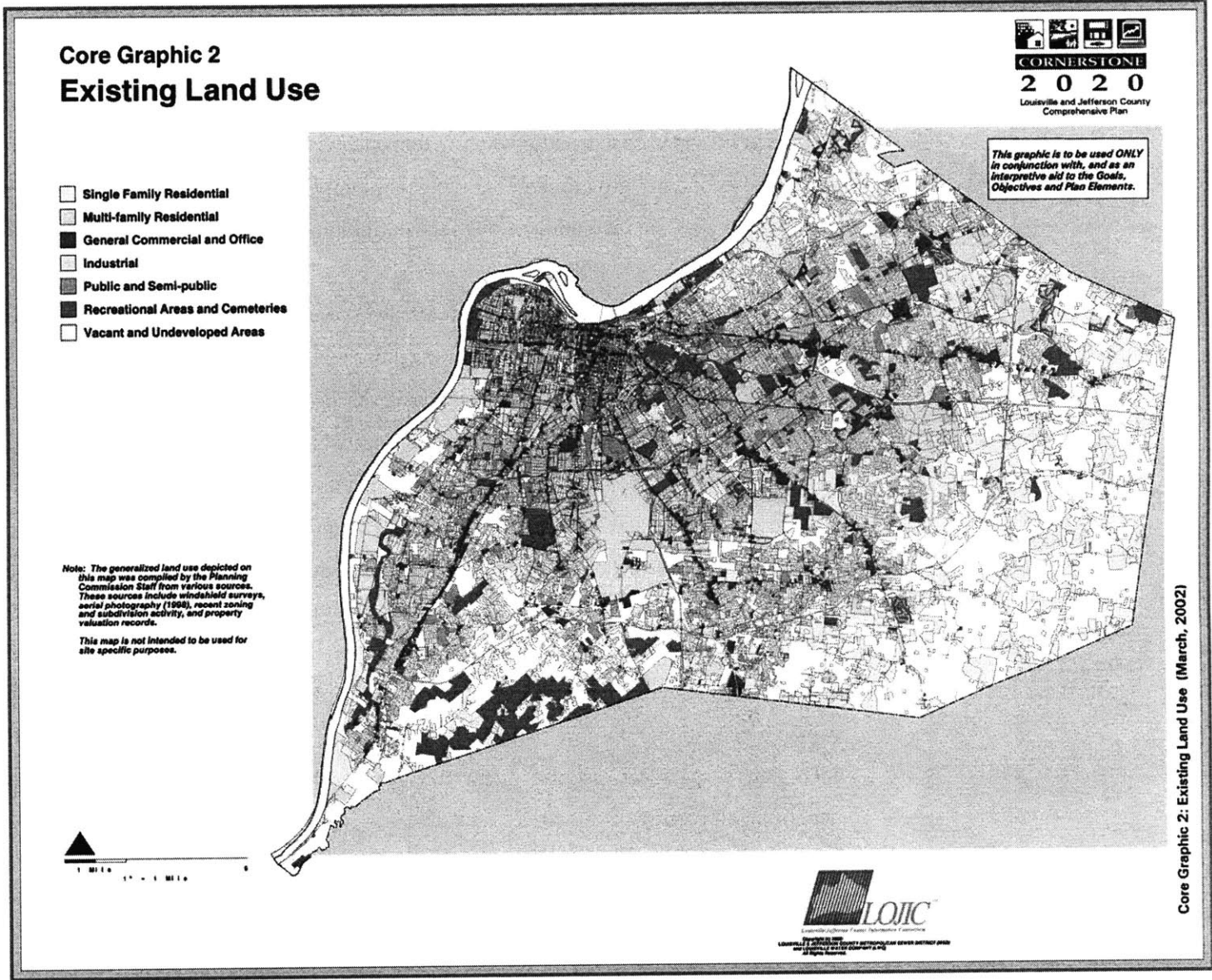


Figure 6-3. Existing land uses in Jefferson County

That fall, 600 county residents strengthened this vision, working first in twenty-five focus groups, then in four committees: (1) the Mobility Committee, which worked on transportation and connections between people, employment, and goods; (2) the Livability Committee, which studied parks, open space, and other environmental issues; (3) the Marketplace Committee, which addressed economic growth, and (4) the Community Form Committee, which developed a new approach to land use regulation through the definition of 11 distinct “form districts.”⁷⁹

Each committee was composed of approximately 50 members, with representatives from a wide variety of interest groups, including neighborhood groups, the business and development communities, the architecture and urban design professions, and local government bodies. Over the next five years, these groups discussed and debated the future of the region, identifying a number of challenges, problems, and opportunities facing the County and its future development. To address these issues, the Committees selected thirty study projects, including plans for the Ohio River Corridor, open spaces, bicycle and pedestrian paths, and connections between residential and commercial development. The benefits of these studies were twofold. First, they proved independently valuable as important planning documents. Second, they acted as the basis for the new Comprehensive Plan.⁸⁰ In addition to these studies, the planning process served a valuable educational purpose, helping the various participant groups to recognize and appreciate each others’ perspectives and emphasizing the role that good urban design could play in benefiting all parties.

⁷⁹ “Cornerstone 2020.” Louisville Metro Planning & Design Services.

<http://www.loukymetro.org/Department/PlanDesign/cornerstone.asp>

⁸⁰ “Cornerstone 2020 Louisville and Jefferson County Comprehensive Plan.” 1-2.

The Comprehensive Plan that emerged from this process, “Cornerstone 2020,” has been adopted by the Jefferson County Planning Commission (as well as the other twelve legislative bodies with zoning power in Jefferson County) in a series of phases. First came the Plan’s Goals and Objectives, which were adopted in February of 1998. Next, the Plan Elements and Core Graphics – which together made up the body of Cornerstone 2020 – were adopted in June of 2000. The cover of this phase, which incorporates images of mobility, livability, marketplace, and community form, is shown in Figure 6-4. The third and final phase, the new Cornerstone 2020 Land Development Code (LDC), is still in progress. To date, the LDC has been adopted by the Board of Aldermen, Jefferson County Fiscal Court, and the City of Hurstbourne, and it is still under review by the other legislative bodies in the County with zoning authority.⁸¹ Most of these other legislative bodies have been waiting for the results of the first updates to the LDC, which were completed in April, and it is likely that each of them will adopt the LDC in the near future.⁸²

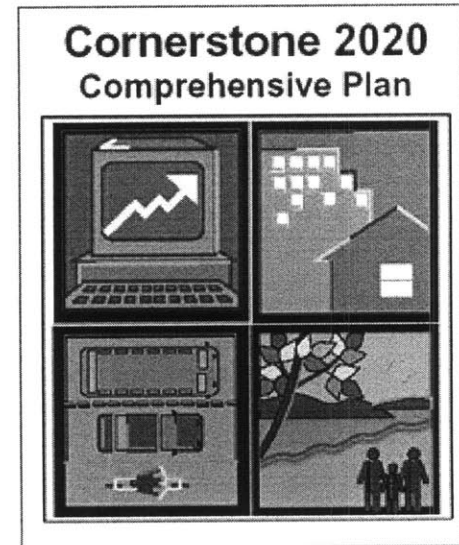


Figure 6-4. Cornerstone 2020.

A number of planning considerations were given greater emphasis in Cornerstone 2020 than in the 1979 Comprehensive Plan. Four objectives were particularly stressed: (1) assuring that the design for new development is in keeping with its surrounding context; (2) assuring that new development is compatible with the community’s environmental goals; (3) assuring that new development includes multi-modal access and does not adversely impact the functioning of streets; and (4) providing for the re-development of deteriorating neighborhoods.⁸³ Both Cornerstone 2020 and the new LDC also stress mobility, non-automobile transportation, and a pedestrian orientation.⁸⁴ As an overarching theme, Cornerstone 2020 reflects a focus on “bringing people together in livable communities, each with a distinct sense of place.” This focus

⁸¹ “Cornerstone 2020.” <http://www.loukymetro.org/Department/PlanDesign/cornerstone.asp>

⁸² French, Chris & Stephen Rusie. Personal interview. January 12, 2004.

⁸³ “Cornerstone 2020 Louisville and Jefferson County Comprehensive Plan.” 1-2.

⁸⁴ French and Rusie interview.

gave rise to a new paradigm for planning and development within Jefferson County based on distinct community forms and codified into form districts.⁸⁵

6.3 Form districts

6.3.1 Intent

One of the most fundamental changes incorporated within Jefferson County's new Land Development Code (LDC) has been in the treatment of building form, replacing standard Euclidean zoning with a two-tiered approach that utilizes both the existing use-based zoning classifications (minus any dimensional requirements) and a new series of form districts. The LDC defines and details eleven distinct form districts: (1) downtown; (2) traditional neighborhood; (3) neighborhood; (4) village; (5) town center; (6) regional center; (7) traditional marketplace corridor; (8) suburban marketplace corridor; (9) traditional workplace; (10) suburban workplace; and (11) campus. These districts are designed primarily to deal with compatibility issues between the forms of adjacent development, under the operating principle that "disparate uses may be compatible if the uses are designed to be compatible with nearby uses and if they are arranged in a pattern that is recognized by the applicable form district."⁸⁶ Most parcels of land within Jefferson County have been assigned to one of the eleven form districts, though some land remains undesignated – set aside for future designation in keeping with Jefferson County's development needs. Of the eleven districts, the most common is the "neighborhood" form district, which accounts for half of the County's land.⁸⁷ The distribution of form districts across Jefferson County is shown in Figure 6-5.

⁸⁵ "Cornerstone 2020 Louisville and Jefferson County Comprehensive Plan." 1-2.

⁸⁶ Ibid. 7.

⁸⁷ French and Rusie interview.

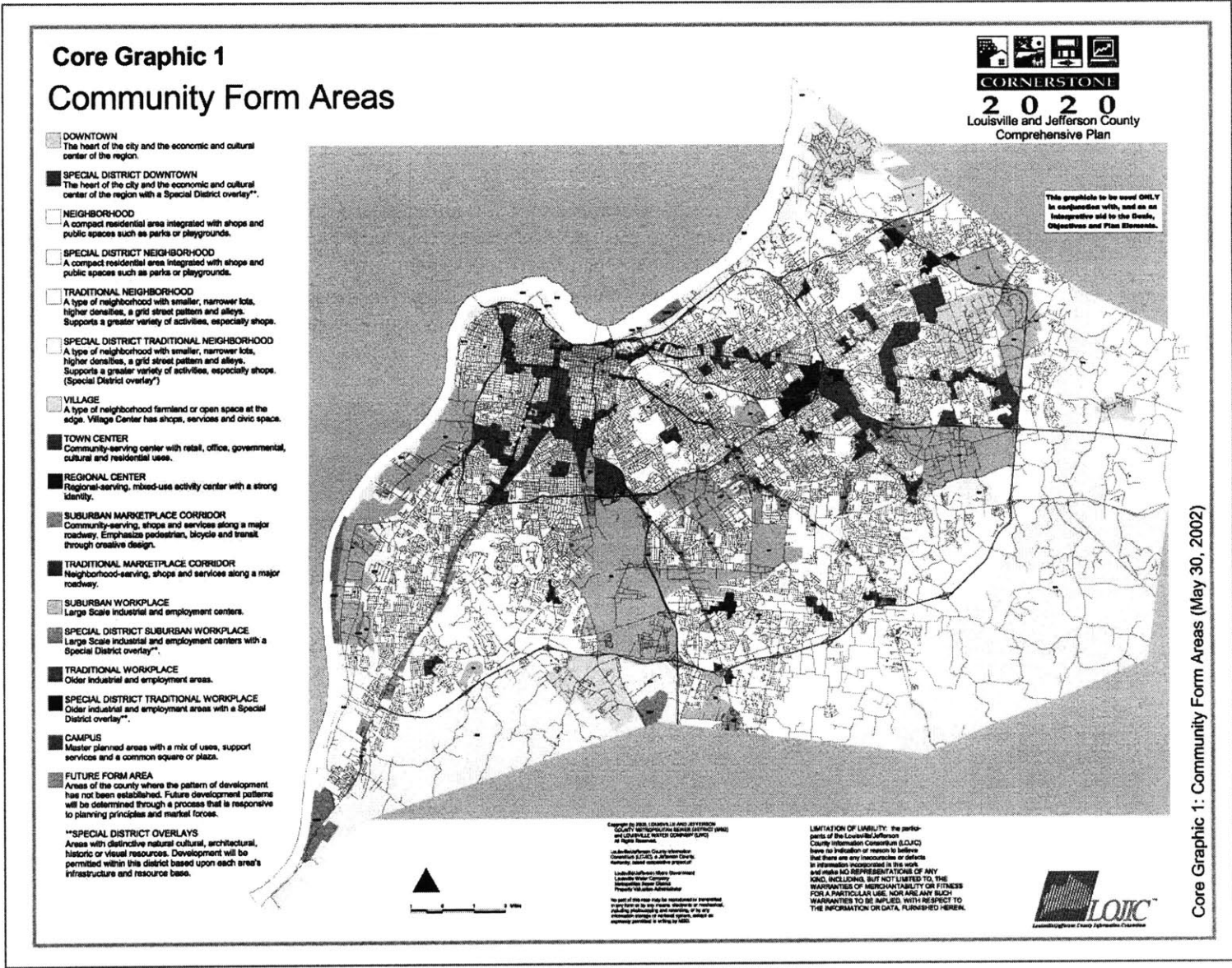


Figure 6-5. Distribution of form districts across Jefferson County

The vision and guiding principles for form districts were clearly spelled out in a summary paper written in 1996 as part of the comprehensive planning process, and remain largely the same eight years later. As the paper explains, form districts are intended to help achieve a number of citizen-identified goals:

Form districts are a tool for guiding land use decisions ... [They] respect the distinct patterns of development that have emerged in the county, ... encourage more compact patterns of development, ... provide more flexibility than the current comprehensive plan allows, ... provide more certainty, ... and use the underlying pattern of greenlands and natural resources as a framework that guides development.⁸⁸

Within the new LDC, form districts pursue these goals by regulating matters such as:

building mass, scale, height, compatibility of structure design, orientation and building material, lot size and yard setback requirements, the compatibility of the proposed use or uses, and the pattern and rhythm of development in the context of existing and emerging development in the area.⁸⁹

These regulations replace the dimensional requirements specified in the pre-existing zoning ordinance. However, the previous zoning district designations remain, regulating permitted and conditional uses and density/intensity standards.

⁸⁸ "Community Form Plan." Summary Paper: Vision, Guiding Principles, and Form Districts. Community Form Committee of Cornerstone 2020, Louisville and Jefferson County, Kentucky. January 1996. 2-3.

⁸⁹ "Cornerstone 2020 Louisville and Jefferson County Comprehensive Plan." 6.

6.3.2 Components

The composition of Jefferson County’s form district regulations is notably different from that of most other form-based codes. The form district regulations lack the regulating plans and building envelope standards common to most FBCs (including Arlington County’s), and do not devote a section to definitions. Nonetheless, the central themes underlying form-based coding – the importance of building form, urban design, compatibility and contextuality, and a transparent, community-based visioning process – can be seen throughout the document. The form district regulations – detailed in Chapter 5 of the new LDC – are made up of two basic components: (1) “general provisions” that apply to all form districts; and (2) provisions specific to each distinct district. These specific provisions are separated into eleven sections – one for each district. A sample section, listing the regulations for the “traditional marketplace corridor” form district, is included as Appendix E.

General Provisions. The general provisions begin by providing the scope of the regulations’ jurisdictions, rules for interpreting form district boundaries, and direction related to the map amendment process. They also include standards that are applicable to development proposals within all form districts, exceptions and dimensional variances, and rules related to transition zones between adjacent, yet different districts.

District-specific Provisions. All eleven of the district-specific sections share certain common elements: (1) an overview of the character of typical development within that district; (2) a description of the link between the district and the goals, objectives, and elements of Cornerstone 2020; and (3) a statement of intent that expresses the central objectives that the district is intended to achieve. Each section also includes a variety of design standards, addressing issues such as

streetscape, transit, traffic impacts, dimensional requirements, quality of design, parking, signs, open space, and compatibility with surrounding development. However, both the categories of standards included and the specific dictates of each category vary between form districts.

Form districts also vary in the thresholds that must be met in order to have their standards apply. As described in the regulations, certain actions within a particular form district may trigger some design standards, but not others. For example, the owner of a property within a “traditional marketplace corridor” form district may construct a building or addition with a footprint of up to 1,500 sq. ft. without being subject to the district’s transit design standards, yet such a building or addition will still be subject to the district’s streetscape design standards.⁹⁰ Additionally, these thresholds vary between different form districts. For example, a 2,000 sq. ft., one-story building would need to meet the transit design standards within a traditional marketplace corridor district, but not within a downtown form district, which maintains a 2,500 sq. ft. threshold.

In contrast with more typical form-based codes, Louisville’s form districts are not structured as deliberately around graphical representations of the desired form of development. Form district regulations include graphics, which range from diagrammatic depictions of required massing and setbacks to examples of desirable or undesirable building facades. However, these graphics are not given as much prominence or emphasis as regulating plans or building envelope standards. For the most part, form district regulations utilize the language and techniques favored by New Urbanists; they simply pursue their New Urbanist goals through more textually-based means than typical FBCs.

⁹⁰ A building with a footprint of over 1,500 sq. ft. would be subject to both transit and streetscape design standards.

6.4 Development consequences of form districts

The impact of form-based coding upon development within Jefferson County has been less drastic than in the case of Columbia Pike. While the Columbia Pike FBC spurred both the *quality* and *quantity* of development within (and adjacent to) its boundaries, the benefits of Jefferson County's form districts have been largely restricted to developmental quality. Much of this difference can be attributed to the strength of the Jefferson County economy, which was sufficient to generate a significant quantity of development prior to the imposition of the new Land Development Code. Consequently, the quantity of development within Jefferson County has not increased substantially since the LDC and form districts have been put into place. In some areas of Jefferson County, development levels have actually been lower post-form districts. Some of this decline can be attributed to a shift in the type of development taking place, with more emphasis on infill than greenfields development. As a county planner explained:

We have a lot of transitional things that started before the code was implemented. There's been some new development, but I wouldn't say that there have been a lot of new projects. There hasn't been a lot of suburban development. I think the biggest thing that we've seen has been some redevelopment in older areas. Mostly recent development has been infill.⁹¹

The initial consensus among both planners and the development community seems to be that any decline in the amount of development can be attributed more to the national economic recession than to the effects of the new LDC. According to county planners:

there's been some griping by developers, but development is still taking place ... Also, there's no big difference between the old and new code in regard to residential development, which is the biggest development sector. The biggest

⁹¹ French, Chris. Personal interview. January 7, 2004.

thing is that the [downturn in the] economy has impacted us (more than the new code). Additionally, there are quite a few cases going through zoning review right now.⁹²

This view was echoed by a private-sector planning consultant with experience both in the process of creating the form districts and in helping developers to adjust to the new LDC. As he put it,

I think any hesitation [in starting new development] after the new code was based more on the economy than on concerns about the code. I think for the most part developers have been able to move forward on projects that they're comfortable with.⁹³

In addition to the economic downturn, any analysis of Jefferson County's development trends must also take into account the effects of the recent metropolitan governmental merger. The Louisville Metro merger took place only two months prior to the enactment of the new LDC, and the development community is still waiting to see the effects that this merger will have upon the length and nature of the development review process.

While the effect of form districts upon the *quantity* of Jefferson County's development has not been particularly notable, my initial review of post-LDC developmental *quality* indicates that form districts seem to have yielded a number of benefits. Given the broad scale of Jefferson County's implementation of form-based coding, I was concerned about the degree to which any particular development project could be considered representative of development within the County as a whole. Therefore, by necessity, my review of post-LDC developmental quality drew more upon the opinions of Jefferson County planners and developers than upon any analysis of individual projects.

⁹² French and Rusie interview.

⁹³ Henny interview.

Based upon reviews from both planners and developers, post-form district development within Jefferson County measures up well against all three of my New Urbanist evaluation criteria.

Slowness. Jefferson County's form districts are very clearly designed with place-making in mind. The 1979 Comprehensive Plan and the old LDC paid little attention to any comprehensive strategy for the development of the region's physical form. As a former member of Jefferson County's planning department told me:

The previous system was not even a map-based plan. It had zoning districts and text, but there wasn't any sort of comprehensive plan. Consequently, it worked from an [individual developer's] perspective, but it led to piecemeal development.⁹⁴

In contrast, the new development paradigm in Jefferson County puts an increased emphasis on neighborhood planning, treating communities as "holistic creatures" with a distinct sense of place.⁹⁵ This focus is spelled out explicitly in the introduction to Cornerstone 2020, and the new LDC strongly emphasizes the importance of designing development to be compatible with the surrounding built environment. In an interview, Jefferson County planners agreed with this assessment, stating:

The new LDC allows for transitional areas between districts and forces developers to consider the surrounding context. "Compatibility" is the bellwether idea within the comprehensive plan. People were concerned about the need for compatible development.⁹⁶

⁹⁴ Henny interview.

⁹⁵ Bennett, Wayne. Personal interview. January 7, 2004.

⁹⁶ French and Rusie interview.

The prominence of urban design and contextual development within the new LDC was underscored by a former director of the Louisville and Jefferson County Planning Commission, who commented:

The most major change [that went along with the new Land Development Code] is the whole inclusion of urban design into it, trying to make development more compatible with its surroundings. Before, we had a cookie-cutter process, with ... the same regulation wherever you were. I think what will happen is [that with the form districts] there will be more of a focus on the relationship between uses and more emphasis on mixing uses in design, compatibility, and integration. Really the planning commission in Louisville was doing that on the cuff, without any formal framework for doing it. Now they have such a framework.⁹⁷

Developers also appreciate the LDC's focus on quality of design. As a land use lawyer whose firm represents the majority of developers within Jefferson County remarked, "the greater emphasis on design (in form districts) leads to better development, and the process isn't materially more costly or lengthy than before form districts were put into place."⁹⁸

Inclusiveness. Development under form districts and the new LDC appears to be more diverse than that which occurred under Jefferson County's old Land Development Code. New projects under development – particularly in infill situations – tend to have a greater mixture of uses and diversity of housing types, enabling a wider range of residents to live within a given community.⁹⁹ The LDC's emphasis on access, mobility, and pedestrian orientation has also increased developers' focus on spatial connections between individual developments and their surrounding communities.

⁹⁷ French interview.

⁹⁸ Whitty, Paul. Personal interview. January 27, 2004.

⁹⁹ Bennett interview.

Legibility. From the initial community meetings in 1993 through the 2003 adoption of the new Land Development Code, Jefferson County has wholeheartedly embraced the concepts of transparency and community involvement, utilizing a very legible process. The outputs of this process – Cornerstone 2020 and the new Land Development Code – are also designed to improve the legibility of the form of new development within the County. Within the more urban-focused form districts, the new LDC particularly stresses the legibility of streetscapes through the use of build-to lines (with substantial build-to line coverage requirements) and maximum as well as minimum parking requirements. It requires tree canopies along the street in all districts. And most importantly, the new Land Development Code has added certainty to the development process by requiring that all development proposals conform to the holistic, community-based vision embodied in the form districts.¹⁰⁰ In combination, these provisions have strengthened the legibility and overall coherence of Jefferson County’s built form, as shown in Figure 6-6.

6.5 Overall evaluation of form districts

In the short time that they have been in place, form districts and the new LDC have yielded clear benefits, and they hold the potential to be very potent tools for regulating development over coming decades. However, these tools are not without weaknesses. These weaknesses can be grouped into three different categories: (1) initial “growing pains”; (2) controversy over requirements related to the subdivision of facades; and (3) conflict between “desirable” form district designations and the reality of the existing built fabric.

¹⁰⁰ Whitty interview.

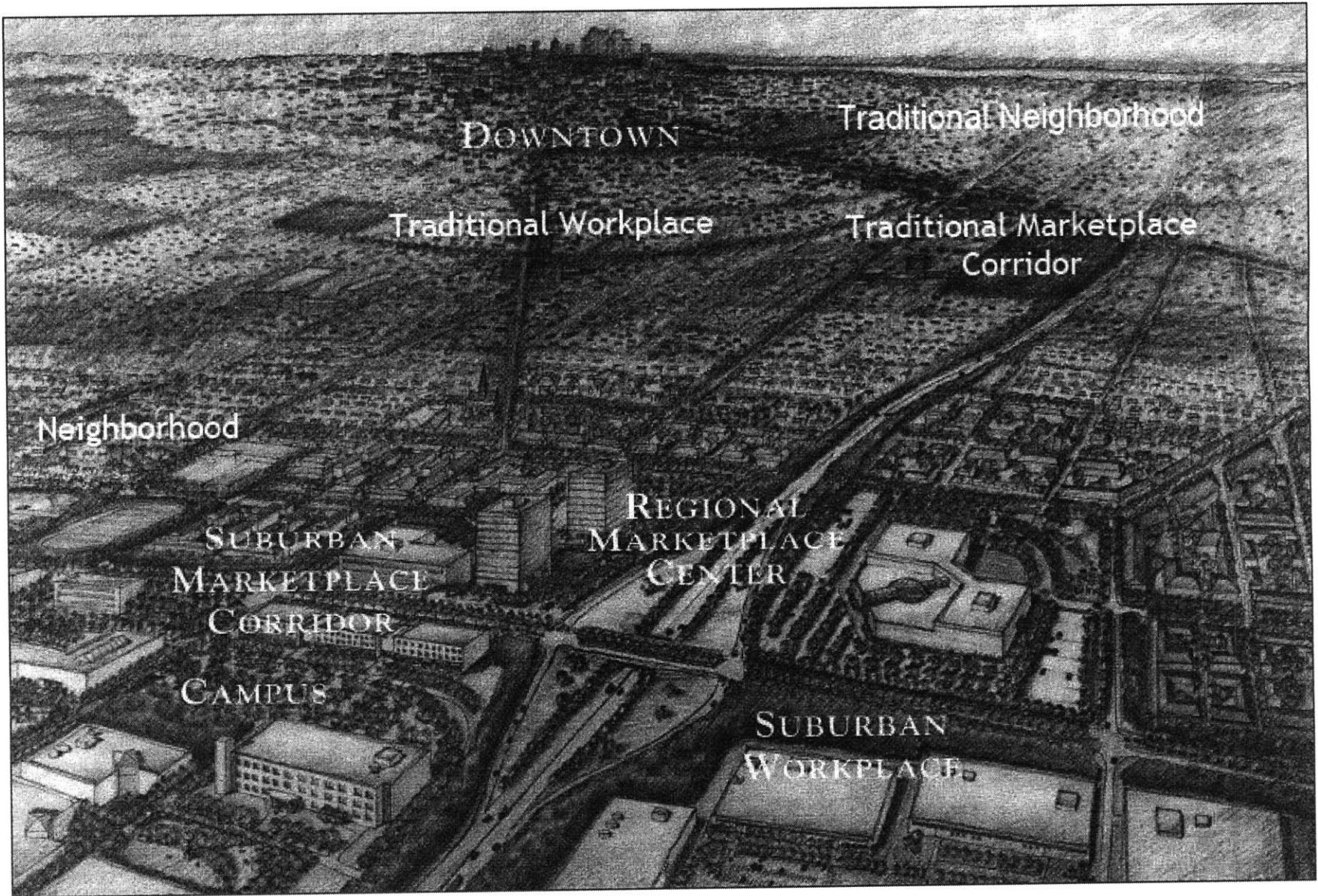


Figure 6-6. Form districts as a tool for increasing legibility of form

Initial growing pains. With only a year under its belt, the new Land Development Code and the process by which the County administers it are still very much works in progress. Accordingly, while the majority of the development community supports the form district concept, many developers have concerns about details of its implementation.¹⁰¹ In response to some of these concerns, Louisville Metro Planning & Design Services has recently completed an update to the LDC. This update included a number of minor changes, including a reformatting of the form districts chapter to increase its usability, a clarification on the use of maximum setbacks and potential alternatives for large retail uses, and an addition of building design and open space requirements for multi-family residential developments.¹⁰² As planners and developers increase their familiarity with the new Code, additional future updates will likely be required.

Controversy over façade requirements. Another debate between Jefferson County planners and the development community has revolved around the new LDC's requirement that long facades be broken up to read as a collection of smaller elements. Some developers have questioned the necessity for this requirement, and the County has had some difficulty in coming up with a way to adequately regulate the provision.¹⁰³

Conflict between the “desirable” form district and the existing built fabric. As Cornerstone 2020 explains, form districts were distributed “with distinct boundaries within which one of the development patterns described as a Community Form is evident or is considered to be desirable

¹⁰¹ Henny interview.

¹⁰² “Form Districts in Louisville.” Presentation for the 2004 American Planning Association National Conference. Metro Louisville Planning and Design Services. April 26, 2004.

¹⁰³ Henny interview.

and practical for the future.”¹⁰⁴ This distribution has worked well for cases where the development pattern is evident, such as a built-out suburban commercial strip designated as a “suburban marketplace corridor form district.” However, form districts that have been designated based on desirable future development have been more problematic. During the process of initial form district designation, many areas that seemed to have potential for improvement were classified in the “hoped-for” district.¹⁰⁵ Other districts were designated for political reasons. For example, the “village” district has a certain cachet, leading some areas to lobby hard for “village” designation, regardless of their existing development patterns. Both cases have led to situations in which heavily built-out areas hold form district designations that are incompatible with their basic character, yet lack sufficient land or development potential to achieve the desired form.¹⁰⁶ Modifying a form district is also more difficult than the previous process for obtaining zoning variances. This has made change more difficult, serving to freeze the status quo.¹⁰⁷

The mismatch between existing development and form designation has in some cases been exacerbated by the new LDC’s urban orientation. In keeping with the New Urbanist design philosophy that underlies the form district concept, many of the specific design standards specified within individual districts are addressed toward urban areas and typologies (connectivity, small setbacks, etc.). While this is appropriate for some form districts, such as “downtown” and “traditional neighborhood,” it is less appropriate for more suburban-oriented districts. In the eyes of some of its critics, the new LDC does not give enough weight to the

¹⁰⁴ “Cornerstone 2020 Louisville and Jefferson County Comprehensive Plan.” 7.

¹⁰⁵ Henny interview.

¹⁰⁶ Lutz interview.

¹⁰⁷ Whitty interview.

reality of existing suburban-style commercial development, going “too urban, too neo-traditional, and [losing] sight of what the built development is and how it functions.”¹⁰⁸

Despite these weaknesses and challenges, form districts appear on balance to be a substantial improvement over Jefferson County’s previous Euclidean zoning ordinance. As with any new regulatory tool, it will take a few years for the various parties involved in development to grow comfortable with the process. Yet, once the Louisville Metro merger is more established, the new Land Development Code is further refined, and the economy improves, Jefferson County will be far better situated to shape the form of its development than it would have been without the imposition of form-based zoning. As a former member of Jefferson County’s planning department explained:

I think the community at large will think that [form districts] were the right way to go, and as long as there’s a level playing field the development community will be all right with the changes. This process had led to smarter developers that are intuitively building things into their plans that will meet the intent of the comprehensive plan.¹⁰⁹

¹⁰⁸ Henny interview.

¹⁰⁹ Ibid.

CHAPTER 7: CONCLUSIONS AND BROADER IMPLICATIONS

Drawing upon both case study analysis and general FBC-related research, I was able to answer my initial research questions. My final conclusions also address questions of implementation and present areas for additional research.

7.1 Answers to research questions

In an effort to draw general conclusions about the effectiveness and potential of form-based zoning, I return to my three initial research questions: (1) Are form-based codes a fundamentally-different alternative to Euclidean zoning (rather than simply a re-packaged version of design guidelines)? (2) Do form-based codes spur better development (defined in New Urbanist terms) than traditional zoning ordinances? And (3) are form-based codes appropriate for use across the entire range of development environments (i.e., urban, suburban, and rural areas)?

The answer to the first question – addressed at greater length within Chapter 4 – is a resounding yes. With an emphasis on form rather than use, on integration rather than separation of uses, and on a prescriptive vision for the future, rather than proscriptive limitations on development, FBCs are drastically different from their Euclidean forbears. This difference is compounded by FBCs' graphical orientation, as well as their strong reliance upon a community-based design vision – a vision that is typically difficult to unearth within a Euclidean zoning ordinance. FBCs are equally distinct from urban design standards. While the most progressive of urban design guidelines incorporate some of the characteristics of FBCs, they are still discretionary and all too often limited to superficial concerns about façade. If Geoffrey Ferrell's sentiment is true, and the

enduring success of development “is not about how it looks, [but] about how it lives,” then form-based codes are bound to be far more effective than urban design standards.

The answer to the second question is also in the affirmative. In both of my case studies, development inspired and/or shaped by form-based coding proved to be more connected, more contextual, more diverse, and ultimately more legible than development carried out under the previous Euclidean zoning regimes. Additionally, form-based coding demonstrated – at least in the case of Arlington County – the potential to increase the *quantity* as well as the *quality* of development. In my analysis, the form-based codes that New Urbanists endorse measure up well against the principles that they hold most dear.

The answer to the third question is more difficult to judge, given that my research focused on only two instances of form-based coding. Initial trends suggest that form-based coding can be successful in suburban areas, such as Columbia Pike. Initial trends suggest that form-based coding can be successful in urban areas, such as downtown Louisville. And I see little conceptual reason that form-based coding would be inherently incompatible with development in rural areas. Geoffrey Ferrell’s consulting firm has created a form-based code for Woodford County, Kentucky – a rural area that incorporates 90 percent of the bluegrass region – and he feels that the code has been an appropriate fit within that setting. “Urbanity isn’t connected with density or with parking lots,” says Ferrell, “so an FBC works quite well at creating or preserving small villages. The simple answer is that [form-based codes] can work anywhere.”¹¹⁰

¹¹⁰ Ferrell interview.

The success of form-based coding seems to be tied less to the scale of development within which it is applied than to the levels of political and economic support that accompany it. To be successful, a form-based code must embody a broad, community-based vision of the desired form of future development. This vision can only come out of an iterative, interactive, and typically extensive process with substantial community participation. Such a process requires time (four years for the Columbia Pike FBC and seven years for Jefferson County’s form districts), money (\$500,000 for the Columbia Pike FBC alone), a great deal of patience, and a strong champion that can provide political support. Throughout this process, efforts to cut corners on cost or participation may lead to insufficient buy-in on the part of residents, the local business community, developers, and elected officials, each of which are essential to the success of a form-based code. Timothy Lynch, the executive director of the Columbia Pike Revitalization Organization and an influential figure in the passage of the Columbia Pike FBC, stresses these requirements, saying, “it’s important to do retail politics ... and there needs to be a willingness to spend this money.”¹¹¹

The effectiveness of form-based coding can also be largely influenced by the amount of development already present in the area, as well as by the strength of the local economy. As Jefferson County’s planners can attest, it takes more than an overly-optimistic form district designation to transform a built-out suburban commercial strip into a “village” or a “town center.” And in the absence of either demand for development or compelling economic incentives (such as those accompanying the Columbia Pike FBC), even the most carefully-designed form-based code may be insufficient to generate development.

¹¹¹ Lynch interview.

7.2 Questions of implementation

Based upon the experiences of Arlington and Jefferson Counties, as well as my other research in to form-based coding, there seem to be two primary approaches by which a municipality or region can incorporate form-based coding into its regulatory framework: (1) as a special district or special project; or (2) as part of a more comprehensive overhaul of municipal land use regulations. Each approach has both strengths and weaknesses.

FBC as special district or special project. By limiting the jurisdiction of an FBC to a special district or special project – the approach most commonly pursued – a municipality can use the code as a test case, minimizing any potential political or economic fallout in the event that the code is judged to be unsuccessful. If the FBC is successful, the municipality can then either expand the code’s jurisdiction or enact additional FBCs for other areas. However, by treating an FBC as a small-scale, isolated intervention, a municipality runs the risk of minimizing the code’s importance. Additionally, the special district/special project approach to form-based coding typically results in FBCs that function as overlay districts. While such overlay districts may be useful in shaping building form, they are less so in addressing the segregation of land uses mandated by underlying Euclidean use districts. If a community wishes to comprehensively address the root causes of urban sprawl development, it must do so in a manner more systematic than the imposition of isolated overlay districts.

FBC as part of a comprehensive overhaul of municipal land use regulations. The incorporation of form-based coding as part of a comprehensive municipal code overhaul can be both politically and logistically daunting. The complicated regulatory environment of the typical municipal land development process acts to deter large-scale change, and the relative novelty and

limited track record of form-based codes make them vulnerable to legal or political challenges. Consequently, while the enactment of a form-based code as a special, limited project may be seen as an acceptable experiment in progressive planning, the enactment of the same code on a metropolitan-wide level may be deemed overly risky. These concerns are understandable, and should be taken into account. However, if a municipality is able to overcome these obstacles, the comprehensive approach to form-based coding holds the potential to have a much more dramatic impact upon the form of a community's development than would be possible through the use of a special district.

7.3 Areas for further research

I feel that my thesis is a valuable addition to the body of planning literature, as it represents the first academic attempt (at least, the first of which I am aware) to evaluate the development consequences of form-based codes. However, the area of form-based coding still holds ample potential for further research. The most obvious area for additional investigation is a longer-term study of the developmental consequences of FBCs. This could take the form of a follow-on analysis of the Columbia Pike FBC and the Jefferson County form districts once five or ten years have passed and their longer-term impacts become more evident. Such a study could also encompass a wider range of form-based codes, controlling for variation by geographic region or level of pre-existing development. Another task that could prove valuable is a more systematic analysis of the relationship between the scale at which an FBC is implemented (i.e., district v. city-wide) and its eventual effectiveness. Finally, my study of FBCs was limited to environments in which the code acted as an overlay or incentivized alternative to underlying use-based ordinances, rather than as a stand-alone replacement for Euclidean zoning. If a municipality were

to entirely discard its zoning ordinance in favor of an FBC, it would serve as a fascinating case study for the effects of form-based coding in its most pure form.

As the strength and numbers of the New Urbanist movement continue to increase, we are likely to see corresponding increases in the visibility of and support for form-based coding. Given a few more success stories along the lines of Columbia Pike, public opinion may soon follow suit. If Andres Duany is right, and codes are where the power lies, then the form-based code may become the tool of choice for communities struggling to face the challenges of unfettered development and urban sprawl. And if my findings are any indication, this tool has the potential to yield impressive results.

APPENDIX A. COLUMBIA PIKE FBC: SECTION III – THE REGULATING PLANS¹¹²

A. Understanding the REGULATING PLAN¹¹³

A REGULATING PLAN provides standards for the disposition of each property or LOT, and how each relates to its adjacent properties and STREETS. Following the adoption of the Columbia Pike Initiative – A Revitalization Plan in March 2002 and the Columbia Pike Urban Design Charrette and citizen planning workshops held in September 2002 and any future addenda, REGULATING PLANS have been produced for the Columbia Pike Special Revitalization District in Arlington County.

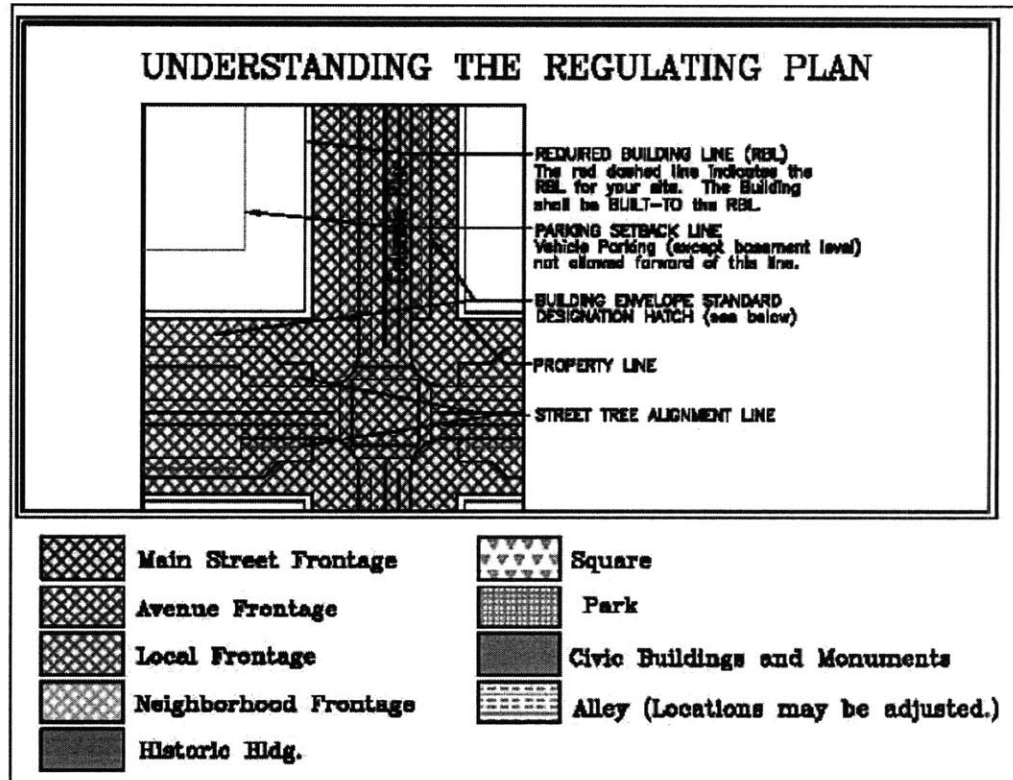
The REGULATING PLAN is the principal tool for implementing the Columbia Pike Special Revitalization District Form Based Code and identifies the basic physical characteristics of each building site and the BUILDING ENVELOPE STANDARD (BES) assigned to it.

B. Rules for New Development Plans

1. BLOCKS/ALLEYS

A. All LOTS shall share a frontage line with a STREET.

B. All LOTS and/or all contiguous LOTS shall be considered to be part of a BLOCK for this purpose. No BLOCK face shall have a length greater than 400 feet without an ALLEY, common access easement or PEDESTRIAN PATHWAY providing through-access to another STREET, ALLEY or common access easement, STREETS, or conservation restricted land. Individual LOTS with less than 75-foot frontage are exempt from the requirement to interrupt the BLOCK face; those with over 250-foot frontage shall meet the requirement within the LOT.



¹¹² Columbia Pike Special Revitalization District – Form Based Code (Staff Draft 4)

¹¹³ Wherever a term is labeled in CAPITAL format within the Form Based Code, it has a specific meaning defined in the Definitions section of the Code (Section II).

C. ALLEYS shall provide access to the rear of all LOTS. ALLEY construction is required as part of the redevelopment project within the rear setback, unless an alley already exists.

D. Where an ALLEY does not exist and is not constructed at the time of redevelopment of any property, the developer is required to dedicate the ALLEY Right-of Way within the rear setback to the County, and until the County builds the ALLEY, maintain the area within the rear setback by, at a minimum:

1. Sodding and providing routine landscape maintenance to the area, and
2. Keeping the area clear of debris, stored materials, and vehicles.

E. Curb Cuts shall be limited to no more than one per 200 feet of STREET FRONTAGE on MAIN STREET and AVENUE SITES.

2. Buildings

a. The hierarchy of BUILDING ENVELOPE STANDARDS (BES), in descending order is: Main-street sites, Avenue sites, Local sites, Neighborhood sites.

b. The maximum building floor-plate (footprint) is 30,000 square feet- Beyond that limit a special exception is necessary. Large Grocery Stores may have a maximum GROUND FLOOR floorplate of 50,000 square feet.

- i) For each BLOCK, building(s) along the RBL shall present a complete and discrete vertical façade composition (e.g. a new façade design) at a maximum average STREET FRONTAGE length of 60 feet. Each façade composition shall include a functioning, primary STREET entry. (This may be satisfied through the use of shops for large floor-plate buildings.) Individual infill projects on LOTS with frontage of less than 100 feet are exempted from this requirement.

c. Consistent BUILDING ENVELOPE STANDARD (BES) sites shall front one another across STREETS. When separated by a SQUARE, CIVIC GREEN or park, building types from adjacent levels (one level difference) may face one another, unless otherwise indicated on the REGULATING PLAN. For example, Local sites may face Neighborhoodsites and/or Avenue sites across a CIVIC GREEN -- but may not face Main-street sites, unless otherwise indicated on the REGULATING PLAN.

d. When separated by an ALLEY, common access easement, COMMON LOT LINE and/or when fronting different STREETS (i.e. a corner LOT and its adjacent LOT), BUILDING ENVELOPE STANDARD types from any category may sit adjacent or share a COMMON LOT LINE, provided that they do not face across a STREET, unless otherwise indicated on the REGULATING PLAN.

e. When the BUILDING ENVELOPE STANDARD designation changes along a property frontage, the property owner has the option of applying either BUILDING ENVELOPE STANDARD (BES) for a maximum additional distance of 50 feet in either direction along his/her frontage.

3. STREETScape

a. STREET TREES shall be planted at the time of development and spaced 25-30 feet on center. Where necessary, spacing allowances may be made to accommodate curb cuts, fire hydrants and other infrastructure elements.

b. STREET LIGHTS shall be installed on both sides of STREETS, along the STREET TREE ALIGNMENT LINE, unless otherwise designated on the REGULATING PLAN, at no more than 60 foot intervals measured parallel to the STREET. At the time of development, the developer is only responsible for the installation of STREET LIGHTS on the side(s) of the STREET being developed.

c. Consistency of paving materials within a project and within a BLOCK is required.

4. Parking

a. Private parking ratios (These requirements may be met on the site, or on other sites by evidencing appropriate documentation of agreements.)

- i. Residential Uses - Minimum 1 space/1,000 sq. ft. of GFA (or 1 per unit, whichever is less) and a maximum of 2 spaces/1000 sq. ft. of GFA (or 3 per unit, whichever is less)
- ii. Other Uses - For sites under 20,000 sq. ft. in land area no on-site minimum parking requirement and a maximum of 1 space/500 sq. ft. of development.
- iii. For sites over 20,000 sq. ft in land area a minimum parking requirement of 1 space/1,000 sq. ft. of GFA, and a maximum parking requirement of 1 space/500 sq. ft.

b. Allow developers to pay an in-lieu parking fee for each parking space that is not constructed onsite, towards a public parking fund that will assume responsibility for supplying and the spaces. The in-lieu fee will be set at a level sufficient to cover the average cost of new County provided spaces within its Parking Zone, such average cost to be determined on a biannual basis, and initially set at \$15,000.00 per space.

c. Developers may be eligible for County Tax Increment Public Infrastructure Fund assistance to defray parking and other “public” infrastructure costs.

d. Require developers to dedicate each parking space that is privately constructed above the ratio as public parking use.

e. Appropriate signage and markings shall be installed.

- f. Parking requirement may be offset by available public parking or by participating in car sharing programs.
- g. For residential buildings, one bicycle parking space shall be provided for every 10 residential units.
- h. For office developments, one (1) employee parking space for every 7,500 square feet, or portion thereof, of office floor area is required.
- i. All bicycle parking facilities which are provided which are highly visible to intended users and are protected from rain and snow within a structure. The bicycle parking facilities shall not encroach on any area in the public right-of-way intended for use by pedestrians nor shall they encroach on any required fire egress.

5. Retail

Generally, retail is required on the GROUND STORY of MAIN STREET sites and, to a lesser degree, on LOCAL Sites. The inclusion of retail enlivens the STREET and creates a purpose for being there. Unless otherwise noted, retail is an inclusive phrase that encompasses consumer comparison goods (General merchandise, apparel, furnishings and other types of similar merchandise – commonly referred to as GAFO categories in the retail industry), convenience goods (food [delis], gifts, drugstore items, personal care, cards/stationery), personal business services, professional offices, restaurants, grocery stores, and hotel, theater, and other uses that provide visual interest and create active street life. Other uses, which in the judgement of the Zoning Administrator are of the same general character as those listed below and will not be detrimental to the district in which it is to be located may be allowed.

- **Primary Retail Uses:** Generally, uses that provide entertainment or leisure activities, promote high walk-in customer counts, or are shopping destinations.
- **Secondary Retail Uses:** Generally, uses that provide personal or business services.

Primary retail		Secondary retail	
Art or antique shop, including art work, art supplies and framing materials	Meat or fish market	Animal hospital or veterinary clinic within a fully enclosed structure	Private postal service
Bakery	Newsstand	Automobile rental (retail functions only – no auto servicing) or automobile accessories and supplies (excluding installation)	Shoe or small appliance repair shop
Pet shop	Nursery, flower, or plant store	Bank or other financial institution (including check cashing)	Tailor or dressmaker
Book, stationery, or card store	Optical store (operating as a commercial enterprise with incidental eye exam)	Barbershop or beauty salon	Tax service
Clothing shop	Restaurant	Blueprinting, photostating, or photo copy service	Trade or commercial school
Coffee shop	Secondhand or consignment shop	Business college operated as a commercial enterprise	Photo studio
Delicatessen	Shoe store	Catering establishment	Printing, lithographing, or publishing
Department, furniture, home furnishings, or household appliance store	Specialty food store (fish market, breads, pastries, wine, etc.)	Clothes cleaning or laundry establishment	Private postal service
Drugstore	Sporting goods store	Dance studio	Sign painting shop
Dry goods or notion store	Variety store	Employment agencies	Trade or commercial school
Florist or gift shop	DVD/Video tape or record store	Film processing or film exchange	
Grocery, fruit or vegetable store	Day spa	Health club	*With Special Exception Use Permit
Hardware, paint, or appliance store	Electronics store	Insurance sales	Audio-visual production studio
Hobby or handcraft store		Locksmith	Automobile service station
Ice cream or confectionery store	*With Special Exception Use Permit	Medical or dental offices, clinics or laboratories	Carpet and rug cleaning (excluding dyeing)
Indoor theatres	Bowling Alley	Music conservatory or music instruction	Food delivery service
Interior decorating store (with incidental interior service)	Nightclubs and restaurants with live entertainment or dancing	Office (such as real estate broker, travel agency, medical, etc)	Massage parlor
Jewelry store	Restaurant with drive-through window	Palmistry	Miniature golf course
Leather goods/luggage	Self-Storage Facilities	Pawnshop	Mortuary or funeral home
		Pet shop	Tire shop
		Photo studio	Upholstery shop
		Printing, lithographing, or publishing	

6. Historic Preservation

Certain HISTORIC STRUCTURES and HISTORIC FACADES are viewed as integral to the current and future identity of Columbia Pike and these historic resources are to be preserved (see HISTORIC PRESERVATION, page 8) through the use of local incentives, as well as Federal and/or State Historic Tax Credits.

HISTORIC STRUCTURES:

Sites containing HISTORIC STRUCTURES may be redeveloped under the Form Based Code subject to any special provisions that apply to the site in the REGULATING PLAN and administrative review by the Arlington Historical Affairs and Landmark Review Board (HALRB). When

located on any site that is redeveloped pursuant to this Code, HISTORIC STRUCTURES shall be preserved (see HISTORIC PRESERVATION, page 8) in their entirety and are shall not be subject to the BUILDING ENVELOPE STANDARD prescriptions of this Code.

The following properties are HISTORIC STRUCTURES

- 2338-2344 and 2408 Columbia Pike, commercial buildings
- 2500-2530 Columbia Pike, Arlington Village Shopping Center
- 2624 Columbia Pike, Arlington Animal Hospital
- 2628 Columbia Pike, Birds N' Things
- 2900 Columbia Pike, Old Dominion Bank / Blanca's Restaurant
- 2903 Columbia Pike, Arlington Theater
- 2920 Columbia Pike, Arlington Hardware
- 3014 Columbia Pike, Charles Building
- 2601-2705 Columbia Pike and 805 South Walter Reed Drive, Fillmore Gardens Apartments (The portion of the property south of 9th Street may be redeveloped, on the condition that preservation (see HISTORIC PRESERVATION, page 8) is implemented for the portion north of 9th Street)

HISTORIC FACADES:

Sites incorporating HISTORIC FACADES may be redeveloped under the Form Based Code subject to any special provisions that apply to the site in the REGULATING PLAN or in this section, and administrative review by the Arlington Historical Affairs and Landmark Review Board (HALRB). When located on any site that is redeveloped pursuant to this Code, HISTORIC FACADES shall be preserved (see HISTORIC PRESERVATION, page 8) and shall not be subject to the BUILDING ENVELOPE STANDARD prescriptions of this Code.

The following properties contain HISTORIC FACADES:

- 2801-2811 Columbia Pike and 927 South Walter Reed, Elkins Building
- 900 block of South Walter Reed Drive, commercial buildings

In order to better incorporate HISTORIC STRUCTURES and HISTORIC FACADES into redevelopment scenarios, the following are modifications to the Form Based Code requirements that can be made:

- HISTORIC STRUCTURES and HISTORIC FAÇADE buildings have no minimum parking requirements (redevelopment is not required to obtain this exemption);
- Redevelopment projects incorporating HISTORIC STRUCTURES and HISTORIC FACADES are exempt from the County's parking requirements for that portion of the project that includes the historic property.

- Projects are exempt from the redevelopment threshold (minimum 50% increase in floor area) requirement of the Form Based Code when historic structures are preserved;
- Siting and Elements requirements of the BUILDING ENVELOPE STANDARDS can be modified for that portion of any redevelopment project that includes a HISTORIC STRUCTURE or HISTORIC FACADE that is preserved.
 - Optional exceptions:
 - Two additional STORIES are permitted on the remainder of the site, provided overall building height is within the maximum (in feet) for the site. (For example, on a Main Street site, the maximum height is six (6) STORIES, which is equivalent to 94 feet [Max. floor heights are 24', 14', 14', 14', 14', 14'], under the Form Based Code. An additional two Stories are permitted, but overall building height cannot exceed 94 feet.)
 - Developers are exempted from constructing certain STREETSCAPE improvements, including:
 - Utility undergrounding
 - Provision of street furniture
 - Provision of PUBLIC ART
 - Provision of CIVIC GREENS and SQUARES

Developers are required to obtain a Certificate of Appropriateness from the Historical Affairs and Landmarks Review Board (HALRB) for projects involving the identified HISTORIC STRUCTURES and HISTORIC FACADES listed above prior to application submission.

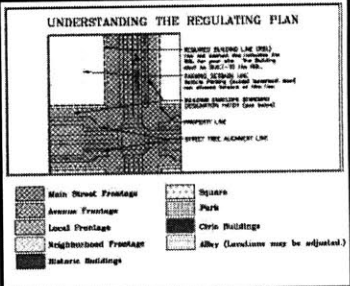
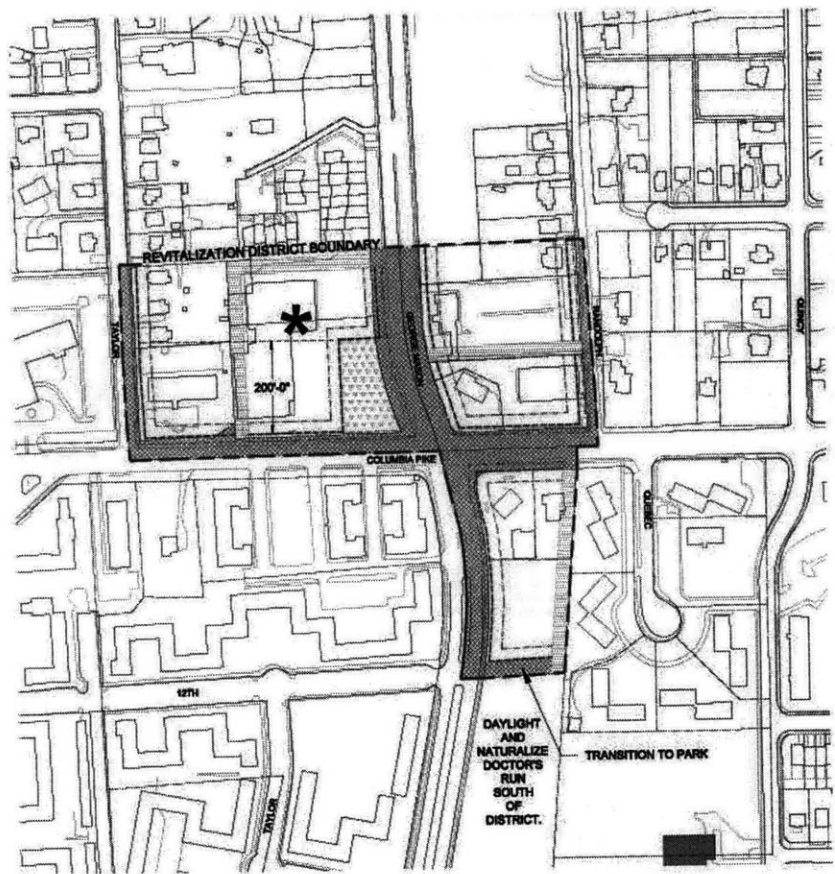
7. Public Improvements

Within the Columbia Pike Special Revitalization District, the developer/property owner is required to construct and maintain all STREETSCAPE improvements as part of the redevelopment project, including:

- Installing sidewalks, to include curbs and gutters [as indicated by the REGULATING PLAN or Typical Street Cross Section (see Appendix VIII.C.)], and
- Undergrounding utilities (where not already done), and
- Installing street furniture (benches, trash receptacles, bicycle racks, etc), and
- Installing STREET TREES and STREET LIGHTs as prescribed herein,
- Constructing other Public Spaces, such as GREENS and SQUARES or ALLEYS, where indicated on the REGULATING PLAN, and
- Dedicating public access easements, and
- Providing PUBLIC ART, as indicated in the Public Art Master Plan.

C. REGULATING PLANS

The following pages contain the REGULATING PLANS for the Columbia Pike Revitalization Districts.



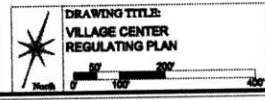
- NOTES**
- Location of alley between George Mason and Quebec may need to be extended for access off George Mason Drive.
 - * Main Street frontage within 200'-0" of Columbia Pike RBL limited to maximum height of 8 stories; structures greater than 200'-0" from Columbia Pike RBL limited to maximum height of 68'-0" (4-8 stories).

Columbia Pike
Arlington County, Virginia



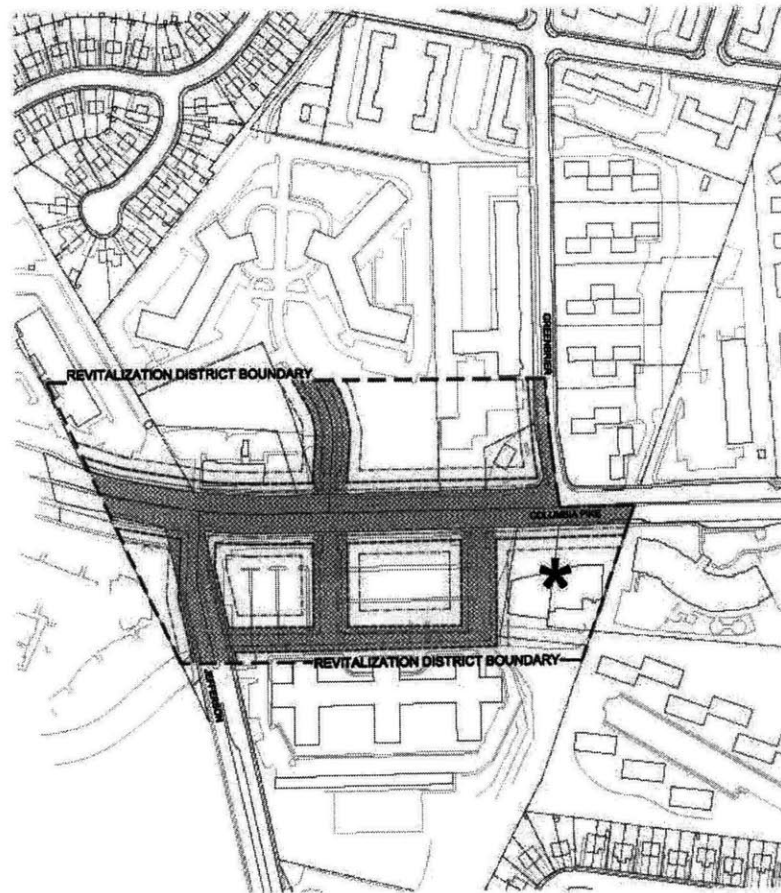
Columbia Pike Regulating Plan
Section 20. "CP-FBC" Columbia Pike Form Based Code
Village Center

Department of
Community Planning, Housing
and Development
Arlington County, Virginia



DRAWING TITLE:
VILLAGE CENTER
REGULATING PLAN

DATE:
02/18/03
PAGE:
21



UNDERSTANDING THE REGULATING PLAN

REGULATED BUILDING LINE (RBL) -
 THE RBL DETERMINES THE MAXIMUM PERMITTED BUILDING HEIGHT AND FOOTPRINT.
 BUILDING HEIGHT -
 BUILDING HEIGHT DETERMINED BY THE RBL.
 PROPERTY LINE
 STREET TREE ALIGNMENT LINE

	Main Street Frontage		Square
	Avenue Frontage		Dash
	Local Frontage		Carlyle Buildings
	Neighborhood Frontage		Alley (structures may be adjacent.)
	Historic Buildings		

NOTES

* Maximum 10 stories but no greater than the height of the adjacent Carlyle Apartments building.

Columbia Pike
Arlington County, Virginia



Columbia Pike Regulating Plan
Section 20. "CP-FBC" Columbia Pike Form Based Code
Western Gateway

Department of
Community Planning, Housing
and Development
Arlington County, Virginia

DRAWING TITLE:
WESTERN GATEWAY
REGULATING PLAN

DATE:
02/1/2003

PAGE:
23

APPENDIX B. COLUMBIA PIKE FORM BASED CODE: SECTION IV – BUILDING ENVELOPE STANDARDS – MAIN STREET SITES¹¹⁴

Height Specifications

Building Height

1. Principal building height is measured in STORIES.¹¹⁵ These parameters preserve appropriate STREET-space and allow for greater variety in building height.
2. Each building shall be between 3 and 6 STORIES in height, except where otherwise noted here or in the REGULATING PLAN.

Parking Structure Height

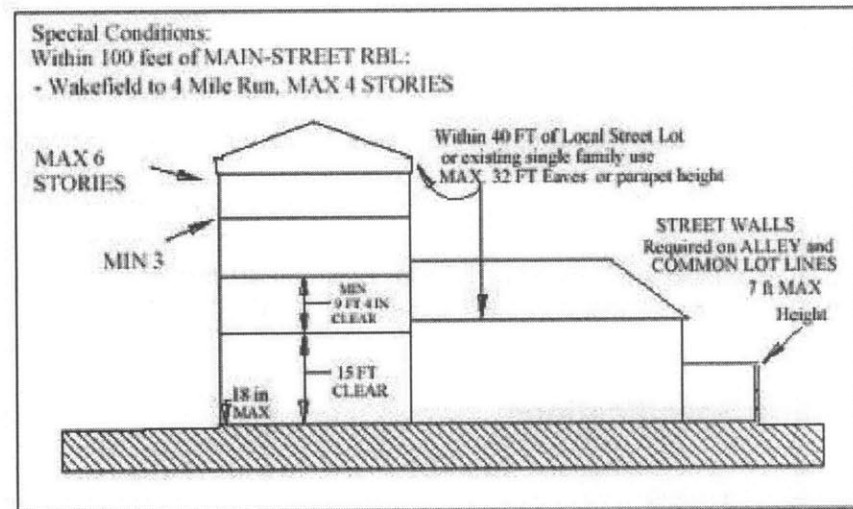
No parking structure within the BLOCK shall exceed the EAVE height of any building (built after 2002) within 40 feet of the parking structure.

GROUND STORY Height

1. The GROUND STORY floor elevation shall be between 6 inches below and 24 inches above the sidewalk elevation at the front of the building.
2. The maximum floor to floor STORY HEIGHT limit for the GROUND FLOOR is 24 feet.
3. The GROUND FLOOR shall have at least 15 feet clear (floor to ceiling) height for at least 1/3 of its area contiguous to RBL frontage.

Upper Stories Height

1. The maximum floor to floor STORY HEIGHT limit for STORIES other than the GROUND STORY is 14 feet.
2. At least 80 percent of the upper STORIES shall each have at least 9 feet 4 inches clear (floor to ceiling) height.



¹¹⁴ Columbia Pike Special Revitalization District – Form Based Code (Staff Draft 4)

¹¹⁵ Wherever a term is labeled in CAPITAL format within the Form Based Code, it has a specific meaning defined in the Definitions section of the Code (Section II).

Mezzanines and Podiums

Mezzanines and podiums greater than 2/3 of the floor area footprint shall be counted as full STORIES.

STREET WALL Height

1. Any unbuilt ALLEY and/or COMMON LOT LINE frontage shall have a STREET WALL built along it, 7 feet in height.
2. STREET WALL heights are measured relative to the adjacent sidewalk, or to the ground elevation when not fronting a sidewalk.

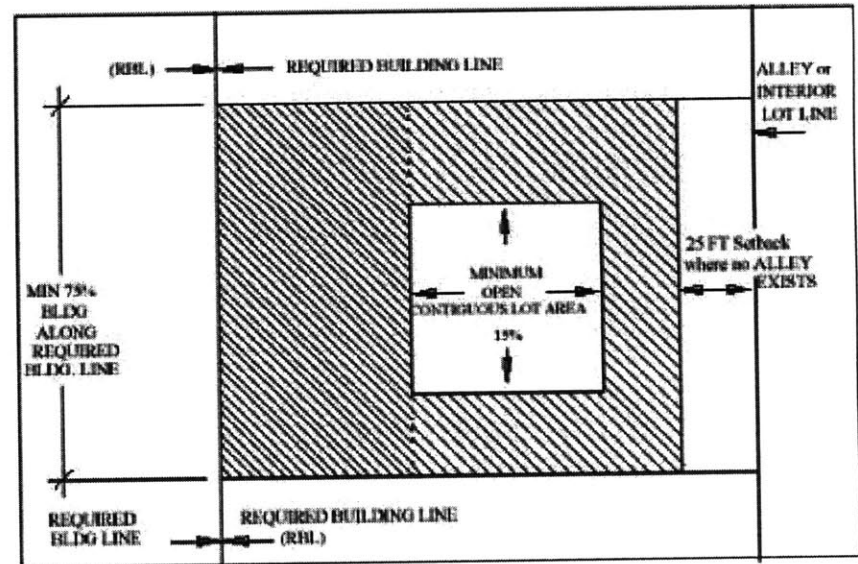
Other

Where a MAIN-STREET site is within 40 feet of a LOCAL SITE, NEIGHBORHOOD SITE or a single-family home, the maximum height for that portion is 32 feet to the EAVES or PARAPET.

Siting Specifications

STREET Façade

1. The STREET façade shall be built to not less than 75 percent of the overall RBL. However, at the GROUND FLOOR portions of the STREET façade within 7 feet of a BLOCK CORNER are exempt from this requirement in order to allow special corner treatments in these areas.
2. The STREET façade shall be composed as a simple plane (limited jogs less than 24 inches are considered a simple plane within this requirement) interrupted only by porches, STOOPS, BAY WINDOWS, shopfronts, and BALCONIES.



BUILDABLE AREA

Buildings shall occupy only the area of the LOT specified in the siting specifications of the BUILDING ENVELOPE STANDARDS as buildable area. No part of any building excepting overhanging EAVES, and BES permitted BALCONIES, BAY WINDOWS, STOOPS, and shopfronts shall encroach into the STREET beyond the RBL. No part of any building (excepting overhanging EAVES, BALCONIES, STOOPS, and small and unroofed garden structures) shall occupy the remaining LOT area. The minimum open contiguous area shall comprise at least 15% of the total BUILDABLE AREA and can be located anywhere within the BUILDABLE AREA of the site.

Side LOT Line

There are no required side LOT line setbacks unless shared with an existing single-family house where an 8 foot setback is required.

Garage and Parking Entrances

1. Garage/parking entrances shall be no closer than 50 feet from any BUILDING CORNER or 100 feet from any BLOCK CORNER (except where otherwise designated on the REGULATING PLAN).
2. Designated GARAGE ENTRIES and ALLEYS shall be the sole means of automobile access to a site.
3. Garage doors shall not face (be at an angle of less than 90 degrees from the RBL or right of way) the RBL. Vehicle parking areas (except where a STREET WALL exists or parking is enclosed within an ancillary building) on private property shall not be located within 25 feet of the RBL. These requirements are not applicable to on-street parallel parking.

ALLEYS

On sites with no ALLEY access, there shall be a 25 foot setback from the rear LOT line.

Corner LOTS

Corner LOTS shall be treated as having STREET FRONTAGE on both the front and side-streets (or RBLs).

Unbuilt RBL and COMMON LOT LINE Treatment

Any unbuilt RBL shall have a STREET WALL along it, between 6 feet and 10 feet in height. STREET WALLS may also be constructed along any unbuilt COMMON LOT LINE.

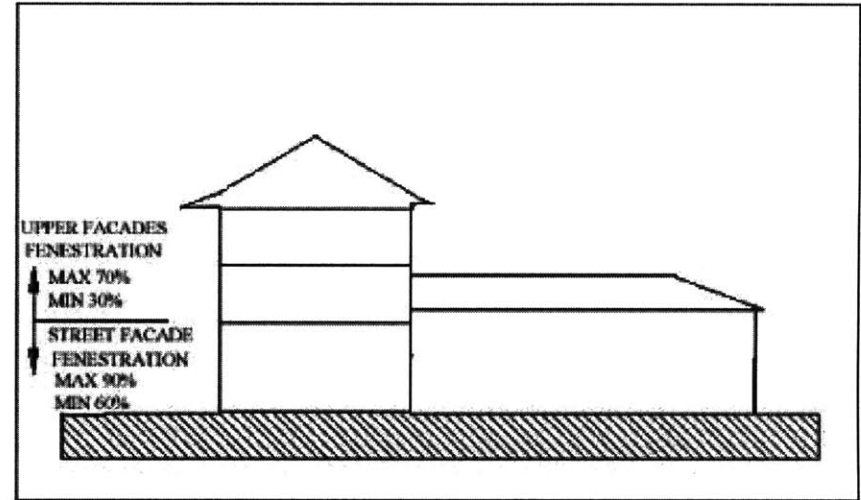
Elements Specifications

GROUND STORY - FENESTRATION

The GROUND STORY façade shall have between 60 percent and 90 percent FENESTRATION (measured as a percentage of the façade that is between 2 and 10 feet above the fronting sidewalk). AWNINGS and overhangs are encouraged (except where otherwise designated on the REGULATING PLAN).

Upper Stories – FENESTRATION

Upper story facades shall have between 30 percent and 70 percent FENESTRATION (measured for each STORY as a percentage of the façade that is between 3 and 9 feet above the finished floor).



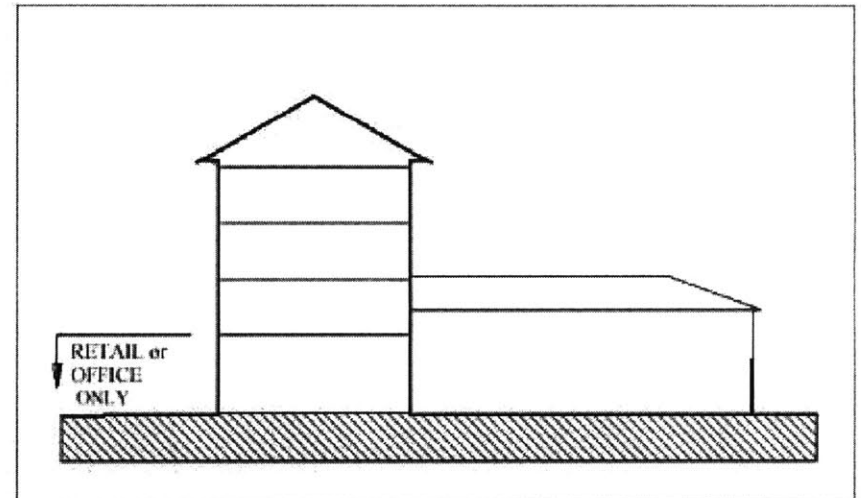
Use Specifications

GROUND STORY

1. The GROUND STORY shall house retail uses as defined in Appendix VIII.B. as well as lobby and access for upper story uses.
2. There shall be functioning entry door(s) along the street façade at intervals not greater than 60 feet within any site.

Upper Stories

Retail uses are not permitted on the upper STORIES (except those of less than 900 sf and/or second STORIES as an extension of the GROUND STORY use and with direct Columbia Pike frontage). Second STORY restaurants do not violate this rule. Business and professional offices including medical, legal insurance, philanthropic, real estate, banking and other offices which in the judgement of the ADMINISTRATIVE REVIEW TEAM are of the same general character as those listed above may be located on all floors for MAIN STREET SITES.



APPENDIX C. COLUMBIA PIKE FORM BASED CODE: SECTION V. STREETScape STANDARDS¹¹⁶

The Columbia Pike Special Revitalization District sites are coded to be “perimeter BLOCKS”¹¹⁷ with buildings placed at the STREET along the outer edge of their sites. The Streetscape Standards ensure the coherence of those STREETS. They also serve to assist building owners and operators with understanding the relationship between the STREET and their own LOTS. These standards also establish an environment which encourages and facilitates pedestrian activity. Native trees and plants contribute to privacy, noise reduction, maintenance of the natural habitat, and conservation of water. Furthermore, they require less maintenance than imported or exotic species.

A. General Principles and Intent

The STREETScape

- The STREET and building façade receives more attention than the rest of the building.
- Consistent STREETScape elements, such as brick pavers, benches and waste-bins, throughout the Columbia Pike Special Revitalization District are not fundamental to the success and urban vitality of the STREET, however these elements must be consistent within a project and should be consistent from project to project within a BLOCK.
- STREET TREES are part of an overall streetscape plan designed to give special character to each STREET and coherence to each area.
- The desired aesthetic shall be achieved through the use of native/proven hardy adapted species where reasonable.
- PUBLIC ART shall be provided in accordance with the Arlington County Public Art Policy and the Public Art Master Plan.

Fronts and Rears

- Building facades are the public "face" of every building. Owners are encouraged to place planters and window boxes with flowering plants and/or climbing vines along the area in front of their buildings.
- The private rear portions of the LOTS (toward the ALLEY) allow commercial operators to utilize these spaces as efficient working environments unseen by the public and allow residents to have private and semi-private (for apartment and condominium buildings) open space.

B. Minimum Standards

¹¹⁶ Columbia Pike Special Revitalization District – Form Based Code (Staff Draft 4)

¹¹⁷ Wherever a term is labeled in CAPITAL format within the Form Based Code, it has a specific meaning defined in the Definitions section of the Code (Section II).

The STREETScape

- Each STREET shall have canopy shade trees (STREET TREES). Wherever the REGULATING PLAN does not show specific STREET TREE placement, STREET TREES shall be planted along the STREET TREE ALIGNMENT LINE at an average spacing not greater than 25 - 30 feet on center (measured per BLOCK face). Required tree planting area widths are specified in the Typical Street Cross Sections (Appendix VIII.C of this document). However, open soil surface area shall be not less than 60 Sq. Ft. (with a minimum of 5' in any direction) per isolated tree, and connected (tree strip) planting areas are encouraged. The planting area's minimum dimension shall be not less than 5 ft. At planting, trees shall be at least 4 – 4.5 inches in diameter (4' above grade), and at least twelve (12) feet in overall height. Species shall be selected from the STREET TREE list. Consult the ADMINISTRATIVE REVIEW TEAM for the designated tree species for a particular STREET.
- Any unpaved ground area fronting the LOTS (to the curb) shall be planted with groundcover or flowering vegetation.
- STREET TREES shall be “limbed up” so as to not interfere with pedestrian or auto or truck travel (minimum seven (7) feet clear over the sidewalk, and 14 feet over the travel lanes of the STREET).

Backs

At least one (1) Canopy Shade Tree per 200 square feet of the required open (unpaved) area shall be planted in the rear LOT area and no closer than five (5) feet to any COMMON LOT LINE (See the Siting requirement under the BUILDING ENVELOPE STANDARDS). Such trees shall be at least 4” - 4.5” caliper (4' above grade) and ten (10) feet in overall height. Species shall be selected from the Street Tree list.

Sidewalks

- Sidewalks in the Right-of-Way (ROW) not otherwise designated in the Street Type Specifications are a minimum of five (5) feet wide and shall be constructed to meet all County specifications.
- Where an area is unpaved, owners may place pavers and/or stepping stone walks between the curb and the sidewalk and between the sidewalk and entry /steps. Within the STREET the width of such walkways shall not exceed 6 feet and walkways shall not be located less than 8 feet from any STREET TREE.
- Consistency of paving materials within a project and within a BLOCK is required.

Turf and Groundcover (WHERE VISIBLE FROM THE STREET and along the ALLEY)

- All turf grass must be solidly sodded at installation, not seeded, sprigged, or plugged (consult the ADMINISTRATIVE REVIEW TEAM).
- Groundcovers may be used in place of turf grass.
- In addition to the LOT, the owner must maintain the following areas:
 - The portion of the STREET between their LOT line(s) and the back of the curb.
 - The portion of the ALLEY between the LOT line(s) and the edge of pavement.

General Notes

- All plant material (including trees) shall conform to the standards of the American Association of Nurserymen and shall have passed any inspections required under state regulations.
- Invasive exotic species found anywhere on the LOT shall be removed.
- Mechanical and electrical equipment including but not limited to: air compressors, pumps, exterior water heaters, water softeners, private garbage cans (not including public sidewalk waste bins), and storage tanks may not be stored or located within any STREET. (Water pumps not visible are not included in this prohibition).

C. SQUARES AND CIVIC GREENS

In addition to the above landscape requirements, SQUARES and CIVIC GREENS located within the Special Revitalization District shall be designed, planted and maintained according to the following requirements:

SQUARES are generally active pedestrian centers. They should be designed appropriate to their high (pedestrian) traffic level with a higher percentage of paved surface area – underneath the canopy of shade trees. CIVIC GREENS are spaces intended for less intensive foot traffic. Pervious paving materials are encouraged in both SQUARES and CIVIC GREENS, and the percentage of impervious paving material shall be limited. The green plants and trees of SQUARES and CIVIC GREENS provide a landscape and civic architecture that complements the surrounding building architecture. A clear view through the public space is important for safety and urban design purposes.

SQUARES

- Surface treatment and materials (within the area back-of-curb to back-of-curb excluding any CIVIC BUILDING, PUBLIC ART or MONUMENT footprint)
 - Minimum 30% surface area earth (turf, groundcover, soil or mulch)
 - The remaining balance may be any paved surface including a maximum 30% impervious paved surface
 - A Public Art (as defined herein or in the Arlington County Public Art Policy) project is required in these locations

CIVIC GREENS

- Surface treatment and materials (within the area back-of-curb to back-of-curb excluding any CIVIC BUILDING, PUBLIC ART or MONUMENT footprint)
 - Minimum 60% pervious surface area earth (turf, groundcover, soil or mulch).
 - The remaining balance may be any paved surface including a maximum 30% *impervious* paved surface
 - A Public Art (as defined herein or in the Arlington County Public Art Policy) project is required in these locations

Materials and Configurations

- Wherever the REGULATING PLAN does not show specific STREET TREE placement, STREET TREES shall be planted along the STREET TREE ALIGNMENT LINE at an average spacing not greater than 25-30 feet on center.
- The ground surface level elevation shall be between 0 and 18 inches above the top of the surrounding curb.
- Except for tree trunks, STREET LIGHTS, CIVIC BUILDINGS, PUBLIC ART or MONUMENTS, there shall be a clear view between 2 and 10 feet above grade. The foliage of newly planted trees may intrude into this area until the tree has sufficient growth to allow such a clear trunk height.
- Trees shall be selected from the Columbia Pike Special Revitalization District STREET TREE list.
- Asphalt is prohibited.

D. Columbia Pike Special Revitalization District Street Tree List

The following list contains all species approved for use in the Columbia Pike Special Revitalization District. It contains native and acceptable adapted species. Other species may be used for planting within a LOT. Invasive exotic species may not be used anywhere on LOTS or other areas within the Columbia Pike Special Revitalization District. Species in **bold type** are specified (first preference) for placement along the STREET TREE ALIGNMENT LINE, as specified in the REGULATING PLAN. At the recommendation of the ADMINISTRATIVE REVIEW TEAM in coordination with the County's urban forester, modifications to this list may be made at a future date.

• <i>Acer nigrum</i>	Black Maple
• <i>Acer rubrum</i>	Red Maple (Town Center)
• <i>Carya ovata</i>	Shagbark Hickory
• <i>Celtis laevigata</i>	Sugar Hackberry
• <i>Fraxinus americana</i>	White Ash
• <i>Fraxinus pennsylvanica laceolata</i>	Green Ash (Village Center)
• <i>Ginkgo Biloba</i>	Ginkgo (male only)
• <i>Gleditsis triacanthos inermis</i>	Thornless Honey Locust
• <i>Liquidambar styracifolia</i>	Sweetgum
• <i>Nyssa sylvatica</i>	Tupelo Black Gum
• <i>Ostrya virginiana</i>	Hophornbeam
• <i>Platanus x acerifolia</i>	London Planetree (Neighborhood Center)
• <i>Platanus occidentalis</i>	Sycamore
• <i>Quercus phellos</i>	Willow Oak (Western Gateway)
• <i>Quercus rubra</i>	Red Oak
• <i>Quercus velutina</i>	Black Oak
• <i>Tilia tomentosa</i>	Silver Linden
• <i>Ulmus americana</i>	American Elm (Valley Forge)
• <i>Tilia Americana</i>	Basswood
• <i>Zelkova serrata</i>	Japanese Zelkova

APPENDIX D. COLUMBIA PIKE FORM BASED CODE: SECTION VI. ARCHITECTURAL STANDARDS¹¹⁸

Buildings must be reviewed by the ADMINISTRATIVE REVIEW TEAM.¹¹⁹ The ADMINISTRATIVE REVIEW TEAM will also work with the developer and/or designer to show them how the Form Based Code will satisfy their site needs and other requirements.

A. General Principles and Intent

Tradition

- These standards favor an aesthetic that is traditional in a broad sense. They specify an architecture language of load-bearing walls and regional materials. The standards also specify certain details, such as column and pier spacing, window proportions, roof or cornice configurations, storefronts, and overhangs.
- The intent behind these standards is to utilize a discipline of form when designing new buildings in order to foster a coherent Columbia Pike aesthetic.
- All building materials to be used shall express their specific properties. For example, stronger and heavier materials (i.e. masonry) support lighter materials (i.e. wood).

Equivalent or Better

- While only materials, techniques, and product types prescribed here are allowed, equivalent or better practices and products are encouraged. They shall be submitted to the ADMINISTRATIVE REVIEW TEAM and may be added to the approved list after proper review by the County.

WHERE CLEARLY VISIBLE FROM THE STREET

- Many of these standards apply only in conditions **WHERE CLEARLY VISIBLE FROM THE STREET**. Note that the definition of **STREET** includes parks, **SQUARES**, and **CIVIC GREENS**. These controls therefore concentrate on the public space and views from the public space and minimize interference in the private realm. For example, an architectural element that is visible only through an opening in a **STREET WALL** is not clearly visible from the **STREET**.

¹¹⁸ Columbia Pike Special Revitalization District – Form Based Code (Staff Draft 4)

¹¹⁹ Wherever a term is labeled in **CAPITAL** format within the Form Based Code, it has a specific meaning defined in the Definitions section of the Code (Section II).

B. Building Walls (Exterior)

Intent and Guiding Illustrations for Building Walls

Building walls should reflect and complement the traditional materials and techniques of Arlington County's regional architecture. They should express the construction techniques and structural constraints of traditional, long-lasting, building materials. Simple configurations and solid craftsmanship are favored over complexity and ostentation in building form and the articulation of details. All building materials to be used shall express their specific properties. For example, heavier more permanent materials (i.e. masonry) support lighter materials (i.e. wood). The illustrations and statements on this page are advisory only. Refer to the Code Standards below for the specific prescriptions of this section.

Standards for Building Walls –WHERE CLEARLY VISIBLE FROM THE STREET

Materials – The following materials are permitted:

- Brick and tile masonry
- Stucco (cementitious finish)
- Native stone (or synthetic equivalent)
- Pre-cast masonry (for trim and cornice elements only)
- Gypsum Reinforced Fiber Concrete (GFRC -- for trim elements only)
- Metal (for beams, lintels, trim elements and ornamentation only)
- Split-faced block (only for piers, foundation walls and chimneys)
- Wood lap siding
- *Hardie-Plank*TM equivalent or better siding

Configurations and Techniques – The following configurations and techniques are permitted:

- Walls
 - Wall openings shall not span vertically more than one STORY.
 - Wall openings shall correspond to interior space and shall not span across building structure such as the floor structural and mechanical thickness.
 - Wall materials shall be consistent horizontally (i.e. joints between different materials must be horizontal and continue around corners) except for chimneys and piers. Material changes shall be made within a constructional logic – as where an addition (of a different material) is built onto the original building.



- Wood Siding and Wood Simulation materials
 - Lap siding (horizontal) configuration
 - Smooth or rough-sawn finish (no faux wood grain)
- Brick, Block and Stone
 - Must be properly detailed and in appropriate load-bearing configurations.
- Stucco (cementitious finish)
 - Smooth or sand only, no “cake icing” finish.

C. Roofs and PARAPETS

Intent and Guiding Illustrations for Roofs and PARAPETS

Roofs and PARAPETS should demonstrate a common-sense recognition of the climate by utilizing appropriate pitch, drainage, and materials in order to provide visual coherence to the Columbia Pike Special Revitalization District. The illustrations and statements on this page are advisory only. Refer to the Code Standards below for the specific prescriptions of this section.

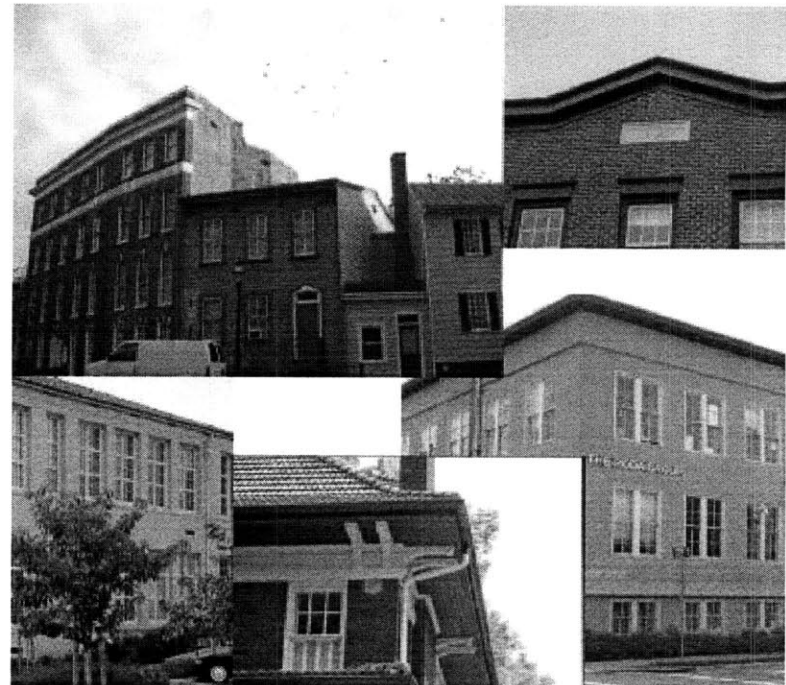
Standards for Roofs and PARAPETS - WHERE CLEARLY VISIBLE FROM THE STREET

Materials:

- Clay or concrete (faux clay)
- Tile: barrel or flat roman
- Slate, equivalent synthetic or better
- Metal; Standing seam 5-v crimp, equivalent or better
- Dimensional Asphalt shingles
- Cornices and soffits may be a combination of wood, vinyl, and/or metal.

Configurations and Techniques:

- Pitched Roofs
 - The primary ridge beam shall run parallel to the STREET (except Neighborhood Sites).
 - Pitch (exclusive of roofs behind PARAPET walls)



- Simple hip and gable roofs shall be symmetrically pitched between 6:12 and 12:12.
 - Shed roofs, attached to the main structure, shall be pitched between 4:12 and 7:12.
 - Overhang
 - EAVES must overhang at least 24” on the primary structure.
 - Rakes (gable end) must overhang at least 18.”
 - EAVES and rakes on accessory buildings, DORMERS, and other smaller structures must overhang at least 8.”
 - Open EAVES and simple traditional soffits and fascia are allowed.
 - Soffits shall be placed perpendicular to the building wall, not sloping in plane with the roof (except for gable end rakes).
 - Timber EAVES and BALCONY brackets must be a minimum of 5.5” in dimension.
- PARAPET Roofs (Cornice, Entablature, and Coping Standards) – allowed for Main-Street and Avenue Sites, and Live Work Sites where the roof material is not visible from any adjacent STREET only.
 - Cornices and Other Features
 - Buildings without visible roof surfaces and overhanging EAVES may satisfy the overhang requirement with a cornice projecting horizontally between 6 and 12” beyond the building walls.
 - Skylights and roof vents are permitted only on the roof plane opposite the primary STREET or RBL OR when shielded from STREET view by the building’s PARAPET wall.
 - Overly elaborate, “postmodern” and/or “high-tech” designs are discouraged. However, ornamentation which contributes to the character of the building is encouraged. Consult the ADMINISTRATIVE REVIEW TEAM for appropriate configurations.

D. STREET WALLS

Intent and Guiding Illustrations for STREET WALLS

STREET WALLS establish a clear edge to the STREET where the buildings do not. The Columbia Pike Special Revitalization District Form Based Code requirements include masonry walls that define outdoor spaces and separate the STREET from the private realm (parking LOTS, trash cans, gardens, and equipment). All STREET WALL facades shall be as carefully designed as the building façade, with the finished side out, i.e. the “better” side facing the STREET. The illustrations and statements on this page are advisory only. Refer to the Code Standards below for the specific prescriptions of this section.

Standards for STREET WALLS - WHERE CLEARLY VISIBLE FROM THE STREET

Materials:

- Native/regional stone and equivalent imitation stone
- Metal – wrought iron, welded steel and/or aluminum (black) for gates only.
- Brick
- Stucco on concrete block (or poured) only with brick or stone coping
- A combination of materials; i.e. stone piers with brick infill panels

Configurations and Techniques:

- STREET WALLS along any unbuilt REQUIRED BUILDING LINE shall be built to a height of 7’ above the adjacent ground
- Stucco STREET WALLS shall have a hardy species of climbing vine planted along them
- Metal work may additionally be treated to imitate a copper patina
- Copings shall project between 1” and 4” from the face of the wall.



E. Windows and Doors

Intent and Guiding Illustrations for Windows and Doors

Windows shall be divided by multiple panes of glass. This helps the window “hold” the surface of the façade, rather than appearing like a “hole” in the wall, an effect that is produced by a large single sheet of glass. The illustrations and statements on this page are advisory only. Refer to the Code Standards below for the specific prescriptions of this section.

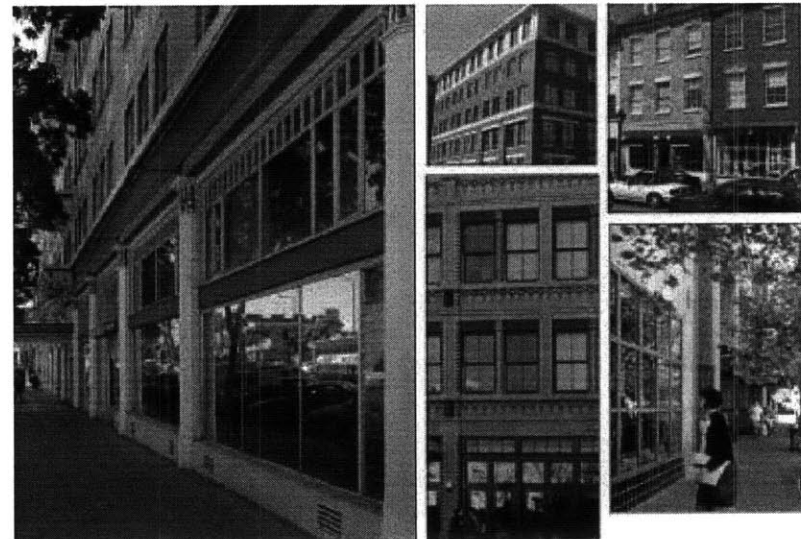
Standards for Windows and Doors – WHERE CLEARLY VISIBLE FROM THE STREET

Materials:

- Windows of anodized aluminum, wood, clad wood, vinyl, or steel
- Window glass shall be clear, with light transmission at the GROUND STORY at least 90% and 75% for the upper stories (modification as necessary to meet any applicable Building Code requirements). Specialty windows may utilize stained, opalescent, or glass block (one per façade maximum)
- Window screens shall be black or gray
- Screen frames shall match window frame material or be dark anodized
- Doors of wood, clad wood, or steel

Configurations and Techniques:

- The following requirements apply to all windows:
 - Windows may be ganged horizontally (maximum 5 per group) if each grouping is separated by a mullion, column, pier or wall section that is at least 7” wide.
 - Windows shall be no closer than 30” to BUILDING CORNERS (excluding BAY WINDOWS and where the BUILDING CORNER is also a BLOCK CORNER). Exterior shutters, if applied, shall be sized and mounted appropriately for the window (1/2 the width), even if inoperable.
- The following requirements apply to all upper-STORY windows:
 - Windows shall be double-hung, single-hung, awning, or casement windows.
 - Fixed windows are permitted only as a component of system including operable windows within a single wall opening.
 - Residential buildings/floors: panes of glass no larger than 36” vertical by 30” horizontal.
 - The maximum pane size for office uses is 48” vertical by 40” horizontal.
 - Egress windows may be installed according to the appropriate building code.



- Shopfront (GROUND FLOOR) windows and doors:
 - Single panes of glass not larger than 6' height by 4' width
 - GROUND FLOOR windows shall not be made opaque by window treatments (excepting operable sunscreen devices within the conditioned space), and shall allow a minimum 60% of surface view into the building for a depth of at least 20'.
 - Shopfronts may extend up to 24" beyond the façade (RBL) into the STREET.
- Doors:
 - Double-height entryways (those that span more than one STORY) are not allowed.
 - Doors shall not be recessed more than 3' behind the shop-front windows and, in any case, shall have a clear view and path to a 45-degree angle past the perpendicular from each side of the door.
 - Roll-down security gates and doors are prohibited.

F. Signage

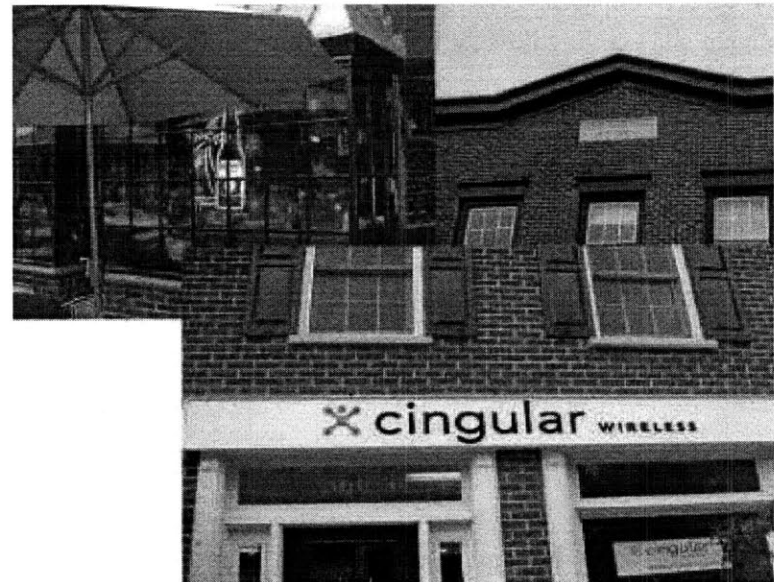
Intent and Guiding Illustrations for Signage

Signs along the Columbia Pike Special Revitalization District's commercial frontages should be clear, informative to the public and should weather well. Appropriate signage is desirable for advertising Columbia Pike shops and offices, and decoration. However, signage that is glaring or large creates a distraction, intrudes into and lessens the Columbia Pike Special Revitalization District experience, and creates visual pollution. The illustrations and statements on this page are advisory only. Refer to the Code Standards below for the specific prescriptions of this section.

Standards for Signage – WHERE CLEARLY VISIBLE FROM THE STREET

General:

- Wall signs are permitted within the area between the second STORY floor line and the first floor ceiling, within a horizontal band not to exceed 2 feet in height. In no case shall this band be higher than 18' or lower than 12' above the adjacent sidewalk.
- Letters shall not exceed 18" in height or width and 3" in relief. Signs shall not come closer than 2' to an adjacent COMMON LOT LINE.
- Company logos or names may be placed within this horizontal band or placed or painted within GROUND FLOOR or second STORY office windows. Company logos or names shall not be larger than a rectangle of 8 square feet.
- A masonry or bronze plaque bearing an owner's or building's name may be placed in the building's cornice/PARAPET wall or under the EAVES, and above the upper STORY windows. Any such plaque shall



be no larger than a rectangle of 8 square feet.

- STREET addresses may be placed at street entry doors using 6" tall non-cursive type lettering. Such letters shall be between 6' and 10' above grade.
- Shop signs (not more than 18" vertical by 3' horizontal and minimum 9 foot clear height above the sidewalk) may be hung from an overhang or AWNING.
- PROHIBITED SIGNS: Billboards, canopy signs, marquees, any kind of animation, roof and painted window signs, and signs painted on the exterior walls of buildings are prohibited. No flashing, traveling, animated, or intermittent lighting shall be on the exterior of any building whether such lighting is of temporary or long-term duration. Portable or wheeled signs and advertising devices located outside any building are not allowed, pursuant to County regulations.

AWNINGS/Overhangs – When an AWNING or overhang is incorporated into a building. The following requirements must be met:

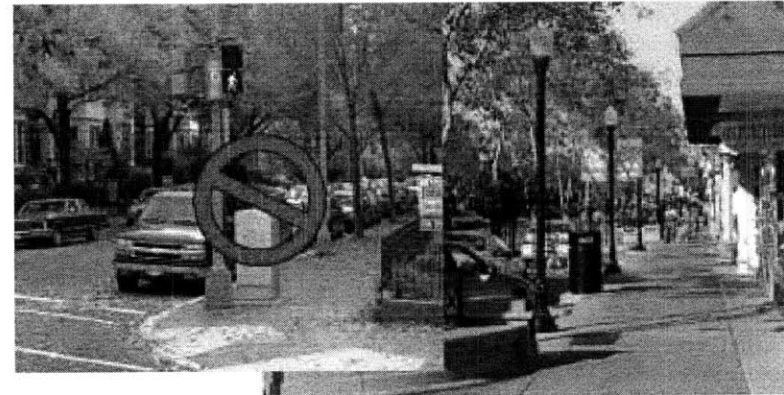
- Minimum 10' clear height above sidewalk, minimum 6' depth out from the building façade (maximum to curb or tree-planting strip, whichever is closer).
- Canvas cLOTh or equivalent (no shiny or reflective materials), metal or glass.
- No internal illumination through the AWNING/overhang
- Lettering on AWNINGS limited to 5" tall on vertically hanging fabric at curb side of AWNING
- No ¼ cylinder configurations.

G. Lighting and Mechanical Equipment

Intent and Guiding Illustrations for Lighting and Mechanical Equipment

Materials and equipment chosen for lighting fixtures should be durable and weather well. Appropriate lighting is desirable for nighttime visibility, crime deterrence, and decoration. However, lighting that is too bright or intense creates glare, hinders night vision, and creates light pollution. The illustrations and statements on this page are advisory only. Refer to the Code Standards below for the specific prescriptions of this section.

Standards for Lighting and Mechanical Equipment – WHERE CLEARLY VISIBLE FROM THE STREET



Lighting:

- **STREET LIGHTS:** The “Carlyle” luminaire , or other **STREET LIGHTS** as the County specifies, shall be used along Columbia Pike.
- **STREET LIGHTING:** lights shall be located between 9 feet and 16 feet above grade with a maximum average spacing (per **BLOCK** face) of 60 feet on center located on **STREET TREE ALIGNMENT LINE** on each side of the **STREET** and travel lanes (unless otherwise indicated on the **REGULATING PLAN**).
- At the front of the building, exterior lights shall be mounted between 6 feet and 14 feet above adjacent grade.
- All **LOTS** with **ALLEYS** shall have lighting fixtures within 5 feet of the **ALLEY** Right of Way. This fixture shall illuminate the **ALLEY**, shall be between 9 and 14 feet in height, and shall not cause glare in adjacent **LOTS**.
- Lighting elements shall be incandescent, metal halide, or halogen only. No **HID** or fluorescent lights (excepting compact fluorescent bulbs, which screw into standard sockets) may be used on the exterior of buildings.
- Floodlights or directional lights (maximum 75-watt bulbs) may be used to illuminate **ALLEYS**, parking garages and working (maintenance) areas, but must be shielded or aimed in such a way that they do not shine into other **LOTS**, the **STREET**, or direct light out of the Columbia Pike Special Revitalization District.
- Floodlighting shall not be used to illuminate building walls (i.e. no up-lighting).
- Site Lighting shall be of a design and height and shall be located so as to illuminate only the **LOT**. An exterior lighting plan must be approved as consistent with these standards by the **ADMINISTRATIVE REVIEW TEAM**.
- No flashing, traveling, animated, or intermittent lighting shall be visible from the exterior of any building whether such lighting is of temporary or long-term duration.
- Lighting for parking garages shall satisfy Crime Prevention Through Environmental Design (**CPTED**) Standards.

Mechanical Equipment:

- The following shall be placed away from any **RBL**, not be stored or located within any **STREET**, and be screened from view from the **STREET**:
 - Air compressors, mechanical pumps, exterior water heaters, water softeners, utility and telephone company transformers, meters or boxes, garbage cans, storage tanks, and the like may not be stored or located within any area considered a **STREET** under this Code.
- Roof mounted equipment shall be placed away from the **RBL** and be screened from view from the **STREET**.

APPENDIX E. LOUISVILLE METRO FORM DISTRICT REGULATIONS: CHAPTER 5, PART 8. TRADITIONAL MARKETPLACE CORRIDOR FORM DISTRICT¹²⁰

5.8.1 OVERVIEW

Traditional Marketplace Corridors (TMC) are characterized by older, pedestrian-scale development along major roadways adjacent to traditional neighborhoods. The corridors typically contain a wide variety of land uses (retail, restaurants, office, institutional and residential) that range from low to medium intensity. Buildings along the corridor are often narrow, closely spaced or attached, and built out to or near the street with display windows and wide sidewalks in front. Parking is usually provided on the street or in parking lots located at the rear of lots. Commercial corridor development is closely integrated with adjacent neighborhoods through side street connections and alleys, which typically delineate the boundaries between corridors and traditional neighborhoods, running along rear lot lines. The corridors have a high degree of pedestrian and transit use. Examples include Frankfort Avenue and portions of Broadway, Bardstown Road and Baxter Avenue.

5.8.2 RELATIONSHIP TO THE COMPREHENSIVE PLAN

The Traditional Marketplace Corridor Form District (TMCFD) implements the following Cornerstone 2020 Comprehensive Plan Goals and Objectives:

Goals	Objectives	Plan Elements
Community Form Goals F1, F2, F3	Community Form Objectives F1.1, F2.1, F.2.2, F2.3, F2.4, F2.5, F3.1, F3.2	Guidelines 1, 2, 3, 4, 6, 7, 9

5.8.3 TRADITIONAL MARKETPLACE CORRIDOR STANDARDS

A. Intent

The provisions of this section are intended to ensure that new development within the TMCFD is consistent with the traditional pattern of development within the district. Standards are included to promote:

¹²⁰ Louisville Metro Land Development Code. Enacted March 2003. 5.8-1.

- Development that reinforces the corridor's traditional visual character, function, and identity;
- Alternative modes of travel;
- Linkages between commercial development within the corridor and adjacent residential uses;
- Compatibility between corridor development and adjacent neighborhoods; and
- High quality design of individual sites.

B. Design Standards and Applicability

The following standards, numbered 1 through 15, shall apply to all developments meeting the thresholds and applicability requirements set forth in Table 5.8.1 below.

Table 5.8.1 Design Standards – Thresholds and Applicability	Streets and Sidewalks	Greenways and Trails	Transit	Ped. and Vehicular Connections	Traffic Impacts	Streetscape	Site Design Standards	Accessory Structures	Building Design	Signs	Parking and Loading	Compatibility	Form District Edge/Transition	Mixed Use	Larger Scale Developments
	APPLICABLE DESIGN STANDARDS														
	THRESHOLD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Construction of a new principal building or addition to an existing principal building with a footprint less than 1,500 square feet						X	X			X				X	
Construction of a new principal building(s) or addition to an existing principal building(s) with a footprint of 1,500 to 35,000 square feet	X	X	X	X	X	X	X		X	X	X	X	X	X	
Expansion of existing parking area by at least 10 parking spaces											X				
<i>Developments meeting the following thresholds are permitted only after completion of the Community Design Review Process</i>															
Projected traffic generation exceeding 200 trip-ends per peak hour			X		X		X								
Construction of a new principal building(s) or addition to an existing principal building(s) with a footprint of more than 35,000 square feet	X	X	X	X	X	X		X	X	X	X	X	X	X	X

1. Street and Sidewalk Network

a. Streets. Developments that create public and private streets shall connect with and provide for the future extension of the community's street network. Public and private streets shall be constructed in accordance with the design requirements of Table 6.2.1 (Chapter 6 Part 2).

- i. Connection with existing street network. Development shall use and connect with existing street networks where available.
- ii. Alleys. Existing back and side alleys shall be used in new and infill development as an alternative means of vehicular, pedestrian and service access. Underused alleys, or those in disrepair, shall be repaired immediately adjacent to the new development site or as necessary for public safety and accessibility as a means of encouraging future use, unless the Works and Planning directors jointly determine that this is infeasible. In cases where no alley currently exists, the possibility of acquiring the needed land to create an alley should be explored. The Works Director or designee will determine which improvements are needed.

b. Sidewalks

- i. All developments shall provide sidewalks constructed from the back of curb to the existing line of the right-of-way abutting the development site. New sidewalks shall be extended to the adjacent lot lines. In the case of a corner lot, sidewalks shall be extended to the adjacent lot along each block face.
- ii. The width of the sidewalk shall be consistent with the prevailing pattern within the corridor. If there is not a prevailing pattern, the minimum sidewalk width shall be six feet and minimum of twelve feet is required in areas where there will be café seating or merchandise display.
- iii. Sidewalks shall include a pedestrian zone and a streetscape zone, and may include a storefront zone.

(a) Pedestrian zone. The pedestrian zone is that portion of the sidewalk that is maintained free of any obstructions to allow for the passage of pedestrians. The pedestrian zone shall be at least 48 inches wide and shall not be shared with the streetscape or storefront zones. If the width of the pedestrian zone is less than five feet wide for more than 50 linear feet, passing spaces must be provided at intervals of no less than 200 feet apart and must provide an area of at least five feet by five feet to allow two wheelchairs to pass each other.

(b) Streetscape zone. The streetscape zone is that portion of the sidewalk that is located between the curb line and the pedestrian zone in which the following elements are located:

- Street trees/grates, planting strips, raised planters
- Street light standards
- Street signs/pedestrian wayfinding signs
- Transit stops
- Media boxes, postal freight/collection boxes, inground utility boxes

- Parking meters
 - Sidewalk seating
 - Trash receptacles
 - Public art
 - Bike racks
- (c) Storefront Zone. The storefront zone is that portion of the sidewalk that is located between the pedestrian zone and the building façade in which the following elements are permitted, subject to the approval of the Works Director when located within the public right-of-way:
- Outdoor seating for dining
 - Bollards
 - Recessed lighting for the building façade
 - Bike racks
 - Valet or hostess station
 - Temporary sale/display of merchandise
 - Moveable sandwich boards
 - Postal/freight collection boxes

Illustration

2. Greenways/Trail System.

Where the property being developed is depicted in a legislatively adopted plan as the recommended location of a community access greenway/trail, an easement or other provisions for public access through the site shall be provided in accordance with the standards found in Chapter 10 Part 5. If the greenway/trail already has been constructed on the abutting property or if the proposed development entails construction of more than 25,000 square feet of commercial or office space, the greenway/trail shall be extended through the subject site at time of development of the site.

3. Transit.

The applicant shall provide transit related site design features and amenities for transit riders such as shelters, benches and lighting in conformance with the standards referenced in Chapter 6 Part 4.

4. Pedestrian/Bicycle/Vehicular Access/Connections

a. **Pedestrian, Bicycle, and Vehicular Access.** Direct pedestrian, bicycle, and vehicular connections are required between residential and non-residential uses, including existing and future businesses in the TMCFD, unless the Planning Director finds that such a connection is unnecessary to meet the residents' needs for services or access to public transit, or that such connection is not feasible due to prior development. Depending on the conditions in the vicinity of the site, potential impacts, and the requirements of this Land Development Code such connections include vehicular access to/from the adjacent street system, sidewalks, paths, and secondary entrances oriented towards the adjacent residential neighborhoods. Development in the TMCFD that adjoins vacant sites shall be designed to accommodate future vehicular, bicycle, and pedestrian connections. Access easements necessary to accommodate such connections shall be created.

b. **Pedestrian Circulation.** Clearly defined, safe pedestrian access shall be provided from parking areas and adjacent public rights-of-way to building entrances. Pedestrian walkways traversing a parking lot that serves a building that is more than 35,000 square feet shall meet the following standards:

- i. Walkways adjacent to parking spaces shall be at least 4 feet wide and shall be separated from vehicles by curbing, bollards, bumper blocks, or landscaping.
- ii. Walkways that cross parking lot drive aisles shall be delineated by striping, contrasting pavement materials, elevated pavement, or a combination of these measures. Walkways shall not be delineated to pass behind a row of parking spaces.

c. **Curb cuts.** The number and width of curb cuts shall be limited in conformance with the access management standards contained in Chapter 6 Part 1. Sites with multiple buildings shall have unified/joint access. Sites with drive-throughs as permitted in 8.c may have a second curb cut to prevent traffic circulation and parking in front of the building. Where the sidewalk along a public street is interrupted by a curb cut, the walkway across the driveway shall be delineated to enhance pedestrian safety. The walkway may be delineated by striping or by contrasting pavement materials that meet ADA accessibility standards.

d. **Abutting non-residential uses.** Vehicular and pedestrian circulation shall be provided between abutting sites of nonresidential uses through parking lots or alley connections, hard surface walkways, and similar measures.

e. **Truck Access.** Site access shall be designed so that truck and service vehicle traffic generated by a development shall gain access to the site from the primary corridor or alley rather than through adjacent residential areas.

5. Traffic Impacts - The applicant shall undertake an assessment of the potential air quality and traffic impact of development projects if the projects entail new construction or land use changes which meet the thresholds established in the current version of the "Guidelines for Traffic Impact Studies and Air Quality Analysis in Jefferson County, Kentucky" or successor document as approved by the Planning Commission (see Appendix 6E). The study shall be prepared in conformance with the standards contained in Chapter 6 Part 5. The assessment shall identify potential adverse impacts and recommend mitigation measures to avoid or eliminate such impacts. The applicant and subsequent developer(s) shall implement said measures, as required by the approved final study.

6. Streetscape

Planning and installation of improvements shall be coordinated to ensure a consistent streetscape treatment within the TMCFD. Improvements shall be installed on the same side of the street as and directly abutting the proposed development, depending on the type and intensity of development, as follows:

a. **Residentially Zoned Developments.** Street trees shall be provided along the residentially zoned frontage of roadways classified as collector or arterial level streets. One street tree shall be planted per 50 feet of frontage, and plantings shall meet the requirements of Section 10.2.8 and Chapter 10 Part 4. Street trees planted along any roadway shall be credited toward applicable tree canopy requirements.

b. **Non-Residentially Zoned Developments.** Street trees planted in accordance with Section 10.2.8 shall be credited toward applicable tree canopy standards (Chapter 10 Part 1).

c. Verge/Planting Strips

- i. If an established verge or planting strip exists in the street right-of-way fronting abutting lots, the existing verge shall be extended along that frontage of the proposed development. The width of the verge will be established by the Works Director and is recommended to be a minimum of five feet wide.
- ii. For non-residential and mixed use developments or where heavy pedestrian traffic make a verge impractical, trees within a paved area shall allow a minimum opening of 4 feet by 4 feet per tree and a minimum soil volume below the paved surface of 3.5 cubic yards per tree.

d. If the width of an existing sidewalk between the street curb and a building at the right-of-way line makes it impractical to install street trees in accordance with the requirements above, the Planning Commission or the Works Director may waive the requirement for street tree planting or unobstructed sidewalk width.

e. **Streetscape Master Plans.** If an adopted streetscape master plan exists for the corridor along which a development is proposed, streetscape improvements shall be installed in accordance with the approved master plan as part of the development.

f. **Utility Installation.** Development plans and new public utility installations should minimize the adverse visual impact of utility lines on the corridor. Install underground lines or service from the alley where such service is available. No meters, boxes, satellite dishes, or other equipment shall be installed on storefronts or in front or street side yards.

7. Site Design Standards

a. Minimum Lot Size, Depth, and Width. There are no minimum lot size, depth, and width requirements in the TMCFD, except as specified in paragraph 7.b. of this section, below.

b. Residential Lots and Building Setback/Build-to Lines. Residential lots and structures (both principal and accessory) may comply with the site design requirements established in the Traditional Neighborhood Residential Design Standards in Chapter 5 Part 3 or shall comply with Nonresidential/Mixed Use standards below.

c. Non-residential/Mixed Use Structure Setback/Build to Line

- i. Front Setback/Build-to Line and Street Side Yards. There is no minimum front setback/build-to line or street side yard. The maximum front setback/build-to line and street side yards shall be no greater than 15 feet from the line of the right-of-way. Exceptions: –
 - (a) Infill Context. The setback/build-to line shall fall within the range of the setbacks of the two nearest constructed properties.
 - (b) Corners. On corner lots, buildings shall be constructed at the right-of-way line along both of the streets for a minimum of 15 linear feet except that a principal building or tenant entrance located at the corner may be recessed within this 15 linear foot length at a 45 degree angle to both streets; or, where the sidewalk abutting the required minimum 15 linear foot corner is less than 5 feet wide at the corner, the building may be set back a maximum of 8 feet from the right-of-way line.
 - (c) Regardless of the contextual build-to line, buildings may be constructed at the existing right-of-way/sidewalk line (i.e., with no front or street side yard setbacks).

Illustration

- ii. Outdoor seating areas. Outdoor amenities such as open, unenclosed seating areas are permitted to encroach into the front setback as long as the corner requirements of paragraph 7.c.1, Exception c. i. (b.) of this section, above, are met.
- iii. Side Yard Setback. There are no side yard setbacks, except where adjacent to a residential use or zoning district, in which case a minimum side setback of 5 feet shall be maintained. All new structures shall provide side yards wide enough to allow for maintenance of building side walls if common party walls on the lot line are not provided. If a new building is constructed adjacent to an existing building which has a window, the new building shall be set back at least 6 feet from the property line to allow continued use of the window(s).
- iv. Rear Yard Setback. Minimum 5 feet from rear property line. If the site is located in the Form District Edge Transition Zone, the rear setback shall be the depth of the required form district transition area buffer yard.

Note: See section 5.1.11 for transition area setback and buffering standards.

8. Accessory Structures

a. Maximum Encroachment – Balconies, awnings, and projecting signs shall, with the approval of the Works Director, be permitted to encroach within the public right-of-way as follows:

- Balconies - 3 feet
- Awnings – within 2 feet of the face of the curb
- Signs - 4 feet

b. Accessory structures and uses (including, but not limited to, dumpsters, drive-through bank teller or fast food ordering stations/menu boards, HVAC equipment, utilities, and delivery facilities) shall be subordinate in size to the principal structure, shall not be visible from the street, shall be screened from adjacent residential areas by fencing or walls and shall not exceed the scale of adjacent residential structures. A vehicular entrance to a freestanding garage or loading area that can be closed with a solid door may face an alley without other screening from adjacent residential areas.

c. Drive-throughs are permitted when (1) teller or ordering stations are located behind the building or where not visible from the street, and (2) the site is of sufficient size to permit internal circulation and parking at the sides or rear of the building as approved by the Works Director or designee. Driveways and parking are not permitted in front of buildings in the TMCFD.

d. Setback from Alley or Rear Property Line.

- i. The rear setback shall be the depth of the required form district transition area buffer yard, if the site is located in the Form District Edge Transition Zone.
- ii. Five feet if the site is not located at the edge of the TMCFD.

9. Building Design Standards

a. Building Orientation. Primary facades of principal structures shall be parallel to the primary street serving the site with the building entrance oriented toward the primary street or other focal point such as a public square, plaza, or similar formal open space. If more than 50% of the principal structures on a block are built at an angle to the street, each new principal structure shall be constructed at the same angle as the existing buildings on the block.

b. Corner Entrances. Buildings on corner lots or facing two or more streets shall have at least one customer entrance facing each street or a corner entrance instead of two entrances.

c. Building Frontage. At least 60 percent of the primary street linear frontage of each lot shall be occupied by a building at the required setback/build-to line. If parking is proposed closer than 25 feet to the right-of-way within any remaining lot frontage, a masonry wall shall be constructed extending from the building along the build-to line to separate the parking and the street. The wall shall be 3-4 feet in height and may include ornamental fencing on top of the masonry wall. The wall may be interrupted by a vehicular curb cut and/or by pedestrian access not exceeding 6 feet wide.

d. Building Façade Treatment. There shall be no blank walls facing public streets, sidewalks, and adjacent front yards of residential uses. Ground floor facades at these locations shall be articulated to provide visual interest and a human scale consistent with the traditional character of the TMCFD using columns, pillars, piers, entrances, storefront windows, and other regular vertical elements along the entire exposed length of each facade to maintain vertical street-level patterns of architectural details that are representative of the form district. Primary facades shall have arcades, display windows, entry areas, and awnings over windows, or other such features along not less than 75% of their length. Upper floor facades shall be either articulated or set back from the street wall.

e. Windows. Enliven commercial, office and retail facades by providing visibility into building interiors or merchandising display windows. 50% of the wall surfaces at street-level shall consist of clear windows and doors. Measures to control sunlight are specifically authorized. Display cases with a depth of 18 inches or less and that are attached to or recessed in the outside wall do not qualify. The tops of windows shall be at least 8 feet high measured from the sidewalk. The bottom of the windows shall be no more than 30 inches above the sidewalk. Where entrances of buildings on corner lots are not located at the corner, display windows facing both streets are required at the corner. Exception: churches, synagogues, mosques, and other religious buildings are not required to have clear windows or doors.

NOTE: Internal measures to limit glare include blinds and curtains; external measures, such as awnings or roof overhangs, are also permitted.

f. Integrate lighting into the exterior design of new or renovated structures to create a greater sense of activity, security, and interest to the pedestrian. Lights on buildings shall be directed onto sidewalks or over awnings and signs.

g. Roofs. Rooflines shall be varied to reduce the massive scale of large buildings and to complement the scale and character of adjacent residential areas. Building facades that exceed 100 feet in length measured along the street frontage shall have variations in roofline or rooftop parapet. Rooftop equipment shall be concealed behind parapets or screened from views by pedestrians. Sloping roofs with a vertical rise that exceeds the average height of supporting walls are not allowed.

NOTE: Combinations of roof form (gable, flat or hip roofs), roof height, breaks in parapet walls, projecting/recessed façade sections are some of the options to achieve variation in rooflines.

h. Secondary Structures. Separate, secondary structures (including but not limited to, free-standing canopies over gas pumps, cashier booths, and car washes) shall have the same architectural details, design elements, building materials, and roof design as the primary structure.

i. Building Height.

- i. Non- Infill Context. Maximum 50 feet or four stories excluding rooftop equipment or machinery penthouses.
- ii. Infill Context. The minimum building height shall fall within the range of building heights along the same or opposing block face. The maximum building height shall be 50 feet, or the average of existing structures in the block face, whichever is greater.

10. Signs. All signs shall conform to the provisions of Chapter 8 Part 1 (Sign Regulations). Notwithstanding any provision of Chapter 8, retail store window displays of merchandise, freestanding three-dimensional promotional items (with or without proprietary words or symbols solely describing the merchandise and/or merchandise that is sold in the store), and/or display fixtures or backdrops not affixed to windowpanes or glass are allowed.

11. Parking and Loading. Parking shall be furnished in conformance with Chapter 9 Part 1 (Parking Regulations), except as provided in this subsection.

a. **Surface Parking Lot Design and Location.** Surface parking lots shall be located at the rear or side of buildings. Side parking shall not exceed 40 percent of the frontage of the lot on the primary street. Where an alley exists, the on-site circulation pattern shall be accessible from the alley. Surface parking shall not be located between the public right-of-way and building facades. Parking structures abutting the public right-of-way shall have ground floor commercial or office space adjacent to the sidewalk.

Note: Parking is at a premium in this form. This section requires businesses meeting certain thresholds to share parking when not being used by the business. The section does not specify the mechanism by which the business must share the parking.

b. **Shared Parking Areas.** Where feasible, existing underused lots shall be combined to create shared parking areas. If the proposed development involves a change in use, expansion of existing use that results in traffic generation exceeding 200 trip-ends per peak hour; or expansion of an existing parking lot then the parking lot must be made available for public use during non-business hours.

Note: This requirement does not preclude a development from obtaining other forms of ingress and egress (e.g. a curb cut onto another roadway).

c. **Parking decks or structures.** At least 50 percent of the first floor façade of parking decks or structures must be developed for retail or office uses. Areas designed to accommodate these uses may be developed at the time of construction, or may be designed for later conversion to such uses. Parking decks or structures that are visible from a public street shall be compatible with the design and materials of principal structures in the block face. Angled ramps shall not be visible from the primary public right-of-way.

d. **Parking Lot Configuration.** Walkways connecting parking areas with building entrances shall be provided. Walkways shall be differentiated from parking and driving areas by means of landscaping, alternative paving materials and/or a change in grade. Walkways shall be at least 4 feet wide, shall be lighted, and shall meet the design standards of Paragraph 9. of of this section, above.

NOTE: To increase pedestrian safety, parking lot aisles should be oriented perpendicular to the building wherever feasible.

e. **Parking Lot Landscaping.** Parking lots shall be landscaped in conformance with the standards contained in Chapter 10 (Landscaping, Buffering and Open Space) Solid screening at least 3 feet high, in addition to any required landscaping, shall be used to screen headlights facing adjacent residential uses.

f. **Bicycle Parking.** Bicycle parking facilities shall be provided in conformance with Chapter 9 Part 2 (Parking Regulations).

g. **Loading and Refuse Collection Areas**

- i. **Loading Areas.** Off-street loading and refuse collection areas shall be located and screened by walls, gates, doors or similar features, so as not to be visible from adjacent public streets and residential uses.
- ii. Front loading docks (between the street and the building) are not permitted. On-street loading areas are discouraged unless the Works Director finds that rear or side loading areas are not feasible due to site conditions and that the type and frequency of loading activity is compatible with circulation needs.

Note: Chapter 9 Part 1 (Motor Vehicle Parking Standards) includes, but is not limited to, provisions addressing the following:

- Minimum and Maximum number of parking spaces required/allowed
- Off-site and Joint Use parking standards
- Parking reductions based on Form District
- Parking space/area dimensional requirements
- Parking Waiver and Parking Study provisions
- Loading area requirements

12. Compatibility. Proposed developments shall comply with the operational compatibility standards contained in Chapter 4 Part 1 (Compatibility Standards for all Districts).

13. Form District Edge/Transition. Development within the TMCFD shall follow the Form District Transition Zone standards in Section 5.1.11 of the LDC and the buffer and screening standards in Chapter 10, in addition to the following requirements:

a. Fences or walls may be substituted for the required property perimeter buffer yard to promote a more compact pattern of development. Tree planting as specified in Chapter 10 Part 2 is still required for sites using fences or walls in lieu of a perimeter buffer yard. Such fences or walls shall be six feet in height and constructed of durable materials compatible with the visual character of the surrounding area. The Planning Director shall determine acceptable wall and fence materials.

- i. Development within the TMCFD shall be designed to incorporate enhanced protection and noise reduction measures next to residential uses.

Examples of measures to enhance compatibility with residential uses include, but are not limited to:

- Location of obtrusive uses such as truck access and loading areas and outdoor trash areas away from residential uses
- Use of a rear alley to separate rear parking lots and adjacent residential lots
- Screening of mechanical equipment
- Enhanced lighting controls
- Controls on the location of outdoor use areas (e.g., vending areas, garden display areas, etc.)

14. Mixed Use. Upper story office and residential uses shall be excluded from calculation of a site's permissible floor area.

15. Master Plan for larger scale development. Developments with new buildings that have a total aggregate of more than 35,000 square feet shall meet the following standards:

- a. The master plan shall establish the character and appearance of the development including any out-lots, accessory structures, and related development.
- b. The master plan shall demonstrate how the proposed development implements applicable guidelines of Cornerstone 2020, including the Plan Elements which describe the TMCFD as a pattern of low to medium intensity uses (such as shops, restaurants, services, and frequently having offices or residential above the first floor) with buildings of compatible styles that have little or no setback and are oriented toward the street. A premium is placed on compatibility of scale and architectural style and building materials with existing development in the corridor.

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Figure 3-2. Setback lines in 1916 New York City zoning ordinance

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Figure 3-4. Seaside Urban Code

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Figure 3-5. Seaside prototypical street sections

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Figure 3-6. Transect diagram

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Figure 4-1. Understanding the regulating plan (Columbia Pike FBC)

Source: Columbia Pike Special Revitalization District Form Based Code (Staff Draft 4). Arlington County, VA. 12.
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Figure 4-2. Block categorized under traditional zoning as “R-40”

Source: Adapted from an image courtesy of Steve Price, Urban Advantage, © 1998. Original image appeared in: Katz, Peter. “The New Urbanism in the New Millennium: A Postcard from the Future.” ULI on the Future: Cities in the 21st Century. Urban Land Supplement. ULI – The Urban Land Institute. Washington, DC: 2000. 56.

Figure 4-3. Block subdivided by an FBC’s regulating plan

Source: Adapted from an image courtesy of Steve Price, Urban Advantage, © 1998. Original image appeared in: Katz, Peter. “The New Urbanism in the New Millennium: A Postcard from the Future.” ULI on the Future: Cities in the 21st Century. Urban Land Supplement. ULI – The Urban Land Institute. Washington, DC: 2000. 56.

Figure 4-4. Building Envelope Standards, Workplace Building Sites (Pleasant Hill BART Station)

Source: Katz, Peter. “An Introduction to Form-Based Development Regulations.” Draft Paper. Jan 5, 2003. 13.

Figure 4-5. Maximum building envelope for hypothetical block

Source: Adapted from an image courtesy of Steve Price, Urban Advantage, © 1998. Original image appeared in: Katz, Peter. “The New Urbanism in the New Millennium: A Postcard from the Future.” ULI on the Future: Cities in the 21st Century. Urban Land Supplement. ULI – The Urban Land Institute. Washington, DC: 2000. 56.

Figure 4-6. Same block under a form-based code

Source: Adapted from an image courtesy of Steve Price, Urban Advantage, © 1998. Original image appeared in: Katz, Peter. “The New Urbanism in the New Millennium: A Postcard from the Future.” ULI on the Future: Cities in the 21st Century. Urban Land Supplement. ULI – The Urban Land Institute. Washington, DC: 2000. 56.

Figure 4-7. One block with three potential futures

Source: Adapted from an image courtesy of Steve Price, Urban Advantage, © 1998. Image originally appeared in: Katz, Peter. “The New Urbanism in the New Millennium: A Postcard from the Future.” ULI on the Future: Cities in the 21st Century. Urban Land Supplement. ULI – The Urban Land Institute. Washington, DC: 2000. 56.

Figure 5-1. Washington, DC metropolitan area map

Source: Graphic courtesy of Department of Community Planning, Housing, & Development (DCPHD), Arlington County, VA.
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Figure 5-2. Arlington, VA, population and employment forecasts

Source: Graph courtesy of Department of Community Planning, Housing, & Development (DCPHD), Arlington County, VA.
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Figure 5-3. Inter-jurisdictional commuting within the DC metropolitan area

Source: Graphic courtesy of Department of Community Planning, Housing, & Development (DCPHD), Arlington County, VA.
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Figure 5-4. Map of Arlington County, VA

Source: Map courtesy of Arlington County, GIS Mapping Center, DPW. January 2002. http://magellan.co.arlington.va.us/Maps/basic_map.htm

Figure 5-5. Arlington County bus ridership

Source: Graphic courtesy of Department of Community Planning, Housing, & Development (DCPHD), Arlington County, VA.
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Figure 5-6. 2002 project completions in Arlington County

Source: Graphic courtesy of Department of Community Planning, Housing, & Development (DCPHD), Arlington County, VA.
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Figure 5-7. Columbia Pike general land use plan

Source: Graphic courtesy of Department of Community Planning, Housing, & Development (DCPHD), Arlington County, VA.
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Figure 5-8. Concept plan for Columbia Pike “town center”

Source: “The Columbia Pike Initiative - The Plan: The Concept.” Community Forum. Arlington County, VA.
http://www.co.arlington.va.us/forums/columbia/concept/images/tc_concept_big.jpg

Figure 5-9. Height specifications graphic, main-street sites (Columbia Pike FBC)

Source: Columbia Pike Special Revitalization District Form Based Code (Staff Draft 4). Arlington County, VA.
http://www.co.arlington.va.us/forums/columbia/current/pdf/fbc_IVa.pdf

Figure 5-10. Siting specifications graphic, main-street sites (Columbia Pike FBC)

Source: Columbia Pike Special Revitalization District Form Based Code (Staff Draft 4). Arlington County, VA.
http://www.co.arlington.va.us/forums/columbia/current/pdf/fbc_IVa.pdf

Figure 5-11. Elements specifications graphic, main-street sites (Columbia Pike FBC)

Source: Columbia Pike Special Revitalization District Form Based Code (Staff Draft 4). Arlington County, VA.
http://www.co.arlington.va.us/forums/columbia/current/pdf/fbc_IVa.pdf

Figure 5-12. Use specifications graphic, main-street sites (Columbia Pike FBC)

Source: Columbia Pike Special Revitalization District Form Based Code (Staff Draft 4). Arlington County, VA.

http://www.co.arlington.va.us/forums/columbia/current/pdf/fbc_IVa.pdf

Figure 5-13. Zetlin property existing conditions

Source: Photographs by Todd Kohr.

Figure 5-14. Surrounding properties along Columbia Pike

Source: Photographs by Todd Kohr.

Figure 5-15. Renderings of planned Zetlin property development

Source: Image adapted from elevations submitted to the Arlington County, VA, Dept. of Public Works by Christopher Consultants.

Figure 5-16. South Glebe property existing conditions

Source: Photographs by Todd Kohr.

Figure 5-17. Properties near the planned development site

Source: Photographs by Todd Kohr.

Figure 5-18. Elevation of planned buildings along Columbia Pike frontage

Source: Image adapted from elevations submitted to the Arlington County, VA, Dept. of Public Works by Dewberry & Davis, LLC.

Figure 6-1. Map of Jefferson County, Kentucky

Source: Image courtesy of Kentucky Atlas & Gazetteer. *<http://www.uky.edu/KentuckyAtlas/21111d.html>*

Figure 6-2. “Big bat” at Louisville Slugger Museum

Source: Image courtesy of Planet Louisville. *<http://planetlouisville.com/images/big-bat.gif>*

Figure 6-3. Existing land uses in Jefferson County

Source: Copyright (c) 2000, Louisville and Jefferson County Metropolitan Sewer District (MSD) and Louisville Water Company (LWC). All rights reserved. *<http://www.loukymetro.org/Department/PlanDesign/pdf/cg-2.pdf>*

Figure 6-4. Cornerstone 2020.

Source: “Cornerstone 2020 Louisville and Jefferson County Comprehensive Plan.” Louisville and Jefferson County Planning Commission. June 15, 2000. Cover image. *<http://www.loukymetro.org/Department/PlanDesign/pdf/AdoptedCornerstoneComprehensivePlan.pdf>*

Figure 6-5. Distribution of form districts across Jefferson County

Source: Copyright (c) 2000, Louisville and Jefferson County Metropolitan Sewer District (MSD) and Louisville Water Company (LWC). All rights reserved. <http://www.loukymetro.org/Department/PlanDesign/pdf/cg-1.pdf>

Figure 6-6. Form districts as a tool for increasing legibility of form

Source: "Form Districts in Louisville." Presentation for the 2004 American Planning Association National Conference. Metro Louisville Planning and Design Services. April 26, 2004. http://www.loukymetro.org/Department/PlanDesign/pdf/APA_Powerpoint.pdf