

An Examination of the Form-Based Code and its Application to the Town of Blacksburg

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Abstract

The form-based code has emerged only recently as an alternative to the traditional Euclidean zoning method. This new method was originally created as a part of the landmark Seaside, FL new town of the 1980s that was one of the first projects to display the ideas of the emerging New Urbanist movement. This earliest version of the form-based code established the form and structure that would remain largely intact in all future implementations of the concept. Most importantly, though, the Seaside code established the idea that form is more important than function when designing a community.

Since the time of Seaside, the form-based code has been utilized for many projects, evolving from a tool used entirely for rural new towns to a method that was applicable to existing communities as well. These new applications, most notably in South Miami, FL and Arlington, VA, show that the form-based concept can be used for the revitalization of a community by establishing a form-based overlay district and providing incentives to encourage development based on the form-based code.

This paper examines the effectiveness of the form-based code in such an environment, namely in a portion of the town of Blacksburg, VA. This is accomplished by comparing the potential effectiveness of the existing Blacksburg zoning ordinance against that of a form-based code for implementing the goals of the town's comprehensive plan. The potential benefits and shortcomings of each method are discussed and a recommendation is made for how the town should proceed.

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Chapter 1

Introduction

The past several years have seen the emergence of the form-based code as a means for regulating development. Form-based codes were first introduced as an element of the New Urbanist movement, as a result of the dissatisfaction with the types of development that were produced using traditional zoning and development regulations. Although some elements of those regulations – such as building heights and setbacks – remain a part of the code, form-based codes also consider the relationship of buildings to the site and the street, and to one another.

The first form-based codes were created as part of the experiment that became Seaside, FL. The Seaside code established eight building types, each defined by a specific type of use (i.e., commercial, residential, office, workshop, lodging, or combinations of these uses). The code regulated yards, building heights and parking much like zoning, and also outlined requirements for architectural elements such as front porches and white picket fences. Additionally, the code encouraged the construction of outbuildings.

Since Seaside, form-based codes have been applied in numerous locations across the country, among them the Kentlands in Maryland, and Disney's Celebration in Florida. One problem with examples like Seaside and Celebration, though, is that they represent new development under the auspices of a single owner, where they are easily defined and enforced as part of new construction. Greater difficulty in their implementation arises

when communities attempt to use form-based codes in already developed areas with multiple property owners.

Early examples of these attempts typically used form-based codes as a complement to, and in addition to, existing zoning and development regulations as an overlay district. Examples of this approach can be found in South Miami and Riviera Beach, Florida. More recently communities have begun to introduce form-based codes as an alternative to traditional regulating mechanisms, so that form-based codes take the place of zoning and other development regulations. One example of this is Arlington, Virginia, which has adopted form-based codes as part of a revitalization effort along the historic Columbia Pike corridor. In this case, the form-based code has been implemented as an overlay zone where the landowner has the option, to follow the code's provisions or the provisions of the traditional zoning ordinance.

This new example raises some interesting questions about the potential applicability of form-based codes in other communities - and as a substitute for zoning. This paper thus examines the possibility for using form-based codes along the South Main Street corridor in Blacksburg, Virginia.

The paper begins with an overview of the history of planning and development regulations, and the circumstances that eventually led to the emergence of the New Urbanism. The paper continues by examining in detail three types of form-based codes: the original codes from Seaside, the Hometown Overlay District in South Miami, and the

Columbia Pike code in Arlington. This analysis considers the common elements found in all form-based codes and any issues that must be addressed, or any elements that must be modified, in order to apply form-based codes to an already developed area.

Finally, the paper considers the opportunities and constraints evident in the application of form-based codes in Blacksburg. The paper examines a segment of South Main Street that serves as a primary gateway to the downtown. Using the lessons learned from the previous analysis of the form-based code examples – and most specifically the corridor example from Arlington – the paper evaluates the potential for using form-based codes to guide future development in Blacksburg. This section will attempt to show how the form-based code can be utilized as a way to more efficiently implement the goals of the town’s comprehensive plan.

Chapter 2

Modern Planning, the New Urbanism, and Form-Based Codes

Any discussion of a new innovative planning technique such as form-based codes should begin with a discussion of modern planning traditions. Form-based codes did not simply appear out of nowhere, they evolved along with the New Urbanism as a response to the effects of the modern zoning techniques that were in place for the bulk of the twentieth century. These responses attempt to revive what some believe was the ideal city form present in many early 20th century American cities. The New Urbanism represents this ideal while the form-based code is one of the tools that can be used to produce such an ideal. A brief description of this evolution follows.

The Foundation of Modern Land Use Regulations and Development Codes:

Modern land use regulations have evolved over the last century as a series of responses to various issues facing the urban landscape. Each type of regulation has been produced as a response to a single specific problem. The first land use regulations were the early tenement laws – particularly the 1901 Tenement House Act of New York State – which were developed as a response to the unhealthy living conditions of the era, such as overcrowding and the potential for disease and fire. These laws were followed soon thereafter by zoning, which was designed to separate incompatible uses and improve the living conditions that were unsuccessfully targeted by the tenement laws.

Modern city planning is said to have begun with the 1909 Plan of Chicago (Levy, 1997).

A direct result of the City Beautiful movement and the 1893 Columbian Exposition in

Chicago, the Plan of Chicago represented the first comprehensive plan for a great American city (Wrigley, 1960). The Chicago Plan was greater in scope than had ever been considered, its proposals affecting areas well beyond the city limits. The plan also went farther into the future than other plans had gone before, impacting development around the city for more than thirty years (Wrigley, 1960). The Chicago Plan defined in many ways what a plan should be, but it lacked some vital features prevalent in more recent planning efforts. Among the concepts that were absent "...were a concern with social issues, the notion of frequent plan revision and updating, and the view that the public should participate in the making of the plan rather than just receive and approve it as a finished document" (Levy, 1997).

Another important concept lacking in the Chicago Plan was control over privately owned lands. Zoning was developed as a tool with which governments could regulate land use for these reasons. At the time of the plan, municipal governments had little legal authority to control development on private property. Constitutionally, individual states had the right to regulate activity on private property to protect the public health, safety, morals, and general welfare. Individual municipalities, though, did not have the right to use the police power; it had to be delegated by the state through enabling legislation (So, et. al, 1979). For this reason, states began publishing their own zoning enabling acts in the 1910s in order to pass the power to zone on to municipal governments. In 1922, the U.S. Department of Commerce published the Standard Zoning Enabling Act which provided model legislation on which states could base their enabling legislation, essentially standardizing the practice of zoning in the country.

Zoning, despite the widespread use of these enabling acts, had to survive a number of legal challenges before it could become standard practice. Zoning was officially endorsed as constitutional when the U.S. Supreme Court ruled on *The Village of Euclid, Ohio v. Ambler Realty Co.* (272 U.S. 365 (1926)) case in 1926. The court found in the *Euclid* case that it was permissible for a jurisdiction to control land use through the police power, and concluded that it could be just as improper to place an apartment building in a single-family residential district as it would be to place a polluting factory there (Babcock, 1966). Where traditional nuisance laws would prevent the factory from being built, they could not prevent the apartment building from being built. Zoning extended the arm of the nuisance laws and the *Euclid* case paved the way for more widespread use.

The earliest zoning ordinances produced during the era of the Standard Act and the *Euclid* decision were far simpler than those in place today. The primary purpose of these early ordinances – often called ‘Euclidean’ after the *Euclid* case – was to protect the single-family residential district from encroachment by unwanted uses. They commonly had three zoning districts: single-family residential, commercial, and industrial, with apartment districts found in some larger cities (Babcock, 1966). Some cities, particularly New York, created additional controls as a response to issues such as the lack of fire and disease prevention measures, the lack of fresh air and sunlight, and the significant overcrowding that were prevalent in the tenement housing units of the era. The zoning ordinance enacted for New York City in 1916 added regulations on building heights and yards in order to address these issues. It also included provisions pertaining to building

design, requiring, for example, tall buildings to have their upper stories stepped-back in order to allow sunlight to reach street level (Scott, 1971).

The Tools of Modern Planning:

Since the time of the early zoning ordinances mentioned above, the modern planning agency has adopted a number of additional methods for guiding and proscribing development, while zoning has evolved into a very complex array of development regulations to achieve historic preservation, growth management, environmental protection, and aesthetics. Each of these tools responds to a different set of issues and has a different purpose. More detailed explanations of a few of these tools follow.

The modern zoning ordinance has evolved so that a typical community today may have dozens of different zoning districts. The relatively small town of Blacksburg, for example, has over two dozen separate zoning districts (Blacksburg Code of Ordinances, 2003, Appendix A). Similarly, where early ordinances like the 1916 New York City code only included a few separate design and use regulations, the modern ordinance often includes special uses and overlay districts, transfer of development rights, planned unit developments, and other techniques. These more complex documents may be far more difficult to use and understand.

Like zoning ordinances, subdivision regulations are very common in the U.S. They arose as a response to many of the problems that arrived with leapfrog development; lack of action by developers forced municipalities to provide utilities and other services that

should have been provided by these developers. Subdivision ordinances check this by controlling the manner in which parcels are divided into buildable lots, and requiring improvements such as streets, sewer and water lines, and dedications of land for public use (Levy, 1997).

Historic preservation zoning is an effective method of retaining the architectural resources and historic characteristics of communities. Historic preservation controls typically include reference to design standards – particularly applying to architectural styles and building materials. Because of this they are often formed as overlay districts that enhance the existing regulations of a particular zoning district.

Growth management evolved as a response to sprawling suburbs and decaying urban cores that became prevalent in the U.S. during the 1950s. Unified as a theory in the early 1960s, growth management programs evolved largely from environmental concerns stemming from these changes in the urban landscape. They have been produced in many communities as an alternative to the traditional comprehensive plan, designed to control the amount, timing, location, and character of development (Levy, 1997). Growth management programs may contain a variety of individual controls: performance standards, transfers of development rights, and limits on permits issued over a particular period of time.

Results of the Zoning Tradition:

Although somewhat effective at dealing with the issues of the day, this history of planning and zoning regulations has resulted in a physical environment that some find unattractive and detrimental to the development of community. Factors such as the separation of uses, an automobile oriented society, and a general sense of placelessness and lack of community have led to a variety of responses, one of which is the New Urbanism.

As the above introduction to modern planning mentions, much of the present-day American landscape is the result of the planning techniques that evolved during the 20th century. Zoning, while an important factor in the development of the modern planning process, has been found by many planners to be a restrictive tool that prevents a mix of uses from developing, e.g., small retail operations within a residential neighborhood. The Charter of the New Urbanism, in its opening sentence, states that "...disinvestment in central cities, the spread of placeless sprawl, increasing separation by race and income, environmental deterioration, loss of agricultural lands and wilderness, and the erosion of society's built heritage..." (Leccese, 2000) combine to form a single challenge to America's communities. Much of the blame for these problems is placed on zoning as well as the development of the interstate highway system and the growing ease of automobile travel.

Emergence of the New Urbanism:

The New Urbanism seeks to reshape the sprawling urban landscape by creating clearly defined neighborhoods and distinct town centers. Proponents of the New Urbanism envision a revival of the urban design concepts common in the first decades of the 1900s (Katz, 1994). They see a return of neighborhood streets with a mix of uses, ranging from corner stores and storefront offices to mixed income apartments and single-family homes. They envision neighborhoods designed around pedestrians rather than automobiles, and communities with a well-defined sense of place rather than an overwhelming sense of sameness. But the New Urbanists do not expect that the necessities of modern life, such as supermarkets and shopping malls, will be done away with. They instead suggest that these land uses be integrated into a more widely varied landscape.

The Charter of the New Urbanism identifies 27 basic principles for guiding every aspect of urban development from policy decisions to design concepts. These principles are grouped into three distinct scales: the street, block, and individual building; the neighborhood, district, and corridor; and the metropolitan region, city, and town. Each of these scales has a set of applicable principles (Leccese, 2000):

- Streets should be designed to be common spaces for both pedestrian and vehicular traffic with a mix of commercial and residential land uses.
- Blocks should be designed in such a way that each of their sides acts as public space; with defined pedestrian street edges, service entrances and parking areas

accessible from alleys, and parking structures that blend in with the rest of the landscape.

- All neighborhoods should share five characteristics: 1) they should have a center and an edge; 2) they should include a balanced mix of shopping, work, schooling, recreation, and all types of housing; 3) they should ideally be a quarter-mile from center to edge; 4) their streets should be detailed to provide equally for pedestrians, bicycles, and automobiles; and 5) they should give priority to open spaces and civic buildings .
- A city or region should be made up of a large number of individual neighborhoods and districts, each with their own unique character.

Form-Based Codes:

New Urbanist designers have produced form-based codes as a way to encourage the development of the urban landscape in the manner described in the previous section.

‘Form-based code’ is not yet a common term in the planning literature. As such, finding a firm definition of the term is difficult. Arlington’s principles and regulations for the Columbia Pike Special Revitalization District include one of the clearest definitions of a form-based code:

The Form Based Code is a legal document that regulates land-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. With proper urban form, a greater integration of building uses is natural and comfortable. The Form Based Code uses simple and clear graphic prescriptions and parameters for: height, siting, and building elements to address the basic necessities for forming good public space (CPI, 2003).

Andres Duany uses the term ‘codes’ to refer to all of the legal restrictions and guidelines that apply to a particular project: plans, zoning ordinances, design guidelines, and building codes (Knack, 19896). He and partner Elizabeth Plater-Zyberk began – at Seaside, Florida in 1979 – the process of merging these documents into the form-based codes that are in use today. First was a series of maps showing the existing conditions of the area prior to development, the planned locations of public and private buildings, the organization of individual lots, and the planned location of each of the eight building types (Mohney and Easterling, 1991). Second, a set of prototypical street cross-sections presented the desired result for six different squares as well as the five types – ranging from avenues to footpaths – of transportation corridors (Mohney and Easterling, 1991). Finally, a one-page ‘Urban Code’ poster produced for the town guided the design of yards, porches, outbuildings, parking, and building heights for each of eight different building types.

In the years since the Seaside code, planners have taken these elements and created a set of five documents that typically make up the form-based code: 1) the regulating plan, 2) urban regulations, 3) architectural regulations, 4) street sections, and 5) landscape regulations (Krieger and Lennertz, 1991).

The Regulating Plan: The regulating plan is a map showing the locations of the various building and street types that are called for in the code. It also shows build-to lines, the locations of civic buildings, and in some cases, design features.

The Urban Regulations: This section most often forms the bulk of the code. Urban regulations are commonly presented in the form of a matrix covering an abundance of design details: the size and shape of buildings, where the buildings and the parking areas should be located on the lot, and what uses should take place in the buildings. The matrix shows which design details are permitted in which building type categories. Essentially, this document presents the majority of the information found in a typical zoning ordinance.

The Architectural Regulations: The architectural regulations of the code are also often presented in matrix form, though that format is less common than with the urban regulations. This document shows the building styles and materials that are permitted and the ways in which they can be incorporated into various building elements such as walls, windows, fences, and roofs. It also describes the ways in which these building elements can be incorporated into different structures.

Street Sections: This section of the code describes the width and dimensions of streets, sidewalks, and paths located within the plan area. Roadway and sidewalk widths, curb heights, street-side parking requirements, and allowable turning radii are included here. Locations of trees and other landscaping details within the streetscape may be specified in this section as well.

Landscape Regulations: This piece of the code specifies the permitted species of plants and trees as well as sizes, shapes, and locations.

Not every set of form-based codes includes all five of these sections. Different sections are combined in order to better apply to particular cases. The section most commonly produced is the regulating plan. Beyond that, different sets of codes will merge the urban regulations with the architectural regulations or remove the landscape regulations altogether. Some codes have also been produced that remove the architectural regulations altogether, in order to allow for a greater variety in architectural styles.

Chapter 3

Case Study Introduction

Each evolution of the form-based code is unique. This is necessitated by differences in the various communities in which they are implemented, as well as the objectives of those who are implementing them. The codes vary in several distinct fashions. As the previous chapter described, codes can be organized in a variety of ways according to the needs of an individual project. Some require detailed architectural regulations while others focus more on streetscape standards. Form-based codes can vary in the way their regulating plans locate different building categories: by individual parcels located on a map, by street types, or by sub-zones within an area. Finally, form-based codes can vary in how they interact with the existing regulatory structure of a municipality, from stand-alone new towns to overlay districts that place additional regulations on top of existing regulations.

The first case study, the Town of Seaside, describes the form-based code at its most basic. The Seaside code was created specifically to guide development within a new town, meaning that it acts alone in controlling land use within the community. This also means that the code has already considered the impact of new structures on the existing urban fabric.

The form-based code for the South Miami Hometown Overlay District, the second case study below, represents a significant step beyond Seaside. This code was created to guide the redevelopment of an existing neighborhood, so that it needed to work within

the existing framework of city ordinances, while retaining a particular community character.

The final case study, the Columbia Pike Special Revitalization District, represents the most advanced evolution of the FBC to date. While it is similar to the South Miami code in content, structure, and the reason for its implementation, it is far more complex and far-reaching. The Columbia Pike FBC is designed as an alternative to the existing zoning regulations, providing an option for developers along with numerous incentives. Also, the Columbia Pike code is greater in scope than its predecessors, covering a large portion of the county and designating four separate neighborhood centers.

Chapter 4

Case Study, The Town of Seaside

Town of Seaside Overview:

Seaside, the original and most famous of the New Urbanist new towns, was the brainchild of Florida developer Robert Davis. Davis acquired 80 acres on the Florida Panhandle in 1978 with the idea of developing his new property with the traditional wood cottages common in the region. After further researching his options, Davis decided that his 80 acre parcel was the perfect size for a pedestrian-oriented, mixed-use new town in which various examples of that type of architecture could be produced (Brooke, 1995). His intention was to model his new town after the numerous small towns that dotted the surrounding region, attempting to replicate the features that made those towns work so well (Katz, 1994).

The Structure of the Seaside Code:

To make Davis' dream possible, Duany and Plater-Zyberk (DPZ), the principal designers of the town, created a one-page 'urban standards' matrix. This included short statements grouped under seven headings – Intent, Land Use, Land Allocation, Lots and Buildings, Streets and Alleys, Parking, and Definitions – that described what could and could not be done in various building type categories (Knack, 1989). These different statements clearly codified Davis' intentions. The urban standards matrix – essentially a prototype of the 'urban code' described below – formed the basis for the code that would be developed next.

Duany and Plater-Zyberk's next product was the one-page urban code poster, basically a second draft of the urban standards matrix. This document specifies – through a series of diagrams – the size, shape, and layout, of yards, porches, outbuildings, and parking areas, as well as the permitted heights for each of the eight building types found in the town. DPZ then produced a series of maps showing where the different building types could be located within the town. Finally, they produced cross-section diagrams for street types and public spaces. Taken together, these documents were intended to provide a complete set of guidelines for reproducing the types of towns Davis was so enamored with.

The Urban Code: Eight building types are specified in the Seaside urban code: retail, residential, and lodging; office and residential; workshop; residential and lodging; a special district for large, unusually-shaped lots; and three types of purely residential buildings (Brooke, 1995). The different cells in the matrix are very simple, primarily showing the permitted shapes and locations of the five elements within each building type.

The Location Maps: The maps produced as a part of the Seaside code included individual maps showing the existing conditions of the area prior to development, the planned locations of public and private buildings, the organization of individual lots, and the planned location of each of the eight building types. These maps contain almost all of the elements found in the typical regulating plan map. If they were combined into a single map they would only be lacking the build-to line that is found in later regulating plans.

The Street Sections: The street sections found in the Seaside code are far simpler than those commonly produced today. The diagrams show two different types of cross-sections: the preferred build out of the lots surrounding six different squares by diagramming the streetscape head-on; and cross-sections of five different transportation rights-of-way; including avenues, large and small streets, alleys, and footpaths. The diagrams do not specify widths of streets, sidewalks and medians, or curb heights and crosswalk locations like later codes.

Summary and Outcome of the Seaside Code:

The code produced for Seaside served as a prototype for later form-based codes. It is very simple, yet effective. Its simplicity has made it easy for professionals and non-professionals alike to understand the code. The town is very near build-out, with only a small number of vacant commercial parcels remaining. It is a popular tourist destination and considered a quality place to live. This is made possible by the fact that it is a new town developed by a single person, and not weighted down by pre-existing land-use regulations. The Seaside code would likely have been far less successful if implemented in a developed area with multiple landowners and a complex system of zoning codes and land-use regulations since, in such an environment, a wide variety of goals would lead to a wide variety of interpretations of the code.

Chapter 5

Case Study, The South Miami Hometown Overlay District

South Miami Overview:

Planning for the revitalization of South Miami's downtown area began in 1992. The plan was intended to preserve what was considered a unique town center surrounded by a sea of suburban sprawl only a few miles southwest of downtown Miami. The plan seeks to preserve the historic character of the neighborhood, encourage mixed-use development, and develop a pedestrian-oriented street network to improve access to an underutilized public transit station.

The Structure of the South Miami Code:

The South Miami plan was implemented as an overlay district that supplements existing zoning rather than replacing it. The additional regulations of the form-based code apply within the boundaries of the overlay district. The code contains a regulating plan, architectural standards, and street standards. Complete landscape regulations are found in another section of the city's code, though some additional landscape requirements are located in the architectural standards and street standards sections.

The Regulating Plan: The South Miami regulating plan maps historic and 'contributive' structures, build-to lines, and the locations of various required design details such as curb cuts and outdoor dining areas. The regulating plan organizes the permitted building types according to the hierarchy of the street network, though the actual location map is located within the street standards section.

The Urban Regulations: The code does not explicitly include an urban regulations section. Instead, a series of diagrams pertaining to building placement, building heights and uses, onsite parking restrictions, and other required elements for each of the four building types are found in the document. These diagrams, if properly pieced together, form a matrix similar to the Seaside urban code. The diagrams within the South Miami code are far more detailed than those of the Seaside code. In addition, the South Miami code specifies which uses are permitted on which stories of the different building types, something not specified in the Seaside code.

The Architectural Standards: The architectural standards provide detail on walls and fences, arches and columns, roofs and windows, as well as building materials and colors. Diagrams pertaining to each of these architectural details are included to give developers an idea of what should be built. The code specifically states that the intent of the architectural standards is to promote a harmony of design without requiring approval of every design detail (SMLDC, 2003).

The Street Standards: The street standards section in the South Miami code contains diagrams of four street types: main streets, boulevards, downtown streets, and residential streets. These diagrams show the desired locations of elements such as trees and medians as well as lane and sidewalk widths and the relative location of the required build-to lines, in both a plan and a cross-section of the street.

Summary and Outcome of the South Miami Code:

The South Miami version of the form-based code represents one of the first applications of the concept to a previously developed area rather than a new town. Additionally, as mentioned above, the code is applied as an overlay district with consideration for how it interacts with the traditional zoning regulations that are in place, something that was not an issue with Seaside.

Despite its place in the evolution of the form-based concept, the South Miami code has not been nearly as successful as was originally hoped. Thus far, the successful projects that have resulted from this plan have been few and far between, and have focused primarily on streetscape improvements. More substantial projects, such as a façade improvement at the commuter station's parking garage that would include office and retail space (Aurbach, 2002), and the construction of a new mixed-use building centered on a new Starbucks (Cohen, 2000), have appeared only recently.

Chapter 6

Case Study, The Columbia Pike Special Revitalization District

Columbia Pike Overview:

Arlington County implemented a form-based code for the Columbia Pike corridor in order to return the area to its glory days as the center of commerce and culture for the southern half of the County. The form-based code is intended to accomplish this goal by focusing on prescriptive quality design strategies that specify what should be built rather than proscriptive zoning restrictions that specify what may not be built (Katz, 2004). The County has implemented the code as an overlay district placed on top of the existing zoning ordinance, providing numerous incentives such as density bonuses and a streamlined approval process designed to encourage development according to the provisions of the FBC rather than the traditional ordinance (CPI, 2003).

The History of the Corridor: Columbia Pike (Route 244) crosses Arlington County from the Pentagon in the East to the County's edge at Bailey's Crossroads in the West and is the historic Main Street and major commercial center of the southern half of the County. The 'District of Columbia Turnpike' dates to 1812, originally built to bring farm goods to Washington from the Virginia farm country. It followed much of the Pike's current path from the Long Bridge over the Potomac across Arlington – then Alexandria – County to the Little River Turnpike (Route 236) in present-day Annandale. The Turnpike crossed the Leesburg Turnpike (Route 7) at present-day Bailey's Crossroads (PNA, 2003).

‘The Pike,’ as it is known, passes through a number of the County’s first suburban neighborhoods in its four-mile journey through Arlington. Barcroft, one neighborhood located on Columbia Pike near the western edge of the County, experienced the bulk of its growth during the first half of the twentieth century. The Barcroft neighborhood’s first shopping center was developed in 1949 and remains in use today (BSCL, 1990). Most other neighborhoods bordering Columbia Pike developed in the same fashion and during the same time period as the Barcroft neighborhood. By the end of the 1950s, Columbia Pike was a typical example of the classic American Main Street.

Since the early 1950s, following the construction of the Pentagon, the neighborhoods bordering Columbia Pike have experienced significant growth in both residential and commercial uses. Much of the residential development has been in the form of townhouses, garden apartments, and a number of apartment towers. Few of these residential developments have been located directly on Columbia Pike. The majority of the land directly adjacent to the Pike was covered with strip-shopping centers and small office buildings. Nearly every building constructed along Columbia Pike during this time was built to provide easy access for cars; little attempt was made produce a pedestrian-friendly corridor.

Character of the Corridor Today: Today, Columbia Pike is rather typical of the major avenues traveling through the inner suburbs of Washington. The Pike serves as a major secondary route into the city for commuters from Arlington, Alexandria, and parts of Fairfax County. Metrobus lines run the distance of the Pike, terminating at the Pentagon

and Pentagon City Metrorail stations at the eastern end of the corridor. Columbia Pike also continues to serve as the primary retail center for the adjacent neighborhoods. A large neighborhood shopping center with a supermarket and a number of related stores is located near the eastern end of Pike. Just beyond the western border of Arlington County, around the interchange of Columbia Pike and Leesburg Pike, is a group of larger shopping centers that combine to form the Bailey's Crossroads and Skyline districts of Fairfax County. Small commercial establishments ranging from locally-owned small-businesses to fast-food restaurants dot much of the landscape in between. Most of the existing commercial structures along the Pike were built between 1920 and 1960 (CPI, 2003).

The Columbia Pike Initiative:

Planning for the revitalization of Columbia Pike began in 1985 with the drafting of the Columbia Pike Revitalization Plan. In 1986 a new land use and zoning plan was adopted with the intention of establishing a framework for revitalization. Included in this was the creation of the Special Revitalization District. The Columbia Pike Revitalization Plan was officially adopted in 1989. The plan that was adopted produced recommendations on the retail market and the corridor's urban design, among other things.

The Arlington County Board created the Columbia Pike Initiative (CPI) in 1998. The official goal of the CPI was "...to build a safer, cleaner, more competitive and vibrant Columbia Pike community" (CPI, 2003). Six additional goals are cited for the CPI by the Columbia Pike Revitalization Organization (CPRO, 2001):

1. To bring Columbia Pike back to a more traditional Main Street environment.

2. To move away from the current older, neglected commercial strip of fast-food restaurants and convenience stores.
3. To stem the tide of minimal investment and lack of investment in the Pike.
4. To move Columbia Pike towards mixed use development – retail, office, residential and cultural.
5. To create a pedestrian friendly ‘Main Street’ with better public transportation and an attractive streetscape.
6. To retain and enhance the ethnically diverse and culturally rich community that exists today.

Over the next four years several community visioning meetings were conducted to gather input for a long-range plan that would focus on “...economic development and commercial revitalization, land use and zoning, urban design, transportation/transit/traffic/parking and public infrastructure, and open space and recreational needs” (CPI, 2003). These meetings culminated in a week-long, corridor-wide meeting called a “charrette.” The product of this charrette was the Columbia Pike Initiative: A Revitalization Plan. This second Revitalization Plan was adopted by the County Board in March of 2002. It establishes four nodes along the 3^{1/2} mile stretch of the Pike in which the revitalization efforts would be concentrated: the ‘Western Gateway’ at the Fairfax County border, the ‘Neighborhood Center’ where Columbia Pike crosses the Four Mile Run, the ‘Village Center’ at the intersection with George Mason Drive, and the ‘Town Center’ around the intersections with Glebe Road and Walter Reed Drive. The guidelines laid out in the form-based code were designed to regulate development

within the revitalization area, specifically in these four nodes. The code was officially adopted by the Arlington County Board in February of 2003.

The Structure of the Columbia Pike Code:

The Columbia Pike Special Revitalization District Form-Based Code is divided into four key sections: the Regulating Plans, the Building Envelope Standards, the Streetscape Standards, and the Architectural Standards. The FBC also includes a section of definitions and another covering a handful of administrative details. These sections correspond closely to the model by Duany. One notable difference is that the code is primarily in text form rather than the matrix preferred by Duany.

The Code is applied to four separate building types based on the types of streets they front, replicating South Miami: Main Street frontage sites, avenue frontage sites, local frontage sites, and neighborhood frontage sites. Main Street frontages are located along Columbia Pike, as well as on some of the major roads that pass through the revitalization district. Avenue frontages are found on small segments of Columbia Pike and a handful of other more minor road segments. Local and neighborhood frontages are located along some of the minor streets in the neighborhoods of the Town Center revitalization district.

The Regulating Plans: The Regulating Plans for the Columbia Pike FBC are comprised of a series of maps, one for each revitalization node as well as a comprehensive street locator map. These maps are remarkably similar to those produced for the South Miami code. The four maps corresponding to revitalization nodes include the locations of the

four building types, historic buildings, civic buildings and monuments, existing and proposed parks, squares, and alleys. The maps also point out proposed infrastructure improvements such as adjustments to the road network.

The Building Envelope Standards: This section begins with a list of guiding principles for the revitalization district:

1. Buildings are aligned and close to the street.
2. The street is a coherent space, with consistent building forms on both sides of the street.
3. Buildings oversee the street (and square) with active fronts.
4. Property lines are physically defined by buildings or street walls.
5. Buildings are designed for towns and cities (rather than being simply pushed closer together).
6. Vehicle storage, garbage, and mechanical equipment are kept away from the street.
7. Retail should be located on the ground floor (to make the street active and interesting).
8. Parking (not including on-street parking) should be away from the streets and shared by multiple owners/users.
9. Structures that have historic character should be preserved or their elements incorporated in the redevelopment site (CPI, 2003).

The section then provides specifications for the building height, siting, elements, and uses for each of the four building types. Each of these specifications is described in diagram and text format. The diagrams are very similar to those found in the South Miami code.

The Streetscape Standards: The streetscape standards section combines street cross-sections and landscape regulations. This includes a list of general principles that delineate the desire for elements such as street trees, building facades, and public art. Also included are minimum standards for the number and location of shade trees, widths and paving materials of sidewalks, and other landscaping details. Further, the section describes the requirements for public squares and greens. Finally, there is a list of acceptable trees. Unlike many examples of a form-based code, the Columbia Pike FBC does not regulate the characteristics of public streets. Instead, the County tasked the Street Space Planning Task Force with creating a separate plan for the streets themselves.

The Architectural Standards: This section of the FBC provides a series of pictures showing details that are preferred as well as details that should be avoided. Included are descriptions of the intent and standards for building walls, roofs and parapets, street walls, windows and doors, signage, and lighting and mechanical equipment. The code goes into great detail here on the standards for these architectural elements. Lists of approved materials are included for each element, as are restrictions on configurations and techniques such as roof pitch and the sizes of window panes.

Operating the Columbia Pike Code:

The form-based code that was created for Columbia Pike is very comprehensive, but it is not designed to stand alone. The FBC has been placed as an overlay district above the rest of the zoning ordinance. The remainder of the county is left unaffected by the creation of the revitalization district.

In order to implement the FBC, the County amended its zoning ordinance in several places. First, they added a new ‘form-based code district’ zoning classification. The new ‘Columbia Pike form-based code’ (CP-FBC) classification is designed to act as an overlay zone, giving landowners the option of developing according to the FBC or the previously existing zoning classification. The CP-FBC zoning district contains the guidelines of the adopted form-based code. Next, the County modified a variety of existing zoning classifications. The modifications to these districts permit properties within them to be developed according to the provisions of the form-based code.

The county has created an ‘administrative review team’ tasked with reviewing all development proposals to determine whether they meet the guidelines set forth in the FBC. It is expected that this team will allow the permitting process to be streamlined, providing a further incentive for developers to choose the form-based code over the traditional ordinance. Additionally, with the assistance of the graphics within the FBC, the administrative review team can aid developers and community members in understanding what the code should produce.

Summary and Outcome of the Columbia Pike Code:

Development resulting from the Columbia Pike FBC is just beginning. Construction on the Columbia Station project in the new Town Center area, the first to gain approval under the form-based code, will begin in the fall of 2004. This project will include 257 condominium units and 42,000 square feet street-facing retail space (Katz, 2004). The project will be pedestrian oriented, including sidewalk cafés and access to a variety of transit options, and will include over 400 parking spaces. According to the County, Columbia Station will fulfill "...the vision of the Form Based Code as a cornerstone of the 'Main Street' concept" (Arlington County News Release, 2004). If this type of project is replicated then the form-based code produced for Columbia Pike will be a success.

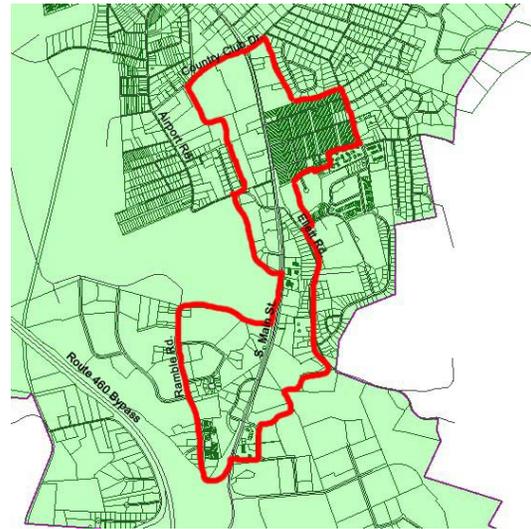
As this paper has shown, there are a variety of ways in which a form-based code can implement a New Urbanist vision for an existing community. The Columbia Pike FBC, representing the farthest evolution to date of the FBC structure in this type of environment, is likely the best model to follow when trying to create a new code for a community like Blacksburg. Also, the similarities between Columbia Pike and Main Street make Arlington's FBC even more relevant. As with Columbia Pike, the first step in creating a form-based code is to evaluate the study area and produce a New Urbanist vision for the area. Thus the following sections first provide an overview of South Main Street, then attempt to craft a New Urbanist vision for the corridor, and finally produce recommendations for a form-based code that can implement this vision.

Chapter 7

Application of the Form-Based Code to South Main Street

South Main Street Overview:

South Main Street in Blacksburg, Virginia, between Country Club Drive and the new US 460 Bypass interchange is the focus of this study (see map at right). Blacksburg is a community isolated from major population centers, but with a long history. European settlements in the Blacksburg area go back as far as the middle-1700s, with the town



officially incorporating in 1798 (Neumann, in Cox, 1998). Early in the town's history, a 'sixteen squares' grid street pattern was laid down in what is today the downtown area. Spurred by the founding of Virginia Tech in 1872, the town has grown into a college town of approximately 40,000 residents.

South Main Street between Downtown and Ellett Road was a segment of the 'Road from Salem to Blacksburg' as far back as the 1820s. This Road followed the path of present-day Ellett Road and North Fork Road (Route 603) east towards Ironto and Salem. Main Street did not exist south of Ellett Road at that time. The 'Blacksburg Road' between Downtown Blacksburg and Christiansburg followed present-day Airport Road, Ramble Road, and Route 460 Business south to Christiansburg. The current routing of South Main Street was not in place until the 1930s, after which it served as the only route into

Downtown and beyond to the north and west until 1969 when the Blacksburg Bypass was completed (Neumann, in Cox, 1998).

Character of the Corridor Today: Existing land use along the South Main corridor is a disorganized mix of residential, office, commercial, and industrial uses. At the Country Club Drive intersection, a pair of shopping centers – Blacksburg Square and Gables Shopping Center – act as the retail center for the southern half of the town. These shopping centers are typical suburban strip-malls with large parking areas fronting Main Street. An ABC store and a fast food restaurant are located immediately adjacent to Main Street but the Kroger grocery, drug store, auto repair shop, and a number of smaller retail businesses are set well back from the road. Both shopping centers have had recent façade and landscaping improvements.

South of the two shopping centers the corridor is populated by a variety of automobile oriented commercial uses, old and new: two motels, a gas station/convenience store, and many small retail businesses. There are also several warehousing functions here, including a self-storage facility. The buildings in this corridor vary dramatically in age and style. Recent construction has brought a new bank building, a new auto repair shop, and a new strip-shopping center. At the same time, there are several abandoned retail buildings of older vintage. This stretch of the corridor is far less visually appealing than either the north end or the south end, as most of the buildings have parking lots in front and little landscaping. At the southern end of the corridor, approaching the new interchange with the Route 460 Bypass, is a good mix of retail, service, and office

buildings, as well as an abundance of undeveloped or soon-to-be-developed land along Main Street and Ramble Road. This segment of the corridor is far more visually appealing than the others because of the views of the nearby mountains and the many neighboring parcels that remain wooded. The Route 460 interchange project, along with a more recent project to install medians on South Main Street, have significantly improved the landscaping of this section of the corridor.

The Study Area: Blacksburg's comprehensive plan shows two primary future land use categories along the South Main Corridor: commercial and professional office. These two categories are found along the entire length of the Main Street study area; the remainder of the study area – the neighborhoods described below – includes a combination of residential categories. Beginning at the northern end of the corridor, near the two large shopping centers, and continuing along most of the corridor, is a thin strip of land identified as commercial in the plan. At the southern end of the corridor is a smaller area of land identified as professional office.

According to Blacksburg's 2046 Comprehensive Plan, four neighborhoods border the study segment of Main Street. Airport Acres, located behind (west of) Gables Shopping Center along Airport Road and Country Club Drive, dates to the early postwar era. Much of the neighborhood's street network is laid out in a modified grid pattern with sidewalks, bike lanes, and access to the Huckleberry Trail. On the opposite side of Main Street is the Grissom-Highland Circle neighborhood. This neighborhood is more suburban in nature with a system of collector roads including Country Club Drive, Palmer Drive,

Marlington Street, and Grissom Lane. The western part of the neighborhood, between Main Street and Grissom Lane, is laid out in a modified grid pattern, while the rest of the neighborhood is typical of the modern suburban landscape. To the south, the Ellett-Jennelle neighborhood straddles the eastern side of South Main Street between Ellett Road and the Blacksburg Industrial Park. Several large apartment and townhouse complexes are located at the north end of this neighborhood, off of Ellett Road. There are also a number of new single-family subdivisions located in this area. The rest of the neighborhood consists of commercial strip development along Main Street and the Industrial Park towards the south. West of Main Street from Ellett-Jennelle, separated from Airport Acres by the Virginia Tech Airport, is the Farmview-Ramble neighborhood. The western side of the neighborhood, west of the Route 460 Bypass, is the low-density residential Farmview area. To the east of the Bypass is the Ramble area, centered on Ramble Road. The Ramble area contains some of Blacksburg's newest development, with a mix of office buildings – largely associated with Virginia Tech's Corporate Research Center – and apartment complexes. The study area for this project includes portions of each of these four neighborhoods.

The study area is largely made up of parcels that immediately border South Main Street. The areas where it extends beyond Main Street – in the Grissom-Highland Circle neighborhood along Ardmore, Lansdowne, and Marlington Streets; the Ramble area between Ramble Road and South Main Street; and the Ellett area along Ellett Road – are included because they are areas where connections with Main Street are the most important. They also allow for the possibility of taking the code beyond the corridor.

These two excursions away from Main Street allow for the creation of a pair of neighborhood centers, one at either end of the corridor, similar to what is found in the Columbia Pike plan.

Existing Plans for South Main Street:

Blacksburg does not have an equivalent to the Columbia Pike Initiative for South Main Street. What Blacksburg does have is its 2001 Comprehensive Plan, which outlines many goals that are similar to those put forth by Arlington County for Columbia Pike. The zoning ordinance that is designed for Blacksburg, whether it is a Euclidean code or a form-based code, should focus on how to best accomplish these goals.

The official goal of the Columbia Pike Initiative was “...to build a safer, cleaner, more competitive and vibrant Columbia Pike community.” No single statement exists in the Blacksburg Comprehensive Plan that so clearly states a similar goal. Instead, the plan includes a series of goals relating to thirteen separate topics – ranging from community design to historic preservation to government relations – and nine separate sectors of the town. As such, a goal for the Blacksburg’s South Main Street study area, would include something from each of these topics and the appropriate sectors. Fortunately, under the Community Design topic is a list of general policies that speak to the goals presented in most of the other topic sections.

The Community Design goal in the Blacksburg plan is to “guide development in a logical manner while providing a livable and sustainable community through design that

enhances Blacksburg's unique character" (Blacksburg Comprehensive Plan, 2001).

Additionally, general policies leading to this goal would include the following:

- Encouraging cluster development and preservation of open space.
- Encouraging neo-traditional type development.
- Enhancing the town's pedestrian friendly environment.
- Protecting scenic views, the rural community atmosphere, and landscape character.

Additionally, the sections covering the Midtown South and South End sectors of the town refer to goals such as controlling traffic speeds and congestion, increasing the amount of public park and recreation land, expanding public transportation, increasing the amount of retail space, and limiting the heights of commercial and office buildings. All of these goals and policies together create a concrete goal for the study area corridor.

Potential Results of the Existing Blacksburg Zoning Ordinance:

Since the goal of any zoning ordinance should be to accomplish the goals set forth in the community's comprehensive plan, the Blacksburg ordinance should be examined to determine whether or not it is designed in a manner that will bring about the goals of its comprehensive plan. If the zoning ordinance does not appear as though it will accomplish the goals stated in the comprehensive plan, another ordinance – possibly one based on the form-based code – should be implemented.

The current Blacksburg zoning ordinance places a handful of zoning districts over the study area in a pattern similar to that found with the future land use map described above.

Along the bulk of the study corridor, from its northern end almost to the Route 460 Bypass interchange, there are two commercial zoning districts in place. The majority of the area surrounding South Main Street is zoned general commercial with a small area midway down the corridor zoned planned commercial (PC). At the southern end of the corridor is a large area zoned office. Various residential areas along the corridor are zoned low density residential (R-4), transitional residential (R-5), and low density multiunit residential (RM-27). An additional area, zoned planned residential (PR) is also located within the study area. The table below compares development standards for most of the zoning districts found in the study area. The PC and PR district standards are not included because they are designed to be negotiable as a part of the development process.

Zoning District	Minimum Lot Size (ft ²)	Minimum Street Front.	Min. Setback F/R/S(ft)	Max. Res. Density	Max. Lot Coverage	Maximum Height
Gen. Comm.	15,000	30 ft	10/none/none	48 rooms/acre	85%	60-70 ft
Office	15,000 ^a	30 ft	15/10/15	27 rooms/acre ^b	60%	45-60 ft
R-4	10,000 ^a	40 ft	25-30/10/25	n/a	45%	30-40 ft
R-5	8,500 ^a	45 ft	25-35/10-20/25	20 rooms/acre	55%	35-45 ft
RM-27	8,500 ^a	60 ft	25-35/10-20/25	27 rooms/acre	60%	35-45 ft

^a except townhouses and two-unit dwellings

^b 30% of total site may be devoted to residential

As the above table demonstrates, the zoning districts found in the study area include development standards that are very similar to the common format of Euclidean zoning ordinances. This format, particularly with its use of minimum street frontages and setback distances, is significantly different from what would be included in a common form-based ordinance. Whereas this ordinance proscribes minimums, allowing structures to be built far from the street edge and on lots that may be significantly wider than in the rest of the community, a form-based ordinance would likely specify a portion of a lot

within which structures could be built. This difference, while seemingly minor, is representative of the differences between the two types of ordinances.

As the previous section mentioned, the Blacksburg Comprehensive Plan lists a variety of general policies geared towards guiding "...development in a logical manner while providing a livable and sustainable community through design that enhances Blacksburg's unique character." Included among the policies were the following:

Encouraging cluster development and preservation of open space. Outside of the small PC and PR zones, which have been produced with this in mind, the zoning districts found in the study area will do little to accomplish this goal. Instead, the minimum lot sizes, frontages, and setbacks will contribute to the sprawl that such cluster development is intended to reduce.

Encouraging neo-traditional type development. Again, outside of the small PC and PR zones, the existing zoning ordinance does little to encourage this type of development. One example of this is the attempt to convert the Gables Shopping Center area to a mixed-use "life-style center" where a great deal of rezoning and negotiation would be required in order to produce a type of development that would be desirable to the town (Blacksburg Long Range Planning Committee Meeting Minutes, 2004).

Enhancing the town's pedestrian friendly environment. While Blacksburg's subdivision ordinance includes significant requirements for sidewalk construction and the general

commercial zoning district requires structures to have street oriented entrances, the code does not do enough to address this issue. As the earlier discussion of the New Urbanism describes, an important aspect of pedestrian access is the proximity of residential uses to retail and office uses. The lack of mixed-use zoning makes this impossible.

Protecting scenic views, the rural community atmosphere, and landscape character. The study area includes many areas with scenic views. The existing zoning districts do not specify how future development should proceed in a manner that may protect these viewsheds. The ordinance does, though, provide specifications for vegetative buffers and screens between lots of different uses as well as detailed landscaping regulations that include a list of recommended tree species.

Controlling traffic speeds and congestion. The Blacksburg ordinance attempts to address these issues, listing provisions for joint driveways, service roads, and limited numbers of curb cuts. These efforts, though, could potentially be undercut by the single-use zoning called for in the zoning ordinance.

Increasing the amount of public park and recreation land. The Blacksburg zoning ordinance does not include a zoning district for park and recreation space. This is not necessarily an issue, though, since the town land set aside for public parks that are zoned residential or commercial. The future land use map identifies some land within the study area as being appropriate for public/private park land. This land may never be retained for this use without a change in zoning.

While the existing zoning ordinance does address some of these policies, it may be possible to more effectively address them by implementing a form-based ordinance. It would appear the greatest obstacle to achieving the policy goals is the fact that the existing zoning ordinance does not do enough to control the layout and design of development. The form-based code was developed in order to control just those things.

While the zoning ordinance encourages pedestrian orientation and neo-traditional development, the recent construction along the corridor shows that these goals have not yet been accomplished. One example of this is the recently constructed Wendy's restaurant with a drive-through window facing the front of the lot rather than a pedestrian entrance. This was constructed on a lot zoned general commercial, seemingly ignoring that classification's site development standards. Similarly, the new National Bank of Blacksburg building situated on a hill above Main Street with the building at a 45 degree angle with no obvious pedestrian entrance from Main Street. This building, located within a planned commercial zoning district, is not as out of step with the zoning ordinance as the above example but is obviously not meeting some of the design goals set forth in the comprehensive plan.

Advantages and Disadvantages of a Form-Based code in Blacksburg:

The previous chapter shows that the current zoning ordinance for the town of Blacksburg is inadequate as a tool for implementing the goals found in the town's most recent comprehensive plan. The comprehensive plan cites several potential design solutions that

could have been derived from the New Urbanist literature. A form-based code, a tool created by the New Urbanists to better accomplish their goals, would thus be advantageous to the town of Blacksburg as it attempts to achieve its vision for the future. A form-based code produced for the town of Blacksburg would have some disadvantages as well, shortcomings that must be considered.

The advantages of producing a form-based code for Blacksburg should be obvious by now. The FBC's focus on design alone would be beneficial, since enhancing the small-town identity of the community is an important factor. A design-centric code would aid in ensuring that such an identity is truly preserved. Additionally, a form-based code could greatly assist the town in its attempt to produce a more pedestrian friendly environment. This could be accomplished both through the code's focus on design and on its encouragement of mixed-use developments. Finally, a Blacksburg form-based code could assist the town in reaching its goal of preserving open space and reducing the impact of development on valuable viewsheds. Again the FBC's focus on design as well as the way in which the common FBC clearly designates public open spaces would be beneficial.

Obviously, the implementation of a form-based code would have its downsides as well. One downside is the fact that, as we have seen with South Miami and Columbia Pike, the FBC cannot stand alone. As with these other communities, a South Main Street form-based code would need to be implemented as an overlay district. While the overlay district could include incentives for following the code's provisions, as is the case in

Arlington County, this clearly limits the town's ability to mandate changes as they would be able to with a Euclidean ordinance. Another aspect of this shortcoming is the fact that the form-based code, as it is commonly designed, does not consider issues such as nonconforming uses and other such development control issues, requiring again the existence of a traditional zoning ordinance. The only additional issues that may be foreseen are those related to the legality of implementing a form-based code in Virginia. These are issues that would need to be explored by the town, but have not been considered here.

Overall, there are both positive and negative issues associated with the implementation of a form-based code along the study area corridor. Fortunately, the shortcomings associated with the code are minor enough that they would not prevent the use of an FBC altogether. One consideration, though, is whether the provisions of such a form-based code could not simply be implemented as a part of a Euclidean zoning ordinance. Such modifications could likely accomplish the same goals for the town as a new FBC would. It is the position of this paper, though, that the additional benefits of a form-based code, such as its simplicity and focus on diagrammatic presentation, are enough to tip the scales in favor of the form-based code.

Chapter 8

Summary and Conclusions

The form-based code has emerged over the past few decades as a tool for regulating development with a focus on form rather than use. These codes were first produced by followers of the New Urbanist movement who were dissatisfied with the types of development that were being produced by the traditional Euclidean zoning ordinance. While the form-based code still considers many of the same factors as the Euclidean ordinance, it places greater emphasis on the design and layout of buildings and the relationship of buildings to their surroundings.

The first example of the form based code evolved out of the new town of Seaside. This code was produced to guide the development of a vacation community constructed on a piece of property owned by a single individual. Many of the subsequent implementations of the form-based code have followed the Seaside model, used only in rural new towns.

The Seaside code regulates development factors such as setbacks, building heights, landscaping, and parking much like zoning does. Unlike zoning, it focuses on form rather than use, rejecting the idea that uses must be separated. Additionally, it encourages architecture that is both innovative and proper within the context of its neighbors. The Seaside code accomplishes this through a series of diagrammatic matrices that describe the form of buildings and architectural elements through images rather than text. Subsequent codes for communities such as Celebration, FL, and the Kentlands in Maryland, have continued this format.

While the form of these early codes can be replicated in developed communities, the simplicity of them cannot. Whereas the owner of a property such as Seaside can simply mandate as a part of a purchase agreement that the provisions of the code will be followed, a community such as South Miami, Arlington, or Blacksburg must implement the form based code within a system of existing zoning districts, giving the landowner the option of which ordinance to follow. While communities can produce the form-based code as an alternative to the traditional zoning ordinance, they cannot yet mandate development according to its regulations; they instead must provide incentives to encourage its use.

The question this paper has ultimately attempted to answer is whether the form-based code would be a better tool for implementing the goals of the Blacksburg comprehensive plan than the existing Euclidean zoning ordinance. While this question cannot be adequately answered by such a limited study, it should be apparent that the use of the form-based code – or at least the use of its design-centric focus – would be a better method of accomplishing those goals.

The Blacksburg comprehensive plan proposes many policies that are similar to those that would be proposed for a New Urbanist development. These policy goals, such as encouraging cluster and neo-traditional development, enhancing the pedestrian friendliness of the community, and improving access to mass transit, are all very similar to those proposed for the Columbia Pike corridor and for the South Miami Hometown

District. Unfortunately, the current Blacksburg zoning ordinance does little to encourage these concepts. A form-based code designed for Blacksburg would likely make a point of ensuring that these, and similar, goals are met.

While this analysis seeks to answer the question of how a form-based code would apply to the study corridor in Blacksburg, additional questions have been raised concerning the implementation of such a code in such a community. The most important of these questions revolve around whether or not this type of code can actually work in an existing neighborhood. Obviously it is the purpose of this paper to say that it should, but since the available examples have been either largely unsuccessful (South Miami) or too recent to know for sure (Columbia Pike), it cannot be certain until many years down the road.

More questions would arise concerning whether or not the code can be more efficiently incorporated into a community's structure of zoning ordinances. Whereas Arlington County initially considered producing its FBC as a zoning district of its own, it was ultimately produced as an overlay district as was the case with South Miami. Until questions of legality are answered and tools that can handle complex issues such as variances and nonconforming uses are created, these answers cannot be completely answered.

In conclusion, form-based codes may not provide the solution to every community seeking to revitalize a neighborhood based on New Urbanist principles. But, they do

appear to be designed with the right focus in mind. The fact that the form-based code focuses on design rather than use and attempts to make the code easier for the common citizen to understand, is enough for communities to use it as a tool for implementing their comprehensive plans.

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