Form or Fluff?: Assessing the Proposed Advantages of Form-Based Codes for Municipalities

By

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Executive Summary

A moderate number of North Carolina municipalities have replaced their conventional zoning ordinances with form-based development ordinances, and more municipalities are now considering them. Yet, no research has been conducted to assess the validity of the advantages heralded by Form-Based Code proponents. This capstone compares the assessments of nine municipal planning directors that have had experience administering form-based codes with the benefits touted by the leading form-based code proponents, the Form-Based Code Institute. Results indicate that form-based codes are believed to promote increased compatibility and diversity, and to improve the quality of public realm as claimed. However, results are inconclusive and possibly negative for other proposed advantages, such as increased public participation and ease of enforcement.
INTRODUCTION

Development codes, while often unseen to many people, impact almost every aspect of our lives. Development codes impact the traffic on streets, the availability of a parking spot, the safety and enjoyment of a walk, and even the form and placement of the houses and buildings in which we all live. Simply stated, development codes define our physical world. Many experts argue that conventional codes, built on the Euclidian zoning of uses, create a physical landscape that is not suited to optimal human movement, use, and enjoyment. In response to the shortcomings of conventional codes, a number of designers, landscape architects, and planners have proposed a coding system that better regulates the physical elements that shape how we experience the built world—Form-Based Codes (FBCs). FBC proponents have identified and described a number of advantages they feel FBCs have over other coding approaches. The most cohesive and widely identified FBC proponent, the Form-Based Code Institute, presents eight “Advantages to Form-Based Codes” for those considering FBCs (see Appendix B for a brief history of FBC application). No independent investigation has yet been conducted to test the validity of the claimed advantages. This capstone seeks to provide an initial exploration and assessment of FBCs’ purported advantages to better inform practitioners considering FBCs and identify areas for further research.

BACKGROUND

The Form Based Code Institute (FBCI) is a non-profit organization dedicated to advancing the practice of form-based coding and encouraging local governments to adopt FBCs. The FBCI, consisting primarily of New Urbanist architects and designers, is the most prominent proponent for and educator of FBC techniques. The FBCI defines an FBC as an alternative to conventional zoning that fosters “predictable built results and a high-quality public realm by using physical form (rather than separation of uses) as the organizing principle for the code.” FBCs, through text and extensive illustrations, establish a priority of regulatory elements (use, performance, form, and architecture) that, as opposed to use-based conventional codes, prioritizes physical form (see Appendix C for further description and examples of regulatory elements). While conventional codes focus primarily on separation of incompatible uses through zoning, FBCs focus on the relationship between buildings and the public realm, the form and mass of structures, and the scale and type of streets and blocks. Along with promoting a FBC as a tool to achieve “a community vision based on time-tested forms of urbanism,” the FBCI also describes eight “advantages” to form-based codes (see Appendix D for these advantages as described by the FBCI):

1. More public participation
2. Greater predictability
3. Smaller scale of development
4. More diversity
5. Greater compatibility
6. Easier use & interpretation
7. Easier enforcement & administration
8. Higher quality public realm

RESEARCH PURPOSE AND METHODOLOGY

While much commentary has been written expounding the virtues and providing examples of FBCs, no research has been published to validate or quantify the advantages listed by the FBCI (while the FBCI uses the term advantage, it does not clearly delineate the conventional alternative to which FBCs are compared). This research uses a multi-case study design to explore the FBCI’s claims and identify areas for additional research. By assessing the experiences of planning directors for North Carolina municipalities with form-based development ordinances, this capstone provides information to municipalities considering FBCs and subsequent researchers that responds to the following questions:

1. Do the experiences of planning directors for municipalities with FBCs support or contradict the proposed FBC “advantages” promoted by the FBCI?
2. What are some of the environmental factors that support or detract from successful FBC application that municipalities contemplating adoption of an FBC should consider?

In order to better explore and provide analysis of the contemporary FBC phenomena this research uses a multi-case study design with cases drawn from municipalities with primarily form-based unified development ordinances (UDOs) or zoning codes. Data was collected through semi-structured interviews with planning directors from nine North Carolina municipalities currently using FBCs. Interviews focused on planning directors’ assessments of the most salient aspects of each advantage as articulated by the FBCI. A semi-structured interview protocol was designed to solicit information to enable exploration and testing of key aspects of the FBCI’s eight proposed advantages as well as to gather background information for identification of crosscutting trends (see Appendix E for interview questions).

The sample group was constructed through the application of the following selection criteria:
- Municipality was located in North Carolina
- Existing conventional code had been replaced with a primarily form-based unified development ordinance (UDO) or zoning ordinance that covers the whole municipality

To identify municipalities for possible inclusion into the sample group, four types of sources (see Figure 1) were used to identify North Carolina municipalities employing form-based codes (see Appendix F for municipalities identified by each source).

<table>
<thead>
<tr>
<th>Sources identifying NC municipalities with FBCs</th>
<th>IDENTIFYING SOURCES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOURCE TYPE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Background interviews with FBC Designers /</strong></td>
<td>• Craig Lewis (Former Planner for Belmont &amp; Cornelius / Lawrence Group, Principal)¹¹</td>
</tr>
<tr>
<td><strong>Subject-Matter Experts</strong></td>
<td>• David Walters (Director of Urban Design, UNC-Charlotte / Lawrence Group, Senior Planner)</td>
</tr>
<tr>
<td><strong>Internet Search</strong></td>
<td>• First 150 Google results using terms “form-based” and “North Carolina”</td>
</tr>
<tr>
<td><strong>Literature Review</strong></td>
<td>• NC municipalities identified by FBC-related literature, commentary, and books as having FBCs (sources identified in Appendix F)</td>
</tr>
<tr>
<td><strong>Snowball Sampling from Interviewees</strong></td>
<td>• Interviewee responses to the question “What other towns in North Carolina that you know of have successfully applied FBCs?”</td>
</tr>
</tbody>
</table>

For the eighteen municipalities identified, each municipality’s current development ordinance was compared with the FBCI’s “Checklist for Identifying Form-Based Codes” (see Appendix G for checklist). This research identified that twelve of the eighteen municipalities had completely replaced their previous development code with a FBC. All twelve municipalities were contacted, the final sample included nine municipalities that responded to requests and agreed to be included in this research.
### SUMMARY OF RESULTS AND CROSSCUTTING TRENDS

This section first presents results related to advantages of FBC followed by a longer discussion of broader crosscutting trends and issues related to FBC use and adoption. Findings indicate that, while respondents assessed the impacts of their respective FBCs as generally positive, their specific assessments contradict some of the advantages claimed by the FBCI (see Figure 3). Based on interviewee assessments, their FBCs do appear to support the design-related advantages claimed by the FBCI. But, interviewee assessments also indicate that the more process-related advantages (public participation, ease of interpretation, ease of enforcement) touted by the FBCI are inconclusive or inaccurate.

A number of trends were identified from the interview data that help explain the varied performance of FBCs and provides some considerations for municipalities contemplating FBCs in the future. The trends align with John Gaus’s model that describes how environmental factors impact government organizations and functions. Gaus identified people, place, physical technology, and social technology as the primary types of factors impacting the functions of government. Inductive analysis identified some cross-cutting trends that align with the four aspects of Gaus’ model, using planning-appropriate groupings (cultural (C), geographic (G), organizational (O), and economic (E)), these trends include:

#### C1. FBCs appear most successful in municipalities where the population is familiar with or receptive to FBC philosophy and priorities -

Respondents that perceived more immediate acceptance of FBCs also indicated the presence of previous development patterns or cultural values that seemed more compatible with FBC priorities. For example, the historic prominence of mill villages in Belmont seemed to familiarize residents with the village centers and walkability promoted by FBCs. The Davidson planning director indicated that his town’s residents, whom he characterized as generally more educated and affluent than in surrounding towns, generally viewed the FBC as an appropriate tool to ensure the architectural and design quality they valued.

#### C2. Use of FBCs to preserve or promote a “sense of place” -

Five respondents alluded to their municipalities’ motivation to promote, preserve, or extend what they described as an existing “sense of place” created by historic development or “small town feel.” While four of these municipalities had distinctive and established downtown areas, Knightdale adopted their FBC partly to help promote a more distinctive character and counter the generic development resulting from Raleigh’s outward expansion.
C3. Populations accustomed to suburban or rural development patterns seem less receptive to FBC priorities- The three municipalities where respondents indicated the least positive impact from their FBCs, the respondents also indicated the presence of dominant suburban or rural development patterns prior to FBC adoption. Respondents indicated extensive conventional sub-divisions or highway-oriented commercial development prior to FBC adoption. The FBCs’ focus on greater massing and density seemed to elicit skepticism and resistance from numerous residents of these towns.17

G1. Proximity to FBC development supports demonstration of FBC ideas- The first five towns in the state to adopt FBCs were all in close proximity. Belmont residents seemed to support their FBC because of the FBC’s positive associations in nearby Davidson and Cornelius. This agglomeration of FBC towns also seemed to enable rapid exchange of experiences supporting FBC adoption and improvement.

G2. Adjacent areas with less restrictive codes and extensive development seem to challenge FBC implementation- While the agglomeration of FBC towns in one area appeared to support FBC application, adjacent conditions can also challenge more isolated applications of FBCs. In Belmont and Knightdale, towns immediately surrounded by areas with development regulations that respondents perceived as more permissive, commercial developers sometimes use comparisons with adjacent regulations to gain exceptions from FBC requirements or ease regulation enforcement. In Knightdale, where the respondent indicated residents and officials were vocally “pro-growth”, these arguments seem to carry more weight and lead to more conditional exceptions to the code and questioning of the FBC from regulatory boards.

O1. Structure of the approval process likely influences public participation more than the coding approach- While FBC proponents promote public input and the community design process as fundamental tenets of FBCs, some towns adopted development codes that created more efficient, development-friendly approval processes by reducing public hearings. Salisbury, Knightdale, Fletcher, and Locust all use administrative review for “by right” development that does not explicitly invite public input. Conversely, Davidson, Cornelius, and Brevard all professed extensive interest in community input and each requires community meetings or charrettes prior to most plan approvals. This wide variance in outcomes suggests that the FBCI’s claim that FBCs promote public participation is likely inaccurate. A code’s form-based nature does not seem to inherently promote public participation as much as the specific procedural requirements implemented by each ordinance.

O2. Successful administration of FBCs requires the planning staff to develop additional competencies and capacities- Due to FBCs’ design-sensitive and subjective facets, seven of the respondents indicated code administration required additional design, landscape architecture, or engineering competencies they did not previously possess. Davidson, with a more design-sensitive FBC, has added a full-time landscape architect to the planning staff. Other respondents also pursued additional training in design-related areas.

E1. Robust growth supports FBCs by demonstrating the FBC’s positive impacts- The designers and architects that design FBCs identified the value of rapid growth and the inappropriateness of FBCs for depressed areas.18 The respondents’ assessments generally supported this assertion. The towns most often lauded by FBC commentary (Huntersville, Cornelius, Davidson) all experienced rapid growth just prior to and after adopting their FBCs (see Appendix G for a detail summary of responses). Cornelius’s population had grown from 3,000 to 25,000 over the past 20 years. The towns observing the least positive impact so far (Fletcher, Locust, and Knightdale) had slow growth or adopted their FBC just prior to the current economic recession that, in Fletcher, had reduced project starts by 75 percent.19

E2. FBCs’ additional design and engineering requirements seem to increase development costs- While all of the respondents assessed the projects completed under FBCs, due to additional infrastructure and design requirements, as generally being of higher quality, six respondents also assessed the development cost for these projects as definitely higher. FBCs, in order to promote a public realm that is more
walkable, inviting, and accessible for pedestrians, generally require features, such as sidewalks, parking adaptations, and street trees that increase the overall cost of development (see Appendix C for an example of such requirements). While these respondents also felt the building value was higher, the current economic slowdown had confounded any accurate assessment.

**RECOMMENDATIONS**

The findings and resulting crosscutting trends highlight the need for careful consideration prior to developing or adopting an FBC. Municipalities (planners, elected officials, etc.) should assess the compatibility of FBC’s with the municipality’s long-term vision, existing culture and geography, organizational competencies and capacities, and economic conditions. Based on this study’s findings, those contemplating FBC adoption could consider the following questions to assess the implications of the trends described above for their respective municipalities:

<table>
<thead>
<tr>
<th>Cultural Factors</th>
<th>Will the FBC’s philosophy, priorities, and requirements allow the town to realize its long-term vision?</th>
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<tr>
<td></td>
<td>Will the FBC promote or sustain the “sense of place” the municipality desires?</td>
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<td></td>
<td>Based on historic patterns and current culture, how well will the public identify with FBC priorities and outcomes?</td>
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<tr>
<td>Geographic Factors</td>
<td>Are there visible or proximate examples of successful FBCs that will “validate” the code for residents and elected officials?</td>
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<td></td>
<td>How will the economic conditions and development regulations of adjacent areas impact the town’s application of FBCs?</td>
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<tr>
<td>Organizational Factors</td>
<td>How much does the town value public input in the development process?</td>
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<tr>
<td></td>
<td>Will the procedural requirements for development approval allow this desired public input?</td>
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<tr>
<td></td>
<td>How will these procedural requirements impact the time and money required to complete the development approval process?</td>
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<tr>
<td></td>
<td>Does the planning staff have (or can it develop) the additional competencies required to interpret, apply, and maintain the FBC (design, landscape architecture, engineering, etc.)?</td>
</tr>
<tr>
<td>Economic Factors</td>
<td>How will increase in initial development costs for FBC-dictated features impact demand for development?</td>
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<td></td>
<td>Is there sufficient new development to rapidly produce positive FBC outcomes?</td>
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**CONCLUSIONS**

Based on the observations of planning directors for municipalities with form-based codes, towns applying FBCs in North Carolina have realized some but not all of the advantages identified and described by the FBCs’ biggest proponents, the Form-Based Code Institute. Despite the numerous inconsistencies between interviewee’s assessments and the FBCI’s list of “Eight Advantages to Form-Based Codes” one theme was consist across experiences—despite the additional complexities and effort required, the FBC’s have been, from a planning perspective, worth the trouble. The FBCs’ perceived positive impact on the initial design, layout, and walkability concerns outweighed the organizational and procedural challenges created by this fundamentally different approach to development regulation.

While the respondents provided qualitative assessments of FBC “advantages”, none of the planning directors had collected or analyzed any data to support their qualitative assessments. Due to the inherent biases associated with the opinions of consultants and practitioners vested in the success of these codes, determination of FBC’s impacts requires more rigorous assessment than most municipal planning departments can perform. The field would benefit from researchers conducting quantitative assessment of measurable FBC impacts (housing types, project approval time, staff hours required, etc.) or broad qualitative assessment (satisfaction surveys from the public, developers, elected officials, etc.).
Euclidian Zoning refers to the segregation of land uses into specific geographic districts and dimensional standards. This approach to zoning was first upheld in the Supreme Court case The Village of Euclid v. Ambler Reality Co., 272 U.S. 365 (1926). In this case the court held that for a zoning ordinance to be unconstitutional, the provisions must be clearly arbitrary and unreasonable, having no substantial relationship to the public health, safety, morals, and general welfare. This case established the constitutionality of comprehensive zoning.

The term “conventional zoning”, when used by form-based proponents, refers to zoning schemes that focus primarily on land use with lesser consideration of performance, form, and architecture (see Appendix C for discussion of these regulatory elements). While the FBCI describes eight “advantages to form-based codes”, they do not delineate the specific coding practices to which they allude. This allusion to a conventional zoning uniformly practiced “straw man” does not account for the varied code applications and complexities that confound clear comparison between form-based codes and the methods they try to improve upon.

This description of the Form-Based Code Institute (FBCI) is taken organization’s LinkedIn© profile at http://www.linkedin.com/companies/form-based-codes-institute.

New Urbanism involves a set of approaches that, by and large, recognize the inefficiency of twentieth century suburban development patterns and advocates redeveloping existing areas, especially those abandoned by industry or blighted by concentrated poverty. These approaches promote mixed uses and quality urban design. Most new urbanist approaches look to historical precedents for guide neighborhood, street, and building design.

This snowball sampling involves the identification of likely sources of information (in this case municipalities with FBCs) by researchers collaborating with respondents. In this research, respondents were asked the question, “What other municipalities do you know of that have successfully applied FBCs?” The codes for the municipalities identified in these responses were then examined to verify if the code was in fact an FBC (see Appendix D for the municipalities identified).

The terms cultural, geographic, organizational, and economic are terms used by the researcher to describe the components of John Gaus’ model in terms more specific to municipal application of development codes.

Multiple respondents used the term “sense of place” when discussing FBC. This term generally refers to an individual’s perception of a place’s location. In building forms, this sense of place is suggested through inclusion of identifiable (often historic) architectural and layout facets that recreate or interpret widely recognized vernacular traditions. “Sense of place” often counters large-scale commercial development that depends on branding and repetitious forms to support recognition by would-be patrons.
Interview with Town of Fletcher Planning Director, February, 2010. The Fletcher Planning Director indicated that the number of building permits issued dropped by 75% from 2007 to 2008.
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## APPENDIX A - GLOSSARY OF TERMS

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td>By-right development</td>
<td>Development of a piece of property identified as permitted by ordinance for the zoning district in which the property is located.</td>
</tr>
<tr>
<td>Building Envelope</td>
<td>The area, as delineated by lot dimensions, setback requirements, and height restrictions, within which a structure a building may exist.</td>
</tr>
<tr>
<td>Charette</td>
<td>A collective workshop process undertaken by designers, planners, and (in the case of FBCs) the community to reach a consensus on the project’s form and develop a preliminary sketch of the project.</td>
</tr>
<tr>
<td>Euclidian Zoning</td>
<td>The planning practice of segregating of land uses into specific geographic districts and dimensional standards.</td>
</tr>
<tr>
<td>FBC</td>
<td>Form-based Code-- A method of regulating development to achieve a specific urban form. Form-based codes [attempt to] create a predictable public realm primarily by controlling physical form, with a lesser focus on land use, through city or county regulations.</td>
</tr>
<tr>
<td>FBCI</td>
<td>Form-Based Code Institute--A non-profit organization that attempts to define Form-Based Coding, to establish best practices, and to advance the practice of FBCs as a means for providing a regulatory framework for sustainable development.</td>
</tr>
<tr>
<td>New Urbanism</td>
<td>A set of approaches that, by and large, recognize the inefficiency of twentieth-century suburban development patterns and advocates redeveloping existing areas, especially those abandoned by industry or blighted by concentrated poverty. These approaches promote mixed uses and quality urban design. Most new urbanist approaches look to historical precedents for guide neighborhood, street, and building design.</td>
</tr>
<tr>
<td>Sense of Place</td>
<td>An individual’s perception of a place’s geographic “setting”. In building forms, this sense of place is suggested through inclusion of identifiable (often historic) architectural and layout facets that recreate or interpret widely recognized vernacular traditions.</td>
</tr>
<tr>
<td>TND</td>
<td>Traditional Neighborhood Development—A zone established with an FBC embedded in its regulations. TND ordinance are often added to conventional codes for a specific area, such a downtown commercial district, or applied as a “floating zone” that developers can apply as an alternative to the existing conventional code.</td>
</tr>
<tr>
<td>UDO</td>
<td>Unified Development Ordinance— A comprehensive development code that integrates the zoning and subdivisions regulations that are often separate documents for conventional regulatory approaches.</td>
</tr>
</tbody>
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i Parolek, 2008.  
ii Ibid.  
iii Grant, 2006.
In 1981, the architectural design firm Duany Plater-Zyberk & Company (DPZ) created a contemporary development code for the planned community of Seaside, Florida. This code focused heavily on physical aspects of development, such as building form, building mass, building placement, and impact of individual structures on the public space. This “form-based” code set a precedent for subsequent design-based codes that rejected the processes and outcomes of traditional Euclidian zoning. While Euclidian zoning focuses almost exclusively on separation of land uses, what has become known as Form-Based Codes (FBCs) prioritize how the individual structures’ shape, scale, and placement impact the street and neighborhood.

By the 1990s, DPZ and others landscape architects had developed Traditional Neighborhood Development (TND) codes for a number of towns, neighborhoods, and developments across Florida. These TNDs described building requirements through a series of predetermined building types that correlated to the specific lot types. The codes also provided a concise menu of architectural features for integration into the structures. These first attempts at form-based development regulation often consisted simply of a single poster providing graphic renderings of prescribed building designs and lot plans. Subsequent TND applications were generally applied as optional overlay districts to existing conventional codes.

In 1995, the town of Belmont, North Carolina became one of the first municipalities to replace their conventional use-based development ordinance with a form-based development code. Following Belmont’s example, a number of other municipalities in the Charlotte-Mecklenburg County area adopted similar form-based development codes.\(^1\) This rapid dissemination and adoption of the innovative FBC approach established North Carolina as a “hearth” for the development and application of the regulatory approach now known as Form-Based Codes (FBCs).\(^2\) In the fifteen years since Belmont first adopted FBC, a number of articles and books have been written lauding FBC’s ability to promote and ensure better development. Based on these claims and apparently positive outcomes, many more North Carolina municipalities, including Raleigh, Durham, and Winston-Salem, are considering adoption of form-based development regulation.\(^3\)

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\(^1\) Craig Lewis worked on the Belmont then Cornelius planning staff when they adopted their respective FBCs prior to becoming the principal of the Lawrence Group design firm in Davidson, NC. David Walters is senior faculty at the University of North Carolina Charlotte School of Architecture and as senior designer for the Lawrence Group. The presence and influence of these two individuals has significantly impacted the development and diffusion of FBCs in North Carolina. All FBCs study during this research were developed with some degree of assistance one these two men or the Lawrence Group in general.

\(^2\) Saur, 1941. Carl Saur describes a hearth as the location in which a cultural system is “born.’ The hearth is the location where the most defining traits of a culture are defined and where the culture traits are subsequently transferred from. For form-based codes, the Charlotte metropolitan area is such a hearth. Belmont, Cornelius, Huntersville, and Davidson provided examples and test cases for the innovative practice of FBCs that subsequent diffused to many other towns in North Carolina. The primary agents of this diffusion have been Craig Lewis and David Walters. These two have been involved to varying degrees, with every FBC adopted in North Carolina so far. Craig Lewis is the Principal for the Lawrence Group in Davidson, while David is the Director of Landscape Architecture and University of North Carolina Charlotte and Senior Designer at the Lawrence Group.

\(^3\) Raleigh is currently working with a private design consulting firm to replace their existing conventional code with an FBC [see http://www.raleighnc.gov/publications/Planning/Plans_in_Process/New_Development_Code/NRC_Diagnostic_and_Approach_Report.pdf]. Durham is considering adding FBC regulation for their Downtown District [see http://www.ci.durham.nc.us/agendas/2010/cma20100201/202928_6829_265489.doc.PDF]. Winston-Salem has
APPENDIX B
A BRIEF HISTORY & TIMELINE OF FBCs

The first contemporary FBC is created by Duany-Plater Zyberk (DPZ) for the New Urbanist planned community of Seaside, Florida.

1981

The first contemporary FBC is created by Duany-Plater Zyberk (DPZ) for the New Urbanist planned community of Seaside, Florida.

1995

Chicago consultant Carol Wyant coins the term “Form-Based Code”.

2001

Miami adopts Miami 21, the first SmartCode form-based code for a major city.

2009

The Form-Based Code Institute is founded by Peter Katz, Carol Wyant, and 15 FBC practitioners (including Craig Lewis & David Walters).

2004

Cornelius, NC adopts the first mandatory TND Code under planner Craig Lewis (now Principal of Lawerence Group).

1996

Miami / Dade County adopts a Traditional Neighborhood Development (TND) overlay ordinance with help from DPZ that becomes model for subsequent codes.

1991

also identified the need for a FBC to regulate downtown development (see http://www.dwsp.org/DowntownPlan07.pdf).

2004
APPENDIX C - REGULATORY ELEMENTS OF DEVELOPMENT CODES

While all development codes consist of many (and usually all) of the four regulatory elements (below) form-based codes are differentiated from conventional use-based by the priority they assign to form relative to the other elements (right). While use-based codes primarily regulate type, intensity, and compatibility of uses, form-based codes focus primarily on the physical characteristics of structures and spaces (see examples below).

<table>
<thead>
<tr>
<th>REGULATORY ELEMENT</th>
<th>DESCRIPTION</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use</td>
<td>Specifies how a parcel may be used (allowable activities, density, etc.)</td>
<td>Separation of land uses</td>
</tr>
<tr>
<td>Performance</td>
<td>Requires mitigation of negative impacts</td>
<td>Storm water management standards</td>
</tr>
<tr>
<td>Form</td>
<td>Prescribes physical characteristics of structures (size, shape, placement, etc.)</td>
<td>Height requirements, setbacks</td>
</tr>
<tr>
<td>Architecture</td>
<td>Prescribes permissible design facets</td>
<td>Historic district guidelines</td>
</tr>
</tbody>
</table>

Figure i.

Figure ii.
Land use areas describe the character of the area that the code intends to sustain or promote.

Land use areas establish nodes for dense growth based on location of transportation networks.

Source: Town of Davidson Planning Ordinance
Regulation of off-street parking, tree placement, and sidewalks to promote a more walkable and inviting environment for pedestrians.

Source: Town of Huntersville Zoning Ordinance

FBC attention to neighborhood organization and connectivity based on historic neighborhood patterns.

Source: Town of Huntersville Zoning Ordinance
Zone descriptions provide basic guidelines that generally regulate form-based aspects such as building height, accessibility (road network), and placement of open spaces.

Zone descriptions also often include a menu of permissible building types and building placement requirements, such as maximum setbacks and frontage build-out minimums.
FBCs generally provide building classifications and examples of desired buildings.

Source: Town of Davidson Planning Ordinance

FBCs often describe general classes of structures to enable a range of possible uses simultaneously and over time.

Source: Town of Davidson Planning Ordinance
EIGHT ADVANTAGES TO FORM BASED CODES

<table>
<thead>
<tr>
<th>Advantage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encourage public participation</td>
<td>FBCs encourage public participation because they allow citizens to see what will happen where—leading to a higher comfort level about greater density, for instance.</td>
</tr>
<tr>
<td>More predictability of result</td>
<td>Because they are prescriptive (they state what you want), rather than proscriptive (what you don’t want), form-based codes (FBCs) can achieve a more predictable physical result. The elements controlled by FBCs are those that are most important to the shaping of a high quality built environment.</td>
</tr>
<tr>
<td>Allow a smaller scale of development</td>
<td>Because they can regulate development at the scale of an individual building or lot, FBCs encourage independent development by multiple property owners. This obviates the need for large land assemblies and the megaprojects that are frequently proposed for such parcels.</td>
</tr>
<tr>
<td>Promote diversity of design and ownership</td>
<td>The built results of FBCs often reflect a diversity of architecture, materials, uses, and ownership that can only come from the actions of many independent players operating within a communally agreed-upon vision and legal framework.</td>
</tr>
<tr>
<td>Promote compatibility of development with neighborhood “DNA”</td>
<td>FBCs work well in established communities because they effectively define and codify a neighborhood's existing &quot;DNA.&quot; Vernacular building types can be easily replicated, promoting infill that is compatible with surrounding structures.</td>
</tr>
<tr>
<td>Easier for use &amp; interpretation</td>
<td>Non-professionals find FBCs easier to use than conventional zoning documents because they are much shorter, more concise, and organized for visual access and readability. This feature makes it easier for non-planners to determine whether compliance has been achieved.</td>
</tr>
<tr>
<td>Easier for enforcement &amp; administration</td>
<td>FBCs obviate the need for design guidelines, which are difficult to apply consistently, offer too much room for subjective interpretation, and can be difficult to enforce. They also require less oversight by discretionary review bodies, fostering a less politicized planning process that could deliver huge savings in time and money and reduce the risk of takings challenges.</td>
</tr>
<tr>
<td>Shape a higher quality of public realm</td>
<td>FBCs may prove to be more enforceable than design guidelines. The stated purpose of FBCs is the shaping of a high quality public realm, a presumed public good that promotes healthy civic interaction. For that reason compliance with the codes can be enforced, not on the basis of aesthetics but because a failure to comply would diminish the good that is sought. While enforceability of development regulations has not been a problem in new growth areas controlled by private covenants, such matters can be problematic in already-urbanized areas due to legal conflicts with first amendment rights.</td>
</tr>
</tbody>
</table>

1 Description of advantages taken directly from Form-Based Codes Institute at [http://www.formbasedcodes.org/advantages.html](http://www.formbasedcodes.org/advantages.html)
APPENDIX E - EIGHT FOCUS AREAS WITH SUPPORTING QUESTIONS

QUESTIONS FOR SEMI-STRUCTURED INTERVIEWS

- How does your code impact public participation in the development process? How much public participation do you see? Any measurement data?
- How do you think FBCs do (or could) impact the communities where they are applied? How predictable is the impact?
- How does your code impact the scale and type of development in the code area? What about need for land assembly? Is there any way to measure?
- How does your code impact development? How compatible is the development? How do you assess this? What about development cost?
- How easy or hard is it for each of the following to interpret, apply and enforce your code as compared to your previous code? What about for the planning staff? What about for the planning board(s)? What about developers? What about the general public?
- How well does your code support or address the impact on the public realm?

FOCUS AREAS

- public participation
- predictability
- scale of development
- diversity
- compatibility
- use & interpretation
- enforcement & administration
- quality of public realm
- additional information

(see Appendix F for supporting questions)

QUESTIONS FOR SEMI-STRUCTURED INTERVIEWS

- What are the primary factors that have led your municipality to adopt (or maintain) the coding approach you use?
- What types of data do you collect and use to assess conditions of areas within your planning area?
- How do developers say they feel about working within your code?
- What specific aspects of your code would you suggest changing?
- What other municipalities that you know of have successfully applied FBCs?
- Additional comments?
## Identifying Sources for N.C. Municipalities Associated with Form Based Codes

### Craig Lewis (Former Planner for Belmont & Cornelius / Lawrence Group; Senior Planner)
- Belmont Planning Director
- Huntersville Planning Director
- Cornelius Planning Director
- Davidson Planning Director
- Knightdale Planning Director
- Locust Planning Director

### David Walters (Director of Urban Design, UNC-Charlotte / Lawrence Group, Senior Planner)
- Brevard Planning Director
- Fletcher Planning Director
- Salisbury Planning Director
- Mooresville
- Lexington
- Wendell
- Mocksville
- Durham

<table>
<thead>
<tr>
<th>Town</th>
<th>Information</th>
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<td>Mocksville</td>
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<td>Durham</td>
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</tbody>
</table>

### Walters, 2007.
### Tombari, 2005.
### Innis, 2007.
### Parolek, 2008.

Google Internet Search

FBC Designers / Subject-Matter Experts

Interview Responses to the Question "What other towns that you know of have successfully applied FBCs?"

NC Municipalities identified in applicable books and articles as having FBCs

First 150 results using terms "form-based" and "North Carolina"
APPENDIX G- CHECKLIST FOR IDENTIFYING A FORM-BASED CODE (FROM FBCI)

A well-crafted form-based code is the most effective form of development regulation for shaping pedestrian-scaled, mixed use and fine-grained urbanism. How does one determine if a development regulation is a form-based code and a well-crafted one? Form-based codes generally receive affirmative answers to all of the following questions:

Is it a Form-Based Code?
• Is the code's focus primarily on regulating urban form and less on land use?
• Is the code regulatory rather than advisory?
• Does the code emphasize standards and parameters for form with predictable physical outcomes (build-to lines, frontage type requirements, etc.) rather than relying on numerical parameters (FAR, density, etc.) whose outcomes are impossible to predict?
• Does the code require private buildings to shape public space through the use of building form standards with specific requirements for building placement?
• Does the code promote and/or conserve an interconnected street network and pedestrian-scaled blocks?
• Are regulations and standards keyed to specific locations on a regulating plan?
• Are the diagrams in the code unambiguous, clearly labeled, and accurate in their presentation of spatial configurations?

The next lists of questions reflect best practices of form-based coding. Effective form-based codes usually receive affirmative answers to these questions:

Is the code enforceable?
• Does the code implement a plan that reflects specific community intentions?
• Are the procedures for code administration clearly described?
• Is the form-based code effectively coordinated with other applicable policies and regulations that control development on the same property?
• Is the code designed, intended, and programmed to be regularly updated?

Is the code easy to use?
• Is the overall format and structure of the code readily discernable so that users can easily find what is pertinent to their interest?
• Can users readily understand and execute the physical form intended by the code?
• Are the intentions of each regulation clearly described and apparent even to planning staff and citizens who did not participate in its preparation?
• Are technical terms used in the code defined in a clear and understandable manner?
• Does the code format lend itself to convenient public distribution and use?

Will the code produce functional and vital urbanism?
• Will the code shape the public realm to invite pedestrian use and social interaction?
• Will the code produce walkable, identifiable neighborhoods that provide for daily needs?
• Is the code based on a sufficiently detailed physical plan and/or other clear community vision that directs development and aids implementation?
• Are parking requirements compatible with pedestrian-scaled urbanism?
## APPENDIX H: COMPARISON OF FBCI CLAIMS AND INTERVIEW RESPONSES
### (SUMMARY TABLE)

### SUMMARY OF FINDINGS

<table>
<thead>
<tr>
<th>Belmont</th>
<th>Huntersville</th>
<th>Cornelius</th>
<th>Locust</th>
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### KEY

- **Green** (Supports Proposed Advantage)
- **Yellow** (No change / Conflicting Information)
- **Red** (Contradicts Proposed Advantage)
- **n/r** (No reported information)
APPENDIX H - DESCRIPTION OF MUNICIPAL RESPONSES (PUBLIC PARTICIPATION)

ADVANTAGE 1: PUBLIC PARTICIPATION

<table>
<thead>
<tr>
<th>Belmont</th>
<th>Huntersville</th>
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<th>Salisbury</th>
<th>Knightdale</th>
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</tr>
</thead>
<tbody>
<tr>
<td>The FBC affords more public meetings, especially for conditional uses in the downtown.</td>
<td>Allot of public meetings, especially for conditional uses.</td>
<td>Review processes under FBC ordinance are internal and less visible. There are fewer public hearings for rezoning. Ordinance does not include charrette requirement.</td>
<td>Administrative review for “by right” development. The town does not and did not have allot of public participation.</td>
<td>Planning board approves all projects in a public hearing with significant public input. Administrative approval is granted for minor issues only.</td>
<td>The process required by the FBC ordinance brings people in. The code institutionalizes the public process.</td>
<td>Ordinance allows administrative review for “by right” construction—no public hearing. Public hearings for conditional uses.</td>
<td>Significant increase in public participation. The process was deliberately designed to get more public input. Have some ability to ask for conditions at every level.</td>
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</table>
APPENDIX H- DESCRIPTION OF MUNICIPAL RESPONSES (PREDICTABILITY)

ADVANTAGE 2: PREDICTABILITY

<table>
<thead>
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<th>Brevard</th>
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</thead>
</table>

The town saw the impacts in other areas first like Davidson, where growth is faster. The town is still in the process of validating the code.

Residents have a limited understanding of the code and what to expect from it.

The code has not helped in residential development. Developers are still building on the standard 60’ lots. Have not achieved any true mixed use yet.

The town was generally gotten what it wanted from the code.

The town has established a “brand” and an expectation that now comes with it.

Not allot of impact to judge so far. But, as soon as an issue occurs, the town revises the code.

Predictability has been generally good. The FBC has promoted mixed-use and synergy of uses.

Predictability has increased ten-fold. Developers trust the process allot more. The development is not perfect, but is better.

The outcome has generally been predictable. Have had some small unanticipated issues but the code does promote better building types.
### ADVANTAGE 3: SCALE (LAND ASSEMBLY)

<table>
<thead>
<tr>
<th>Belmont</th>
<th>Huntersville</th>
<th>Cornelius</th>
<th>Locust</th>
<th>Davidson</th>
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<tr>
<td>Land Assembly</td>
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</table>

- **The FBC requires less land assembly. Integrated / shared parking reduces the need for land assembly.**
- **No real land assembly due to extensive amount of undeveloped land.**
- **Have not seen much need for land assemblies due to a number of large, relatively inexpensive tracts.**
- **FBCs are more adaptable to small parcels because it requires only a 3’ setback. Assemblies are discouraged because they diminish the uniqueness of small plots.**
- **No response.**
- **Relatively high land costs discourage land assembly. Less need for land assembly due to shared parking.**
- **Have not seen much land assembly due to economy. Code does make it easier to plan out large tracts.**
- **There is less need for land assembly because the code allows for more lot coverage and larger buildings on each lot.**
- **Hard to say because of decrease in development. No land assembly since the code was enacted. There was some land assembly before the code was adopted.**

- **No real land assembly due to extensive amount of undeveloped land.**
- **There is less need for land assembly because the code allows for more lot coverage and larger buildings on each lot.**
### APPENDIX H: DESCRIPTION OF MUNICIPAL RESPONSES (DIVERSITY)

#### ADVANTAGE 4: DIVERSITY (HOUSING TYPES)

<table>
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<tr>
<th></th>
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<th>Huntersville</th>
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<td>Diversity</td>
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<td>Housing Types</td>
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<tr>
<td><strong>The new town center has attracted businesses that would not have been located here otherwise.</strong></td>
<td>Yes</td>
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<tr>
<td><strong>There are now apartments and townhouses in the new Town Center and at the Red Bridge development. Previously these types did not exist.</strong></td>
<td>Yes</td>
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<tr>
<td>Developers are mixing residential types and lots sizes. See allot of different residential types within the same neighborhood.</td>
<td>Yes</td>
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<tr>
<td><strong>No impact yet. But, it is still an improvement over the previous comprehensive plan that identified single-family as the preferred residential type.</strong></td>
<td>Yes</td>
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<tr>
<td><strong>Are getting higher density housing, such as townhouses and apartments.</strong></td>
<td>Yes</td>
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<tr>
<td><strong>There has not been allot of impact yet, but the town has gotten some small business headquarters locating here.</strong></td>
<td>Yes</td>
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<tr>
<td><strong>Not allot of impact on business types yet. Everybody is tired of all the new banks, but that corresponds with the extensive retired population.</strong></td>
<td>Yes</td>
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#### ADVANTAGE 4: DIVERSITY (BUSINESSES)

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<tr>
<td><strong>The FBC has allowed business development to happen more easily.</strong></td>
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<tr>
<td><strong>The FBC allows for more diversity but does not specifically promote it. Feel there is more diversity, but cannot prove it.</strong></td>
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<tr>
<td>Diversity has been great. The FBC puts uses together. But, the town is trying to promote more businesses in general (87%/13% residential/business split)</td>
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<tr>
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<tr>
<td><strong>The FBC has not really diversified business types. There are no large-scale retail and the code pretty much prohibits “big-box” development.</strong></td>
<td>Yes</td>
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<tr>
<td><strong>The code has not created a broader array of business, but the code has created opportunities for business in areas where there previously were not.</strong></td>
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<tr>
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The FBC has allowed the market to better decide and adapt, resulting in residential types.

The new town center has attracted businesses that would not have been located here otherwise.

While the town is still predominantly suburban, the town has gotten some more townhouse and apartments that address the street.

There has not been allot of impact yet, but the town has gotten some small business headquarters locating here.

The code has not really diversified business types. There are no large-scale retail and the code pretty much prohibits “big-box” development.

Developers are mixing residential types and lots sizes. See allot of different residential types within the same neighborhood.

Yes, absolutely. The FBC requires a variety of lot sizes, promoting a variety of housing types.

Are getting higher density housing, such as townhouses and apartments.

Yes, absolutely. The FBC requires a variety of lot sizes, promoting a variety of housing types.

There have been more multi-family homes such as townhouses and duplexes. FBC allows downtown lofts where the previous code did not.

There is more socio-economic diversity. More townhomes and condominiums. More diversity within neighborhoods.

The FBC has allowed the market to better decide and adapt, resulting in residential types.

Yes, absolutely. The FBC requires a variety of lot sizes, promoting a variety of housing types.

There have been more multi-family homes such as townhouses and duplexes. FBC allows downtown lofts where the previous code did not.

No impact yet. Which is likely due to the slow economy.
APPENDIX H - DESCRIPTION OF MUNICIPAL RESPONSES (DIVERSITY)

ADVANTAGE 4: DIVERSITY (LAND USE)

<table>
<thead>
<tr>
<th>Location</th>
<th>Belmont</th>
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<th>Cornelius</th>
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<td>Green</td>
<td>Green</td>
<td>Yellow</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
</tr>
</tbody>
</table>

- **FBC allows a broad range of uses.** It does not create single-use quadrants like conventional codes do. There is no sameness of neighborhoods.
- **Still largely residential and uses are still separated.**
- **No real changes have been seen yet because the town is still pretty pro-growth.**
- **Not enough development has occurred to know yet.**
- **The FBC encourages a variety of solutions.** Have achieved some mixing of uses, but have not achieved complete mixing of uses.
- **The FBC definitely promotes a diversity of land uses.** The FBC creates walkable and connected neighborhoods. The code creates synergy between land uses.
- **Quality of appearance is getting better.** Are amending code to improve architecture. Board can approve a cert. of appropriateness if they like a non-conforming plan.
- **Current architectural standards are not specific to local building types.** Quality of architecture is higher, but still the same across projects.

ADVANTAGE 4: DIVERSITY (APPEARANCE)

<table>
<thead>
<tr>
<th>Location</th>
<th>Belmont</th>
<th>Huntersville</th>
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<tbody>
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<td>Appearance</td>
<td>Green</td>
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<td>Green</td>
<td>Yellow</td>
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- **More diversity of appearance and architectural appearance.** Each of the developments completed in the last ten years has a distinctive character.
- **The Town Center has an Architectural Review Board, but appearance is generally the same for the other projects.** The FBC does not really address appearance.
- **The previous code required uniformity.** There is a good variety of buildings built under the FBC are pretty interesting. The town wants more diversity.
- **Quality of appearance is getting better.** Are amending code to improve architecture. Board can approve a cert. of appropriateness if they like a non-conforming plan.
- **The code just generally replicates the existing architectural types.**
- **Have achieved some diversity of appearance for projects so far.**
- **Initially had some unplanned results, but the implementation of an Architectural Review Board has helped this.** The board is a good indicator from the community.
- **Not allot of development so far, but the quality of design for the few completed projects seems to be better.**
APPENDIX H- DESCRIPTION OF MUNICIPAL RESPONSES (COMPATABILITY)

ADVANTAGE 5: COMPATABILITY

<table>
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<tr>
<th>Belmont</th>
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- Development has been a good continuation of historic development trends. The FBC maintains the walkability that was engrained in the mill village development.
- The FBC has helped restrict undesirable development. The zones were established based on what was on the ground, not the planned development.
- The small-scale commercial development has been pretty good. However, the “big box” development is not much better than before.
- Development has been compatible with the districts the comprehensive plan described.
- Compatibility is the whole idea of the FBC... It is one of the most successful aspects of the FBC.
- The development so far has not really been compatible. But, this is because the new development is significantly better than what was there.
- The planning department looks at the context when reviewing new submittals and reviews proposals case-by-case to ensure compatibility.
- The FBC emphasizes compatibility. The FBC includes infill development standards that require structures to be compatible with surroundings.
- Development is not always compatible because it is bigger and denser than the existing surroundings. But, this development gets closer to strategic planning goals.
APPENDIX H: DESCRIPTION OF MUNICIPAL RESPONSES
(EASE OF USE & INTERPRETATION)

ADVANTAGE 6: EASE OF USE & INTERPRETATION (PUBLIC)

The code can be a little tricky for the public to understand. Requires some help from the planning staff.

The FBCs are easier to understand. The twelve districts are fewer than the previous code. The rezoning process is easier.

The planning staff has to explain and educate the public. There are more considerations to explain for every project.

The public does push back some because they have been conditioned for suburbanism. But, they tolerate the code because they see the positive outcomes.

The average citizen does not deal with the code any more than they did with the previous code.

ADVANTAGE 6: EASE OF USE & INTERPRETATION (DEVELOPERS)

The code can be a little tricky to understand. Requires some planning staff interpretation. The staff works with developers prior hearings to work out issues.

A few developers see the code as anti-business or too restrictive.

Developers have to adapt their standard models to meet code requirements. The code favors local developers and developers familiar with FBCs.

There was allot of resistance initially. But developers do say the code is easier to work with than other neighboring municipality.

Commercial development is a bit harder because the FBC requires every building to front a street. But the FBC allows more developer flexibility and imagination.

The North Mecklenburg area has a reputation for more stringent development standards. There are more considerations to explain.

The administrative approval process is much quicker. The FBC has a set of clearly defined rules. Process is easier because the staff does not add conditions.

Most local developers do not like the code. They need an architect on staff. Developers say the code has slowed development (but the data says otherwise).
APPENDIX H - DESCRIPTION OF MUNICIPAL RESPONSES
(ENFORCEMENT & ADMINISTRATION)

ADVANTAGE 7: EASE OF ENFORCEMENT & ADMINISTRATION
(PLANNING STAFF)

- The FBC is a little bit contradictory and can be a little but difficult to interpret. Senior Planner attended the FBCI certification. His knowledge was fundamental to development. The fire inspectors have been very accommodating of the FBC.
- There is allot of ambiguity and “gray area” in the FBC. The text requires allot of interpretation by the staff. The code puts allot on the staff to review and handle.
- The FBC is harder to administer due to the high level of subjectivity. There is no quick checklist to determine compliance with regulations.
- The staff are brilliant people that understand the town’s priorities. The staff has a pretty easy time interpreting the code. But did need more architectural expertise.
- The code is not easy to apply initially. The staff must understand building types. But, later it becomes easier because it takes undesirable alternatives off the table.
- Need to update some glitches, but the code has been pretty easy to use otherwise.

ADVANTAGE 7: EASE OF ENFORCEMENT & ADMINISTRATION
(REGULATORY BOARDS)

- The members have to be astute to understand and apply the code. There is some push-back from the boards. The staff has to help explain and interpret the code.
- Most board members understand the code because they have been around a while. But, newer members have more trouble understanding the code.
- Interpretation of the code is definitely more subjective. But it does provide the board more leeway for interpretation.
- The boards pretty much understand and interpret the code. They do need some help from staff because they get a little confused.
- The boards often do not understand the concepts and need the staff to help work through issues.
- Most of the review boards have adapted well. But, the Board of Adjustment has not adapted well at all. They do not agree with code’s concepts or philosophies.
- The town has always had a good board that understands the intent of the code. The staff does sometimes have to help coach the board.
- The boards often need explanation from staff to understand issues and the code. The staff provides a “planning academy” to help educate board members.
- The stringent design-based review process is good, but the boards rely allot on the staff to help.
## ADVANTAGE 8: QUALITY OF PUBLIC REALM

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- **There is a huge impact. FBCs address the quality of streets, which are the largest public asset. The FBC is geared toward the creation of public space.**
- **Impact could be better. The town does not have many real public spaces.**
- **The impact is positive. The FBC improves the walkability and signage.**
- **The code does a good job shaping a “sense of place.” The code does a better job than conventional codes at defining safe, efficient spaces.**
- **The town is building more sidewalks and focusing more on walkability and mobility.**
- **It is still a work in progress, but the streetscapes definitely look better.**
- **There are definitely better sidewalks and streetscapes. But, code does not successfully define how buildings impact streetscapes and staff cannot really guide development.**
- **The FBC provides a lasting street network, making it easier for spaces to evolve over time. The FBC improves the quality of the street by bringing buildings up to the sidewalk.**
- **The FBC does a very good job creating good pedestrian spaces. There is allot of green/open space in neighborhoods. The code has extensive open space requirements.**
- **The impact is positive. The FBC improves the walkability and signage.**
- **There are a lot of sidewalks and streetscapes. But, code does not successfully define how buildings impact streetscapes and staff cannot really guide development.**
APPENDIX I- SOURCES


Einsweiler, Lee. “An Introduction to Form-Based Coding,” presentation to the City of Raleigh Form-Based Code Workshop, February 3, 2010.

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