Form-based Zoning Grows Up

Rocky Mountain Land Use Institute

Denver, CO | March 14, 2014

Don Elliott, FAICP
Matt Goebel, AICP
Overview

- The path of zoning evolution
- What is form-based zoning?
- *The Rules that Shape Urban Form*
  - Six case studies
- Form-based controls & other planning goals
  - Sustainability
  - Housing affordability
  - Demographic changes
  - Historic preservation
- Six questions to consider before preparing form regulations...
Form Based Zoning Grows Up

• What is it?
• How is it being used?
• What are we learning?
First...

There were nuisances
  – From WAY back

Then there was zoning
  – Remember Euclid

Then zoning got too rigid
  – Too many districts and uses

Then zoning got too flexible
  – PUDs and performance zoning reduce predictability

Then zoning got form-based
The Path of Zoning Evolution

PREDICTABILITY

Post-war Use-based Zoning

FLEXIBILITY

Early Use-based Zoning

Performance Zoning

PUDs
What is Form-based Zoning?

Myth 1: Traditional zoning is based on use separation.  
False: It is based on use regulation – but mixes are always allowed.

Myth 2: Form-based zoning ignores uses: anything goes anywhere.  
False: Uses are regulated – just more lightly – and secondarily.
What is Form-based Zoning?

Building Envelope

Downtown Building
What is Form-based Zoning?

FBCI Core Elements List:

- Building Form Standards
- Building Type Standards
- Frontage Type Standards
- Public Space Standards
- Block and Subdivision Standards
- Regulating Plan
What is Form-based Zoning?

Building Forms & Types

Table 1129.40 (1). Permitted Building Types by District.

- **Storefront Building**: Permitted within district
- **General Stoop Building**: Permitted within district
- **Cottage Commercial**: Permitted within district
- **Civic Building**: Permitted within district
- **Row Building**: Permitted within district
- **Parking Structure**: Permitted within district

- • = Permitted within district
- ○ = Permitted only on corner parcels
- ▲ = Permitted on secondary street only

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What is Form-based Zoning?

Frontage Types
What is Form-based Zoning?

Public Space Standards

Plaza

Park
What is Form-based Zoning?

Public Space Standards

Sometimes include Thoroughfare Standards
What is Form-based Zoning?

Block and Subdivision Standards

Table 153.060-A. Maximum Block Dimensions

<table>
<thead>
<tr>
<th>BSC DISTRICTS</th>
<th>LENGTH (FT)</th>
<th>PERIMETER (FT)</th>
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<tbody>
<tr>
<td>Residential</td>
<td>425</td>
<td>1,450</td>
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<tr>
<td>Office Residential</td>
<td>500</td>
<td>1,750</td>
</tr>
<tr>
<td>Office</td>
<td>500</td>
<td>1,750</td>
</tr>
<tr>
<td>Commercial</td>
<td>500</td>
<td>1,750</td>
</tr>
<tr>
<td>Historic Residential</td>
<td>200</td>
<td>800</td>
</tr>
<tr>
<td>Historic Core</td>
<td>200</td>
<td>800</td>
</tr>
</tbody>
</table>
What is Form-based Zoning?

Regulating Plan
What is Form-based Zoning?

Regulating Plan
What is Form-based Zoning?

By-right Development?

Not Really – All New Codes Try to Do That

• All code reforms simplify uses
• Most code reforms try to define permitted shapes, forms, or types development to avoid site plan hearings whenever possible
• Form-based controls are a good way to sell use simplification
The Rules That Shape Urban Form

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The Rules That Shape Urban Form
The Rules That Shape Urban Form
Austin, Texas

• Background
  – Outdated, complex development code
  – Challenge to update because of politics, area-specific compromises
  – Urban core development indistinguishable from the suburbs

• Intent
  – Raise the bar of development quality in Austin, but within a regulatory structure offering flexibility, not strict requirements
The Rules That Shape Urban Form
Austin, Texas

• Goals
  – Raise the bar of development quality, but within a regulatory structure offering flexibility, not strict requirements
  – Achieve greater uniformity along the streetscape, despite variations in underlying zoning districts

• Core Transit Corridor
• Internal Circulation Route
• Urban Roadway
• Suburban Roadway
• Highway or Hill Country Roadway
<table>
<thead>
<tr>
<th>Section</th>
<th>Standard</th>
<th>Applies if the Principal Street Is:</th>
<th>Applies to the Following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTICLE 2: SITE DEVELOPMENT STANDARDS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2.2: Relationship of Buildings to Streets and Walkways</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 2.2.2. Core Transit Corridors: Sidewalks and Building Placement | Core Transit Corridor | - All zoning districts  
- Single-family residential uses are exempt, in addition to the general exemptions in Section 1.2.3. | |
| 2.2.3. Urban Roadways: Sidewalks and Building Placement | Urban Roadway | All non-residential zoning districts | |
| 2.2.4. Suburban Roadways: Sidewalks and Building Placement | Suburban Roadway | All non-residential zoning districts | |
| 2.2.5. Internal Circulation Routes: Sidewalks and Building Placement | Internal Circulation Route | All non-residential zoning districts  
(development of any site subject to the internal circulation system requirements in Section 2.3.1.) | |
| 2.2.6. Building Entryways | Core Transit Corridor | All zoning districts | |
| - Suburban Roadway  
- Highway  
- Hill Country Roadway  
- Urban Roadway | All non-residential zoning districts | |
| **2.3: Connectivity** |
| 2.3.1: Internal Circulation Systems for Large Sites |  
- Core Transit Corridor  
- Urban Roadway | All zoning districts  
(development of any site five acres of larger)  
- See additional exemptions in 2.3.1.B. | |
| - Suburban Roadway  
- Highway  
- Hill Country Roadway | All non-residential zoning districts  
(development of any site five acres of larger)  
- See additional exemptions in 2.3.1.B. | |
| 2.3.2. Improvements to Encourage Pedestrian, Bicycle, and Vehicular Connectivity | All roadway types | - Projects with a net site area of three acres or more in all non-residential zoning districts  
- Projects with a net site area of less than three acres that have parking between the building and the principal street in all zoning districts | |
| **2.4: Parking Reductions** | All standards | All roadway types | All non-residential zoning districts |
The Rules That Shape Urban Form
Austin, Texas

- Core Transit Corridors: Sidewalks and Building Placement
# The Rules That Shape Urban Form

*Austin, Texas*

## 1-POINT OPTIONS

<table>
<thead>
<tr>
<th>Option</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achieve City of Austin Green Building Program 1-star rating.</td>
<td></td>
</tr>
<tr>
<td>Provide for liner stores in building façade.</td>
<td></td>
</tr>
<tr>
<td>Provide façade articulation meeting specified standards.</td>
<td></td>
</tr>
<tr>
<td>Provide primary entrance design meeting specified standards.</td>
<td></td>
</tr>
<tr>
<td>Provide roof design meeting specified standards.</td>
<td></td>
</tr>
<tr>
<td>Provide building materials meeting specified standards.</td>
<td></td>
</tr>
<tr>
<td>Improve existing storefronts to meet new glazing requirements.</td>
<td></td>
</tr>
<tr>
<td>100% of glazing on ground-floor facades facing street or parking lot with visual transmittance (VT) of 0.6 or higher.</td>
<td></td>
</tr>
<tr>
<td>Comply with neighborhood design guidelines (if applicable).</td>
<td></td>
</tr>
</tbody>
</table>

## Building Design: Menu of Additional Design Options

### 2-POINT OPTIONS

<table>
<thead>
<tr>
<th>Option</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achieve City of Austin Green Building Program 2-star rating.</td>
<td></td>
</tr>
<tr>
<td>75% of façade facing principal street consists of storefronts with at least 2 separate entrances facing principal street.</td>
<td></td>
</tr>
<tr>
<td>Provide sustainable roof meeting specified standards.</td>
<td></td>
</tr>
<tr>
<td>Integrate solar power generation into building design.</td>
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</tbody>
</table>

### 3-POINT OPTIONS

<table>
<thead>
<tr>
<th>Option</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop VMU building.</td>
<td></td>
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</tbody>
</table>
The Rules That Shape Urban Form

Austin, Texas

Form-Based Tools

- Building Types
- Frontage Types
- Public Space Standards
- Block and Subdivision Standards
- Regulating Plans
- By-right Development

Design Standards

- Yes – for vertical mixed-use buildings
- No – keyed according to adjacent street type
- Yes – streetscape standards, and also private common open space
- Yes – connectivity stds for large sites of 5+ acres
- No
- No significant change
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Experience
The Rules That Shape Urban Form

*Austin, Texas*

### Good:
- Overall: led to improved design quality and building-to-street relationships throughout the city.
- Form-based and design standards introduced into a complex code in a way that laid the groundwork for more ambitious future approaches.

### Not so good:
- Alternative compliance overused.
- High staff turnover complicated implementation and led to overuse of alternative compliance provisions.
- Organization as a freestanding chapter made reconciliation with other parts of the code challenging.
### The Rules That Shape Urban Form

**Mooresville, North Carolina**

#### TABLE 5.1.4: TABLE OF ALLOWED USES [1]

<table>
<thead>
<tr>
<th>Use Category [2]</th>
<th>Use Type</th>
<th>R-2</th>
<th>R-3</th>
<th>R-5</th>
<th>RMX-MH</th>
<th>TND-C</th>
<th>NMX</th>
<th>CMX</th>
<th>HB</th>
<th>VC</th>
<th>TC</th>
<th>GI</th>
<th>EI</th>
<th>PC-C</th>
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</thead>
<tbody>
<tr>
<td><strong>Restaurant</strong></td>
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</tr>
<tr>
<td>Without Drive-Through Service</td>
<td>Restaurant</td>
<td>C</td>
<td>SF</td>
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<tr>
<td><strong>Bar, Nightclub, or Similar Establishment</strong></td>
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<td><strong>Crematory</strong></td>
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<td><strong>Retail Sales and Services</strong></td>
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<tr>
<td>With Gasoline Sales</td>
<td>Retail Use</td>
<td>P</td>
<td>SF</td>
<td>CR</td>
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<td></td>
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<td></td>
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<tr>
<td>Type 1 Retail Use</td>
<td></td>
<td>C</td>
<td>DH</td>
<td>AR</td>
<td>SF</td>
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</tbody>
</table>

**Allowable Building Forms**

- DH = Detached House
- MA = Mansion Apartment
- AR = Attached Residential
- NA = Not Applicable
- CV = Civic
- SF = Shopfront
- WP = Workplace
- CR = Commercial/Retail
- FX = Flex/Industrial
- LR = Large Retail

**Additional Requirements**

- 5.3.3 (A)
- 5.3.3 (B)
- 5.3.3 (C)
- 5.3.3 (D)
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Mooresville, North Carolina

Commercial/Retail

Workplace

Shop Front
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*Denver Main Street*

*MS-1 & MS-2*
The Rules That Shape Urban Form
Arlington County, VA | Columbia Pike

COLUMBIA PIKE
General Land Use Plan

Legend
- Low Res. 1-10 units/acre
- Low Res. 11-15 units/acre
- Low Medium Res. 16-30 units/acre
- Medium Res. 37-72 units/acre
- High Medium Res. 3.24 F.A.R. Residential
- High Res. 4.8 F.A.R. Residential
- 3.0 F.A.R. Hotel
- High Office Office-Apt.-Hotel
- Service Commercial
- Public
- Semi-Public
- Government & Community Facilities
- General Land Use Plan Proposed Changes
- Special Revitalization District
- Open Space Symbol

Note: These areas were designated a “Special Revitalization District”: Columbia Pike on 11/15/86 and amended on December 17, 2002; Lee Highway/Cherrydale area on 4/1/95.
Very Detailed Standards

- Blocks and Alleys,
- Streetscape,
- Parking,
- Retail,
- Historic Preservation,
- Public Improvements, and
- Buildings

- Height,
- Use Requirements,
- Building Placement,
- Building Elements,
- Architecture

- Building
- Walls
- Roofs and Parapets
- Street Wall Required
- Windows and Doors
- Lighting
- Signage
- Mechanical Equipment
• Smart Code structure for entire mandatory code
• Form controls only for T3 and T4 areas
• Form controls apply to <5% of land
• Remainder left in traditional /PUD zoning
The Rules That Shape Urban Form

Miami 21

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**The Takeaways**

<table>
<thead>
<tr>
<th></th>
<th>Austin</th>
<th>Mooresville</th>
<th>Denver MS</th>
<th>Arlington</th>
<th>Livermore</th>
<th>Miami</th>
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<tbody>
<tr>
<td><strong>Building Types</strong></td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
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<tr>
<td><strong>Frontage Types</strong></td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
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<tr>
<td><strong>Public Space Standards</strong></td>
<td>⬜</td>
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<td>⬜</td>
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<td>⬜</td>
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<tr>
<td><strong>Block &amp; Subdivision</strong></td>
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<tr>
<td><strong>Regulating Plans</strong></td>
<td>⬜</td>
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<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
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<tr>
<td><strong>By Right Development</strong></td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
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</tbody>
</table>
The Rules That Shape Urban Form

The Takeaways
The Rules That Shape Urban Form

Form-based controls & other planning goals

- Sustainability
- Housing Affordability
- Demographic Change
- Historic Preservation
# The Rules That Shape Urban Form

## The Takeaways on Sustainability

<table>
<thead>
<tr>
<th>Key Form-Based Tools</th>
<th>Air Emissions / Climate Change</th>
<th>Energy Conservation and Renewable Energy</th>
<th>Water Conservation</th>
<th>Urban Agriculture</th>
<th>Walkability / Public Health</th>
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<tbody>
<tr>
<td>Building Types / Standards</td>
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<td>Public Space Standards</td>
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<tr>
<td>Block and Subdivision Standards</td>
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<tr>
<td>Administration</td>
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<td>⬜</td>
<td>⬜</td>
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</tr>
</tbody>
</table>

- ⬜ = Potentially significant contribution
- ⬜ = Moderate or mixed contribution (e.g., impacts in more dense areas may be offset by impacts in other areas)
- ⬜ = Little impact or no different than nonform-based controls
Average market prices of housing have been rising faster than average wages for 50 years

- % of income spent on rent
  
  1960 = 29%  
  2005 = 29%

- % of households spending more than 30% of income on housing
  
  1960 = 29%  
  2005: 49%
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The Takeaways on Housing Affordability

- **Forms Help Sell Good Planning.** Form-based controls can help “sell” the acceptability of small lot detached, attached, and multifamily building forms needed to address the growing demand for affordable
  
  - and making low-density detached building forms unavailable in denser areas may prevent use of prime sites for less affordable housing types

- **Don’t Forget Bonuses.** Don’t remove height bonuses necessary to allow affordable builders to compete with market rate builders

- **Don’t Lock in Bad Forms.** Form-based controls based on current urban fabric can wind up “locking in” dispersed large lot single-family areas and make it harder for them to densify as needed to meet affordable housing demand
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Demographic Change

- Average age increasing
- Household size decreasing
- Ethnic diversity increasing
- Multi-generational households increasing
• **Forms Help Sell Good Planning.** Form-based controls can help “sell” the acceptability of small lot detached, attached, and multifamily building forms needed to address the growing number of smaller households, and aged households.

• **Don’t Define Forms Narrowly.** Be careful to define the forms and standards broadly enough to allow the types of specialized facilities (nursing homes, assisted care facilities, small hospitals, and social services facilities) needed to serve an aging and potentially poorer population.

• **Don’t Lock in Bad Forms.** Form-based controls based on current urban fabric can wind up “locking in” dispersed large lot single-family areas and make it harder for them to densify as needed to allow older families to age in place.
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Historic Preservation

• Overlapping Goals
  – Both start with analyzing and understanding the built environment
  – Both emphasize respect for traditional development patterns
  – Both seek to duplicate (or complement) historic patterns in new development
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Historic Preservation

- The traditional preservation toolbox is stretched thin...
  - Surveys
  - Historic landmarks and districts
  - Certificates of appropriateness for major projects
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The Takeaway on Historic Preservation

- Form controls are a potentially valuable tool to meet preservation goals
  - Clearer, better illustrated zoning districts that reinforce historic development patterns
  - Introduce more sensitive and tailored building forms (= clarifying acceptable infill upfront)
  - Potentially easier to administer than case-by-case reviews
  - However: Significant up-front time and resources are necessary to create standards that allow streamlined reviews
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The Takeaway on Historic Preservation

- Neighborhood Conservation:

- Form-based controls may be particularly useful as a template for neighborhood conservation overlay districts
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The Takeaway

• Not surprisingly, some elements of form-based controls can help achieve planning goals related to sustainability, affordability, demographic change, and historic preservation.

• ...While others perform no better than traditional controls

• Be careful of locking in patterns and densities that will prevent the evolution and densification of lower-density neighborhoods over time – unless you really want that.
The Rules That Shape Urban Form

• Remember to “Unpack” the Idea…
• And then Take the Parts You Need
The Rules That Shape Urban Form

• Remember to “Unpack” the Idea...
• And then Take the Parts You Need
Six Questions to Consider Before Preparing Form Regulations...
Will the form controls cover the entire community, or just certain areas?
1 Will the form controls cover the entire community, or just certain areas?

Kevin Lynch’s Key Elements in How We Understand Cities

There are “Places” and “places”
  • and many “places” do not need form-based controls
If it applies to only a specific area, is there a plan for that area?

- Is the plan more than a drawing?
- Be careful of locking in too much detail
  - Life never turns out like the picture on the box
  - Lots of unanticipated events will take place before buildout
  - How much detail do you need to make the place a success
Will the controls be mandatory or optional?

Many current codes are optional (parallel codes or floating zones)

- Mandatory codes may be harder to adopt
- Optional codes may make administration harder
- Both can be effective
Are the regulations for:

Greenfield sites?

• If one owner or cooperating owners, good to go.
• Really a more disciplined PUD.

Major redevelopment sites?

• If one owner or cooperating owners, you’re lucky.
• Watch out for proposals to reinvent street patterns – they often require re-subdivision, relocation of utilities, money.
• Will the new controls apply until the new streets are in place?

Small infill redevelopment sites over time?

• Don’t make the current owners nonconforming.
• Assume random timing/location of individual projects.
• Don’t require neighbors to prepare a joint regulating plan before proceeding.
5 Will the form-based tools be “contextual” or “prescriptive”?

Knowing the answer makes the job easier – and more transparent

Some benefits will depend on the answer
How will you treat existing development that doesn’t meet the standards?

• “The greenest building is the one that has already been built”
• DON’T put them in “zoning parole” -- nonconformities
Remember to Lighten Up on Use Controls
Form-based Zoning Grows Up

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