Form-Based Zoning vs Conventional Zoning

Chicago
May 16, 2014

Tony Perez
Director of Form-Based Codes, Opticos Design, Inc.
tony.perez@opticosdesign.com
What the community wants
But their Zoning *Doesn’t Allow it*
Great at what it wants to prevent

But not at what it intends to make
Conventional Zoning

• Emphasis on regulation by use

  19. Baths, Turkish
  25. Boxing arena
  28. Chinchillas, retail sales
  41. Eleemosynary institutions
  42. Embalming business
  95. Physical culture institution
  109. Potato chip manufacturing
  127. Tombstones, retail sales
  135. Turkish bath

• Disconnect between land use, urban form, and design

• Exceptions become the rule
Well, the process will fix it
Well, the PD process will fix it.
Chicago 2014 Conventional Zoning vs Form-Based Zoning

© 2014 Opticos Design, Inc.
4 Environments

New York, NY T2, T4 – T6
4 Environments

Chicago, IL T4 – T6, SD
4 Environments

Riverside, IL T1, T3 – T5
5 Environments

San Luis Obispo T1 – T5
But first,

Dictates Architecture
Has to be applied throughout your community
Isn’t zoning
Is all about graphics
Improves your golf score
A template that makes you fit your town to it
Only for greenfield development
Makes you insert high density residential
Doesn’t address Land Use
Compels mixed-use of everything, everywhere
Requires things you don’t need

Misperceptions
The Public Realm
The public realm is very important but not everything
Zoning for the neighborhood
Zoning for the corridor
Two different, adjacent environments that affect each other
Density, Setbacks and Height: Compliant. Really?

Size and Scale
Compliance needs to include the Pattern as a factor
What’s in common?
Conventional zoning says they’re the same
They couldn’t be more different!

0.60 FAR

3 at 3 stories and 1 at 12 stories

0.60 FAR

2 story building on 2/3 of site
Would you describe other things this way?

max .75 inches tall

- Steak:
  - Checkmark:

- Salmon:
  - Checkmark:

- Sushi:
  - Question mark:

- Flowers in a vase:
  - Crossmark:

"oops!"
F.A.R. a measuring tool

FAR is a great and fast measuring tool but should not be used to drive design or decision-making: best as a ‘resultant’ factor
Density: another measuring tool

Low  Medium  High
Rules applied by ‘used-based’ or PD zone

Intended context?
Intended outcomes?
Adjacencies and Compatibility?
overzoning: 2 miles of commercial zoning

Mapping form-based zones: Hierarchy of places

Zoning and Type of Change
Policy direction for type of change

Regeneration

Targeted Infill

Preservation
Zoning That Sees the Community
Zoning That Sees the Community
### Example FBC Approaches and Scenarios

<table>
<thead>
<tr>
<th>Components</th>
<th>Greenfield Neighborhood</th>
<th>Infill Neighborhood</th>
<th>Regeneration Corridor</th>
<th>Preservation Corridor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Degree of Change</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Level of Expectations</strong></td>
<td>Basic</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Regulating Plan</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Block Standards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Street Standards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Streetscape Standards</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Civic Space Standards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building Placement Standards</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Parking Placement Standards</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Building Height Standards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjacency / Massing Standards</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Building Type Standards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frontage Type Standards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land Use Standards</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Architectural Style Standards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signage Standards</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Public Art Standards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Standards identified by you</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sustainability is addressed within each relevant code topic.
Dialing in on the range of expectations
The built environment: Repeating Patterns

Building Types
Intrinsic Residential Densities by Type

In Dwelling Units Per Acre (D.U.A.)

- <10
- 10 - 12
- 20 - 35
- 35 - 50
- 50 - 100
- 100 - 200+

House Form
- Estate
- House
- Duplex to Quadplex
- Mansion
- Bungalow
- Courtyard

Block Form
- Rowhouse
- Flex Shed Small Building
- Flex Large Building
- Lined Building
- Tower

A Range of American Building Types

HOUSE FORM  TRANSITIONAL  BLOCK FORM

Chicago 2014 Conventional Zoning vs Form-Based Zoning  © 2014 Opticos Design, Inc. | 45
Intrinsic Floor Area Ratio by Type

- **<.75**
  - Estate
  - House
- **.75 - 1.3**
  - Duplex to Quadplex
  - Mansion
  - Apartment
  - Bungalow
- **1.3 - 2.5**
  - Courtyard
- **3 - 5**
  - Block Form
- **5 - 10+**
  - Rowhouse
  - Flex Shed Small Building
  - Flex Large Building
  - Lined Building
  - Tower

A Range of American Building Types

HOUSE FORM | TRANSITIONAL | BLOCK FORM
Compatibility through Building Types

**Chunky Infill**

- Difficult to find large sites
- Transitions are larger/bulkier
- Less walkable services
- Resistance tends to be higher

**Fine-Grained Infill**

- Easier to find smaller sites
- Transitions are within context
- More walkable services
- Resistance tends to be lower
Articulated Neighds and Corridors: Appealing and Sustainable

Sub-Urban
- House Bldgs
- Duplex-Quadplex Bldgs
- Courtyard Bldgs

Urban
- Mansion Apt Bldgs
- Duplex-Quadplex Bldgs
- Courtyard Bldgs
- House Bldgs

City Center
- Courtyard Bldgs
- Mansion Apt Bldgs
- Flex Bldgs
- Duplex-Quadplex Bldgs
FAR and Density Approach: Quantity-Focused
Form-Based Zoning: Variety and Compatibility Focused
Key Characteristics of each Type

1. **Lot Size:** Min Needed / Max Compatible
2. **On-site open space?** Min size to be useful
3. **Building Size:** Min Needed/Max Compatible
4. **Parking location/Access:** to support context
5. **Tenant access:** to make livable
6. **Frontage options:** Flexible w/in context
Building Standards

5.10 Standards Specific to Buildings

5.10.140 Villa Standards

A. Description and Intent

1. Description. A building with the appearance of a large house, containing up to eight dwellings. The building has a central lobby that provides access to individual units. On-site open space is provided through individual patios in addition to the rear yard. The building may accommodate ground floor non-residential uses in either a live-work configuration or as solely commercial/retail space facing the primary street as allowed by the zone.

Resultant Density: 14 to 20

2. Examples of Intended Physical Character. The following examples are illustrative of the range of physical character for the Villa type in the zones allowed by this Code.

Above: Villa with central entry to small lobby and four units facing the street. Parking is accessed by a driveway at left.

Above: Villa with a raised front yard, central entry to small lobby and several units facing the street.

Above: Villa along side street presenting a scale transition to adjacent single family houses.

Above: Villa with side driveway from street providing access to parking in rear of building site.

B. Design Standards

Villa types are subject to the following as applicable.

<table>
<thead>
<tr>
<th>Building Site</th>
<th>T4</th>
<th>T4.5</th>
<th>T5</th>
<th>T5.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Size</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Width</td>
<td>80-125</td>
<td>80-125</td>
<td>60-125</td>
<td>60-125</td>
</tr>
<tr>
<td>B. Depth</td>
<td>160-175</td>
<td>160-175</td>
<td>150-200</td>
<td>150-200</td>
</tr>
<tr>
<td>Facade Location</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Front</td>
<td>12-20</td>
<td>5-15</td>
<td>9 or 10</td>
<td>10-20</td>
</tr>
<tr>
<td>D. Street Side</td>
<td>10-15</td>
<td>5-15</td>
<td>9 or 10</td>
<td>10-20</td>
</tr>
<tr>
<td>E. Side Yard</td>
<td>10</td>
<td>10</td>
<td>9 or 10</td>
<td>10</td>
</tr>
<tr>
<td>F. Rear Yard Transition</td>
<td>65-80</td>
<td>65-80</td>
<td>65-80</td>
<td>65-80</td>
</tr>
</tbody>
</table>

Buildings on corner sites shall be designed with two facades of equal architectural expression.

Building entries for non-residential units shall be at grade along the adjacent sidewalk. Building entries for dwellings shall be raised 1.5 ft from the adjacent sidewalk grade to provide some privacy for occupants. Where ramps are required, their design shall be per the ADA requirements and the frontage requirements in Section C.3 of the zone.

Parking access driveways and spaces shall be located per Section C.2 of the zone standards.

Where ground floor residential is allowed, first floor living areas rather than sleeping or service rooms shall be oriented toward the street. Where the zone allows non-residential activity retail or office space rather than service rooms shall be oriented toward the street.

The main entrance to each unit shall be from a common lobby within the main facade and accessible directly from the street.

Units along side streets may enclose private open space only through the Wixted Yard type (5.20.100).

In T5, zero interior sideyard setback allowed if natural light provided to dwellings along the interior side of the building site. Otherwise, minimum 10 feet required.

Facades shall be composed of increments of 25 ft or less. Increments shall be created through projecting or recessing wall surfaces, changes in roofline and/or placement of piers and plinths.

Facades along frontage lines as defined by the zone shall apply frontage types per Section C.3 of the zone.

Along any frontage, the building shall include a decorative parapet and a pitched roof with a visible eave from the sidewalk.
Articulating, Blending Densities through Building Types

Examples

**Shallow Site:**
busy corridor, houses behind

- \(475 \times 110\)
- \(= 52,250 \text{ SQ FT}\)
- \(1.20 \text{ ACRES}\)

**Large Site:**
along corridor, houses behind

- \(700 \times 900\)
- \(= 630,000 \text{ SQ FT}\)
- \(14.46 \text{ ACRES}\)
Articulating, Blending Densities through Building Types

Shallow Site: busy corridor, houses behind

475 x 110
= 52,250 SQ FT

1.20 ACRES
Articulating, Blending Densities through Building Types

Make Blocks
Articulating, Blending Densities through Building Types

Select types and Lot the blocks

=34 UNITS

32 DUA AGGREGATE
Articulating, Blending Densities through Building Types

Add Types

- 24 Courtyard Podium Units
- 2 Rowhouse Units
- 8 Upper Story Units + 7,000 SF Floor Space

=34 Units

32 DUA Aggregate
Articulating, Blending Densities through Building Types

6 MANSION APT UNITS

8 ROWHOUSE UNITS

8 UPPER STORY UNITS + 7,000 SF FLR SPACE

=22 UNITS

18.3 DUA AGGREGATE

or, all surface parking approach
Articulating, Blending Densities through Building Types

Large Site

700 X 900 = 630,000 SQ FT

14.46 ACRES
Articulating, Blending Densities through Building Types

Make Blocks
Articulating, Blending Densities through Building Types

Select types and lot each block

=121 UNITS

8.36 DUA AGGREGATE
Articulating, Blending Densities through Building Types

Add

+1 Flex Bldg
+2 Rowhouse Bldgs
Articulating, Blending Densities through Building Types

Add

+1 Flex Bldg
+2 Rowhouse Bldgs
+2 Courtyard Bldgs
+2 Triplexes
Articulating, Blending Densities through Building Types

Add

+1 Flex Bldg
+2 Rowhouse Bldgs
+2 Courtyard Bldgs
+2 Triplexes
+2 Courtyard Bldgs
+2 Quadplexes
Articulating, Blending Densities through Building Types

LARGE SITE
700 x 900
= 630,000 SQ FT
14.46 ACRES

121 units
5 Bldg Types
8.36 DUA AGGREGATE

Neighborhood Compatible
# Classifying and Clarifying Different Approaches

<table>
<thead>
<tr>
<th>Typical Approaches to Zoning Urban Form (from least to most effective)</th>
<th>What Should this Approach be Called?</th>
<th>Organizing Principle</th>
<th>New Components Created and Included</th>
<th>Is the Overall Code Reorganized for Usability?</th>
<th>Likely Cost Range</th>
<th>Considerations for this Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Adding graphics to a Euclidean, use-based code</td>
<td>Graphics-Based Code</td>
<td>Use</td>
<td>Primarily additional graphics and tables, content has minor changes only</td>
<td>Not in this example</td>
<td>Low; Primarily because it is a graphic design-usability exercise only</td>
<td>This is completely ineffective and should be avoided. This is what you will often get if your budget is too low for a true FBC. Will look good, but will not produce predictable results. Does not address obstacles for good development or process-related issues inherent in most zoning codes.</td>
</tr>
<tr>
<td>2. Adding design guidelines/site planning guidelines to a Euclidean, use-based code</td>
<td>Design Guidelines or Design Standards</td>
<td>Use</td>
<td>Components similar to FBC components may be created, but they do not replace the code so they do not need to be as carefully vetted and many times create conflicts within the zoning code.</td>
<td>No</td>
<td>Low; Primarily because it does not address the problems with underlying zoning</td>
<td>Mostly ineffective due to typical issue inherent in existing code that are not addressed and may even contradict zoning. Adding another layer of regulations that confuses intent and negatively impacts usability and administration</td>
</tr>
<tr>
<td>3. Adding mixed use zones to a Euclidean, use-based code</td>
<td>Targeted Mixed Use Zone Application</td>
<td>Use typically, sometimes form</td>
<td>New base zones and zone standards only</td>
<td>No</td>
<td>Low; Primarily because this approach entails creating only new base zones</td>
<td>Effectiveness depends highly on quality and clarity of existing code and development review process. If administration and the code document structure is good, and detailed visioning is completed, and the mixed use zones are not over-simplified this can begin to show good results. Existing parking, use tables, landscape standards, etc. must be vetted</td>
</tr>
<tr>
<td>4. Adding graphics, reorganizing code, cleaning up administration, and minor changes to development standards</td>
<td>Code Clean Up and Reorganization</td>
<td>Use</td>
<td>Mostly just translating existing information into tables and creating drawings to support existing code information</td>
<td>Yes</td>
<td>Medium to high depending on scale of city or county</td>
<td>Addresses many of the issues above, but ultimately still has use as an organizing principle, which limits the effectiveness of the code and stops it short of being an FBC. Does not typically complete documentation and analysis of place to extract the DNA that becomes the basis for the code but rather uses existing zone standards as starting point and makes changes to those</td>
</tr>
<tr>
<td>5. Optional Form-Based Code overlay</td>
<td>Form-Based Code Overlay</td>
<td>Form</td>
<td>All typical FBC elements included, process rethought for FBC application</td>
<td>No</td>
<td>Low to Medium, depending primarily on extent of visioning completed</td>
<td>Administration, parking, landscape, and all other elements within code must be vetted and coordinated with intent of the FBC and potentially included in the FBC and replaced when the overlay is triggered</td>
</tr>
<tr>
<td>6. Integrating a complete Form-Based Code within a pre-existing zoning code</td>
<td>Parallel Form-Based Code</td>
<td>Form for FBC section, use for the rest of the pre-existing code</td>
<td>All typical FBC elements included, process and all general standards (parking, landscaping, etc.) rethought for FBC application</td>
<td>Sometimes</td>
<td>Medium; Primarily due to the fact that a complete, parallel code is being created to replace the existing code in targeted areas</td>
<td>Administration, parking, landscape, and all other elements within code must be vetted and coordinated with intent of the FBC Division.</td>
</tr>
<tr>
<td>7. Using Form as an organizing principle for the entire zoning code and using Form-Based Code components as the driver for your Table of Contents</td>
<td>Citywide Form-Based Code</td>
<td>Form</td>
<td>All typical FBC elements included, process and all general standards (parking, landscaping, etc.) rethought for FBC application, admin and procedures, variances, etc. are all rethought to support the FBC</td>
<td>Yes</td>
<td>High, slightly higher than #4. Due to charrettes for FBC Focus Areas, and extensive documentation and analysis phase completed, and that all standards are carefully vetted</td>
<td>In this approach, the structure of the entire zoning code is completely rethought: a new operating system is established, and thus the entire table of contents of code document is structured with a form-first philosophy. Every last bit of content from the pre-existing code is vetted for its applicability to the form-first operating system before it is transferred so that it does not compromise the intent. This approach is perfect for a city that has made a strong commitment in its city policies to promote smarter, more sustainable growth. Let Euclidean zoning regulate drivable suburban contexts, and the FBC regulate walkable urban contexts. It is called citywide Form-Based Code not because the entire city has Form-Based Coding applied, but rather the entire city has been assessed FBC applied in where it make sense, and the FBC application can easily spread</td>
</tr>
</tbody>
</table>

---

**Dan Parolek article in Zoning Practice May 2013**

---

**Different Approaches**

---

© 2014 Opticos Design, Inc. | 66
Form Based Standards

Your Zoning Code
“Using Conventional Zoning to protect and move your community forward is like playing the piano with your palms instead of your fingers.”

tony.perez@opticosdesign.com

805-603-6671