DEVELOPING FORM-BASED CODES

American Planning Association, PA Chapter
2010 Annual Conference
October 4, 2010
AGENDA

- What Are Form-Based Codes (FBC)
- Form-Based vs Conventional Zoning Codes
- How to Develop a Form-Based Code
- Who is Using a Form-Based Codes?
- Lessons Learned about Creating & Implementing Form-Based Codes
What are Form-Based Codes?

“Function Follows Form”

- Concentrate on visual aspects of development & the relationship of buildings to one another and the street.
- Place more emphasis on building type, dimensions, parking location and façade features and less emphasis on land uses.
- Stress the appearance and qualities of the public realm/streetscape created by the built environment.
What are Form Based Codes?

Traditional Zoning

Form

Form Based Code

Land Use
WHAT DOES FORM MEAN?

- Building Type or Disposition (detached, attached, twin, courtyard)
- Building Height
- Frontage Line (Build-To line)
- Frontage Type
- Block Size
- Street & Lane Widths
- Curb Radii
- Glazing
- Location & screening of parking
- Location & character of Landscaping
- Fence materials and height
- Encroachments (porches, balconies, etc.)
THE ORIGINS OF CONVENTIONAL ZONING

19th Century Problems . . .

. . . Segregation was 19th Century Solution
CURRENT ZONING CHALLENGE:
COMMUNITY FORM

This is legal

The zoning outlaw:
Codes prevent desired community form
FBC Characteristics

**Zoning Districts** - Form-based code regulations are defined with the district’s **relationships** to the transportation framework, community character, and role in the larger area **in mind**.

**Regulatory Focus** - Form-based codes de-emphasize density and use regulations to control building form. They recognize that **uses may change over time, but the building will endure**.

**Uses** - Form-based codes emphasize **mixed use and a mix of housing types** to bring destinations into close proximity to housing and provide housing choices to meet many individuals’ needs at different times in their lives.
**FBC Characteristics**

**Design** - Greater attention is given to streetscape and the design of the public realm, and the role of individual buildings in shaping the public realm. Form-based codes recognize how critical these public spaces are to defining and creating a “place.”

**Public Participation** - A design-focused public participation process is essential to assure thorough discussion of land use issues as the code is created. This helps reduce conflict, misunderstanding and the need for hearings as individual projects are reviewed.
FBC Benefits

- Effectively illustrates the community’s vision
- Creates a predictable outcome
- Protects community character
- Allows for market flexibility
- Increases market value
- Provides clarity with stakeholders
Why are FBC Effective?

- Pictures tell the story
- Easy to find information
- Great for mixing uses
- Faster & cheaper process
Where Can FBC be Used?

- New growth areas
- Existing neighborhoods
- Limited situations/special districts
- Wholesale code revisions for entire communities
- Mandatory OR incentive-based
### FBC Implementation Options

| Mandatory/Exclusive  | The FBC is the exclusive and mandatory land development code in all or part of the municipality.  
|                     | This option is frequently used for existing Main Street or historic neighborhoods. |
| Parallel            | The previously existing conventional Euclidean zoning code and the FBC are both mapped and available. The landowner elects which one to use subject to certain limitations. Once the landowner chooses to use the FBC, all requirements apply.  
|                     | This option is frequently used for greenfield areas, with minimum acreage requirements. |
| Floating Zone       | The FBC is adopted, but no regulating plans are mapped. If a landowner wants to use the FBC, she/he must get the land rezoned and prepare a New Community Plan that includes the regulating map. This option is similar to a conventional Planned Unit Development (PUD) process, with the FBC requirements serving as the PUD standards.  
|                     | This option is frequently used for larger redevelopment areas (including greyfields and brownfields) or greenfield areas. |
Typical FBC Scope

- Existing Conditions Analysis & Inventory
- Spatial Basis for Code / Site Analysis
- Public Visioning and Participation
- Develop urban standards (street plan, building placement, height, land uses etc.)
- Develop building standards (building typologies)
- Allocate & Illustrate Standards
- Draft Form-Based Code
Questions?

- What Are Form-Based Codes (FBC)?
- Form-Based vs Conventional Zoning Codes
Form Based Code Applications

1. District Overlay (Redevelopment) – Oakmont PA
2. Corridor Overlay – Upper St Clair PA
3. New Town (TDR) – Woolwich NJ
4. Downtown Redevelopment – Woodbury NJ
5. Existing Historic Community – Mt Holly NJ
# Table 1: Thoroughfare Typology

<table>
<thead>
<tr>
<th>Boulevard</th>
<th>Urban Streets</th>
<th>Neighborhood Streets</th>
<th>Alleys</th>
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<tbody>
<tr>
<td><img src="image1" alt="Section" /></td>
<td><img src="image2" alt="Section" /></td>
<td><img src="image3" alt="Section" /></td>
<td><img src="image4" alt="Section" /></td>
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<td><img src="image5" alt="Plan" /></td>
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<td><img src="image7" alt="Plan" /></td>
<td><img src="image8" alt="Plan" /></td>
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</tbody>
</table>

**Legend**

- **A**: Right of Way
- **B**: Carriageway
- **C**: Sidewalk and Planting Strip
- **D**: Median Strip
- **E**: Building Setback
- **F**: Parking/Recreation/Entrance Treatment
- **G**: On-Street Parking

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- Minimum Setback from ROW
- Maximum Setback from ROW
### Table 2: Building Typology

<table>
<thead>
<tr>
<th>Type 1</th>
<th>Type 2</th>
<th>Type 3</th>
<th>Type 4</th>
<th>Type 5</th>
<th>General Specifications</th>
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<tbody>
<tr>
<td>Single Family Detached</td>
<td>Single Family Detached</td>
<td>Single Family Attached</td>
<td>Multi Family and Multi Use</td>
<td>Commerce</td>
<td></td>
</tr>
</tbody>
</table>

**Principal Building**

- 

**Accessory Building**

- 

**Open Air Parking**

- 

**Porch/Balcony/STOOP**

- 

**Building Facade**

- 

**Legend**

- Area of Attention
- Lot Line
- Right-of-Way Line
- Building
## Building Typology

### BUILDING TYPOLOGY

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>TYPE 1 such as Single-family Detached</th>
<th>TYPE 2 such as Single-family Detached (Zero Lot Line)</th>
<th>TYPE 3 such as Single-family Attached and Multi-family</th>
<th>TYPE 4 such as Multi-family or Multi-use</th>
<th>TYPE 5 such as Commerce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Gross Floor Area (square feet per dwelling unit)</td>
<td>1,000</td>
<td>1,000</td>
<td>900</td>
<td>900</td>
<td>NA</td>
</tr>
<tr>
<td>Maximum Gross Floor Area (square feet per dwelling unit and/or non-residential structure)</td>
<td>5,500</td>
<td>5,500</td>
<td>4,000</td>
<td>30,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Maximum Lot Coverage</td>
<td>40%</td>
<td>40%</td>
<td>40%</td>
<td>60%</td>
<td>60%</td>
</tr>
</tbody>
</table>
### Building Typology (con’t)

<table>
<thead>
<tr>
<th>THOROUGHFARE TYPOLOGY</th>
<th>TYPE 1</th>
<th>TYPE 2</th>
<th>TYPE 3</th>
<th>TYPE 4</th>
<th>TYPE 5</th>
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</thead>
<tbody>
<tr>
<td>Boulevard Streets</td>
<td>Single-family Detached</td>
<td>Single-family Detached (Zero Lot Line)</td>
<td>Single-family Attached and Multi-family</td>
<td>Multi-family or Multi-use</td>
<td>Multi-family or Multi-use</td>
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<tr>
<td>Urban Streets</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>Neighborhood Streets</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
</tr>
</tbody>
</table>
Upper St. Clair, PA

Initial Buildable Area Composite
Upper St Clair, PA

Corridor Characteristics
Exploring Form in Context of Natural Resources
FBC: THREE CASE STUDIES

- New Town, Woolwich Township, NJ
- Business District Redevelopment, Woodbury, NJ
- Downtown Zoning Code, Mount Holly, NJ
Woolwich Township, NJ

- FBC created as a component of a Transfer of Development Rights (TDR) Plan
- TDR Plan protects 4000 acres of farmland (sending zone)
- Directs development to a regional center, “New Town” (receiving zone)
Infrastructure delays and economic conditions have lessened pressure for high density development.

Regulating Plans remain in place to ensure that short-term development allows for long-term vision.

Implementation involves balancing a changing market without compromising on creating a sense of place.
WOODBURY, NJ

- Business District Redevelopment Plan
- FBC created in place of Design Standards
- Addresses targeted Redevelopment Areas as well as the entire Business District
WOODBURY, NJ

Building Type
6.13.2 Flex-Mixed Use

A. Purpose/Definition
A multi-story building that contains ground floor retail uses, with upper floor residential, retail, office or other commercial uses. These buildings may be attached, semi-detached or detached. They are served by elevators and constructible for the highest density of the City. Common entrances and other spaces may be shared. They shall be designed as elements of buildings. Residential access may be provided from internal courtyards or courtyards. Access to retail must be provided from the primary street frontage as well as parking areas in the rear. Parking is permitted inside the ground floor of the building but may not affect the primary public frontage.

B. Plan: Required Site Elements
ACCESS TO ALLEYWAY
WATER ENCLOSURE
BUFFER
PEDESTRIAN PASSAGeway

C. Massing: Required Building Elements
Required Building Elements are regulated in Transit Corridors and General Design Standards to ensure that buildings respect the pedestrian scale of the City. To meet the requirement of 6.13.2, the following must be suggested for incorporation into the building design:

- Vertical Massing: awnings or overhangs (3), horizontal bands or entablature (10), balconies or balconetias (4), offset roof line (1)

- Horizontal Massing: bay windows (8), vertical windows (9), building offsets (4), building connectors (4)

- Ground Floor: commercial storefronts (2), awnings or overhangs (3), windows facing pedestrian passageways (5), vertically-oriented window openings for private uses

- Upper Floor: vertically-oriented window openings (reflective of function) (9), private or common outdoor spaces (7)

- Pedestrian Accommodations: mid-building passageways (4), windows facing passageways (5), awnings or overhangs (3), retail entrances from parking lot

- Open Space: private balconies (7), common terraces or roof gardens, mid-building passageways (4)
4.16 Development Standards

4.15.1 Downtown Transit

A. Location

B. Plan View

C. Massing View

D. Development Standards Table

<table>
<thead>
<tr>
<th>A</th>
<th>BTR</th>
<th>BTR</th>
<th>BTR</th>
<th>BTR</th>
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<tr>
<td>B</td>
<td>RTR</td>
<td>RTR</td>
<td>RTR</td>
<td>RTR</td>
<td>RTR</td>
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<td>C</td>
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<tr>
<td>D</td>
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<td>NTR</td>
<td>NTR</td>
<td>NTR</td>
<td>NTR</td>
<td>NTR</td>
</tr>
</tbody>
</table>

FORM-BASED CODE

WOODBURY, NJ
6.14 Public Frontage Types

## Frontage Type

### 6.14.1 Downtown Broad Street

#### A. Purpose/Definition

Intended to serve as the primary spine for Woodbury's downtown commercial and governmental area. As such, the streetscape must provide capacity for a high amount of pedestrian activity. The necessity, along with the great size of the street, warrants wider sidewalks with high quality materials and design, generous building heights, high quality facade materials and design, maximum first floor transparency, minimal to zero front yard parking lots. Street right-of-way and cross sections shall adhere to the Street Regulating Plan (Section 4.3).

#### B. Pedestrian Realm Amenity Requirements

<table>
<thead>
<tr>
<th>AMENITY TYPE</th>
<th>REQUIREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street Tree Spacing</td>
<td>Avg. 25’ On-Center</td>
</tr>
<tr>
<td>Street Lighting Spacing</td>
<td>Avg. 70’ On-Center</td>
</tr>
<tr>
<td>Bench</td>
<td>1 per 100 Linear Feet</td>
</tr>
<tr>
<td>Bicycle Rack</td>
<td>1 per 200 Linear Feet</td>
</tr>
<tr>
<td>Trash Receptacle</td>
<td>1 per 150 Linear Feet</td>
</tr>
<tr>
<td>Bus Shelter</td>
<td>Required at every Stop</td>
</tr>
<tr>
<td>Planter</td>
<td>Permitted</td>
</tr>
<tr>
<td>Outdoor Tables</td>
<td>Permitted</td>
</tr>
<tr>
<td>Fire Hydrant</td>
<td>Permitted</td>
</tr>
<tr>
<td>Mid block Pad Connection</td>
<td>1 per 200 Linear Feet</td>
</tr>
<tr>
<td>Planting Strip</td>
<td>Tree Beds</td>
</tr>
<tr>
<td>Streetlights</td>
<td>Required</td>
</tr>
<tr>
<td>Signs</td>
<td>Permitted</td>
</tr>
</tbody>
</table>

#### C. Typical Pedestrian Realm and Associated Elements

#### D. Permitted Street Trees

Permitted trees for this frontage were selected for their ability to provide shade to wide sidewalks while still allowing streetlamps, signs, and pedestrian/rental lighting to be visible under the canopy. They are as follows: Green Ash 'Newport', Green Ash 'Summer', Sugar Maple, Honeylocust, Skyline Honeylocust, Sawtooth Oak, Willow Oak. In general, tree types may be alternated except between Carpenter and Barber Ave where Green Ash trees have been selected and between Barber and Delawarr/Cooper where Willow Oak trees have been selected, both for specific intent (per Street Tree Plan in Section 4.4.1).
Redevelopment Plan is organized into “bite-sized” pieces to encourage a mix of developers and architects and to reduce the need for an “all or nothing” approach.

City officials and residents are taking a hard look at historic preservation priorities.

Redevelopment Plan and FBC have attracted attention from major developers as they look towards post-recession opportunities.
MOUNT HOLLY, NJ

- NJ DOT Mobility and Community Form Initiative Pilot Project

- Mount Holly is the historic county seat of Burlington County, NJ

- FBC created to replace current zoning in the Downtown
Garden Street
Zoned: R3

- Single-Family Dwellings
- Maximum Height: 2.5 stories
- Minimum Setback: 20-25’
- Minimum Frontage: 50’
MOUNT HOLLY, NJ

14.7 RIVERFRONT PATH

14.7.A Purpose/Definition

Intended to serve as a new public right-of-way for non-motorized transportation and recreation along the Rancocas Creek. As such, the landscape must provide capacity for moderate to heavy pedestrian activity, high-quality materials, and design, and adequate lighting. Opportunities for the reclamation of riparian ecosystems shall be considered when designing the riverfront path.

Further study will be required to determine where a continuous path is feasible from an environmental and practical engineering standpoint, these standards are meant to be general guidelines and are not a substitute for engineering requirements or NJ DEP regulations.

14.7.B Frontage Regulating Plan

14.7.C Typical Pedestrian Realm and Associated Elements

1 Street Tree Spacing
2 Street Light Spacing
3 Bench
4 Bicycle Rack
5 Trash Receptacle

14.7.D Pedestrian Realm Amenity Requirements

<table>
<thead>
<tr>
<th>AMENITY TYPE</th>
<th>REQUIREMENT</th>
<th>AMENITY TYPE</th>
<th>REQUIREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Street Tree Spacing</td>
<td>Avg. 30' On Center</td>
<td>8 Outdoor Chairs</td>
<td>Permitted</td>
</tr>
<tr>
<td>2 Street Light Spacing</td>
<td>Avg. 10' On Center</td>
<td>9 infield setback</td>
<td>Permitted</td>
</tr>
<tr>
<td>3 Benches</td>
<td>1 per 100 Linear Feet</td>
<td>10 Woodblock Cannon</td>
<td>1 per 100 Linear Feet</td>
</tr>
<tr>
<td>4 Bicycle Racks</td>
<td>4 Linear Feet</td>
<td>11 Street Lights</td>
<td>Permitted</td>
</tr>
<tr>
<td>5 Trash Receptacle</td>
<td>1 per 150 Linear Feet</td>
<td>12 Benches</td>
<td>Permitted</td>
</tr>
<tr>
<td>6 Street Signs</td>
<td>13 Sights</td>
<td>14 SIKI</td>
<td>Permitted</td>
</tr>
</tbody>
</table>

14.7.D(i) Permitted Street Trees

- Yashino Cherry
- Larchman's Poplar

- Visual Interest
- Tolerant of urban conditions and pollutants
- Grow best in moist, well-drained soil
**Public Frontage Types**

### 14.7.E RIVERFRONT PATH TYPE 1

**Purpose/Definition**
Includes both banks of the Rancocas Creek, above, from City Drive to Washington Street. This riverfront path type shall be implemented where buildings are located adjacent to the creek, and thus bulkheads are constructed at the land-water edge. The riverfront path type has a 2-way traffic pattern intended for non-motorized transportation and an amenity zone located between the path and adjacent buildings. The path shall primarily be located on the south and west side of the creek, adjacent to infill development that may occur on the County parking lots. Where continuation of the path is impractical, it shall cross over to the other side of the creek.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadway Type</td>
<td>Promenade Path (P)</td>
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<tr>
<td>Separated Lanes</td>
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</tr>
<tr>
<td>Right-of-Way Width</td>
<td>12 ft.</td>
</tr>
<tr>
<td>Bridge Spans, Piers</td>
<td>N/A</td>
</tr>
<tr>
<td>Traffic Lanes</td>
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</tr>
<tr>
<td>Parking Lanes</td>
<td>0</td>
</tr>
<tr>
<td>Bridge Lanes</td>
<td>N/A</td>
</tr>
<tr>
<td>Bicycle Lanes</td>
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</tr>
<tr>
<td>Amenity Zone Width</td>
<td>5 ft.</td>
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<td>Promenade Width</td>
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<tr>
<td>Amenity Zone Type</td>
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<tr>
<td>Cutoff Types</td>
<td>Any</td>
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</tbody>
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### 14.7.F RIVERFRONT PATH TYPE 2

**Purpose/Definition**
Includes both banks of the Rancocas Creek, below, from City Drive to Washington Street. This riverfront path type has a 2-way traffic pattern intended for non-motorized transportation and buffers on both sides. The path shall primarily be located on the south and west side of the creek, adjacent to the County parking lots. Where continuation of the path is impractical, it shall cross over to the other side of the creek.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
<td>Roadway Type</td>
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<tr>
<td>Separated Lanes</td>
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<tr>
<td>Right-of-Way Width</td>
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<tr>
<td>Bridge Spans, Piers</td>
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<tr>
<td>Traffic Lanes</td>
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<tr>
<td>Parking Lanes</td>
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<tr>
<td>Bridge Lanes</td>
<td>N/A</td>
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<tr>
<td>Bicycle Lanes</td>
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<tr>
<td>Amenity Zone Width</td>
<td>5 ft.</td>
</tr>
<tr>
<td>Promenade Width</td>
<td>12 ft.</td>
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<tr>
<td>Amenity Zone Type</td>
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</tr>
<tr>
<td>Cutoff Types</td>
<td>Any</td>
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</tbody>
</table>
Draft FBC will be shared with the Township Council this fall.

Challenge is keeping officials on-board to implement and enforce.

FBC illustrates long-term vision for growth, but will be re-examined to address recent application.

Planning efforts have re-opened the discussion between landowners and Twp.
LESSONS LEARNED

- Create Vision to Guide Development
- Current Market vs Creating Market
- Pace of Development and Change
- Implementation and Enforcement
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