The Potential of Form-Based Codes to Create Walkable Urban Streets

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Form-based design codes are a new planning tool for communities to create livable, pedestrian-oriented urban environments. They are a land development regulation that fosters predictable results and a high-quality public realm by using physical form (rather than separation of uses) as its organising principle. A form-based code offers a powerful alternative to conventional zoning regulation.

FBCI- Form-Based Codes Institute
formbasedcodes.org
Library of codes
On-line courses
FBC’s promoted as a means to create walkable urban streets

Regulate visual qualities and spatial dimensions of the street corridor
Public Space Standards

Specifications for elements within the public realm (sidewalks, travel lanes, street trees, street furniture)
Urban Streets

- Design qualities important to walkability can be defined, measured and quantified

- FBC’s regulate measurable and quantifiable features that can be illustrated
Investigation

- Survey of streets built using FBC’s and survey of historic walkable streets
- Interviewed users of FBC streets and historic streets
- Reviewed content of 30 FBC’s – recorded regulated features
Phase I Street Survey

- Audit instrument developed by Reid Ewing for RWJ Foundation
  [http://www.activelivingresearch.org](http://www.activelivingresearch.org)
- Record street features
  - Street furniture
  - Pedestrian lights
  - Windows at street level
  - Outdoor dining
  - Public art pieces
Urban Design Qualities

Identifying and Measuring Urban Design Qualities Related to Walkability, Final Report

Measuring Urban Design Qualities: An Illustrated Field Manual

UDQ Models- Enclosure, Human Scale, Transparency, Complexity, Imageability
Enclosure

Elements that visually define the street- outdoor room

- Sight lines
- Street walls
- Awnings, overheads
- Street trees
- Sidewalk and street width
Human Scale

Matching the proportions and size of humans

- Windows and façade details
- Building heights
- Street furniture
- Planters
Transparency
Ability to see beyond edge of street
- Windows and doors in street walls
- Activity inside buildings
- Mid-block passages
Complexity

Visual variety in the environment

- Number of distinct buildings
- Different building colors
- Variety of elements
- Public art
Imageability

Memorable theme
• Courtyards, plazas, parks
• Landscape, outdoor dining
• Historic building façade, non-rectangular shape
Street Audit- Results

- FBC streets had similar urban design qualities and features as the historic walkable streets.

<table>
<thead>
<tr>
<th>UDQ Model</th>
<th>Historic Streets</th>
<th>FBC Streets</th>
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<tbody>
<tr>
<td>Imageability</td>
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<td>5.03</td>
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<tr>
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# Interview and Code Review

<table>
<thead>
<tr>
<th>UDQ Models Street Audit</th>
<th>UDQ Models Interview</th>
<th>Features</th>
<th>UDQ Models Codes</th>
<th>Features</th>
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<tbody>
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<td><strong>Transparency</strong></td>
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<td><strong>Complexity</strong></td>
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<td><strong>Human Scale</strong></td>
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<td><strong>Enclosure</strong></td>
<td>47%</td>
<td><strong>Imageability</strong></td>
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</tbody>
</table>
Code Review

- Was the presence of the features the result of the codes?

- Building height
- % windows in façade
- Visible sets of doors
- Street lights
- Signage
- Historic buildings
- Street art
- Outdoor dining
- Awnings, overhangs
- Sidewalk width
- Street trees
- Street furniture
- Building materials
Conclusion

- FBC’s have the potential to create walkable streets- if they regulate certain features

Codes should:

- Regulate a high total number of features
- Regulate frequency of the features in a set distance (one to three blocks)
- Regulate a high number of features linked to the UDQ models
Codes should:

- Regulate most features linked to imageability, complexity, and human scale

- Most prescriptive with building materials and colors, the façade, street furniture, and spatial dimensions of the street
Codes should:

- Narratives to describe desired experience of users
- Narratives to describe rationale for a coded feature
Thank You
Questions?

Design Codes for Healthy Communities:
The Potential of Form-Based Codes to Create
Walkable Urban Streets (Dissertation)

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Reid Ewing, Susan Handy, Ross Brownson, Otto Clemente, and Emily Winston
http://www.activelivingresearch.org/node/10636

Measuring Urban Design Qualities: An Illustrated Field Manual
Clemente, Ewing, Handy, Brownson, & Winston
http://www.activelivingresearch.org/node/10635

Walkable Communities, Inc.
http://walkable.org