<table>
<thead>
<tr>
<th>GENERAL A</th>
<th>URBAN STRUCTURE B</th>
<th>STREETSCAPE C</th>
<th>BUILDING PROGRAM D</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDEX BY TAXONOMY 1</td>
<td>NETWORK TYPES 1</td>
<td>PUBLIC STREETSCAPES 1</td>
<td>HOUSING PROGRAMS 1</td>
</tr>
<tr>
<td>INDEX BY ALPHABET 2</td>
<td>SAVANNAH PATTERN 2</td>
<td>HIGHWAY 1</td>
<td>NON-FAMILY SEGMENT 1</td>
</tr>
<tr>
<td>CHARTER OF THE NEW URBANISM 3</td>
<td>NANTUCKET PATTERN 3</td>
<td>ROAD 1</td>
<td>NEW-FAMILY SEGMENT 2</td>
</tr>
<tr>
<td>THE TRANSIENT 4</td>
<td>MAREMONT PATTERN 4</td>
<td>STREET 2</td>
<td>FULL-FAMILY SEGMENT 3</td>
</tr>
<tr>
<td>THE RURAL TRANSIENT 4</td>
<td>WASHINGTON PATTERN 5</td>
<td>AVENUE 3</td>
<td>POST-FAMILY SEGMENT 4</td>
</tr>
<tr>
<td>THE URBAN TRANSIENT 4</td>
<td>RIVERSIDE PATTERN 5</td>
<td>BOULEVARD 4</td>
<td></td>
</tr>
<tr>
<td>GENERAL TERMINOLOGY 5</td>
<td>RADBURN PATTERN 5</td>
<td>TRANSIT PRINCIPLES 2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>REGIONAL STRUCTURE E</th>
<th>OPEN SPACE F</th>
<th>FRONTAGE G</th>
<th>COMMERCIAL PROGRAM H</th>
</tr>
</thead>
<tbody>
<tr>
<td>REGIONAL ELEMENTS 1</td>
<td>GENERAL SPATIAL TYPES 1</td>
<td>PRIVATE FRONTAGES 1</td>
<td>COMMERCIAL PROGRAMS 1</td>
</tr>
<tr>
<td>CONVENTIONAL SUBURBAN DEVELOPMENT 2</td>
<td>WITHIN THE COUNTRYSIDE 2</td>
<td>ARCADE 1</td>
<td>RETAIL 1</td>
</tr>
<tr>
<td>TRADITIONAL NEIGHBORHOOD DEVELOPMENT 2</td>
<td>WITHIN THE NEIGHBORHOOD 3</td>
<td>SHOPFRONT 2</td>
<td>WORKPLACE 2</td>
</tr>
<tr>
<td>REGIONAL PATTERNS 2</td>
<td>WITHIN THE BLOCK 4</td>
<td>STOOP 3</td>
<td></td>
</tr>
<tr>
<td>URBAN BOUNDARY MODEL 5</td>
<td>WITHIN THE LOT 5</td>
<td>DOORYARD &amp; LIGHT COURT 4</td>
<td></td>
</tr>
<tr>
<td>RURAL BOUNDARY MODEL 5</td>
<td>WITHIN THE BUILDING 6</td>
<td>PORCH &amp; FENCE 5</td>
<td></td>
</tr>
<tr>
<td>TRANSIENT-ORIENTED PATTERNS 6</td>
<td>ASSOCIATED TERMINOLOGY 2</td>
<td>COMMON LAWN 6</td>
<td></td>
</tr>
<tr>
<td>SECTORS 3</td>
<td></td>
<td>SLIPPLANE 7</td>
<td></td>
</tr>
<tr>
<td>ASSOCIATED TERMINOLOGY 4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NEIGHBORHOOD STRUCTURE I</th>
<th>CIRCULATION J</th>
<th>BUILDING TYPE K</th>
<th>IMPLEMENTATION L</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEIGHBORHOOD SCALE 1</td>
<td>THOROUGHFARE TYPES 1</td>
<td>GENERAL BUILDING TYPES 1</td>
<td>THE CODE 1</td>
</tr>
<tr>
<td>NEIGHBORHOOD MODELS 2</td>
<td>HIGHWAY &amp; BOULEVARD 2</td>
<td>EDGEYARD BUILDINGS 2</td>
<td>REGULATING PLANNING 2</td>
</tr>
<tr>
<td>TRANSIENT-ORIENTED DEVELOPMENT 2</td>
<td>DRIVE &amp; AVENUE 2</td>
<td>SIDEYARD BUILDINGS 3</td>
<td>BUILDING KEY 2</td>
</tr>
<tr>
<td>LIVABLE NEIGHBORHOOD DEVELOPMENT 2</td>
<td>ROAD &amp; STREET 2</td>
<td>REAR YARD BUILDINGS 4</td>
<td>SYNTAX 3</td>
</tr>
<tr>
<td>ZONING CATEGORIES 3</td>
<td>LANE &amp; ALLEY 3</td>
<td>COURTYARD BUILDINGS 4</td>
<td>FUNCTION 3</td>
</tr>
<tr>
<td>RURAL PRESERVE - RURAL RESERVE 3</td>
<td>PATH &amp; PASSAGE 4</td>
<td>SPECIALIZED BUILDINGS 5</td>
<td>SYMBOL SYSTEMS 3</td>
</tr>
<tr>
<td>GENERAL URBAN 4</td>
<td>TRANSIT TYPES 2</td>
<td>SPECIAL BUILDING TYPES 6</td>
<td>ASSOCIATED TERMINOLOGY 4</td>
</tr>
<tr>
<td>URBAN CENTER 4</td>
<td>RAIL SYSTEMS 2</td>
<td>PLANNING 4</td>
<td></td>
</tr>
<tr>
<td>URBAN CORE 4</td>
<td>BUS SYSTEMS 3</td>
<td>DENSITY 4</td>
<td></td>
</tr>
<tr>
<td>DISTRICT 4</td>
<td>CYCLE SYSTEMS 4</td>
<td>ASSOCIATED TERMINOLOGY 5</td>
<td></td>
</tr>
<tr>
<td>IMPLEMENTATION 4</td>
<td>THOROUGHFARE DESIGN 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASSOCIATED TERMINOLOGY 5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<p>| NETWORK TYPES 1 | SAVANNAH PATTERN 2 | NANTUCKET PATTERN 3 | MAREMONT PATTERN 4 | WASHINGTON PATTERN 5 | RIVERSIDE PATTERN 6 | RADBURN PATTERN 7 | TRANSPORTATION TYPES 8 | RAIL SYSTEMS 9 | BUS SYSTEMS 10 | CYCLE SYSTEMS 11 | THOROUGHFARE DESIGN 12 | IMPLEMENTATION 13 | PARKING 14 | ASSOCIATED TERMINOLOGY 15 |</p>
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
<td>H</td>
<td>I</td>
</tr>
<tr>
<td>Easement</td>
<td>Facade</td>
<td>Gable</td>
<td>Hamlet</td>
<td>Immersive Environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eave line</td>
<td>H2.2</td>
<td>M4.7</td>
<td>C3.1</td>
<td>C5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecological Building</td>
<td>Gable Garbage</td>
<td>M4.1</td>
<td>Harmony</td>
<td>Incident</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M4.6</td>
<td>Gallery Frontage Lines</td>
<td>M4.6</td>
<td>Hausmann Model</td>
<td>Inclusive Housing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecological Footprint</td>
<td>Garage Apartment</td>
<td>M2.6</td>
<td>Head In Parking</td>
<td>Incrementalism</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C5</td>
<td>Garage Ratio</td>
<td>E2.6</td>
<td>Heath</td>
<td>Infill Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic Sustainability</td>
<td>Garden</td>
<td>E1</td>
<td>Heavy Rail</td>
<td>Infrastructure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A5</td>
<td>Garden City</td>
<td>B2/B4.1</td>
<td>Hedge</td>
<td>F6.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecotone</td>
<td>Garden Suburb</td>
<td>B2.1</td>
<td>Hedgerow</td>
<td>Infrastructure Cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Std</td>
<td>Garden Wall</td>
<td>TBD</td>
<td>Height to Width Ratio</td>
<td>F3.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eozone</td>
<td>Gateway</td>
<td>J2.5</td>
<td>High School</td>
<td>In-Line Stores</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A5</td>
<td>Gateway</td>
<td>J5.2</td>
<td>Highway</td>
<td>J5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edge City</td>
<td>General Urban</td>
<td>C3.1/3.2</td>
<td>Highway Streetscape</td>
<td>Inner City Neighborhoods</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B4.1</td>
<td>General Urban Zone</td>
<td>C3.2</td>
<td>G1.1</td>
<td>B3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edge Yard</td>
<td>Generica</td>
<td>C5</td>
<td>Hip Roof</td>
<td>Inner Ring</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J1/J2</td>
<td>GIS</td>
<td>B4.1</td>
<td>Hollywood Drive</td>
<td>B3.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edging</td>
<td>Glade</td>
<td>E2.1</td>
<td>Home Occupation</td>
<td>Inspections</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2.2</td>
<td>Gold Plating</td>
<td>F6.2</td>
<td>Home Office</td>
<td>M4.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficiency</td>
<td>Golf Course</td>
<td>E2.2</td>
<td>Inaugural Condition</td>
<td>Intermodal Change</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J5.1</td>
<td>Goosefoot</td>
<td>F6.2</td>
<td>Incidentalism</td>
<td>Intersection Curb Return</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elevation</td>
<td>Gradation</td>
<td>C5</td>
<td>Infill Development</td>
<td>Intersection Spacing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H2.2</td>
<td>Granny Flat</td>
<td>E2.1</td>
<td>Infrastructure</td>
<td>Intersection Turning Radius</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elongated Block</td>
<td>Grayfield Development</td>
<td>B4.1</td>
<td>F6.2</td>
<td>Irregular Block</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2</td>
<td>Green</td>
<td>E1.1</td>
<td>Horizontal Infrastructure</td>
<td>D2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Embankment</td>
<td>Greenbelt</td>
<td>B4.1/C5/E1</td>
<td>Horizontal Speed Bump</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2.1</td>
<td>Greendale</td>
<td>C3.1</td>
<td>Hotel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enabling/Regulatory Staff</td>
<td>Enfilde Frontage</td>
<td>M4.6</td>
<td>J5.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M4.2</td>
<td>Formal</td>
<td>H1.7</td>
<td>House</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enact</td>
<td>Founder</td>
<td>M4.4</td>
<td>J2.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M4.2</td>
<td>Fountain</td>
<td>E2.1</td>
<td>Housing Pod</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enclave</td>
<td>Fragment</td>
<td>C5</td>
<td>BT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C5</td>
<td>French Balcony</td>
<td>M4.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enclosed Building Area</td>
<td>Front Setback</td>
<td>H2.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M4.6</td>
<td>Frontage</td>
<td>H2.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enclosure</td>
<td>Frontage Line</td>
<td>H2.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G2</td>
<td>Function</td>
<td>J5.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>End Grain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enfronthing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M4.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entray</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entry Level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H2.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entry Level Housing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G3.1/M4.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Ecological</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Building</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M4.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Responsibility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Guidelines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Zoning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M4.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Episodic Congestion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F6.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Espallier</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estate House</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estate Lot</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethos</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evergreen Species</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M4.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exandra</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exotic Species</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expandable Housing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J5.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expressway</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eyecatcher</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>W</td>
<td>X</td>
<td>Y</td>
<td>Z</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vantage Point</td>
<td>Walk</td>
<td>Xeriscape</td>
<td>Yard</td>
<td>Zero Lot Line House</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance</td>
<td>Walking Limit</td>
<td>Yard</td>
<td>J5.2/J2</td>
<td>Zip Zog</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle Miles Traveled; VMT</td>
<td>Walled Community</td>
<td>E2.1</td>
<td>M4.2</td>
<td>Zoning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicular Circulation</td>
<td>Ward</td>
<td>E1/H2.1</td>
<td></td>
<td>Zoning Map</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicular Way</td>
<td>Warehouse</td>
<td></td>
<td></td>
<td>M4.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vernacular</td>
<td>Washington Pattern</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical Infrastructure</td>
<td>Watershed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vesting</td>
<td>Web Pattern</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>View Shed</td>
<td>Wienie</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>View Triangle</td>
<td>Wilderness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Villa</td>
<td>Workshop</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village</td>
<td>Wrap</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vista</td>
<td></td>
<td>L2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Void Analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Metropolitan regions are finite places with geographic boundaries derived from topography, watersheds, coastlines, farmlands, regional parks, and river basins. The metropolis is made of multiple centers that are cities, towns, and villages, each with its own identifiable center and edges.

2. The metropolitan region is a fundamental economic unit of the contemporary world. Governmental cooperation, public policy, physical planning, and economic strategies must reflect this new reality.

3. The metropolis has a necessary and fragile relationship to its agrarian and natural landscapes that is environmental, economic, and cultural. Farmland and nature are as important to the metropolis as the garden is to the house.

4. Development patterns should not blur the personal and civic bonds essential to the region while reducing dependence upon the automobile.

5. Revenues and resources can be shared more cooperatively among the municipalities and centers within regions to destructive competition for tax base and to promote rational coordination of transportation, recreation, public services, housing, and community institutions.

6. The Neighborhood, the district, and the corridor are the essential elements of development and redevelopment in the metropolis. They form identifiable areas that encourage citizens to take responsibility for their maintenance and evolution.

7. Cities and towns should comprise a spectrum of public and private uses to support a regional economy that benefits people of all incomes. Affordable housing should be distributed throughout the region to be near job opportunities and to avoid concentrations of poverty.

8. The physical organization of the region should be supported by a framework of transportation alternatives. Transit, pedestrian, and bicycle systems should maximize access and mobility throughout the region while reducing dependence upon the automobile.

9. Many activities of daily living should occur within walking distance, allowing independence to those who do not drive, especially the elderly and the young. Interconnected networks of streets should be designed to encourage walking, reduce the number, and length of automobile trips, and conserve energy.

5. Concentrations of civic, institutional, and commercial activity should be embedded in neighborhoods and districts, not isolated in remote, single-use complexes. Schools should be sized and located to enable children to walk or bicycle to them.

6. The economic health and harmonious evolution of neighborhoods, districts, and corridors can be improved through graphic urban design codes that serve as predictable guides for change.

7. A range of parks, from playgrounds to ballfields and community gardens, should be distributed within neighborhoods. Conservation areas and open lands should be used to define and connect different neighborhoods.

8. The revitalization of urban places requires important sites to reinforce community identity and the culture of democracy. They deserve distinctive form, because their role is different from that of other buildings and places that constitute the fabric of the city.

9. All buildings should provide their inhabitants with a clear sense of location, weather, and time. Natural methods of heating and cooling can be more resource-efficient than mechanical systems.

Congress for the New Urbanism
www.cnu.org
The Transect: a system of classification deploying the conceptual range rural-to-urban to arrange in useful order the typical elements of urbanism. The transect is a natural ordering system, as every urban element easily finds a place within its continuum. For example, a street is more urban than a road, a curb more urban than a swale, a brick wall more urban than a wooden one, an alle of trees more urban than a cluster. This gradient when rationalized and subdivided, becomes the urban Transect, the basis of a common zoning system.

The continuum of the Transect, when subdivided, forms the basis of the zoning categories: Rural, Sub-Urban, General Urban, Urban Center and Urban Core.

The Transect technique is derived from ecological analysis where it is applied to present the sequence of natural habitats from shore-dune-upland or wetland-woodland-prairie.

Taxonomy: the classification of plants, animals or other species by associated traits. A device applied to the ordering system of the Transect.
• **The Transect**: a system of classification deploying the conceptual range rural-to-urban to arrange in useful order the typical elements of urbanism. The transect is a natural ordering system, as every urban element easily finds a place within its continuum. For example, a street is more urban than a road, a curb more urban than a swale, a brick wall more urban than a wooden one, an allee of trees more urban than a cluster. This gradient when rationalized and subdivided, becomes the urban Transect, the basis of a common zoning system.

The continuum of the Transect, when subdivided, forms the basis of the zoning categories: Rural, Sub-Urban, General Urban, Urban Center and Urban Core.

The Transect technique is derived from ecological analysis where it is applied to present the sequence of natural habitat from shore-dune-upland or wetland-woodland-prairie.

• **Taxonomy**: the classification of plants, animals or other species by associated traits. A device applied to the ordering system of the Transect.

---

**Rural Transect**

- LESS DENSITY
- PRIMARILY RESIDENTIAL USE
- SMALLER BUILDINGS
- MORE GREENSPACE
- ROTATED FRONTAGES
- YARDS & FRONTAGES
- DEEP SETBACKS
- ARTICULATED MASSING
- WOODEN BUILDINGS
- GENERALLY PITCHED ROOFS
- SMALL YARD SIGNS
- LIVESTOCK

MORE DENSITY
- PRIMARILY MIXED USE
- LARGER BUILDINGS
- MORE HARDSCAPE
- ATTACHED FRONTAGES
- STOOPS & SHOPFRONTS
- ALIGNED FRONTAGES
- SIMPLE MASSING
- MASONRY BUILDINGS
- GENERALLY FLAT ROOFS
- BUILDING MOUNTED SIGNAGE
- DOMESTIC ANIMALS

---

**Sub-Urban Transect**

- ROAD & LANES
- NARROW PATHS
- OPPORTUNISTIC PARKING
- LARGER CURB RADII
- OPEN SWALES
- STARLIGHT
- MIXED TREE CLUSTERS

- LOCAL GATHERING PLACES
- PARKS & GREENS

- REGIONS & SITES
- RUINS & REMAINS
- MONUMENTS

---

**General Transect**

- PUBLIC
- PRIVATE
- CIVIC

---

**Urban Transect**

- PUBLIC
- PRIVATE
- CIVIC

---

**Urban Core**

- LOCAL GATHERING PLACES
- PARKS & GREENS

- REGIONS & SITES
- RUINS & REMAINS
- MONUMENTS
Urbanism: the body of knowledge dedicated to the habitat of humanity. New Urbanist usage implies opposition to suburban (sub-urban), a lesser or permanently incomplete version of urbanism.

Suburban: not urban or less than urban. A term usually applied to urban growth at the edge of, and dependent upon a city. A more promising term is the Greek • Prosad or • Proaction which means “before the city” implying before becoming a city and before entering the city. The German • Vorstadt or • Vorland is similar. Source: Stef Polyzoidec

Ecozone: a defined subunit of the urban-to-rural Transect.

Ecosystems: a set of ecozones that, in combination, is a defined subunit of the urban-to-rural Transect.

Urbanism: the body of knowledge dedicated to the habitat of humanity. New Urbanist usage implies opposition to suburban (sub-urban), a lesser or permanently incomplete version of urbanism.

Entropy: circumstances surrounding an organism’s growth and development. As time passes, the amount of entropy in a system left to evolve is complete and compact. Its smallest theoretical manifestation is the neighborhood or the village. All: a group of people with common interests dwelling in proximity.

Neotraditionalism: an ethos characterized by the pragmatic selection of available options. This is distinct from the concurrent traditionalism and modernism which are purist and ideological. Coined by the Stanford Research Institute ca. 1988 to describe the ethos of the baby-boom generation, it is expected to be dominant to ca. 2020. A typical Neotraditional product is the Mini-Mansion: the character of old British holiday with modern Japanese dependability. It is manifested in housing by spatially traditional rooms stocked with high-tech appliances; in retailing by main street managed as a shopping center; in social mores by the cafe plugged into the internet. Neotraditionalism permeates New Urbanist technique.

Quality of Life/Standard of Living: two conventional measures of human well-being. Standard of living is a quantitative measure, while quality of life is qualitative. Standard of living measures such benchmarks as family income, cars owned, miles of highway, dwelling size, and number of bathrooms, and appliances. Quality of life measures availability of leisure time and discretionary income, both requisites of personal choice. A commitment to Conventional Suburban Development necessitates a high standard of living but virtually precludes a high quality of life, as discretionary time is consumed by the inevitable driving about and discretionary income is committed to automobile ownership costs.

Environmental/Ecological: similar, but not interchangeable. Environmental refers to abiotic processes pertaining to the vitality of an organization. Ecological refers to biotic processes pertaining to the vitality of an organism. The Charter of the New Urbanism, when implemented on a regional scale, is both environmentally and ecologically sound. Usage: “A village is a viable human environment within a protected ecology.”

Domain / Range: The domain is the portion of the world that is directly altered by a plan or intervention. The range is the portion of the world that affects or is affected by the alteration. Source: David Hegemann and Elbert Peets (1922 & 1988).

Cultural: The elements introduced into the natural world by the human species. Source: Cicero alteram naturam.

Culture: an ethos characterized by consistency in attitude and behavior.

Natural: all that is not the creation of man. Currently the meaning of natural has taken an environmental overlay as being without artificial supplements. A related term, naturalistic, means to be composed informally. Both definitions may have become confused when applied to urbanism, an informal layout seeming to be more responsive environmentally.

Naturalistic: a design tending to an irregular, curvilinear, organic, episodic composition. Naturalistic design is usually on the more rural end of the Transect. Syn: Informal

Private Sector: development entities operating for profit. The majority of the urban fabric of the United States has been created by the private sector.

Public Sector: government operating for the common good by bridging gaps left by the private sector because it is not profitable. The public sector creates virtually all of the low-income housing, as well as the majority of the infrastructure that supports development by the other sectors.

Civic Sector: religious, civic, cultural and educational institutions operating for the common good. Private sector developers can incorporate public sector subsidies, generally towards the creation of low-income housing. Syn: Non-Governmental Organizations (NGO)

The Not-For-Profit Sector: development entities that operate for the common good, incorporating public sector subsidies, generally toward the creation of low-income housing.

Design: the conceptualization of the built environment responsive to specific sets of human needs and desires.

Planning: the organization of urban design, policy and management.

Urban Design: the conceptualization of the built environment in response to human needs and desires.

Urban Policy: the rationalization of legal and financial systems to fulfill human needs and desires.

Urban Management: the methods and procedures that sustain and protect human needs and desires.
CONVENTIONAL SUBURBAN DEVELOPMENT (CSD) consists of the following:

- **Open Space**: the residual areas that are not occupied by building, or a reflection of wetlands.
- **Housing Pod**: a sector containing buildings dedicated exclusively to residential use. Residential Areas are usually segregated by an at-grade segment as segements dedicated to apartment, town homes, homes or luxury homes.
- **Business Park**: a sector containing buildings dedicated exclusively to commercial use. Business Parks range from the class A office campus to the industrial park.
- **Shopping Center**: a sector containing buildings dedicated exclusively to retail use. Shopping centers range from the central business district to the regional mall.
- **Corridors**: linear sectors for transportation and greenway connections. The corridors include natural and technical components ranging from wildlife trails to rail lines. The natural corridors are formed by the systematic allocation of natural, agricultural, and recreational open spaces (such as parks, school yards, and golf courses). These continuous spaces can be part of a larger network, connecting the urban open spaces to the countryside. The transportation corridor is determined by its intensity. Heavy rail corridors should remain tangent to all urbanized areas. Light rail and streetcar corridors may occur at boulevards at the edges of neighborhoods. Bus corridors may pass into neighborhoods on streets. The corridor may also be a continuous pathway, providing long-distance walking and bicycle trails. A corridor should not be the residual space between different zones, but a positive element characterized by its visible continuity.
- **Rural Areas**: sectors designated to remain free of urbanization. Rural areas include those of special environmental value as well as historic, cultural, and aesthetic merit. Certain rural sectors shall be preserved for permanent safeguard, or reserves for later release. These areas may be preserved through a development of transfer of development rights or acquired for public use at pre-rezoning cost. All assignments to rural areas should be justified to be resistant to legal challenge.
- **Districts**: urbanized sectors that are compact, diverse and walkable. Neighborhoods provide for a balanced set of activities: shopping, work, schooling, recreation and dwelling. It is particularly useful for those too young, old, or poor to drive. The neighborhood provides housing for a variety of incomes. Inclusive housing includes backyard ancillary apartments, apartments above shops, and apartment buildings adjacent to workplaces. As well as rowhouses, regular houses and mansions. A variety of business types are also accommodated, from retail and professional offices to live-work units, and outbuildings for business incubation. The neighborhood has a center and limits. The combination of a focus and a limit contributes to the social identity of the community. The center is a public space, which maybe a plaza, a square, a green, or an important street intersection. It is located near the physical center of the urbanized area, unless compelled by a geographic circumstance to be elsewhere. Ecocentric locations may be justified by a shoreline, a transportation corridor, or a compelling view. The neighborhood’s center is the locus of the neighborhood’s civic buildings and the location of a transit stop, within walking distance of most homes increases the likelihood of its economic viability. Shops and workplaces are usually associated with the center, especially in a village. In the aggregation of neighborhoods which create towns and cities, these buildings should be at the perimeter, along major thoroughfares where they gain intensity by combining with others of neighborhood.
- **Neighborhoods**: urbanized sectors that are compact, diverse and walkable. The edges of a neighborhood vary in character. In villages, the edge is usually defined by open space. In towns and cities, the edge is often another neighborhood or an intervening corridor. The optimal size of a neighborhood is a quarter mile from center to edge. This distance is the equivalent of a five-minute walk at an easy pace. This limit assures residents that many of their daily needs are met within walking distance. Neighborhood size is determined, not by density but by a maximum walking radius. Larger sites should be reappropriated as multiple neighborhoods; smaller ones should be concurrently planned with adjoining sites. The neighborhood is structured on a fine-grained network of thoroughfares; this duplicates pedestrian routes and provides multiple routes that diffuse traffic. Neighborhood thoroughfares are designed to provide equitably for pedestrian comfort and for automobile movement. Increasing pedestrian activity encourages the casual meetings that form the bonds of community. The neighborhood reserves special sites as locations of civic buildings. These enhance community identity and foster civic participation.

TRADITIONAL NEIGHBORHOOD DEVELOPMENT (TND) consists of the following:

- **Rural Areas**: sectors designated to remain free of urbanization. Rural areas include those of special environmental value as well as historic, cultural, and aesthetic merit. Certain rural sectors shall be preserved for permanent safeguard, or reserves for later release. These areas may be preserved through a development of transfer of development rights or acquired for public use at pre-rezoning cost. All assignments to rural areas should be justified to be resistant to legal challenge.
- **Corridors**: linear sectors for transportation and greenway connections. The corridors include natural and technical components ranging from wildlife trails to rail lines. The natural corridors are formed by the systematic allocation of natural, agricultural, and recreational open spaces (such as parks, school yards, and golf courses). These continuous spaces can be part of a larger network, connecting the urban open spaces to the countryside. The transportation corridor is determined by its intensity. Heavy rail corridors should remain tangent to all urbanized areas. Light rail and streetcar corridors may occur at boulevards at the edges of neighborhoods. Bus corridors may pass into neighborhoods on streets. The corridor may also be a continuous pathway, providing long-distance walking and bicycle trails. A corridor should not be the residual space between different zones, but a positive element characterized by its visible continuity.
- **Neighborhoods**: urbanized sectors that are compact, diverse and walkable. Neighborhoods provide for a balanced set of activities: shopping, work, schooling, recreation and dwelling. It is particularly useful for those too young, old, or poor to drive. The neighborhood provides housing for a variety of incomes. Inclusive housing includes backyard ancillary apartments, apartments above shops, and apartment buildings adjacent to workplaces. As well as rowhouses, regular houses and mansions. A variety of business types are also accommodated, from retail and professional offices to live-work units, and outbuildings for business incubation. The neighborhood has a center and limits. The combination of a focus and a limit contributes to the social identity of the community. The center is a public space, which maybe a plaza, a square, a green, or an important street intersection. It is located near the physical center of the urbanized area, unless compelled by a geographic circumstance to be elsewhere. Ecocentric locations may be justified by a shoreline, a transportation corridor, or a compelling view. The neighborhood’s center is the locus of the neighborhood’s civic buildings and the location of a transit stop, within walking distance of most homes increases the likelihood of its economic viability. Shops and workplaces are usually associated with the center, especially in a village. In the aggregation of neighborhoods which create towns and cities, these buildings should be at the perimeter, along major thoroughfares where they gain intensity by combining with others of neighborhood.
- **Districts**: urbanized sectors specialized around a predominant activity. Districts are exempted from the full range of activities of a neighborhood. They are only justified if it accommodates uses that cannot be incorporated into the neighborhood structure. Examples are theater districts, capital areas, and college campuses. Other districts accommodate large scale transportation or manufacturing uses, such as airports, container terminals, refineries, and the like. The structure of the district should be parallel that of the neighborhood: an identifiable focus encourages orientation and identity, while clear boundaries facilitate the formation of special management organizations. Interconnection with adjacent neighborhoods encourages pedestrian access. Districts benefit from transit systems, and should be appropriately located within the regional network.
Urban Boundary Model

A regional planning method using statistical projection to delineate the urbanized areas, beyond which is a rural area. The city is limited in its geographical extent, but not its density. Growth outside the boundary is envisioned as freestanding villages based on the Greenfield TND Code.

In a timeless pattern, a clearly defined core city, composed of neighborhoods, is surrounded by towns and villages connected by rail and separated by greenbelt. Ideally, each element is relatively self-sufficient.

This pattern emerged organically and was reinforced by the advent of the railroad. Moving along a fixed rail, but unable to stop frequently, the railroad created nodal points of settlement.

This model was conceived and rationalized by Peter Calthorpe and Douglas Kelbaugh. This is the pattern most influenced by ecological concerns.

Rural Boundary Model

A regional planning method using cultural ecology based criteria to protect certain open space from urbanization. The city is channelized past these boundaries, without limit to its geographical extent. Urban growth thus forms corridors between wedges of open space. The corridors are structured by the Greenfield TND Code. Densification occurs at designated intersections and transit stops along the corridors. Leaping development is prevented by a system of temporary reserves in addition to the permanent preserves.

This pattern is the result of the implementation of a Rural Boundary which safeguards the valuable open space and allows the urbanized area to stream past. The rationalization of this model was by Paul Wolf and Benton McKaye.

This is the pattern most influenced by ecological concerns. Syn.: Linear City, Streetcar Suburb, Stream & Levee

Transit Oriented Development (TOD)

This is a remedial pattern. Within a loose urbanized area, the TOD structure creates nodes at an efficient spacing for light rail. These nodes are mixed-use areas limited in extent by walking distance to the transit stop.

Called Urban TODs, these nodes are usually surrounded by a residential hinterland, structured as Neighborhood TODs, connected by a feeder bus system. Each Urban TOD may be specialized, with only the system as a whole being functionally complete.

This model was conceived and rationalized by Peter Calthorpe and Douglas Kelbaugh. This is the pattern most influenced by the requirements of transportation.
THE METROPOLIS

• Metropolis: an urbanized region, centered on a city and including a variety of urban conditions. The American metropolis usually consists of six sectors, generally decreasing in density from center to edge. The sectors are seldom perfectly concentric; the higher-income residential sectors usually develop an axial distortion toward the more pleasant environments of high-ground or shoreline, while industrial sectors cluster toward harbors and river, rail, highway and air transportation. The lower-income sectors usually infill the areas residual to the two determinant sectors.

THE INNER CITY

• Central Business District (CBD): the dense core of 19th century urban fabric, usually a rectilinear street grid with mid- and high-rise buildings of 1880-1930 and 1950-1980 vintage. The spatial quality of the CBD can vary from excellent to dismal, depending on the width of the streets and the quality of the frontages. The CBD is usually heavily commercial, having difficulty in sustaining retail because of the midday-only clientele. Since the 1980s, effective governance has increasingly been by private management associations, quasi-independent of the municipal structure. While usually healthy economically, many CBDs have become vulnerable to suburban office parks. Examples: Wall Street, the downtowns of Houston, Los Angeles, and Downcity Providence. Syn.: Urban Core

• Inner City Neighborhoods: the medium-density, late 19th century neighborhood fabric, often composed of rectilinear street grids served by alleys. The buildings are often good-quality row houses or small lots houses of 1870-1930 vintage. The quality of the combination, although seldom intact, can be very good. Nevertheless, the inner city is vulnerable to, if not synonymous with, urban blight. The worst areas display widespread abandonment and brownfields, poverty rates of 40% or more, and hypersegregation of minorities. These are the results of deindustrialization, white flight, and the failure of essential city services like schools and policing. But other areas show tenacious sense of community and the beginning of infill redevelopment spearheaded by non-profit community development corporations. Examples: South and West Side Chicago, North-Philadelphia and Camden NJ, South Central Los Angeles, Bedford-Stuyvesant, Brooklyn.

THE INNER RING

• Streetcar Suburbs: the urban extensions planned as unified communities by developers during the affluent period of 1910 to 1930. These are low and medium-density neighborhood patterns on rectilinear and curvilinear street networks. They are to some extent mixed-use and mixed income. Most are self-governing municipalities, independent of the host city. They are usually the most valuable real estate of their corresponding metropolitan regions. Examples: Coral Gables, Myers Park, Mariemont, Forest Hills, Beverly Hills, Shaker Heights, Highland Park, Mountain Brook, Lake Forest, and the Canadian Pacific Railway Neighborhoods. Syn.: First Suburbs

• Post-War Suburbs: the postwar highway-dependent suburban housing subdivisions. These are the widespread, residential sectors, simplified by standard mortgage criteria that were built by developers during the housing shortage of the 1950s and 60s. These suburbs consist of normalized, small, and single-family houses on curvilinear street networks (not cul-de-sacs). The retail is provided by isolated shopping centers. These sectors are often self-governing municipalities, but without adequate commercial tax base for public maintenance and safety. Many of these suburbs are currently vulnerable as their building stock, never excellent, requires maintenance. They have become receiving areas for lower-income surburbanites. These communities have promise as their street network adapts retrofit to the neighborhood model. Examples: Levittown, General Development Corporation-style subdivisions.

THE OUTER RING

• Edge Cities: suburbs that are inclusive of shopping centers and business parks, but they are cities only statistically. The segregation of their component elements and the consequent oversizing of their thoroughfares negates the experience of pedestrian community which is inherent in the neighborhood model. These suburbs represent the current practice of Conventional Suburban Development. The outer ring suburbs are difficult to retrofit to the neighborhood pattern. Nevertheless, they are likely to survive economically in the long term, as they are usually equipped with effective homeowner’s associations. Examples: Reston, Columbia, The Woodlands, Milton Head, The Hammocks.

• Rural Communities: the rural areas currently under development pressure. Development of the rural edge is usually contested politically. Within these sectors, half of all entitlements and permits take place. Most regional plans attempt to direct this urban pressure well before the location becomes critical. The rural edge should provide the setting for new, compact towns and villages. Examples: Laguna West, Cibolo, Abacoa, Templeton, Syn.: Exurbs

R E G I O N A L  S T R U C T U R E

© 2002 DUANY PLATER-ZYBERK & COMPANY (VERSION 3.0)
• Infill Development: a site seamlessly developed within an existing urban fabric, balancing competing and repairing the surrounding sectors. The process of neighborhood scrutiny tends to be onerous, leading developers to greenfield sites.

• Brownfield Development: a site which has been used industrially, subsequently vacated, and is available for rejuvenation. Such infill sites are well suited for redevelopment, as the requisite infrastructure is usually in place. However, the soil is often subject to the unpredictable liability of expensive cleanup requirements.

• Grayfield Development: sprawl retrofit. A development site within the existing urban fabric large enough to require the layout of thoroughfares and to contain a variety of densities and uses within a large number of buildings.

• Urban Extension: a seamless urban development at the edge of an existing urban fabric on the increment of a neighborhood, either complete in itself or partial, balancing an adjacent sector. This is the correct pattern of urban growth as opposed to the sequential, piecemeal agglomeration of housing pods, shopping centers, and business parks which characterizes CSD.

• Grayfield Development: sprawl retrofit. A development site within the existing urban fabric large enough to require the layout of thoroughfares and to contain a variety of densities and uses within a large number of buildings.

• View Shed: A defined panorama which, for aesthetic or cultural reasons, is to remain free of noncontributing visual elements. Certain buildings within a view shed may be considered positive contributions. A view shed is one of the criteria which may define the permanent greenbelt.

• Biological Cores & Linkages: areas of high ecological value and corridors of lesser value that link them into an ecosystem. Biological cores and linkages would be exactly coincident with greenbelts and corridors if the sole determinant of the latter were ecological performance. Greenbelt and corridor zones, however, should be more broadly defined to include sociocultural concerns.

• Incrementalism: the usual process of Conventional Suburban Development. Incrementalism involves permitting one project at a time; each justified by free-market requirements. The demonstrated logic of each project, whether a shopping center, a business park, or a housing pod, rarely results in a locally balanced sector, transportation planning, nor an adequately connected thoroughfare network. The TND process, in contrast, projects growth by complete neighborhoods.

• New Town: a community projected on a greenfield site with buildings for dwelling, shopping, working, and schooling assembled on a neighborhood structure. Similar buildings, when assembled into single-use districts, create Edge Cities. See: Balanced Use.

• Edge City: the term which implies urbanism but is in fact only the agglomeration of housing, subdivisions, shopping centers, ‘and business parks. An edge city is the statistical equivalent but not the functional equal of a city.

• City-State: a region under unified municipal administration which integrates a city with its surrounding suburbs to the economic and social benefit of both. A city-state proposes that government functions most effectively at the level of the neighborhood and of the region, not at the level of the city or the nation. Jane Jacobs concurs. Source: Neal Peirce
Pod: a single-use district common in conventional suburban development, equivalent to "housing pod". The biomorphy implied by the term accurately represents the soft and imprecise quality of CSD zoning diagrams as well as the dendritic circulation topographies to which the pod is attached. See: Stem & Web

Walled Community: an enclave of housing (community is a misnomer) common to CSD that is surrounded partially or entirely by a wall and accessed by a single vehicular entrance which may be guarded. The positive purpose of this is to provide security, but it is usually provided only as a sales promotion device. Syn.: Gated Community

Strip Development: a regional pattern common to CSD wherein commercial development is strong along an arterial thoroughfare. While this is usually considered negative, strip development is in fact similar to the Combat & Wedge Street. It can be efficiently served by bus and streetcar. Its negative connotation may be due to the concealment of the views.

Concurrent: the requirement written into a of a regional plan, that existing infrastructure (horizontal and vertical) be adequate to service the development proposed, or that the funding be dedicated as a prerequisite for permit. See: Infrastructure

Inclusive Housing: a conception that housing within a neighborhood should fulfill a broad range of needs and desires, including residential typologies ranging in character from urban to rural, and in price from affordable to expensive. Inclusive housing accommodates demographics segments from single person households to retirees, with families in between.

Balanced Use: the combination of land uses within a sector, usually a neighborhood, such that the daily needs of the residents can be met within the area. This is a sustainable concept that is the principal goals of TND. The approach to the goal is considered to foster community formation and to have positive effects for traffic capture rates, a more stable tax base, and a predictable school population. The particular mix of inclusive housing, ordinary retail, workplaces, schools, and recreational facilities vary regionally, but a rule of thumb for North America may be: 2.4 residents per household, each household requiring 40 square feet of retail and 130 square feet of workplace, as well as .5 places for elementary school students. Regional planning policy may require a balanced use neighborhood or, alternatively, an unbalanced one intended to correct an existing imbalance in an adjacent sector. See: Capture Rate

Mosaic Zoning: used. See: Peter Katz

Newly Occurring Retirement Community (NORC): a neighborhood which has been gradually colonized by the post family segment (the elderly) because its urban fabric affords the possibility of walking to ordinary social and commercial needs after the loss of the ability to drive. The disappearance of the neighborhood as a planning model in the postwar period has catalyzed the widespread need for the retirement community as a mitigation of the problem. Retirement District is more accurate term.

Retirement Community: a type of district common to "typical suburban development, wherein elderly persons have houses and provided with support services that compensate for their inability to drive or walk to their ordinary needs. Retiree communities did not exist prior to widespread suburbanization, as they are an unmitigated within the walkable neighborhood structure.

Affordable Housing: relatively inexpensive dwellings which may be defined as available at a mortgage pay- ment or monthly rental at 25% of the starting salary of a local elementary school teacher: a category of starter housing. Ten percent of the housing stock of a neighborhood should qualify as affordable. Affordable housing must be tectonically identical to other housing and be interspersed among the other market segments in order to avoid opprobrium. The building types accommodating affordable housing are generally apartment complexes, rowhouses, and accessory dwellings.

Business Incubator: premises specifically conceived by type, size, and cost to accommodate start-up business- ness. Incubators are the commercial equivalent of affordable housing and a component of balanced use. Building types accommodating business incubators are live-work units and outbuildings.

Planned Unit Development (PUD): a zoning category intended to allow innovation in development by the suspension of standard prescriptions to be replaced by negotiation. Originally, PUDs were specifically intended to permit the clustering of units to save space as an adjacent to Design With Nature. PUDs are also a useful vehicle for the implementation of TND. Introduced in the 1960s, over time, PUDs have gradually acquired an overlay of non-negotiable standards (parking requirements, separated uses, buffers and standard thoroughfares) that have degraded their original func- tion. The term PUD is currently tainted with the attributes of Conventional Suburban Design.

Master-Planned Community: an umbrella term for large-scale coordinated development with a range of land uses. Presumably superior to premeditated subdivi- sion, master planned communities can cover both conventional Suburban Development and TND. Like so much planning terminology, its meaning is imprecise to the point of including any large-scale project.

Regional Planning: planning at the largest possible scale. This can include planning on the scale of the Appalachian Trail, which is a national system with urban implications reaching from New England to Georgia and the urban agglomeration of BAMA (the Boston-Atlanta Metropolitan Axis). In practice, regional planning oper- ates at a much smaller scale, usually at the scale of county government, although in certain states (Florida for example) regional planning councils include clusters of mutually dependent counties.

Design with Nature (DWN): an environmental design methodology and the title of a book written by Ian McHarg ca 1963. The method involves a system of overlays to analyze the site determinants. The site is analyzed sequentially for: 1. Environmentally sensitive areas. 2. Unstable or unbuildable slopes. 3. Elements of cultural or aesthetic value such as farmsteads and woodlands. 4. Traces on the land such as hedgerows, paths and field walls. The areas are mapped, and either entirely or partially withdrawn from development, the remainder being avail- able for urbanization. This system is the effective core of current environmental methodology and legislation as it is for the rural boundary of regional planning. A weakness of DWN is that it is an compatible solution to planning problems while it actually makes no pro- posal for the development of the "residual" area which is outside its domain. This area is usually executed in a pattern indistinguishable from conventional sprawl. Traditional Neighborhood Development is a symbiotic model for the completion of the urbanized sector. Equal consideration of DWN and TND criteria would resolve conflicts which are usually resolved categorically one way or the other in such matters as urban connectivity across greenbelts, disruption of the pedestrian continu- ity within the neighborhood proper and the decay of function in “captured” wetlands. Negotiations should ideally lead to the mitigation of environmental areas by grouping them in greenbelts.
• Neighborhood: the fundamental human habitat; a community sustaining a full range of ordinary human needs. In its ideal form, the neighborhood is a compact walkable urban pattern with a balanced range of living, working, shopping, recreational, and educational program. There exists a variety of models, some old, and some of relatively recent derivation that incorporate the attributes of the neighborhood.

Neighborhood Unit: A diagram and description from the First Regional Plan of New York (1927) which conceptualizes the neighborhood as the fundamental element of planning.

Size is determined by the walking distance of five minutes from center to edge, rather than by number of residents. Density is determined by the market. A community coalescing within a walkable area is the invariant.

An elementary school is at the center, within walking distance of most children. This is the most useful civic building, providing a meeting place for the adult population as well.

Local institutions are located within the neighborhood. Regional institutions are placed at the edges so that their traffic does not enter the neighborhood.

There is a civic open space at the center of the neighborhood, and several smaller playgrounds, one in close proximity to every household.

A network of small thoroughfares within the neighborhood disperses local traffic. Larger thoroughfares channel traffic at the edges.

Retail is confined to the junction having the most traffic, accepting the realities of the automobile.

Traditional Neighborhood Development: A diagram that updates the Neighborhood Unit and reconciles the current models.

The school is not at the center but at an edge, as the playing fields would hinder pedestrian access to the center. The school at the edge can be shared by several neighborhoods, mitigating the problem created by the tendency of neighborhoods to age in cohorts generating large student age populations that then drop off sharply.

There are few sites reserved for local institutions at the center and more for regional institutions at the edge. Ease of transportation has made membership in institutions a matter of proclivity rather than proximity.

The shops at the busiest intersections have been modified to accommodate larger parking plazas for convenience retail and extended by an attached main street for destination and live-work retail.
The neighborhood is the elemental building block of the regional plan. The neighborhood model may be structured by a variety of criteria, and there are social implications to each of the variants. There are three neighborhood models currently proposed. They are very similar, differing primarily in the conception of the pedestrian shed: the location of its centroid, and its extent. These differences manifest secondary consequences regarding the density of the required model and the social quality of the center. The alternatives can be easily compared when all are overlaid on the standard mile-square grid of the Continental Survey of the United States. Although each of the models proposes a comprehensive regional strategy, their optimal application varies. All three should therefore be considered available for the appropriate circumstance.

**T.N.D. Pattern**

- **Traditional Neighborhood Development (TND)** is similar to the American Neighborhood Unit of 1927 and the European Quarter. It has its pedestrian shed centered on the centroid of the neighborhood proper, not necessarily coinciding with a major thoroughfare. The pedestrian shed is a walk of 5 minutes from edge to center. It is calculated as a circle, or multiple circles in the case of larger sites. An advantage of the TND model is the high ratio of the neighborhood area that is within pedestrian catchment. Taking the mile-square as a comparative matrix, the shed includes 70% of the developable area. Because a substantial proportion of the inhabitants are within walking distance of the center, bus transit will tend to be efficient, even at relatively low densities. Another advantage is that, because the center is not bisected by a high capacity thoroughfare (these remain at the edges), its spatial quality as a social condenser is not degraded by excessive traffic.

A disadvantage of the TND is that the commercial use at the center may only sustain neighborhood retail, as it does not benefit from the traffic straddling a main thoroughfare. This model tends to have only neighborhood institutions at the center, with regional institutions and commercial use at the edges shared by other neighborhoods.

**T.O.D. Pattern**

- **Transit Oriented Development (TOD)** is similar to the railway suburb of the 19th century. Its pedestrian shed is centered on a rail transit station which, if possible, coincides with a major thoroughfare. This center is often at the edge of the centroid of the neighborhood area. Note: the pedestrian shed of the TND model is traditionally drawn as a semicircle, although there is no intrinsic reason why this should be so. An advantage of the TOD model is that rail is the most efficient form of transit. As it is also the most expensive, this model provides for its support by a high population density within the pedestrian catchment of each station— a minimum of 14 dwelling units per acre. Another advantage is that institutional as well as commercial uses are concentrated around a transportation node. This is likely to create retail that is well-supported by pedestrian and automobile traffic. The regional character of this transit center; however, may warrant the creation of local centers internal to the neighborhood, similar to the TOD model. Another potential problem, is the spatial degradation resulting from the traffic and parking requirements of a transit station at the center. This is mitigated by the dilution of the traffic by a one-way pair of principal throughfares at one block’s spacing.

A disadvantage of the TOD is that the density required to support transit use may not be acceptable in certain markets. This is exacerbated by the low net ratio of area that is within a five minute pedestrian shed. Taking the mile-square as a comparative matrix, such a shed includes only 7% of the gross developable area. This is well-supported by pedestrian and automobile traffic. The regional character of this transit center, however, may warrant the creation of local centers internal to the neighborhood, similar to the TOD model. Another potential problem, is the spatial degradation resulting from the traffic and parking requirements of a transit station at the center. This is mitigated by the dilution of the traffic by a one-way pair of principal throughfares at one block’s spacing.

- **The Livable Neighborhood** combines aspects of the TND and the TOD. It was conceptualized as a corollary to the TOD model, particularly as it was applied at Milton Keynes, a community held to have failed as the cells failed to coalesce into the greater social scale of a city, despite having the population and all the necessary elements (statistically) of one. The Australian Livable Neighborhood has a pedestrian shed that appears to be eccentrically on a major edge thoroughfare, like the TOD, but actually, the neighborhood itself is centered on the regional thoroughfare. As with the TND and unlike the TOD, its pedestrian shed (this term itself derives from Australian usage) is conceptualized as a quarter-mile circle. Like the TND, an advantage of this model is the high ratio of the neighborhood area that is within the pedestrian catchment. Taking the mile-square as a comparative matrix, the shed includes 70% of the developable area. Because a substantial proportion of the inhabitants are within walking distance of the center, transit will tend to work, even at relatively low densities. Also, the trajectory of bus transit is more direct than that of the TND.

The Australian Livable Neighborhood has the disadvantage that, because the center of the neighborhood is bisected by what is a high-capacity thoroughfare, its spatial quality as a social condenser may be degraded. A strategy to minimize this negative impact is the careful design of the thoroughfare as a boulevard. The strategy of the one-way pair proposed by the TOD may also apply. Note: in a repeated pattern of neighborhoods, with even dispersal of traffic, not all the neighborhood centers would have the traffic intensity to warrant either of these mitigating strategies.
Community Nomenclature: Various community concepts take the neighborhood as a model. Variations are due to a particular emphasis on density, spatial definition, transportation, or implementation. They have in common that they are socially and functionally variegated communities that are walkable and that manifest an urban gradient from urban center to rural edge.

Neologisms: The Urban Village, formulated by Patrick Gueddes early in the 20th century, is used both in the U.K. and Seattle. The Quarter, a transnational European term, was rationalized by Leon Krier. The Neighborhood Unit, the most influential U.S. proposal, was formulated by Clarence Perry in 1929 for the New York Regional Plan. The Cell proposal of Team X is influential in the British New Town movement and permeates the former colonies. Traditional Neighborhood Development (TND), and the Australian Livable Neighborhood are New Urbanist models.

Traditional Terms: A Hamlet is a neighborhood in the making. Standing free in the countryside, by virtue of its location away from transportation, the hamlet has a weak center. A Village is a complete neighborhood standing free in the countryside. The strong center of a Village can usually be attributed, not to the population, but to its location on a transportation corridor. A Town is an assemblage of several neighborhoods, sharing a substantial center. A City is similar to a town in its neighborhood structure but has a strong core supported by the surrounding region.
• **Transect Zoning**: A system of classification based on the correlation of the various elements by a common rural-to-urban Transect. Six segments calibrate the Transect to the neighborhood structure. These are the Rural Reserve, Rural, General, Urban, Center, and Core Zones. There is an additional category, Civic, that is an overlay zone applicable anywhere on the six standard zones.

Three categories (Suburban, General, and Center) follow the natural internal structure of the neighborhood. The Core is assigned to the intensification that occurs where several neighborhoods conjoin, and the Rural is outside the urbanized area.

Each zone is an immersive environment, a place where all the component elements reinforce each other to create and intensify a specific urban character. Several such immersive environments within a single neighborhood provide variegation, in contrast to the homogenous tracts of conventional suburbia. This integrated system of zoning discourages the prescription of specialists.

**OVERVIEW OF APPROPRIATE ELEMENTS FOR EACH ZONE**

**RURAL**

- **LAND USE**: Land use is restricted, combining residential with certain other uses.
- **BUILDING**: Buildings of the low density freestanding edge yard type.
- **FRONTAGE**: Frontages which weakly define the public space with deep setbacks: common lawn and porch & fence.
- **STREETSCAPE**: Streetscapes which create the most rural conditions: thoroughfare, road, and lane.
- **THOROUGHFARE**: Thoroughfares are roads and drives. Buildings may be served by rear lanes, though wider lots may dispense with them.
- **OPEN SPACE**: Open space may be parks within the proximate greenbelt.

**T5 URBAN CENTER**

- **Urban Center**: the dense multifunctional social condenser of a neighborhood. It is usually at a central location, within walking distance of the surrounding, primarily residential areas.
- **LAND USE**: Land use is open, encouraging the combination of residential and other uses.
- **BUILDING**: Buildings of the higher density attached courtyard, rear yard, and also side yard types.
- **FRONTAGE**: Frontages which define continuous streetscapes with shallow setbacks: arcade, shopfront, stoop, and forecourt.
- **STREETSCAPE**: Streetscapes which create urban conditions: residential street, commercial street, avenue, and boulevard.
- **THOROUGHFARE**: Thoroughfares are avenues and streets. All buildings are served by rear alleys.
- **OPEN SPACE**: Open space is organized as plazas or squares.

**T6 URBAN CORE**

- **Urban Core**: the most dense business, service, and institutional center. It is usually shared by several neighborhoods. It always straddles thoroughfares at their most active intersection. It is usually within walking distance of a large residential catchment.
- **LAND USE**: Land use is open, encouraging the combination of residential and other uses.
- **BUILDING**: Buildings only of the high density attached courtyard and rear yard types.
- **FRONTAGE**: Frontages which define continuous streetscapes with shallow setbacks: arcade, shopfront, stoop, and forecourt.
- **STREETSCAPE**: Streetscapes which create the most urban conditions: commercial street, avenue, and boulevard.
- **THOROUGHFARE**: Thoroughfares are streets and boulevards. All buildings are served by rear alleys.
- **OPEN SPACE**: Open space is organized as plazas or squares.

**T3 SUB-URBAN**

- **Sub-Urban**: the least dense, most purely residential sector of the neighborhood. The size varies in proportion depending on whether the model is more rural (village-like) or more urban (town-like).
- **LAND USE**: Land use is limited, permitting the controlled combination of residential with other uses.
- **BUILDING**: Buildings of the medium density freestanding side yard and edgeyard types.
- **FRONTAGE**: Frontages which are variegated with medium setbacks: dooryard, and porch & fence.
- **STREETSCAPE**: Streetscapes which create a variety of conditions: road, residential street, and avenue.
- **THOROUGHFARE**: Thoroughfares are streets, and roads. Most buildings are served by rear lanes.
- **OPEN SPACE**: Open space is organized as parks and greens.

**T4 GENERAL URBAN**

- **General Urban**: the sector that is mixed in function, but principally residential. It has a generalized character, and is usually the largest area of the neighborhood.
- **LAND USE**: Land use is open, encouraging the combination of residential and other uses.
- **BUILDING**: Buildings of the medium density freestanding side yard and edgeyard types.
- **FRONTAGE**: Frontages which are variegated with medium setbacks: dooryard, and porch & fence.
- **STREETSCAPE**: Streetscapes which create a variety of conditions: road, residential street, and avenue.
- **THOROUGHFARE**: Thoroughfares are avenues and streets. Most buildings are served by rear alleys.
- **OPEN SPACE**: Open space is organized as plazas or squares.
In the implementation process Traditional Neighborhood Developments should be vectored, which is a tax, permitted administratively. All other types of development are not precluded, but are required to undergo the conventional public process of justification, for denial or permit as a distinct.

Vesting is a strong incentive for development of the neighborhood model, which is assumed to be socially and environmentally beneficial. This system, however, is vulnerable to abuse by false or incomplete neighborhoods. A checklist of criteria can address this problem by forming a basis for acceptance.

The checklist enumerates the many qualities that distinguish TNDs from conventional suburban sprawl. While there are always exceptions, TNDs embody the majority of the principles that follow. All principles have a significant impact on the quality of a development, but those marked with an asterisk (*) are essential and non-negotiable.

This list was compiled for the development of greenfield sites. The principles do not apply to smaller projects nor to infill projects.

The checklist can serve in different ways. For developers, the list allows them to determine whether they can expect to realize the market premium for those marked with an asterisk (*). For planning officials, the list allows them to determine the minimum amount of grading necessary. Are significant natural amenities at least partially fronted by thoroughfares other than hidden behind back yards?

The checklist can serve in different ways. For developers, the list allows them to determine whether they can expect to realize the market premium for those marked with an asterisk (*). For planning officials, the list allows them to determine the minimum amount of grading necessary.

This list was compiled for the development of greenfield sites. The principles do not apply to smaller projects nor to infill projects.

The checklist can serve in different ways. For developers, the list allows them to determine whether they can expect to realize the market premium for those marked with an asterisk (*). For planning officials, the list allows them to determine the minimum amount of grading necessary.

This list was compiled for the development of greenfield sites. The principles do not apply to smaller projects nor to infill projects.

The checklist can serve in different ways. For developers, the list allows them to determine whether they can expect to realize the market premium for those marked with an asterisk (*). For planning officials, the list allows them to determine the minimum amount of grading necessary.

This list was compiled for the development of greenfield sites. The principles do not apply to smaller projects nor to infill projects.

The checklist can serve in different ways. For developers, the list allows them to determine whether they can expect to realize the market premium for those marked with an asterisk (*). For planning officials, the list allows them to determine the minimum amount of grading necessary.

This list was compiled for the development of greenfield sites. The principles do not apply to smaller projects nor to infill projects.

The checklist can serve in different ways. For developers, the list allows them to determine whether they can expect to realize the market premium for those marked with an asterisk (*). For planning officials, the list allows them to determine the minimum amount of grading necessary.

This list was compiled for the development of greenfield sites. The principles do not apply to smaller projects nor to infill projects.

The checklist can serve in different ways. For developers, the list allows them to determine whether they can expect to realize the market premium for those marked with an asterisk (*). For planning officials, the list allows them to determine the minimum amount of grading necessary.

This list was compiled for the development of greenfield sites. The principles do not apply to smaller projects nor to infill projects.

The checklist can serve in different ways. For developers, the list allows them to determine whether they can expect to realize the market premium for those marked with an asterisk (*). For planning officials, the list allows them to determine the minimum amount of grading necessary.
• Transit Ready Community (TRC): a Transit Oriented Development before there is a prospect of transit for it. The theory of a TRC is a chicken-egg problem. Transit is not economically viable without a land use pattern that will support it. Therefore it is politically easier to create a region with a transit supportive pattern that over time will draw transit to itself.

• Pedestrian Shed: a determinant of urban size, defined as the distance which may be covered by a five-minute walk at an easy pace from the outer limit of the neighborhood proper to the edge of the neighborhood center. This is the distance that most persons will walk rather than drive, providing the environment is pedestrian-friendly. This distance is an automatic component of the neighborhood unit. It also defines the extent of the quarter, the TND, and the TOD. The pedestrian shed is conventionally one quarter of a mile or 1,320 feet. By variance, this dimension may be adjusted to accommodate site conditions. a) For TNDs of low density, by extension to a median distance of a half mile or 2,640 feet (this in order to increase the population catchment). b) For TNDs having an eccentrically located center, by calculating an average of the various edge-to-center distances. In CSD practice, the extent of parking lots and the length of shopping malls is similarly disciplined by walking distance. Source: Australian usage. See: Transit Use

• Center Extended: the sector approximately coinciding with the Center or Core zones. The locus of the walking limit may be determined by the spine of the center rather than by a single point. The most common variation occurs in the form of a main street describing a walking limit in the shape of a lozenge.

• Ecological Footprint: the impact, inevitably negative, that a projected building or development would have on its natural environment. Traditional Neighborhood Development has a lighter ecological footprint than Conventional Suburban Development.

• Sector: a portion of land. The term sector is free of the semantic overlay of Neighborhood or District. Other semantically loaded terms are Parish which is ecclesiastical, Ward which is political, and Precinct which is administrative.

• Enclave: a circumscribed urban area dependent upon the creation of an urban edge. The term implies more discontinuity than the set V. The creation of an enclave is a marketing device alien to TND which apprehends centers over edges.

• Distal: remote from the center. Proximal: Close to the center. Nomenclature that may be used to determine location based on the Transit as in Proximal Zones and Distal Zones relative to an urban center.

• Pedestrian: a portion of a town or village reserved as open space in perpetuity. The greenbelt is a concatenation of countryside, wetlands, retention ponds, playing fields, golf courses, and other large open spaces which are likely to disrupt the urban fabric of the neighborhood proper. The greenbelt may be subdivided into large private lots (no less than 10 acres) to assign maintenance and supervision.

• Transit Ready Community (TRC): a Transit Oriented Development before there is a prospect of transit for it. The theory of a TRC is a chicken-egg problem. Transit is not economically viable without a land use pattern that will support it. Therefore it is politically easier to create a region with a transit supportive pattern that over time will draw transit to itself.

• CSD: a configure pedestrian zone. In CSD, the extent of parking lots and the length of shopping malls is similarly disciplined by walking distance. Source: Australian Usage. See: Transit Use

• Pedestrian Shed: a determinant of urban size, defined as the distance which may be covered by a five-minute walk at an easy pace from the outer limit of the neighborhood proper to the edge of the neighborhood center. This is the distance that most persons will walk rather than drive, providing the environment is pedestrian-friendly. This distance is an automatic component of the neighborhood unit. It also defines the extent of the quarter, the TND, and the TOD. The pedestrian shed is conventionally one quarter of a mile or 1,320 feet. By variance, this dimension may be adjusted to accommodate site conditions. a) For TNDs of low density, by extension to a median distance of a half mile or 2,640 feet (this in order to increase the population catchment). b) For TNDs having an eccentrically located center, by calculating an average of the various edge-to-center distances. In CSD practice, the extent of parking lots and the length of shopping malls is similarly disciplined by walking distance. Source: Australian Usage. See: Transit Use

• Center Extended: the sector approximately coinciding with the Center or Core zones. The locus of the walking limit may be determined by the spine of the center rather than by a single point. The most common variation occurs in the form of a main street describing a walking limit in the shape of a lozenge.

• Ecological Footprint: the impact, inevitably negative, that a projected building or development would have on its natural environment. Traditional Neighborhood Development has a lighter ecological footprint than Conventional Suburban Development.

• Distal: remote from the center. Proximal: Close to the center. Nomenclature that may be used to determine location based on the Transit as in Proximal Zones and Distal Zones relative to an urban center.

• Pedestrian: a portion of a town or village reserved as open space in perpetuity. The greenbelt is a concatenation of countryside, wetlands, retention ponds, playing fields, golf courses, and other large open spaces which are likely to disrupt the urban fabric of the neighborhood proper. The greenbelt may be subdivided into large private lots (no less than 10 acres) to assign maintenance and supervision.

• Transit Ready Community (TRC): a Transit Oriented Development before there is a prospect of transit for it. The theory of a TRC is a chicken-egg problem. Transit is not economically viable without a land use pattern that will support it. Therefore it is politically easier to create a region with a transit supportive pattern that over time will draw transit to itself.
Advantages
Hierarchy with diagonals for through traffic
Even dispersal of traffic through the web
Monotony interrupted by deflected vistas
Monotony eliminated by terminated vistas
Easily absorbs environmental interruptions
Responsive to terrain
High number of awkward lot shapes
Syn.: Sitte Model, Townscape

Disadvantages
Monotonous unless periodically interrupted
Does not easily absorb environmental interruptions
Unresponsive to steep terrain

Advantages
Monotony interrupted by deflected vistas
Easily absorbs environmental interruptions
Highly responsive to terrain
Even dispersal of traffic through the web
Disadvantages
Highly disorienting
Uncontrollable variety of lots
No intrinsic hierarchy

Advantages
Good street hierarchy for locals and collectors
Controllable variety of blocks and lots
Easily absorbs environmental interruptions
Responsive to terrain
Disadvantages
Congestion of traffic by absence of web

Advantages
Excellent directional orientation
Controllable lot depth
Provides end grain of blocks for fast traffic
Even dispersal of blocks for fast traffic
Straight lines enhance rolling terrain
Efficient double-loading of alleys and utilities

Disadvantages
Monotonous unless periodically interrupted
Does not easily absorb environmental interruptions
Unresponsive to steep terrain

Advantages
Hierarchy with long routes for through traffic
Even dispersal of traffic through web
Responsive to terrain
Easily absorbs environmental interruptions
Monotony eliminated by terminated vistas
Follows traces on the landscape

Disadvantages
Uncontrollable variety of blocks and lots
Syn.: City Beautiful, Haussmann Model

Advantages
Even dispersal of traffic through the web
Responsive to terrain
Easily absorbs environmental interruptions
Monotony eliminated by terminated vistas
Follows traces on the landscape

Disadvantages
Uncontrollable variety of blocks and lots
Syn.: Sitte Model, Townscape

Advantages
Even dispersal of traffic through the web
Monotony interrupted by deflected vistas
Diagonal intersections spatially well-defined

Disadvantages
Tends to be disorienting

Advantages
Responsive to terrain
Easily absorbs environmental interruptions
Monotony eliminated by terminated vistas
Follows traces on the landscape

Disadvantages
Uncontrollable variety of blocks and lots
Syn.: City Beautiful, Haussmann Model

Network: The pattern of thoroughfares is the principal structuring device of the urban pattern. Six models constitute the range of options available; five manifest a web pattern. The sixth, Radburn, is a stem pattern.
Block: the aggregate of lots and tracts, circumscribed by thoroughfares. The block is the middle scale of town planning. While it is not the determinant of the network nor of the building type, it strongly affects both.

There are a large number of block forms as implied by the six models of network; however, analysis reduces the variety to three categories: square, elongated, and irregular.

Each block type has distinct technical implications, and all types are useful even within a single neighborhood. For example, the square block accommodates the additional parking of a civic building within itself, useful at the Center Zone. The General Zone usually requires the normative lot sizes easily provided by the elongated block. The rural aspect, desirable at the Suburban Zone is supported by the picturesque qualities of the irregular block.

Square Block

The Square Block was an early model for planned settlements in America. It was sometimes associated with agricultural communities with four large lots per block, each with a house at its center. When the growth of the community produced additional subdivision, the replatting inevitably created irregular lots (Figure 1).

While this may provide a useful variety, it is more often regarded as a nuisance by a building industry accustomed to standardized products.

Elongated Block

The Elongated Block is an evolution of the square block which overcomes some of its drawbacks. The elongated block eliminates the uncontrollable variable of lot depth, while maintaining the option of altering the lot width. Elongated blocks provide economical double-loaded alleys with short utility runs. The alley may be placed eccentrically, varying the depth of the lot (Figure 3-1). By adjusting the block length, it is possible to reduce cross-streets at the rural edges and to add them at the urban centers. This adjustment alters the pedestrian permeability of the grid, and controls the ratio of street parking to the building capacity of the block.

The elongated block can bend somewhat along its length, giving a limited ability to shape space and to negotiate slopes (Figure 4). Unlike the square block, it provides two distinct types of frontage. With the short side or end grain assigned to the higher traffic thoroughfare, most buildings can front the quieter long side of the block (Figure 3-2). For commercial buildings, the end grain can be platted to take advantage of the traffic while the amount of parking behind is controlled by the variable depth (Figure 3-3).

Irregular Block

The Irregular Block is characterized by its unlimited variations. The original organic block was created by the subdivision of land residual between well-worn paths.

It was later rationalized by Sitte, Cullen, Krier, and Olmsted to achieve a controllable picturesque effect and to organically negotiate sloping terrain. An important technique in the layout of irregular blocks is that the frontages of adjacent blocks need not be parallel (Figure 5). The irregular block, despite its variety, generates certain recurring conditions which must be resolved by sophisticated platting. At shallow curves, it is desirable to have the facades follow the frontage smoothly. This is achieved by maintaining the side lot lines perpendicular to the frontage line (Figure 6-1). It is important that the rear lot line be wide enough to permit vehicular access (Figure 6-2). At sharper curves, it is desirable to have the axes of a single lot bisect the acute angle (Figure 6-3). In the event of excessive block depth it is possible to access the interior of the block by means of a close (Figure 6-4).

Sym.: Organic Block (note: A disadvantage is that discontinuous rear lot lines prevent double-loaded alleys and rear-access utilities. Despite these shortcomings, the square block is useful as a specialized type. The forced variety of platting assures a range of lot prices. When platted only at its perimeter with the center open (Figure 2), it can accommodate the high parking requirements of civic buildings. The open center may also be used as a common garden or a playground, insulated from traffic.)
• Campus: a block or sector where buildings are disposed independently of the frontages, usually in a parklike setting. Campuses are justified for educational institutions, but not for office buildings, which should be integrated into the thoroughfare network. Syn.: Superblock

• Court: a grouping of several small buildings on a shared lot. The equivalent of a miniature campus, where building design and site planning are coordinated and submitted together for approval. Courts are useful for non-family or communal programs such as co-housing. Syn.: Compound

• Estate Lot: a very large lot located within the Rural Zone. Estate lots maintain rural character while assigning main maintenance cost and responsibility to private ownership. The minimum size of an estate lot depends on the ability of the existing landscape to mask the simultaneous view of multiple buildings. In a barren landscape, 30 acres may be a minimum; in a wooded landscape, 10 acres may be sufficient.

• Compound: a lot containing several buildings, including separate residences. As it is difficult to code multiple buildings in depth from the frontage, it may be necessary to regulate compounds by negotiating the design as a small PUD. A campus is a large compound.

• Perimeter Block: a type of block, generally square or equilateral, wherein the buildings form a continuous edge along the frontages. Perimeter blocks define the most urban streetscapes.

• Open Block: a type of block that is accessible or pedestrian permeable.

• Private Block: a type of block which is private inside; it may contain parking, a garden, etc. This block type is used in New York, London, Washington.

• Krier Block: a type of block layout where building sites are laid out independently of the frontages and in rotation relative to each other. A negotiating consequence of this technique is disorientation and failure of spatial definition in the absence of disciplined frontages. The train wreck layout is common to CSD usually in the pursuit of a picturesque effect, if only accidentally.

• Drowned Worm Pattern: a pattern of thoroughfares, typical of the residential sectors of CSD, characterized by arbitrarily curving trajectories which tend to be disorienting.

• Diamond Grid Pattern: a network of thoroughfares useful for slopes, wherein intersections are adjusted to angles that permit the trajectories of the thoroughfares to follow a designated maximum grade. The diamond grid secures an open network, until extreme slopes justify a discontinuous pattern.

• Zigzag: a thoroughfare or path with alternate left and right turns at sharp angles, usually to aid the ascent and descent of a steep slope.

• Train Wreck Pattern: a pattern where buildings are laid out independently of the frontages and in rotation relative to each other. A negotiating consequence of this technique is disorientation and failure of spatial definition in the absence of disciplined frontages. The train wreck layout is common to CSD usually in the pursuit of a picturesque effect, if only accidentally.

• Grid: a web of intersecting thoroughfares that is rectilinear in its alignment and orthogonal at its intersections.

• Network: a web of intersecting thoroughfares that may be diagonal, curvilinear, and/or irregular in its alignment and variable at its intersections.

• Stem Pattern: a thoroughfare pattern offering limited choice of routing. It is a component of Conventional Suburban Development (CSD). The stem pattern is characterized by a hierarchical system that proceeds from cul-de-sacs to local, to collector, to arterials, then to highways. With this pattern, driving is the most convenient choice for short, as well as long trips. The layout forces longer, less direct travel because shortcuts are not provided. By channeling all trips to collectors and arterials, this portion of the system, which is a small percentage of the overall paved infrastructure, becomes easily congested. Syn.: Dendritic Pattern

• Web Pattern: a highly interconnected thoroughfare pattern offering constant choices of routing, which tends to disperse congestion. It is integral to Traditional Neighborhood Development (TND). Syn.: Network Pattern, Grid Pattern

• End Grain: the short side of the block. To this side is assigned the highest-traffic thoroughfare. For commercial buildings, the end grain can be platted to take advantage of the traffic while the amount of parking behind is controlled by the variable depth.
• Open Space: area free of building that, together with a well-designed system of thoroughfares, provides public access to the scales of urbanism, from the region to the block.

Open space in Conventional Suburban Development is usually defined quantitatively, as a function of population or land area. This practice may result in large, mismatched open areas which are under-utilized by the community. The only types of open space which are carefully designed within CSD practice are those determined by environmental definition and by the requirements of parking. Open space, to be effective environmentally (that is, justified in terms that include the human species), must be specialized in function and appropriate in location. They range from waterways to roof gardens.

The types of open space can be organized by their location within the Transect, but location is only one of several typological characteristics including size, landscaping, and its relationship to the context (edges). The types of open space range from watersheds to roof gardens. A shed is an area attached to or surrounding a building, its landscape being a specialized cultivation, either ornamental or fruits and vegetables. See: CPTED crime prevention through environmental design.

Open spaces, to be truly public, should be experienced by building facades and circumscribed by thoroughfares. The conventional suburban practice of locating open space to the rear of buildings is driven by two concerns: the economy of eliminating single-loaded thoroughfares and the value added to the individual building by the extended view of the rear yard into the open space. The argument against these economic determinants is that the value of lots involving the open space is not necessarily diminished, and that the value added to the other lots, now having access to the open space, is by virtue of their greater numbers, a larger total. A study of comparables will support this analysis.

Open spaces, to be fully functional, should straddle pedestrian trajectories or be adjacent to meaningful destinations. Care should also be taken that open spaces have visual supervision from fronting buildings. Dense, visually impenetrable plantings create the opportunity for crime. See: CPTED crime prevention through environmental design.

The definitions provided tend to be singular, but open space types may be combined; for example, a playing field may be within a park.
• Embankment: a raised line of earthwork, often stiffened by stone or concrete, built to protect an area from rising water or to mask noxious traffic. Similar to a berm, but more utilitarian in its intentions.

• Berm: a linear rise of ground, artificially created to restrict pedestrian connectivity between zones, such as shopping centers and housing pods, or to mask unattractively uses such as parking lots. Berms are a widespread element of OSD practice but discouraged in TND, where connectivity is generally valued and parking generally masked by liner buildings.

• Mount: a central rise of ground, artificially created to enhance a pavilion, create an overlook, or mask a distant vista. A mount may be reinforced by a crowning cluster of trees. Mounts are especially useful to terminate an axial vista within a controllable area when the horizon beyond is unacceptable.

• Amphitheater: a stepped, directional sitting area in the open, suitable for audiences observing performances or being subjected to harangues. An amphitheater can be straight or curving.

• Sunken Garden: a garden deliberately laid out at a lower level to permit viewing of its full extent, particularly to better discern its plan configuration.

• Species: a group of plants or animals with similar characteristics which define the group. See: Taxonomy

• Specimen Tree: an unusual or interesting tree planted alone for effect.

• Cultivar: a species of plant that has been developed and maintained by nursery management. The necessity of matching street trees for the more urban thoroughfares requires the creation of a reserve cohort of cultivars to replace the periodic loss of matched specimens. A public works department should maintain a cultivar nursery for this purpose.

• Exotic Species: a plant originating outside the bioregion where it is being grown. Exotic species are held to be problematic because of the disruption they may cause to a local ecology either through maladjustment compensated by wasteful watering and fertilizing or through excessive hardiness, displacing local species from their biological niches. While such disruptions are known to occur, they constitute a tiny, albeit notorious, minority of instances, while multitudes of exotics make useful contributions ecologically, economically, and socially. Rather than barring exotics categorically, each species should be judged on its merits for inclusion in a bioregion.

• Native Species: a plant originating within the bioregion where it is being grown.

• Xeriscape: a landscape consisting primarily of species and practices which require little or no maintenance, watering, or fertilization. Syn.: Native Landscape

• Waterwise: syn. Native Landscape

• Arbor: a loose, naturalistic grouping of trees, planted in emulation of a natural woodland.

• Bosque: a geometrically disposed grouping of trees, spaced tightly enough to create a continuous canopy overhead. Useful for shading plazas and parking lots. See: Arbor

• Orchard: an area cultivated in fruit trees. Orchards, along with vineyards are the type of agriculture most acceptable in the proximity of an urban fabric as the produce can be harvested by hand. However, pest control methods and theft must be managed.

• Clump: the composition of multiple tree and understory species to create a distinct naturalistic grouping. A clump is an element of green and park design but absent in squares and plazas. A clump may be conceived as a habitat. See: Patch

• Quincunx: a formation of five trees, four at the corners of a square and one in the middle. A composition known to be effective in the layout of a clump. When the trees are of varying heights, the effect is naturalistic.

• Thicket: a tight, complex landscape allowed to grow unchecked. A thicket acts as a device to block undesirable views or winds.

• Grove: a loose, naturalistic grouping of trees, planted in emulation of a natural woodland.

• Trees: the umbrella species of urban ornament. A broad diversity of species is encouraged to provide habitat, shade, and aesthetic. Fountains require a level of maintenance that is often not available municipally and should be considered with the utmost skepticism in this regard.

• Pond: a small lake

• Lake: a naturalistic water body, larger than a pond. Lakes are artificially created by damming watercourses or by adapting a natural occurrence such as a wetland.

• Moat: a long strip of water strongly demarcating a threshold. A common defensive devise of high ornamental value, still useful toward the definition of secure enclosures as it is less obtrusive than a wall.
• **Core Course**: a park-like setting where the game of golf is played. Golf courses are considered an integral part of CSD practice as the principal amenity of many communities. The standard practice is to thread the golf greens through the residential areas along the backyards. The intention is to create premium lots with long views. A better practice, both for the play of golf and for the continuity of the community is to create a compact core course, similar in type to the heath. The concurrent technique of lining the golf course with drives (rather than backyards) spreads the frontage premium across the entire community rather than confining it to the few enframing lots.

• **Golf Course**: a park-like setting where the game of golf is played. Golf courses are considered an integral part of conventional suburban practice and the principal amenity of many communities. The standard practice is to thread the golf greens through the residential areas along the backyards. The intention being to create premium lots with long views. A better practice, both for the golf course and for the continuity of the community is to create a compact core course. The concurrent technique of lining the golf course with a drive (rather than backyards) spreads the frontage premium across the entire community rather than assigning it to a few lots.

• **Bed**: a small plot dedicated to intensive cultivation. Usually an element of a square, an allotment garden, or a private yard.

• **Belt**: landscape planted around the perimeter of an open space, usually to define it spatially. Belts are the natural version of the ambulatory, with a similar capacity to demarcate, enhance and protect the space it surrounds. Parks within an urban fabric should be surrounded with tree belts in order to eliminate the visual presence of buildings which undermine the desired tranquility or the naturalistic illusion.

• **Border**: a narrow, linear planting bed, useful alongside a street wall, improving its looks by the addition of hedge or climbing vine. Borders should be used only where urban maintenance is excellent as they tend to become convenient receptacles for trash.

• **Edging**: elements that delineate paths, keeping the pedestrian within the designated trajectory and away from delicate turf or ecology. The proper material and detailing of the edging depends on the location of the path within the Transect. It may range from stone to wood to iron to brick.

• **Lawn**: grassland controlled by mowing. A lawn is a uniform, durable ground cover suitable for playing fields. The common lawn of the front yard is one of the most rural of the frontage types. Squares, greens, lawns, and private yards require maintenance, unlike meadows.

• **Pasture**: fields that are essentially untended. Pasture can be a practical maintenance system, even for greens and parks toward the urban end of the Transect, where fences hold sheep doing the maintenance work.

• **Lawn-Meadow-Pasture**: three degrees of maintenance applied to grassland. Lawn is the most cared for variant, followed by meadow, while pasture is simply controlled by harvest or grazing.

• **Residual Space**: open space unassigned to neither the private lot nor to the designed public realm. The very large quantity of residual space is the locus of antisocial activity in public housing. Residual space is useful for found uses such as informal playgrounds and inexpensive housing.

• **Patch**: the minimum area necessary to sustain the habitat of a certain species. A patch may occur within any type of open space and be the determinant to its size.

• **Underplanting**: the planting of low-growing trees between taller ones to provide leaf at a height where otherwise there would be only bare trunks.

• **Canopy**: the mass and cover created by the upper branches of trees. Species may be selected by their canopy for aesthetic form and/or to create shade. In general, allees, clusters, and bosques tree spacing is determined by the width of the canopy at maturity. As urban landscaping must be remedial before aesthetic, the type of open space to be corrected may be determined by the canopy completing an arch overhead.

• **Core Course**: a park like setting where the game of golf is played. Golf courses are considered an integral part of CSD practice as the principal amenity of many communities. The standard practice is to thread the golf greens through the residential areas along the backyards. The intention is to create premium lots with long views. A better practice, both for the play of golf and for the continuity of the community is to create a compact core course, similar in type to the heath. The concurrent technique of lining the golf course with drives (rather than backyards) spreads the frontage premium across the entire community rather than confining it to the few enframing lots.

• **Golf Course**: a park-like setting where the game of golf is played. Golf courses are considered an integral part of conventional suburban practice and the principal amenity of many communities. The standard practice is to thread the golf greens through the residential areas along the backyards. The intention being to create premium lots with long views. A better practice, both for the golf course and for the continuity of the community is to create a compact core course. The concurrent technique of lining the golf course with a drive (rather than backyards) spreads the frontage premium across the entire community rather than assigning it to a few lots.

• **Bed**: a small plot dedicated to intensive cultivation. Usually an element of a square, an allotment garden, or a private yard.

• **Belt**: landscape planted around the perimeter of an open space, usually to define it spatially. Belts are the natural version of the ambulatory, with a similar capacity to demarcate, enhance and protect the space it surrounds. Parks within an urban fabric should be surrounded with tree belts in order to eliminate the visual presence of buildings which undermine the desired tranquility or the naturalistic illusion.

• **Border**: a narrow, linear planting bed, useful alongside a street wall, improving its looks by the addition of hedge or climbing vine. Borders should be used only where urban maintenance is excellent as they tend to become convenient receptacles for trash.

• **Edging**: elements that delineate paths, keeping the pedestrian within the designated trajectory and away from delicate turf or ecology. The proper material and detailing of the edging depends on the location of the path within the Transect. It may range from stone to wood to iron to brick.

• **Lawn**: grassland controlled by mowing. A lawn is a uniform, durable ground cover suitable for playing fields. The common lawn of the front yard is one of the most rural of the frontage types. Squares, greens, lawns, and private yards require maintenance, unlike meadows.

• **Pasture**: fields that are essentially untended. Pasture can be a practical maintenance system, even for greens and parks toward the urban end of the Transect, where fences hold sheep doing the maintenance work.

• **Lawn-Meadow-Pasture**: three degrees of maintenance applied to grassland. Lawn is the most cared for variant, followed by meadow, while pasture is simply controlled by harvest or grazing.
Thoroughfare is an urban element that provides the major part of the public open space as well as moving lanes for vehicles. A thoroughfare is endowed with two attributes: capacity and character.

**Capacity** is the number of vehicles that can move safely through a segment of a thoroughfare within a given time period. It is physically manifested by the number of lanes and their width, by the centerline radius, the curb radius, and the superelevation of the pavement.

**Character** is the suitability of a thoroughfare as a setting for pedestrian activities and as a location for a variety of building types. Character is physically manifested by the associated frontage types as determined by the location within the Transect.

<table>
<thead>
<tr>
<th><strong>Thoroughfare</strong></th>
<th><strong>Capacity</strong></th>
<th><strong>Character</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Thoroughfare</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Capacity</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Character</strong></td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Highway:** a long-distance, speed-movement thoroughfare traversing open countryside. A highway should be relatively free of intersections, driveways, and adjacent buildings, otherwise it becomes strip development which interferes with traffic flow and human comfort. Syn.: *Townless Highway*

Variants include *Expressway* and *Parkway*. An expressway is a highway with grade-separated intersections. A parkway is a highway designed in conjunction with naturalistic landscaping, including a variable-width median.

**Boulevard:** a long-distance, free movement thoroughfare traversing an urbanized area. A boulevard is flanked by parking, sidewalks, and planters buffering the buildings along the sides.

**Highway:** a long-distance, speed-movement thoroughfare traversing open countryside. A highway should be relatively free of intersections, driveways, and adjacent buildings, otherwise it becomes strip development which interferes with traffic flow and human comfort. Syn.: *Townless Highway*

Variants include *Expressway* and *Parkway*. An expressway is a highway with grade-separated intersections. A parkway is a highway designed in conjunction with naturalistic landscaping, including a variable-width median.

**Boulevard:** a long-distance, free movement thoroughfare traversing an urbanized area. A boulevard is flanked by parking, sidewalks, and planters buffering the buildings along the sides.

**Drive:** a thoroughfare along the boundary between an urbanized and a natural condition, usually along a waterfront, a park, or a promontory. One side of a drive has the urban character of a street or boulevard, with sidewalk and buildings, while the other has the qualities of a road or parkway, with naturalistic planting and rural detailing.

**Drive:** a thoroughfare along the boundary between an urbanized and a natural condition, usually along a waterfront, a park, or a promontory. One side of a drive has the urban character of a street or boulevard, with sidewalk and buildings, while the other has the qualities of a road or parkway, with naturalistic planting and rural detailing.

**Road:** a local, slow-movement thoroughfare suitable for Edge and Rural Zones. Roads provide frontage for low-density buildings such as houses. A road tends to be rural in character without curbs or striped on-street parking: it may have clustered plantings and paths instead of sidewalks. The degree of rural or rustic character of a road may be adjusted by the manipulation of such elements.

**Road:** a local, slow-movement thoroughfare suitable for Edge and Rural Zones. Roads provide frontage for low-density buildings such as houses. A road tends to be rural in character without curbs or striped on-street parking: it may have clustered plantings and paths instead of sidewalks. The degree of rural or rustic character of a road may be adjusted by the manipulation of such elements.

**Avenue:** a limited distance, free-movement thoroughfare connecting civic locations within an urbanized area. Unlike a boulevard, its length is finite and its axis is terminated. An avenue may be conceived as an elongated square. Syn.: *connector* (from TOD usage)

Variants: *Allée.* A rural thoroughfare, free of fronting buildings, except at the terminus, where only trees in alignment define the space. Over time, an allée may become urbanized, evolving into an avenue.

**Avenue:** a limited distance, free-movement thoroughfare connecting civic locations within an urbanized area. Unlike a boulevard, its length is finite and its axis is terminated. An avenue may be conceived as an elongated square. Syn.: *connector* (from TOD usage)

Variants: *Allée.* A rural thoroughfare, free of fronting buildings, except at the terminus, where only trees in alignment define the space. Over time, an allée may become urbanized, evolving into an avenue.

**Street:** a local, slow-movement thoroughfare suitable for General, Center, and Core Zones. Streets provide frontage for higher-density buildings such as offices, shops, apartment buildings, and rowhouses. A street is urban in character, with raised curbs, closed drainage, wide sidewalks, parallel parking, and trees in individual planting areas. Character may vary somewhat, however, responding to the enfronting commercial or residential uses.

**Street:** a local, slow-movement thoroughfare suitable for General, Center, and Core Zones. Streets provide frontage for higher-density buildings such as offices, shops, apartment buildings, and rowhouses. A street is urban in character, with raised curbs, closed drainage, wide sidewalks, parallel parking, and trees in individual planting areas. Character may vary somewhat, however, responding to the enfronting commercial or residential uses.
Conventional traffic engineering practice uses terms such as collector and arterial, denoting only capacity. This is simplistic and ignores the crucial social role of the thoroughfare as a public realm in the community. TND nomenclature describes more adequately the combinations of capacity and character necessary to create true urbanism.

### TRANSLATION

- **Highway**
- **Arterial**
- **Collector**
- **Local**
- **Cul-de-sac**
- **Driveway**
- **Passage**
- **Path**

#### CIRCULATION

- **Rural**
- **Urban**

### Thoroughfare Types

- **Highway**
- **Boulevard**
- **Avenue & Connector**
- **Street & Road**
- **Close**
- **Alley & Lane**
- **Passage**
- **Path**

### Definitions

- **Path**: a pedestrian way traversing a park or the countryside. Paths should connect directly with the sidewalk network at the urban edge. Syn.: Walk

- **Passage**: a pedestrian connector passing between buildings. Passages provide shortcuts through long blocks and connect rear parking areas with street frontages. Passages may be roofed over and lined by shopfronts. Variants include Court. A court is a passage that is wide enough to be landscaped, being the frontage for buildings which are otherwise provided with vehicular access only by rear alleys.

- **Alley**: a narrow service access to the rear of more urban buildings providing service areas, parking access, and utility easements. Alleys, as they are used by trucks and must accommodate dumpsters, should be paved from building face to building face, with drainage by inverted crown at the center.

- **Rear Lane**: a vehicular access way located to the rear of a lot providing access to parking and outbuildings as well as easements for utilities. Rear lanes are paved as lightly as possible to driveway standards or with gravel. Rear lanes should be as rural as possible in character.
Transit: a vehicular transportation system other than the private car (and its variants). There are three types of transit systems: rail system, bus system and bicycle system. Each system has certain advantages and also certain requirements of the supporting urban pattern upon which, if ignored, increase their operational costs. None, however, are as costly to the public and private purse as the private car and its attendant need for major thoroughfares and parking.

Commuter Rail: transit operated with heavy railroad equipment incapable of rapid acceleration. It can be operated concurrently with rail freight. Station spacings are usually 2 miles or more. (Philadelphia’s Main Line, Long Island Railroad).

Heavy Rail: transit running on tracks separated from the vehicular thoroughfare system. This is achieved by grade separation, either elevated (Miami), underground (Washington), separated within the median of a highway (Calgary), or in a dedicated ROW (Philadelphia). Heavy rail is designed for high speed and stops efficiently at an average of one mile intervals. The grade-separated systems are the most expensive form of surface transit to build.

Light Rail: transit running on tracks at grade within the thoroughfare system. Light rail cars are designed for both low and medium speeds and thus can operate stopping at half-mile (neighborhood) intervals within an urban fabric and at two-mile intervals within the countryside. The dedicated rail infrastructure and the large increments of phasing required make light rail a relatively expensive form of transit to build. Syn.: Trolley, Streetcar. (San Diego Downtown)

• Tram: tbd

Bus: a multi passenger vehicle running on lanes shared with the general thoroughfare system. It is a low-speed system which can stop frequently. Bus systems achieve maximum efficiency when stops are confined to rationalized pedestrian catchment areas of one-quarter mile (5 minute walk) such as neighborhoods. Buses may operate regionally, approximating light rail when using dedicated lanes within the highway system. This is a relatively inexpensive system which may be incubated in small increments.

Jitney: a small vehicle typically owned by the driver and operated independently. Most jitneys follow set routes, but they can deviate off-route at a passenger’s request.

Circulator: a small multi passenger vehicle running on lanes shared with the general thoroughfare system. It is a low-speed system which follows a short looped trajectory, sometimes with airphone-responsive deviations for door-to-door service. Circulators are often feeder systems within airport districts; school buses are a common variant. They are applied to mitigate the travel needs of retirement communities. Circulators are the least expensive of the transit options, especially when phased in small increments, as an incubator for a full bus system.

Bikeways: thoroughfares dedicated specifically to, or available for, bicycle use. The general network of thoroughfares, if correctly dimensioned, is generally usable by cyclists sharing lanes with motor vehicles moving slowly. Specialized accommodation is required only where the speed of traffic precludes sharing. There are three types of bicycle ways:

Trail: an independent bicycle way generally running through the countryside or parallel with highways. Syn.: Class I bikeway.

Lane: a dedicated bicycle way generally created by striping from the edges of thoroughfares. Syn.: Class II bikeway.

Route: an undesigned bicycle way shared with other vehicles within thoroughfares. Syn.: Class III bikeway

• Pedestrian Sheds:}

The Pedestrian Shed is a buffer of one-quarter mile (5 minute walk) from the edges of thoroughfares. A bus can stop every 1/8 mile. A tram can stop every 1/2 mile. Light rail can stop every mile. Heavy rail can stop every two miles.

The Typical TOD ped shed is 1/4 mile. The Typical TOD 2 miles.

The Typical TOD ped shed is 1/2 mile. The Typical TOD 1 mile.

CIRCULATION TRANSIT TYPES
• Vehicular Circulation: the combination of moving and parking lanes within thoroughfares. The network of thoroughfares also constitutes the majority of the public realm available to pedestrians.

As the shared setting for most buildings, thoroughfares provide the constant potential for community interaction. As such, thoroughfares must be carefully designed both for vehicular capacity and for pedestrian character.

Pedestrian character is formed by the combination of frontage and streetscape, but these alone cannot create a likely pedestrian environment unless the velocity of vehicular movement is also designed and controlled. The posting of speed limits is ineffective unless continually policed.

The velocity of vehicular movement is affected by physical factors which create the perception of a maximum safe velocity. These factors include the width of lanes, the provision of parking lanes, the centerline radius, and the intersection curb radius.

Conventional traffic design manuals prescribe only combinations suitable for continuous speed movement. These must be extended to provide a range of velocities appropriate to the range of urban conditions. In addition to the conventional standards for speed movement, there are those for free, slow, and yield movements. The last is the operational equivalent of traffic calming.

The provision of traffic calming devices is necessary only as a retrofit strategy.

### Thoroughfare Design

<table>
<thead>
<tr>
<th>Thoroughfare Design</th>
<th>One Way - One Lane</th>
<th>One Way - Two Lanes</th>
<th>Two Ways - Two Lanes</th>
<th>Two Ways - Three Lanes</th>
<th>Two Ways - Four Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pavement Width</td>
<td>0-10 feet</td>
<td>16-20 feet</td>
<td>18-24 feet</td>
<td>24-30 feet</td>
<td>30-36 feet</td>
</tr>
<tr>
<td>Curb Radius</td>
<td>5-10 feet</td>
<td>10-15 feet</td>
<td>15-20 feet</td>
<td>20-25 feet</td>
<td>25-30 feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thoroughfare Design</th>
<th>One Way - One Lane</th>
<th>One Way - Two Lanes</th>
<th>Two Ways - Two Lanes</th>
<th>Two Ways - Three Lanes</th>
<th>Two Ways - Four Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pavement Width</td>
<td>14-18 feet</td>
<td>22-27 feet</td>
<td>26-32 feet</td>
<td>32-38 feet</td>
<td>38-44 feet</td>
</tr>
<tr>
<td>Curb Radius</td>
<td>7-12 feet</td>
<td>12-17 feet</td>
<td>17-22 feet</td>
<td>22-27 feet</td>
<td>27-32 feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thoroughfare Design</th>
<th>One Way - One Lane</th>
<th>One Way - Two Lanes</th>
<th>Two Ways - Two Lanes</th>
<th>Two Ways - Three Lanes</th>
<th>Two Ways - Four Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pavement Width</td>
<td>22-28 feet</td>
<td>30-36 feet</td>
<td>34-40 feet</td>
<td>40-46 feet</td>
<td>46-52 feet</td>
</tr>
<tr>
<td>Curb Radius</td>
<td>9-14 feet</td>
<td>14-19 feet</td>
<td>19-24 feet</td>
<td>24-29 feet</td>
<td>29-34 feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thoroughfare Design</th>
<th>One Way - One Lane</th>
<th>One Way - Two Lanes</th>
<th>Two Ways - Two Lanes</th>
<th>Two Ways - Three Lanes</th>
<th>Two Ways - Four Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pavement Width</td>
<td>30-38 feet</td>
<td>38-46 feet</td>
<td>44-52 feet</td>
<td>50-60 feet</td>
<td>56-68 feet</td>
</tr>
<tr>
<td>Curb Radius</td>
<td>11-16 feet</td>
<td>16-21 feet</td>
<td>21-26 feet</td>
<td>27-31 feet</td>
<td>31-35 feet</td>
</tr>
</tbody>
</table>
• Infrastructure Cost: the cost of service improvements on a given site, including utilities, streetscapes, and thoroughfares but excluding common amenities and buildings. The cost of infrastructure of Traditional Neighborhood Development should be equal to or less than that of Conventional Suburban Development for the following reasons:
  • the elimination of CSD front-loaded driveways compensates for the rear lanes, providing the latter are built to driveway standards.
  • TNDs narrower thoroughfare widths compensate for the shorter length of cul-de-sacs.
  • TNDs use of simple open sections for drainage wherever roads are appropriate.
  • TNDs on-street parking consumes substantially less pavement than off-street parking by double-use of the moving lane as access lane.
  • since the TNDs network system has much greater connectivity than the CSDs stem system, there is a near-complete elimination of costly collectors that do not provide developable frontage.
  • TNDs increment of phasing is much smaller, as all market segments are accommodated within a single neighborhood as opposed to carrying the infrastructure costs of many homogenous pods.
  • lot width based on an off-street parking module (12, 24, 36, 48, 60, 72 etc.) increases the density of TNDs by eliminating slivers of wasted land (parking controls density).

<table>
<thead>
<tr>
<th>LOT SCALE</th>
<th>BLOCK SCALE</th>
<th>NEIGHBORHOOD SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,600 sq ft</td>
<td>5,600 sq ft</td>
<td>5,600 sq ft</td>
</tr>
<tr>
<td>1 unit (2,400 sq ft)</td>
<td>1 unit (2,400 sq ft)</td>
<td>1 unit (2,400 sq ft)</td>
</tr>
<tr>
<td>1,500 sq ft</td>
<td>1,500 sq ft</td>
<td>1,500 sq ft</td>
</tr>
<tr>
<td>4 - 7 places</td>
<td>4 - 7 places</td>
<td>4 - 7 places</td>
</tr>
<tr>
<td>492 sq ft</td>
<td>492 sq ft</td>
<td>492 sq ft</td>
</tr>
<tr>
<td>52 ft</td>
<td>52 ft</td>
<td>52 ft</td>
</tr>
<tr>
<td>28 ft</td>
<td>28 ft</td>
<td>28 ft</td>
</tr>
<tr>
<td>360 places</td>
<td>360 places</td>
<td>360 places</td>
</tr>
<tr>
<td>52,244 sq ft (1.10 ac)</td>
<td>52,244 sq ft (1.10 ac)</td>
<td>52,244 sq ft (1.10 ac)</td>
</tr>
<tr>
<td>52 ft and 60 ft</td>
<td>52 ft and 60 ft</td>
<td>52 ft and 60 ft</td>
</tr>
<tr>
<td>28 ft and 36 ft</td>
<td>28 ft and 36 ft</td>
<td>28 ft and 36 ft</td>
</tr>
<tr>
<td>80 ft radius (to curb)</td>
<td>80 ft radius (to curb)</td>
<td>80 ft radius (to curb)</td>
</tr>
<tr>
<td>116,000 sq ft (2.67 ac)</td>
<td>116,000 sq ft (2.67 ac)</td>
<td>116,000 sq ft (2.67 ac)</td>
</tr>
<tr>
<td>3 lanes</td>
<td>3 lanes</td>
<td>3 lanes</td>
</tr>
<tr>
<td>285,000 sq ft (6.56 ac)</td>
<td>285,000 sq ft (6.56 ac)</td>
<td>285,000 sq ft (6.56 ac)</td>
</tr>
<tr>
<td>5,600 sq ft</td>
<td>5,600 sq ft</td>
<td>5,600 sq ft</td>
</tr>
<tr>
<td>1 unit (2,400 sq ft)</td>
<td>1 unit (2,400 sq ft)</td>
<td>1 unit (2,400 sq ft)</td>
</tr>
<tr>
<td>1,500 sq ft</td>
<td>1,500 sq ft</td>
<td>1,500 sq ft</td>
</tr>
<tr>
<td>4 - 7 places</td>
<td>4 - 7 places</td>
<td>4 - 7 places</td>
</tr>
<tr>
<td>492 sq ft</td>
<td>492 sq ft</td>
<td>492 sq ft</td>
</tr>
<tr>
<td>52 ft</td>
<td>52 ft</td>
<td>52 ft</td>
</tr>
<tr>
<td>28 ft</td>
<td>28 ft</td>
<td>28 ft</td>
</tr>
<tr>
<td>360 places</td>
<td>360 places</td>
<td>360 places</td>
</tr>
<tr>
<td>52,244 sq ft (1.10 ac)</td>
<td>52,244 sq ft (1.10 ac)</td>
<td>52,244 sq ft (1.10 ac)</td>
</tr>
<tr>
<td>52 ft and 60 ft</td>
<td>52 ft and 60 ft</td>
<td>52 ft and 60 ft</td>
</tr>
<tr>
<td>28 ft and 36 ft</td>
<td>28 ft and 36 ft</td>
<td>28 ft and 36 ft</td>
</tr>
<tr>
<td>80 ft radius (to curb)</td>
<td>80 ft radius (to curb)</td>
<td>80 ft radius (to curb)</td>
</tr>
<tr>
<td>116,000 sq ft (2.67 ac)</td>
<td>116,000 sq ft (2.67 ac)</td>
<td>116,000 sq ft (2.67 ac)</td>
</tr>
<tr>
<td>3 lanes</td>
<td>3 lanes</td>
<td>3 lanes</td>
</tr>
<tr>
<td>285,000 sq ft (6.56 ac)</td>
<td>285,000 sq ft (6.56 ac)</td>
<td>285,000 sq ft (6.56 ac)</td>
</tr>
<tr>
<td>5,600 sq ft</td>
<td>5,600 sq ft</td>
<td>5,600 sq ft</td>
</tr>
<tr>
<td>1 unit (2,400 sq ft)</td>
<td>1 unit (2,400 sq ft)</td>
<td>1 unit (2,400 sq ft)</td>
</tr>
<tr>
<td>1,500 sq ft</td>
<td>1,500 sq ft</td>
<td>1,500 sq ft</td>
</tr>
<tr>
<td>4 - 7 places</td>
<td>4 - 7 places</td>
<td>4 - 7 places</td>
</tr>
<tr>
<td>492 sq ft</td>
<td>492 sq ft</td>
<td>492 sq ft</td>
</tr>
<tr>
<td>52 ft</td>
<td>52 ft</td>
<td>52 ft</td>
</tr>
<tr>
<td>28 ft</td>
<td>28 ft</td>
<td>28 ft</td>
</tr>
<tr>
<td>360 places</td>
<td>360 places</td>
<td>360 places</td>
</tr>
<tr>
<td>52,244 sq ft (1.10 ac)</td>
<td>52,244 sq ft (1.10 ac)</td>
<td>52,244 sq ft (1.10 ac)</td>
</tr>
<tr>
<td>52 ft and 60 ft</td>
<td>52 ft and 60 ft</td>
<td>52 ft and 60 ft</td>
</tr>
<tr>
<td>28 ft and 36 ft</td>
<td>28 ft and 36 ft</td>
<td>28 ft and 36 ft</td>
</tr>
<tr>
<td>80 ft radius (to curb)</td>
<td>80 ft radius (to curb)</td>
<td>80 ft radius (to curb)</td>
</tr>
<tr>
<td>116,000 sq ft (2.67 ac)</td>
<td>116,000 sq ft (2.67 ac)</td>
<td>116,000 sq ft (2.67 ac)</td>
</tr>
<tr>
<td>3 lanes</td>
<td>3 lanes</td>
<td>3 lanes</td>
</tr>
<tr>
<td>285,000 sq ft (6.56 ac)</td>
<td>285,000 sq ft (6.56 ac)</td>
<td>285,000 sq ft (6.56 ac)</td>
</tr>
</tbody>
</table>
Parking: the technique for storage of automobiles when not in movement. The manner of accommodation of parking is a major distinguishing characteristic between CSD and TND. TND masks parking behind buildings to enhance the pedestrian quality of the frontage. As parking determines density, a system of platting commensurate with the parking module maximizes building densities. See: Platting
• Vehicular Access: the portion of the thoroughfare which is occupied by vehicles, usually the moving lanes and parking lanes. The vehicular way, together with the pedestrian way, fills the right-of-way.

• Pedestrian Way: that portion of a thoroughfare right-of-way which is dedicated to uses other than vehicles moving and parking. The pedestrian way includes the sidewalks and planting areas of the streetscape.

• Driveway: a vehicular access way within a private lot connecting a garage to a thoroughfare. Driveways are built to a lesser standard than public thoroughfares. The cost of a rear lane should be offset by that of the driveway it replaces. See: Infrastructure Cost

• Hollywood Drive: a residential driveway constructed of two parallel strips of pavement each 21 ft. wide with a plating area in between. An alternative to the conventional continuous-surface parking pad, the Hollywood Drive provides more green area and better permeability but is more difficult to build. In the event of front-loaded garages, access should be by means of a Hollywood Drive to salvage a nearly continuous common lawn.

• Transit Use: transit will tend to be viable under the following conditions:
  1. That the transit stops are comfortable and dignified. Few potential passengers willingly tolerate the experience of waiting in a shelter or bench by the side of a thoroughfare. The ideal waiting area is the corner store or cafe which is a requisite of TND.
  2. That transit stops are within walking distance of a substantial population. Few will drive only to a transit stop. Such intermodal changes are rare as, once in driving, one tends to continue to the destination. The structure of the five-minute walks which determines the maximum area of a traditional neighborhood delivers the majority of the transit riders as pedestrians to a transit stop at its center.
  3. That there is sufficient urban fabric at most of the transit stops. A system is not viable to access or from a transit stop requires the use of a car.
  4. That the trajectory of the system is intelligible conceptually. Direct routes are more likely to be used than those obscured and delayed by dog legs.
  5. That the vehicle is clean, safe, and dignified. The latter, in particular, is often ignored by transit designers despite evidence of the relative popularity of streetscars over buses.
  6. That the headway (the time between arrivals) is short and the hours of operation long. Most discretionary transit users refuse to wait for long, and few will risk being stranded by a system closing too early in the evening.

• Accessibility: a general measure of the available transportation opportunities. Providing accessibility is superior to providing mobility, as mobility is crudely equated to speed, accepting that it does not matter how long it takes to get to a destination so long as the drive is fast while getting there.

• Air Quality: the measure of atmospheric pollution, a degradation which is often related to auto travel. Short term air quality advances are associated with technological improvements. Long term solutions, however, must address the underlying factors responsible for travel demand. These factors are largely a function of the arrangement of activities in an urbanized area. Source: Steven P. French

• Automotive By-Products: the consequences of automobile use. The intended consequences are: increased freedom of movement, more efficient short-distance trips, a more comfortable travel experience, and the provision of a means of expressing status. The unintended consequences include: the decline of railroads, the rise of traffic jams, parking problems, the dissipation of city centers, pollution of the atmosphere, death by drunken drivers. To these may be added: tire dumps, dependencies on foreign energy sources, segregation of the population by income, unequal opportunities for the poor, the young, and the elderly (all of whom cannot drive), the consumption of natural open space through sprawl, the reduction of discretionary time by commuting, the promotion of a sedentary lifestyle, the visual pollution of parking lots, the super allocation of resources to infrastructure, the increased cost of services. Source: Daniel J. Boarstin.

• Traffic Calming: a set of techniques which serves to reduce the speed of traffic. Such strategies include lane narrowing, on-street parking, chicanes, yield points, sidewalk budge-outs, speed bumps, surface variations, midblock deflections, and visual clues. Traffic calming is a retrofit technique unnecessary when thoroughfares are correctly designed for the appropriate speed at initial construction.

• Traffic Management: mitigation of traffic congestion by methods other than proximity through balanced land use, road construction, and provision of transit. The principal management methods are: the encouragement of transit, car pooling, the mandatory staggering of work hours, and variable-rate road tolls. All these techniques are generally considered to be punitive. Only balanced land use is based on convenience.

• Contraflow: a pattern of commuting against the primary direction of traffic flow, thereby taking advantage of underused lane capacity. This desirable practice should be one of the determinants for the location of urban growth.

• Horizontal Speed Bump: a technique of traffic calming. A sharp intrusion into the travel way. See: Traffic Calming

• Bollard: a short upright post. Lines of bollards are used to circumscribe vehicle routes on continuous paved surfaces such as plazas. Removable bollards are a useful instrument in calendar-based or periodic traffic management, as they enable distinct patterns for weekends and festivals, unlike permanent measures of inclusion or exclusion.

• Chicanes: a technique of traffic calming. A sharp offset of the travel lane to reduce velocity.

• Traffic Priority Device: the various techniques which assign priority to the moving vehicle at the expense of the pedestrian, having the opposite effect of traffic calming. There are three:
  1. The Free Right Turn Lane, which widens the intersection crossing distance and decreases the window of stopped traffic.
  2. The Left Turn Stacked Lane, which eliminates the planter island as a refuge at the center of a wide thoroughfare.
  3. The Deceleration Lane, which helps the thoroughfare by an additional lane at the point of pedestrian crossing. TND practice endorses the dispersion of all traffic priority devices except in the extra urban condition of highways. See: Streamform

• Traffic Signal Phasing: the timing of the red/green cycle of traffic signals. The setting of this cycle can achieve several intended effects, from accelerating traffic flow to easing pedestrian crossing. The choice of options depends on the location of the intersection within the Transect.

• Intermodal Change: the transition from one mode of transportation to another, as in automobile to bus or light rail. An intermodal change is difficult to effect as, once in the car, the traveler tends to continue driving to the destination. It is therefore important to capture the transit user as a pedestrian, hence the walking distance limit required by the TND and TOD models.

• Threshold Gap: the distance from a pedestrian to an oncoming motor vehicle sufficient for 50% of pedestrians to choose to cross (although there is increase of the curb radius increase the crosswalk width and therefore the threshold gap, thereby degrading pedestrian continuity. See: Pedestrian Continuity
Pavement Width:  the width of pavement of a thoroughfare, including moving and parking lanes but not sidewalks. In the interest of enhancing non-motorist travel and minimizing imperious surface area, the ideal enhancing no-motorist travel and dimensions are the minimum commensurate to the intensity of use. The following are some recommended pavement widths:

1. Sidewalks:  the smallest recommended width for fronting residential use, where two may walk abreast, is 5 ft. The smallest recommended width for fronting retail use, enough to accommodate outdoor seating, is 12 ft. 2. Trails:  the minimum, so that two may pass, is 8 ft.

3. Parking Lanes:  the recommended width for parallel parking (driving lanes and roads without parallel parking) is 9 ft.; (City of Coral Gables), the width for streets and avenues with parallel parking is 10 ft. (City of Charleston), the recommended drive lane for boulevards is 11 ft. wide, and for highways, a minimum of 12 ft. wide. 5. Combined Lanes:  while most of the dimensions above are assembled additively to create the various types of thoroughfares, in the case of smaller thoroughfares with low yield movements, the path of moving lanes may weave to slow the traffic. A recommended overlapped width for one lane of parallel parking and two of driving is 20 ft. Source:  City of Portland & ASHTO Syn.:  Cartway

System Capacity:  the quantitative measure of vehicles that may travel along a network of thoroughfares. System capacity responds to two factors:  the number of moving lanes and the degree of connectivity. In the more rural conditions where fewer intersecting roads exist, the lowest lane capacity is 1,500 vehicles per hour (in stop and go traffic), and the most efficient capacity is 2,000 vehicles per hour (achieved at 35 MPH and declining as the velocity increases because of greater inter-vehicular spacing). In the more urban conditions, the range is 600 to 950 vehicles per hour, as intersections control the link flow rates. Connectivity is the greatest with small block, public web systems, and lowest with pure street systems. See:  Character, Stem and Web Pattern

Level of Service (LOS):  the measure of traffic flow, ranging from LOS. One represents unregulated flow to LOS. Five represents near stasis. A low LOS is typical of Conventional Suburban Development for three reasons:

1. The absence of balance creates an inordinate number of trips (the typical CSD house is rated at 10 to 14 trips per day).

2. The stem layout of thoroughfares proceeds from cul-de-sacs to local streets to collectors, then to arterials and ultimately to highways. Since all trips are channelled to collectors and arteriala, this portion of the system, which is a small fraction of the overall paved infrastructure, becomes easily congested.

3. The stem pattern of the thoroughfares forces a singular trajectory with longer less direct travel because shortcuts are absent, thereby increasing the average length of a trip. These three factors increase vehicle miles traveled (VMT).

Vehicle Miles Traveled (VMT):  typically, the length in miles of personal travel per day. VMT is one measure of the effectiveness of balance as a measure of traffic mitigation. VMT is lower in TNDs than in CSD. Research has shown that increased population density, intensifying of different types of land uses (e.g. residential, and commercial), is associated with significant reductions in vehicle miles traveled and increased usage of transit and walking. Sources:  Frank 1996; Cervero 1988; Cervero 1995; Pushkarev and Zupan 1985; Spiller 1990; Handy 1993; Steiner 1996; LUTRC 1994

Infrastructure:  the supporting matrix which structures urbanism. Vertical Infrastructure consists of civic buildings and open spaces. Horizontal Infrastructure consists of thoroughfares and utilities. The needs for both types of infrastructure should be assessed in conjunction as public works, in contrast to the CSD preference for horizontal infrastructure which derives from the departments of transportation as independent specialized agencies.

Utilities:  horizontal urban infrastructure, excluding transportation. Utilities include electricity, telephone, fiber-optic cable, gas, water, and sewer. While thoroughfares run within right-of-ways, which must be topographically inviolate, utilities run within easements which are permitted to overlap private lots, although buildings are not permitted to impinge upon them. The trajectories of utilities, being largely underground, originaly consumed little space, but in the evoloved practice of Conventional Suburban Development, utilities currently demand wide swaths to accommodate maintenance by vehicles. These putative requirements, together with an unwillingness to share trenches, militates against the shortcomings which are among the formations essential to Traditional Neighborhood Development. The use of rear lanes and alleys for utility easements mitigates this problem and constitutes an additional justification for their presence.

Perce:  a piercing. A straight thoroughfare retroactively cut through a complex and irregular urban fabric. This was the technique of Hausmann in Paris. If warranted by traffic patterns, it is infinitely more delicate than the complete eradication of neighborhoods that was typical of American-style redevelopment. Perceas create an interesting and useful adjacency between two contrasting types of urban fabric, one at the scale of the city, the other at the scale of the neighborhood.

Simultaneous Flush Theory:  the technique of quantifying effects to accommodate the extreme variability. The term is an allusion to the misuse phrase that would be required for the contingency that all the toilets of a building may be flushed simultaneously -- an unlikely event. It is equivalent to the integral of the parallel flow for the requirements of a Friday after Thanksgiving, or a road width such that a fire truck can pass two automobiles stalled in tandem. These patently unlikely situations are nevertheless the determinants of CSD standards. The elimination of such wastery right-sizing is a characteristic of TND. Syn.:  Gold Plating, Padded Standards

Crosswalk:  the axis of pedestrians crossing a thoroughfare. The crosswalk is usually between sidewalks at the corners of blocks. Minimizing pedestrian crossing time by shortening the crosswalk distance is one of the techniques for the creation of pedestrian continuity. A large curb radius lengthens the crosswalk, which should be kept as small as possible in urbanized areas. See:  Pedestrian Continuity, Curb Radius

Typical & Atypical Truck Traffic:  typical truck traffic consists of delivery vans and garbage trucks. Atypical truck traffic consists of moving vans and emergency vehicles. Thoroughfares should be sized for the easy passage of typical traffic and not the possible passage of atypical traffic.

Municipal Design Immunity:  the procedures by which the modification of standards for road avoids liability:

1. By defining the goals of reducing vehicular speed.

2. By confining the modifications to the creation of lower-speed environments, which are intrinsically safer.

3. By making the modifications legislatively, not administratively.

4. By recording the reasons for the modifications and doing so consistently.

5. By monitoring and attacking any failures arising from the modifications. Following these procedures constitutes the legal opposite of negligence. Source:  Water Kilsun

Traffic Circle/Roundabout:  dbf

Patte d’Oie:  a pattern of thoroughfares or garden paths where three radiate from a single point. Such convergences are useful to intensify traffic at the point of meeting, and to share a civic feature as the terminations are useful to intensify traffic at the point convergences are useful to intensify traffic at the point.

Roundpoint:  a circular area at the meeting point of various pedestrian paths. A roundabout is the version that corresponds to vehicular traffic.
• Ratrunning: commuters taking shortcuts through the network of residential thoroughfares, a danger of an open network system ratrunning can be mitigated by several techniques: 1. applying the end-grain of the blocks to the primary traffic direction. 2. applying more traffic-resistant building types to the thoroughfares most likely to be used. 3. hobbling the continuity of portions of the network internal to the neighborhoods. 4. implementing traffic-calming techniques which mitigate the speed of ratrunners, speed being the problem. Volume is only a problem in the event of an insufficiently permeable network.

• Episodic Congestion: a predictable, short-term decline in the traffic level of service. Episodic congestion usually occurs at times of work-related commuting. Providing additional travel lanes for the short daily spikes of episodic congestion creates over-designed thoroughfares for the balance of the daily cycle. The less costly technique is to achieve balanced use. See: Balanced Sector, Level of Service

• Traffic Congestion: the absence of traffic flow. Traffic congestion is the inevitable, unintended consequence of Conventional Suburban Development, even in low densities. This is caused by two factors: a sparse network of thoroughfares and a segregated land use pattern.

• Balanced Sector: ibd

• Intersection Curb Return Radius: the curved edge of a thoroughfare at an intersection, measured at the edge of the travel lanes (excluding the parking lanes, thereby increasing the effective measure at the sidewalk curb radius by 7 to 8 ft.). The effects of the size of the curb radius are variable. A smaller radius enhances pedestrian crosswalk convenience, while a larger radius eases traffic. Where thoroughfares of different categories intersect, the radius requirement of the larger usually governs.

• Centerline Radius: the radius of curvature of a thoroughfare as keyed to the vehicular speed that can safely negotiate it. A large centerline radius permits higher speeds (550 ft. radius for 45 mph) and a smaller one hobbles speed (the chicanes of traffic calming). Centerline radius is one of the attributes (along with curb radius, lane width and on-street parking) which controls vehicular speed mechanically rather than by signage.

• Intersection Turning Radius: the curved path traveled by a vehicle turning, including the clearances. The turning radius of an emergency or trash-collection vehicle determines the size of the thoroughfare system. In TND practice, the vehicle should in some cases be sized to the intended character of the thoroughfare rather than vice versa.

• Single-Point Diamond: a type of grade-separated traffic intersection which is very compact in its geometry. It is not streamform, thereby permitting urbanization in close proximity. A single point diamond permits six turning movements with a two-phase signal. This type of interchange, now uncommon, was widespread in the 1940s. Those which survive are still successfully in use.

• Intersection Spacing: the distance between the crossing points of thoroughfares. Increasing the distance (eliminating crossings) usually benefits traffic flow by simplifying turning movements in perception and in reality. However, the elimination of intersections has several negative consequences:
1. Increases a dendirct system which increases the load on the fewer streets that intersect, thus rendering them less suitable for pedestrian activity. 2. It concentrates traffic along the few available cross streets, thereby creating long stacking columns, leading to longer traffic signal times, which tends to reverse the frontage of buildings. 3. It impedes the pedestrian ideal of the small block size. Such intersection spacing is at odds with the higher connectivity required of the finely grained TND network.

• Speed Limit: the control of maximum velocity of vehicular travel. Speed limit can be imposed administratively through signage, policing and punishment, or through the geometrics of thoroughfare design. The latter includes lane width, on-street parking, center line radius and curb radius. Geometrics are a more economical and more effective method of controlling the speed limit than signage.

• Motion: the ordinary movement of the population by any means. Traditional Neighborhood Development enhances mobility by means other than the automobile:
1. By reducing the distance of travel through proximity of mixed use. 2. By shaping the urban structure to support transit and bicycles. 3. By creating pedestrian continuity. 4. By shortening the travel distance through a highly connective network of thoroughfares.

• Arterial: one of the thoroughfares of the conventional suburban hierarchy, taking its place in the dendritic pattern of highway - arterial - collector - local - cul de sac. The dendritic pattern substantially harms in terms of traffic performance as:
1. It loads a large portion of the traffic onto the arterial system leaving the bulk of the paved infrastructure unused. 2. Lengthens the average trip. 3. Eliminates the choice of alternate routes.

The dendritic system, along with the absence of mixed use, is responsible for the high rate of traffic congestion of Conventional Suburban Development despite its extremely low density highway collector, local and cul de sac. Arterials approximately correspond in their capacity only to the TND system of highway, boulevard, avenue, street, and close. The TND system, however, underestimates a set of more complex attributes best described as character.

• Streamform: the family of forms derived from fluid mechanics. Streamform enhances the velocity of flow through streamlining. It is uncritically applied to the geometry of modern traffic engineering even where slower speeds are desired. This can only be explained as a formalist fetish, not unlike an architect’s obsession. Specific techniques of streamforming are pork chops, canoes, deceleration lanes, etc. These are the converse of traffic-calming strategies such as chicanes and speed bumps. Traffic calming is unnecessary if the thoroughfares are correctly designed for their intended speeds. A secondary harm of streamform is that the resulting block shapes are often residual and difficult to use as building sites. See: Speed Limit, Traffic Calming

• Tracking: the trajectory of the movement of a vehicle. The shape of the pavement surface may be independent of the tracking so long as it does not interfere with it. This permits greater flexibility in the design of the streetscape than with all elements along parallel lines within the overall width of the street.

Instead of taking the highway engineering requirements as the starting point for layout, the arrangement of buildings and enclosure is considered first. The demands they generate should then be checked against the highway engineering needs. With this approach, buildings can be laid out to suit an urban form with pavements and curbs helping to define and emphasize spaces. The space between curbs can consequently vary to better accommodate all the functions of the street including parking and pedestrians. With this approach, the curb line and the building line need not parallel the line of vehicle tracking. There is no need for the tracking zone to be separately defined with a secondary pavement system. Source: Department of the Environment & Transport, UK.

• Desire Line: the trajectory of a path that is beaten over time on a field. It is good practice to allow a desire line to be established before a path is paved in a park or other public open space. Geometrically drawn paths should be adjusted as desire lines appear over time, especially at intersections.
• Off-Street Parking: a parking area located within a
lot, generally to the rear of a building frontage, making it
from the public space.
• On-Street Parking: a single line of parking located
along the curb line of a thoroughfare accessible directly
from a moving lane. On-street parking shall count toward
the required parking ratio.
• Building-side Parking: the requirement that parking
be adjacent to the destination of the trip. An axiom
that holds true only when the pedestrian experience
is unpleasant, as it usually is in CSD. Within a TND
there is seldom a need for building side parking, as the
pedestrian experience is designed to be positive. To walk
some distance (even several blocks) is presumed to be
acceptable and even pleasurable. See: Pedestrian
• Teaser Parking: a small amount of on-street parking
which is highly visible, usually at the front of a building,
signalling the location of a more substantial parking
area hidden behind the building.
• Parallel Parking: a pattern of parking where the vehicle
is stored parallel to the curb line. Parallel parking
permits a narrower street section and creates the most
positive sidewalk experience of the possible patterns,
but it requires a difficult maneuver and provides the
lowest density per frontage foot.
• Diagonal Parking: a pattern of parking where the vehicle
is stored at an angle to the curb line. Diagonal
parking creates the most negative sidewalk experience
of the possible patterns, but it permits the easiest
maneuver and provides a higher parking density.
• Head-In Parking: a pattern of parking where the vehicle
is stored orthogonal to the curb line. Head-in parking
requires the widest street section and a dangerous
maneuver backing out. This pattern provides the highest
parking density.
• Deck Parking: a specialized building type dedicated
to parking in quantity by vertical stacking. Deck parking
is usually required only at Core Zones. This building
type is destructive to pedestrian quality. It should be
assigned to the B-grid, unless masked by liner build-
ings, or provided with a habitable frontage at the ground
level.
• Shared Parking: the policy wherein daytime and
weekend/weekend schedules allow the parking to be
shared by more than one use or building. When such
multiple use is demonstrated, the planning department
should reduce the required parking by 25%.

The intention of shared parking is to provide the accu-
rate amount of actual parking required, minimizing the
possibility of providing too much.

Conventional parking demand is defined as the peak
accumulation of parked vehicles generated by building
use. Empirical evidence has been utilized to develop
parking ratios for each different type of use. By dividing
peak parking accumulation by floor area, or number of
units, statistics have been generated by the Institute
of Transportation Engineers (ITE), National Parking
Association (NPA), and Eno Foundation for Transporta-
tion. They are used to establish parking requirements
for various land uses in ordinances. Such parking ratios,
developed for segregated land uses, are calculated to account for the maximum level of
demand. But many additional factors influence parking
demand at mixed-use projects, including type, inten-
sity, and mix of the land use, quality of the pedestrian
environment, location of parking places, parking fees,
availability of alternate modes of transportation, and
income level of the population.

The parking demand generated by a mixed-use project
is often significantly overstated. If each land use must
provide its own parking as if it were separated. This
occurs for three reasons: 1. The activity patterns of
different uses result in variations of peak accumulation
by time of day, day of week, or season of the year, and
places can then be overlapped. The peak hour for parking
on weekdays generally occurs at mid afternoon,
around 2:00 PM. The overall peak hour for parking on
weekends is expected to occur in the early evening
around 7:00PM. 2. Several uses are often patronized
when they are in proximity to each other so that fewer
places are consumed for the same amount of activity.
This is called a park-once environment. 3. Transit,
walking, and use of bicycles, reduce the reliance on the
automobile and its parking, particularly among project
residents.

There are secondary benefits to utilizing shared parking.
The elimination of areas of unnecessary parking allows
the development of other uses, such as open space or
a higher intensity of land use.

A shared-use analysis involves the following process:
the parking is initially calculated on a block by block
basis, then extended to other blocks based on the
level of pedestrian connectivity. This shared parking
calculation may represent a 34% reduction in parking
need from that required by concurrent requirements.
Source: Carl Walker, Inc.
## Streetscape Elements

**Streetscape**: The publicly held layer between the lot line and the edge of the vehicular lanes. The principal variables of streetscape are the type and dimension of curbs, walks, planters, street trees, and streetlights.

**Curb**: The detailing of the edge of the vehicular pavement, usually incorporating drainage.

**Sidewalk**: The layer of the streetscape dedicated exclusively to pedestrian activity. There is a choice of sidewalk width, and surface which are important components of the urban to rural character of the Transect.

**Walkway Type**
- Path
- Continuous Swale
- Path, Optional
- Continuous Swale, Optional

**Planter**
- Continuous Planter
- Separated Planter
- Wide Planter

**Arrangement**
- Clustered
- Multiple Species
- Regular Spacing
- Alternating Species

### Tree Type
- Single Species
- Alternating Species
- Regular Spacing
- Opportunistic Spacing

### Parking Type
- None
- On Grass
- On Lane
- Raised Curb

### Curb Radius
- 5 - 8 ft
- 8 - 15 ft
- 15 - 25 ft

<table>
<thead>
<tr>
<th>Highway</th>
<th>Rural Road</th>
<th>Road</th>
<th>Residential Street</th>
<th>Commercial Street</th>
<th>Avenue</th>
<th>Boulevard</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 ft min</td>
<td>25 ft min</td>
<td>10 - 25 ft</td>
<td>8 - 15 ft</td>
<td>5 - 8 ft</td>
<td>5 - 8 ft</td>
<td>5 - 8 ft</td>
</tr>
<tr>
<td>Raised Curb</td>
<td>Raised Curb</td>
<td>Raised Curb</td>
<td>Raised Curb</td>
<td>Raised Curb</td>
<td>Raised Curb</td>
<td>Raised Curb</td>
</tr>
<tr>
<td>Raised Curb</td>
<td>Raised Curb</td>
<td>Raised Curb</td>
<td>Raised Curb</td>
<td>Raised Curb</td>
<td>Raised Curb</td>
<td>Raised Curb</td>
</tr>
</tbody>
</table>

### Sidewalk
- Path
- Continuous Swale

### Planter
- Continuous Planter
- Separated Planter
- Wide Planter

### Arrangement
- Clustered
- Multiple Species

### Tree Type
- Single Species
- Alternating Species
- Regular Spacing
- Opportunistic Spacing

### Parking Type
- None
- On Grass
- On Lane
- Raised Curb

### Curb Radius
- 5 - 8 ft
- 8 - 15 ft
- 15 - 25 ft
• Streetscape: an assemblage of landscape, walks, and curbs between the lot line and the vehicular lanes. A streetscape is quasi-independent of the width and capacity of the vehicular lanes. While thoroughfares would seem to be primarily for vehicles and open space primarily for pedestrians, such categorization tends to erode the social function of the public realm. Thoroughfares are the most common public space and, as such, require careful characterization by the streetscape; while open space, to be effective, must be designed with the appropriate landscape.

• Rural Roads are appropriate only at Edge Zones. Since the frontage usually includes a substantial setback, the tree canopy may be quite wide. The rural aspect may be supported by the provision of naturalistic planting of several species in clusters. Sidewalks of asphalt, or compacted gravel may meander and be to one side of the road only. Curbs should be detailed as open swales with drainage by percolation. The rural aspect may be supported by the provision of alternating tree species in imperfect alignment. Curbs may be detailed as open swales with drainage by percolation where possible.

• Highways are rural linear parks. The thoroughfare is integrated to naturalistic landscaping, with a wide and varying median. There are no curbs; drainage is by open swales. Bicycle and pedestrian paths may wind through the landscape independently.

• Roads are relatively rural, appropriate generally outside of the Center and Core Zones. Since the frontage usually includes a substantial setback, the tree canopy may be quite wide.

• Commercial Streets are appropriate for commercial buildings at Center Zones. Trees are confined by individual planters, creating a sidewalk of maximum width, with areas accommodating street furniture. A single species of tree should be planted in opportunistic alignment storefronts. Clear trunks and high canopies are necessary to avoid interference with shopfronts, signage, and awnings. Streets are detailed with raised curbs and closed storm drainage.

• Avenues are appropriate as approaches to civic buildings. The general principle is that of an elongated plaza. The median may be wide enough to hold monuments, and even buildings. In residential areas, the median may be wider and planted naturalistically to become a greenway.

• Residential Streets are appropriate for residential buildings at Center Zones. Trees are in continuous planting strips, since the sidewalk does not need to accommodate the constant crossings of a commercial street. A single species of tree should be planted in steady alignment. A narrow canopy may be necessary to avoid facades at shallow frontage setbacks. This type is dimensionally interchangeable with the commercial street type and may vary in correspondence to the use of the enfronting building. Streets are detailed with raised curbs and closed storm drainage.

• Boulevards are a transformation of highways upon entering an urbanized area. They are appropriate for speed-movement thoroughfares outside neighborhoods. The effect of the side medians is to buffer buildings along the edges from the through traffic on the center lanes.
• Public Streetscapes: the section of the right-of-way between the lot line and the vehicular lanes. The public streetscape should be conceived integrally with the private frontage, sharing a continuous landscape and, in the case of the commercial street, a contiguous, seamless sidewalk. The following streetscape illustrations are based on a constant 12 ft dimension from curb to lot line.

Correlation: There are many types of frontages and streetscapes. Only certain of these serve to effectively define a public realm. When culled by the discipline of urbanism, the great number drops to a very few. While this determination may seem to represent an unnatural reduction of possibilities, these few are sufficient to the great cities, towns and villages of the world in all their variety. When embedded as options in a code, these few frontages represent an expansion of the available options which in the practice of conventional suburbia is usually limited to the 25 ft front yard.

Note: Frontages are independent of building type. For example, a row house type may have as its frontage a stoop, a dooryard, or a porch. However, discretion is necessary in the combination. As discretion cannot be assumed in the design process, the acceptable combinations should be controlled by code.

While thoroughfares would seem to be primarily vehicular and open space primarily for pedestrian use, such categorizations tend to erode the social function of the public realm. Thoroughfares are the most common public space and as such, require careful detailing of the streetscape; for open space to be effective, it must be designed with the appropriate landscape.

### TYPICAL STREETSCAPE ASSEMBLAGES

<table>
<thead>
<tr>
<th>RURAL</th>
<th>TRANSIENT</th>
<th>URBAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1-T2 Rural</td>
<td>T4 General Urban</td>
<td>T5-T6 Urban Center &amp; Urban Core</td>
</tr>
</tbody>
</table>

- **Rural Road:** a very rural condition which comprises a road with open swales drained by percolation and no separate pedestrian path. Street trees consist of multiple species composed in clusters. This type is suitable within Rural and Edge Zones, especially when serving estate lots.

- **Road:** the next most rural condition which comprises a road with open swales drained by percolation and an informal walking path or bicycle trail along one side. The street trees consist of multiple species composed in clusters. This type is suitable within Edge Zones.

- **Residential Street:** a generalized condition which comprises a street drained by inlets or raised curbs. Narrow sidewalks along both sides are separated from the thoroughfare by a narrow, continuous planter. The street trees consist of single or alternating pairs of species aligned in a regular allée. This type is suitable within General Zones, especially when enfronting house and cottage lots.

- **Commercial Street:** a very urban condition which comprises a street with raised curbs drained by inlets. Wide sidewalks along both sides are separated from the thoroughfare by small separate tree wells. The street trees consist of a single species aligned in a regular allée. This type is suitable within Center and Core Zones, especially when serving shopfront lots. The tree spacing should be irregular to stay clear of the entrances of the shops.

- **Residential Street:** a typical urban condition which comprises a street with raised curbs drained by inlets. A narrow, continuous planter separates wide sidewalks along both sides from the thoroughfare. The street trees consist of a single species aligned in a regular allée. This type is suitable within Center Zones, especially when enfronting rowhouse and apartment lots.

- **Rural Road:** a typical urban condition which comprises a street with raised curbs drained by inlets. While sidewalks along both sides are separated from the thoroughfare by small separate tree wells. The street trees consist of a single species aligned in a regular allée.
**Sense of Place:** A highly desirable but elusive attribute of urbanism. Its existence is notoriously unpredictable in conventional suburban design but common in traditional urban fabric. An effective sense of place is created by the judicious assembly of a set of interdependent elements. These include building type and function, private frontages, and public streetscapes. The codes of Traditional Neighborhood Development are conceived towards the creation of a sense of place.

**Spatial Definition by Height-to-Width Ratio**
- 3:1
- 2:1
- 1.5:1
- 1:1
- (The best for thoroughfares)
- 1.3
- (The best for squares)
- 1.6
- (The perceivable maximum)

**Spatial Definition in Section**
- Spatial enclosure by tree canopy
- Spatial enclosure by building height
- Spatial enclosure by recess line

**Spatial Definition in Plan**
- Vista terminated
- Vista deflected

**Spatial Definition:** The fabric achieved when confronting facades are aligned in a coherent manner, and the defined space does not exceed a certain height-to-width ratio.

**Height-to-Width Ratio:** The proportion of spatial enclosure related to the physiology of the human eye. If the width of space is such that the cone of vision encompasses less street wall than open sky, the degree of spatial enclosure is slight. As a general rule, the tighter the ratio, the stronger the sense of place and, often, the higher the real estate value. See: Sense of Place

**Spatial Enclosure:** The defining elements of a public space provided by facades with disciplined tree planting as an alternative. Trees aligned for spatial enclosure are necessary on thoroughfares that exceed the maximum height-to-width ratios.

**Enclosure:** A physical attribute of thoroughfares and open spaces, contributing to a sense of place. Enclosure of the public realm involves the definition of the public space by frontages as a room is defined by its walls. Controlling the degree of enclosure is one of the principal variables in the creation of an urban-to-rural transect. Enclosure is adjusted through the selection of frontage types or by a build-to line specifying the minimum building frontage and the minimum building height.

**Terminated Vista:** The visual composition at the axial termination of a thoroughfare. Unwin stated that "vistas should be terminated and the termination should be significant." By significant he meant not leaving it to chance or "happy accident." This stricture is rather demanding as there are few buildings worthy of sustaining the importance of an axial termination. It is therefore usually acceptable for a vista to be deflected by an angle of the thoroughfare until a suitable termination can be effected. As a rule, the termination or deflection should occur within 1000 ft of any vantage point, as architectural detail beyond that distance is usually ineffective (this is also a rule of shopping mall design). Syn.: Street Picture
• Drainage: the method of evacuating rainfall from a paved area. The choice of drainage technology is achieved has implications for the cost and character of the streetscape. A drainage system closed by raised curbs is more urban and costly than an open section with swales. When permitted by certain soil conditions, runoff treated by infiltration is environmentally superior to a closed, storm water system with treatment at a plant. It is also less expensive. Not all drainage must be calibrated to the maximum eventuality.

• Open Swale: a component of an open drainage system which acts by infiltration through the soil. A swale is a linear depression on the ground adjacent and parallel to a road, creating a rural streetscape.

• Closed Curb: tbd

• Tree Spacing: the distance between street trees along throughfares or within an open space. Tree spacing may vary as follows:
  1. Circumstantial Allée: the syncopated placement of street trees, coinciding with the entrances and composition of adjacent facades. This type is suitable for the most urban residential frontages.
  2. Regular Allée: the even spacing of street trees, independent of the composition of adjacent facades. This type is suitable for the more urban residential frontages.
  3. Double Allée: the even spacing placement of street trees in two adjacent rows, forming a canopy over the pedestrian way. This is suitable for the sidewalks of boulevards and avenues, and also to shelter paths.
  4. Clustered Allée: the naturalistic placement of street trees in supporting the natural landscape. This is suitable for rural frontages.

• Streetscape: the combination of planters, sidewalks, street trees, and streetlights. The streetscape, in combination with the building frontage, and the vehicular way comprises the urban public realm.

• Vehicular Way: the surface dedicated to the circulation and parking of vehicles. TND practice endeavors to minimize paved area, which harms the environment by preventing recharge.

• Right-of-way (ROW): the composite public area dedicated to circulation, including the vehicular way and the streetscape. A secondary function is to vector utilities and drainage corridors, but it is advisable to compartmentalize accordingly.

• The B's: billboards, benches, bricks, banners and bandstands. The five devices of streetscape furnishing commonly recommended for the redevelopment of commercial streets. They are largely ineffective and, indeed, tend to be counterproductive. Disrupting the customer from the storefront, which should be the undivided focus of attention. See: Advice to Merchants: tbd

• Light Pollution: excessively high levels of street lighting which obliterates starlight, flusters animals, and generally discomfits the human retina. CSD lighting is typically calibrated for crime prevention. This strategy is counterproductive, as the unpleasant luminosity repels the casual pedestrian whose potential presence is, in fact, the informal police. See: CPTED Crime Prevention Through Environmental Design

• Eyecatcher: a feature placed on a distant place to add character or to provide a memorable element as a tool for orientation. Syn.: Wienie Source: Disney

• Incident: a feature along a route. The systematic design of incidents is an important instrument of orientation within an urban or landscape fabric.

• Prospect: a location affording a wide, panoramic view, as opposed to the narrow framed view of a vista. Public prospects should be created where the urban fabric blocks mountain, valley, golf course, and waterfront. The provision of prospects will enhance the value of all buildings in depth from the first eschelon.

• Viata: a deliberately controlled view focused on a scene, narrowly framed by trees or buildings. A vista assumes the location of the spectator at a specific vantage point.

• Vantage Point: See: Vista

• Compartment: a distinct place, within an open space. Urban parks for multiple user groups should be compartmentalized accordingly.

• Exedra: a semicircular backdrop, creating a space or terminating an axis. An exedra may be defined by a bench, a garden wall, trees, or a hedge. An exedra is the open space equivalent of an apse on a building.

• Building Articulation: an event in the massing of a building in plan or in silhouette. The articulation of a building should be determined primarily as a response to its specific location within the urban fabric, particularly at terminated vistas or at otherwise designated in a regulating plan. In the absence of such specific determinants, in general, Building Articulation should take place at the corners of the urban block and at the building entrances.

STREETSCAPE
ASSOCIATED TERMINOLOGY
© 2002 DUANY PLATER-ZYBERK & COMPANY (VERSION 3.2)
• **Frontage**: the privately held layer between the facade of a building and the lot line. The variables of frontage are the dimensional depth of the front yard and the combination of architectural elements such as fences, stoops, porches, and colonnades. See Streetscape. The combination of the private frontage, the public streetscape and the types of thoroughfare defines the character of the majority of the public realm. The combination of elements constitutes the layer between the private realm of buildings. It ranges in character from urban to rural as a function of the composition of their elements. These elements influence social behavior.

- **Gallery & Arcade**: a facade of a building overlaps the sidewalk above while the ground story remains setback at the line. This type is indicated for retail use, but only when the sidewalk is fully absorbed within the arcade so that a pedestrian cannot bypass it. An easement for private use of the right-of-way is usually required. To be useful, the arcade should be no less than 12 ft wide.

- **Stoop**: a facade is aligned close to the frontage line with the ground story elevated from the sidewalk, securing privacy for the windows. This type is suitable for ground-floor residential uses at short setbacks with rowhouses and apartment buildings.

- **Shopfront & Awning**: a facade is aligned close to the frontage line with the entrance at sidewalk grade. This type is conventional for retail frontage. It is commonly equipped with cantilevered shed roof or an awning. The absence of a raised ground story precludes residential use on the ground floor, although this use is appropriate above.

- **Forecourt**: a facade is aligned close to the frontage line with a portion of it set back. The forecourt created is suitable for gardens, vehicular drop offs, and utility off loading. This type should be used sparingly and in conjunction with the two frontage types above, as a continuous excessive setback is boring and unsafe for pedestrians. Trees within the forecourts should be placed to have their canopies overhanging the sidewalks.

- **Slip Lane**: a facade no more than 80 ft from the right-of-way. Parking is placed within the first layer. Private sidewalks are provided between the public sidewalk and the building entrances. The parking and private sidewalk system are landscaped to provide shade and shelter and a streetwall buffer. Appropriate transit stops are provided along the frontages, directly linked to the private sidewalk system.

- **Common Lawn**: a facade set back substantially from the frontage line. The front yard thus created is suitable for gardens, vehicular drop offs, and utility off loading. This type should be used sparingly and in conjunction with the two frontage types above, as a continuous excessive setback is boring and unsafe for pedestrians. Trees within the forecourts should be placed to have their canopies overhanging the sidewalks.

- **Dooryard & Light Court**: a facade is set back from the frontage line with an elevated garden or terrace, or a sunken light court. This type can effectively buffer residential quarters from the sidewalk, while removing the private yard from public encroachment. The terrace is suitable for restaurants and cafes as the eye of the sitter is level with that of the standing passerby. The light court can give light and access to a basement.

- **Forecourt**: a facade is aligned close to the frontage line with a portion of it set back. The forecourt created is suitable for gardens, vehicular drop offs, and utility off loading. This type should be used sparingly and in conjunction with the two frontage types above, as a continuous excessive setback is boring and unsafe for pedestrians. Trees within the forecourts should be placed to have their canopies overhanging the sidewalks.

- **Shopfront & Awning**: a facade is aligned close to the frontage line with the entrance at sidewalk grade. This type is conventional for retail frontage. It is commonly equipped with cantilevered shed roof or an awning. The absence of a raised ground story precludes residential use on the ground floor, although this use is appropriate above.

- **Dooryard & Light Court**: a facade is set back from the frontage line with an elevated garden or terrace, or a sunken light court. This type can effectively buffer residential quarters from the sidewalk, while removing the private yard from public encroachment. The terrace is suitable for restaurants and cafes as the eye of the sitter is level with that of the standing passerby. The light court can give light and access to a basement.

- **Forecourt**: a facade is aligned close to the frontage line with a portion of it set back. The forecourt created is suitable for gardens, vehicular drop offs, and utility off loading. This type should be used sparingly and in conjunction with the two frontage types above, as a continuous excessive setback is boring and unsafe for pedestrians. Trees within the forecourts should be placed to have their canopies overhanging the sidewalks.

- **Slip Lane**: a facade no more than 80 ft from the right-of-way. Parking is placed within the first layer. Private sidewalks are provided between the public sidewalk and the building entrances. The parking and private sidewalk system are landscaped to provide shade and shelter and a streetwall buffer. Appropriate transit stops are provided along the frontages, directly linked to the private sidewalk system.

© 2003 DUANY PLATER-ZYBERK & COMPANY (VERSION 3.2)

**PLAN**

**SUB-URBAN DISTRICT**

**SECTION**

**PRIVATE FRONTAGE**

**H**
A facade of a building or an attached colonnade. The building overlaps the sidewalk above while the ground story remains set back at the lot line. This type is indicated for retail use, but only when the sidewalk is fully absorbed within the arcade so that a pedestrian cannot bypass it. An easement for private use of the right-of-way is usually required. To be useful, the arcade should be no less than 12 ft wide.

A facade aligned close to the frontage line with the entrance at sidewalk grade. This type is conventional for retail frontage. It is commonly equipped with cantilevered shed roof or an awning. The absence of a raised ground story precludes residential use on the ground floor, although this use is appropriate above.

A facade is aligned close to the frontage line with the ground story elevated from the sidewalk securing privacy for the windows. This type is suitable for ground floor residential uses at short setbacks with rowhouses and apartment buildings. An easement may be necessary to accommodate the encroaching stoop. This type may be interspersed with the Shopfront.

A facade is aligned close to the frontage line and a portion if it is set back. The forecourt thus created is suitable for gardens, vehicular drop-offs, and utility off-loading. This type should be used sparingly and in conjunction with the two frontage types above, as a continuous excessive setback is boring and unsafe for pedestrians. Trees within the forecourts should be placed to have their canopies overhanging the sidewalks.

A facade is set back from the frontage line with an elevated garden or terrace, or a sunken light court, in between. This type can effectively buffer residential quarters from the sidewalk, while removing the private yard from public encroachment. Terrace suitable for restaurants and cafes as the eye level of the sitter is level with that of the passerby standing. The light court can give light and access to a habitable basement.

A facade set back substantially from the frontage line. The front yard thus created should remain unfenced and be visually continuous with adjacent yards. The ideal is to simulate buildings sitting in a common rural landscape. A front porch is not warranted, as social interaction from the enfronting throughfare is unlikely at such a distance. Common Lawns are suitable frontages for higher speed thoroughfares, as the large setback provides a buffer from the traffic.
SLIP LANE ALTERNATIVES

- Double Head-in Parking
- Head-in Parking
- Parallel Parking
• **Retail Frontage**: certain frontage lines designated for mandatory retail on the regulating plan. These facades are subject to special adaptation for retail use at the ground story.

• **Arcade Frontage**: certain frontage lines designated for mandatory arcades on the ground story. The arcade width is measured as a percentage of the lot width. The depth is measured back from the building facade. The height is measured from the sidewalk to the ceiling of the arcade.

• **Pedestrian Frontage**: the experience of the pedestrian as determined by the buildings alongside. Pedestrians respond in a variety of ways to the experience of passing by specific ground-floor frontages. The most likely to please pedestrians are storefronts, followed by porches, fenestrated walls, and deep landscaped yards. All of these are appropriate and should be enabled by code. The frontages most repellent to pedestrians are, in order of bad to worse: garage doors, blank walls, open parking lots, unbuffered parking structures, under-building parking, and open service areas. These should be minimized by code or relegated to B-streets. See: tartan grid, triage

• **Streetedge**: a masking structure stretching along the frontline or coplanar with the facade, designed to remedy a gap of spatial definition or to mask parking. A streetedge shall consist of one or a combination of the following: a solid masonry wall, matching the finish of the principal structure; a fence not less than 50% opaque; or a dense hedge.

• **Street Wall**: a solid masonry wall, independent of a building, located along a frontage line. A street wall defines the public streetscape in the absence of the principal structure; a fence not less than 50% opaque or a dense hedge.

• **Street Frontage**: the experience of the pedestrian as determined by the buildings alongside. The frontages most repellent to pedestrians are, in order of bad to worse: garage doors, blank walls, open parking lots, unbuffered parking structures, under-building parking, and open service areas. These should be minimized by code or relegated to B-streets. See: tartan grid, triage

• **Setback**: the mandatory minimum or maximum distance between a frontage line and a facade, or the distance between a lot line and an elevation. Open porches, balconies, overhangs, and ramps are usually exempt from the setback requirements.

• **Build-To-Line**: a line appearing graphically on the regulating plan or stated as a setback dimension, along which a facade must be placed, usually a designated minimum or maximum of the lot width. An A-build-to-line is a more precise tool than a setback or a frontage line as it permits the definition of variable setback for courts, chaufferies, etc.

• **Front Setback**: the distance between a frontage line and a facade. This distance is given as a minimum or maximum of a front setback. Open porches, balconies, stoops, chimneys, and bay windows are permitted to encroach into the front setback.

• **Side Setback**: the distance between the side lot line and an elevation of the building with the exception of roof overhangs. This distance is given as a minimum. Open porches are not permitted to encroach on the side setback.

• **Rear Setback**: the distance between the rear lot line and any portion of a principal building. This distance is given as a minimum. Attached buildings and all outbuildings are permitted to encroach into the rear setback.

• **Yard**: the portions of a lot which, following the prescriptions of the urban regulations, remain free of structures, except that streetwall, porches, terraces, and decks may be specifically permitted to encroach upon them.

• **Lot Coverage**: the maximum area of a lot which may be occupied by a structure. Lot coverage is expressed as a ratio. Arcades, open porches, decks, terraces, and stoops are excluded from the calculation.

• **Cornice Line**: an element of architectural expression approximately at the top of a flat-roof building. The cornice completes the composition of the urban building in conjunction with the expressed base which is toward the bottom. The cornice, unlike the coping or the eave, is a visual and not a utilitarian device.

• **Parapet Line**: a continuous horizontal projection for the majority of a facade. The parapet, like the eave line, is a designated location for the measurement of building height.

• **Eave Line**: tbd

• **Transition Line**: a line prescribed for the major part of the width of a facade, expressed by a variation of material or by a limited projection such as a molding or a balcony. The transition line divides the facade, permitting shopfronts and signage to vary over time without destroying the overall composition of the facade.

• **Comline Line**: an element of architectural expression approximately at the top of a flat-roof building. The comline completes the composition of the urban building in conjunction with the expressed base which is toward the bottom. The comline, unlike the coping or the eave, is a visual and not a utilitarian device.

• **Streetedge**: a masking structure stretching along the frontline or coplanar with the facade, designed to remedy a gap of spatial definition or to mask parking. A streetedge shall consist of one or a combination of the following: a solid masonry wall, matching the finish of the principal structure; a fence not less than 50% opaque or a dense hedge.

• **Street Wall**: a solid masonry wall, independent of a building, located along a frontage line. A street wall defines the public streetscape in the absence of the principal structure; a fence not less than 50% opaque or a dense hedge.

• **Street Frontage**: the experience of the pedestrian as determined by the buildings alongside. The frontages most repellent to pedestrians are, in order of bad to worse: garage doors, blank walls, open parking lots, unbuffered parking structures, under-building parking, and open service areas. These should be minimized by code or relegated to B-streets. See: tartan grid, triage

• **Setback**: the mandatory minimum or maximum distance between a frontage line and a facade, or the distance between a lot line and an elevation. Open porches, balconies, overhangs, and ramps are usually exempt from the setback requirements.

• **Build-To-Line**: a line appearing graphically on the regulating plan or stated as a setback dimension, along which a facade must be placed, usually a designated minimum of the lot width. An A-build-to-line is a more precise tool than a setback or a frontage line as it permits the definition of variable setback for courts, chaufferies, etc.

• **Front Setback**: the distance between a frontage line and a facade. This distance is given as a minimum or maximum of a front setback. Open porches, balconies, stoops, chimneys, and bay windows are permitted to encroach into the front setback.

• **Side Setback**: the distance between the side lot line and an elevation of the building with the exception of roof overhangs. This distance is given as a minimum. Open porches are not permitted to encroach on the side setback.

• **Rear Setback**: the distance between the rear lot line and any portion of a principal building. This distance is given as a minimum. Attached buildings and all outbuildings are permitted to encroach into the rear setback.

• **Yard**: the portions of a lot which, following the prescriptions of the urban regulations, remain free of structures, except that streetwall, porches, terraces, and decks may be specifically permitted to encroach upon them.

• **Lot Coverage**: the maximum area of a lot which may be occupied by a structure. Lot coverage is expressed as a ratio. Arcades, open porches, decks, terraces, and stoops are excluded from the calculation.

• **Comline Line**: an element of architectural expression approximately at the top of a flat-roof building. The comline completes the composition of the urban building in conjunction with the expressed base which is toward the bottom. The comline, unlike the coping or the eave, is a visual and not a utilitarian device.

• **Parapet Line**: a continuous horizontal projection for the majority of a facade. The parapet, like the eave line, is a designated location for the measurement of building height.

• **Eave Line**: tbd

• **Transition Line**: a line prescribed for the major part of the width of a facade, expressed by a variation of material or by a limited projection such as a molding or a balcony. The transition line divides the facade, permitting shopfronts and signage to vary over time without destroying the overall composition of the facade.

• **Building Height**: the height of a building measured in stories. For the purposes of calculation, the maximum height of a story shall be 13 ft. Basements less than 4 ft and attics inhabited within the sloped roof shall not count against the height limit. The limit to the vertical extent of a building. The building height may be prescribed as a maximum number of stories or as a dimension from the sidewalk grade to a point on the facade (such as the ceiling of an arcade, a cornice line or an eave line.) The height limit shall not apply to manses, balconies, clock towers, machine rooms, or similar structures. Towers, defined as portions of buildings with a lot coverage of less than 250 sq ft shall not be subject to the height limit. Building height may be determined by an assigned unit of measurement (e.g. 4 ft.), or by a designated number of floors. The former technique is more precise if the intention is to achieve a shared cornice line on the manner of Washington. The disadvantage of the method is the propensity to pack as many floors as possible within the designated measure, thereby lowering the interior ceilings. When measuring numerically, under no circumstance should the height be measured to the highest point of the roof of the riser this tends to lower the pitch and to flatten the building. The latter technique of designating the number of stories encourages ceiling heights to be variable and indeed higher. The resultant streetscape is inevitably quite varied as seldom do two buildings reach exactly the same point on their heights. Determining of building height should follow various criteria: 1. The desired height/width ratio of enforcing public space. 2. The general density floor area ratio (FAR) intended, although the controlling factor is usually the provision of parking. Building height, when measured in stories, should exclude the raised basement and the habitable attic for maximum story calculation. These elements are visually positive and increase density but do not appreciably affect the visual size of buildings.

• **Special Building Heights**: the minimums and maximums marked along each front line on the Regulating Plan. Those heights so marked are exceptions to the general prescriptions given by the Urban Standards.

• **Entry Height**: the maximum or minimum vertical dimension from the sidewalk level measured from the midpoint of the lot frontage to the entry floor of a building. Garages and outbuildings are exempt from this requirement.

• **Story Height**: a habitable level within a building serving to define the building height. The floor to ceiling height shall be limited to 14 ft to preclude the insertion of mezzanines. Basements that emerge less than 4 ft from grade or attics not exceeding 4 ft at the kickoff shall not constitute an additional story.

• **Porch, Arcade, or Balcony Height**: the maximum or minimum distance from the sidewalk at the midpoint of the lot frontage to the entry floor of a building. Garages and outbuildings are exempt from this requirement.

• **Streetedge**: the permissible range of distances from the sidewalk at the midpoint of the lot frontage to the top of a fence or streetscape.
• Elevation: the surface of a building around its perimeter. Elevations are subject to setback and height restrictions.

• Facade: the elevations of a building usually set parallel to a frontage line. Facades define the public space and are subject to requirements additional to those of elevations such as architectural standards, assigned frontage types and height restrictions.

• Frontage Line: those lot lines that coincide with a right-of-way or a public place. Frontage lines define frontage as the public realm and are therefore more highly regulated than elevations that coincide with regular lot lines. Frontage lines are assigned only along thoroughfares that are required to provide an excellent pedestrian experience (A-grid). Other thoroughfares assumed to be assigned to secondary or support functions are exempted from the frontage requirements (B-grid). Such streets are intended for open parking lots, unmasked parking decks, drive-throughs and hermetic building fronts, when these are inevitable.

• LotLine: the boundaries that legally and geometrically demarcate the edges of parcels held in private ownership and intended primarily for the construction of buildings. Such lines appear graphically on the Regulating Plan for coding purposes. Codes reference lot lines as the baselines for measuring setbacks.

• Lot: a separately platted subdivision of land held privately, usually intended for the purposes of building.

• Tract: a separately platted subdivision of land held in common, usually a right-of-way or a public open space. These tracts are intended for the construction of civic buildings, or for development as open space as Plazas, Squares, Parks or Greens. Tracts are to be held, developed, and maintained by the municipal government, or a civic organization.

• Parking Layer: the area of a lot measured in depth from a frontage line behind which open parking is permitted. The first layer is the area between the frontage line and the facade line. The second layer is the area between the facade line and 20 ft from the facade. The third layer is the area that begins 20 ft behind the facade line and continues to the rear lot line.

• Frontage Width: the measure of the lot line that coincides with the right-of-way of a thoroughfare. In a corner condition, the frontage width is measured at the more important of the two thoroughfares. Urban Regulations specify a minimum percentage of frontage width which must be built upon by a facade or streetwall. This device controls the degree of spatial definition of a thoroughfare. The percentage increases towards the more urban end of the transect.

• Lot Width: the dimension of the frontage line (the lot boundary that coincides with the principal enfronting thoroughfare). The lot width includes the flanking along the side of a corner lot.

• Porch Width: the required minimum dimension of a porch or arcade measured as a percentage of the lot width.

• Porch Depth: the required minimum dimension of a porch or arcade measured from the facade toward the frontage line.

• Parking Layer: the area of a lot measured in depth from a frontage line behind which open parking is permitted. The first layer is the area between the frontage line and the facade line. The second layer is the area between the facade line and 20 ft from the facade. The third layer is the area that begins 20 ft behind the facade line and continues to the rear lot line.

• Frontage Width: the measure of the lot line that coincides with the right-of-way of a thoroughfare. In a corner condition, the frontage width is measured at the more important of the two thoroughfares. Urban Regulations specify a minimum percentage of frontage width which must be built upon by a facade or streetwall. This device controls the degree of spatial definition of a thoroughfare. The percentage increases towards the more urban end of the transect.

• Lot Width: the dimension of the frontage line (the lot boundary that coincides with the principal enfronting thoroughfare). The lot width includes the flankage along the side of a corner lot.

• Porch Width: the required minimum dimension of a porch or arcade measured as a percentage of the lot width.

• Porch Depth: the required minimum dimension of a porch or arcade measured from the facade toward the frontage line.

• Pedestrian Continuity: pedestrian trajectories that fulfill most of the following requirements:
  1. the trajectory must have a destination, and that desti-
     nation should be useful or in some way rewarding;
  2. the destination should be accessible within a pedes-
     trian shed, or it may consist of a concatenation of such
     elements;
  3. the trajectory should be logical, continuous, and
     provided with shortcuts wherever possible;
  4. the trajectory should be along frontages and
     streetscapes that are spatially defined and interesting,
     avoiding parking lots. Continuous landscaping is not
     an adequate frontage;
  5. the trajectory should be tempered, shaded when
     hot and wind-shielded when cold;
  6. the trajectory should be shielded from traffic by
     parked cars;
  7. the trajectory should be safe, overlooked by win-
     dow. Paths through greenways are often perceived
     to be unsafe.

• Station: a designed point for viewing along a prom-
    enade. Syn.: Vantage Point

• Promenade: a controlled pedestrian sequence
    designed to be aesthetic, as opposed to an itinerary,
    which is a controlled sequence without such ambition.
    A promenade usually a sequence within a park,
    sometimes along a waterfront. A promenade within
    a building is a marche. Source: from the French, a walk
    without utilitarian purpose.
• Type: an artifact intended for a specific use, having become a carrier of meaning through familiarity. A type is defined by certain constants; with buildings, these are three: function, disposition, and configuration. These constants result in a predictable socioeconomic performance. For example, a rowhouse provides a relatively affordable dwelling place while creating urban character.

Building types are most easily defined by their various relationships to their lots, expressed as the residual yard. There are four general categories of building types: Edge Yard, Side Yard, Rear Yard, and Court Yard. These types are able to accommodate all the common residential and commercial programs. The specialized category is expected to accommodate exceptional types in Districts.

**Building Types**

- **Edge Yard**: a building that occupies the center of its lot with setbacks on all sides. It is the least urban of types; the front yard sets it back from the frontage, while the open side yard weakens the spatial definition of the enfronting space. It's usually assigned to Suburban and Rural Zones. The front yard is intended to be semipublic and visually continuous with the yards of adjacent buildings. The rear yard can be secured for privacy by fences and a well-placed outbuilding.

- **Side Yard**: a building that occupies one side of the lot with the primary open space to the other side. The visual opening of the side yard on the street frontage causes this building type to appear freestanding, so that it may be interspersed with edge yard buildings in General Zones. The shallow front setback, when completed by a streetwall coplanar with the facade also permits its use in Center Zones. The side yard can be quite private. Syn.: Zero Lot Line

- **Rear Yard**: a building that occupies the full frontage of its lot, eliminating most side yards and leaving the rear portion as a large yard. This is a very urban type appropriate for Center and Core Zones. The building facade steadily defines the edge of the public space while the rear elevation may be articulated for functional purposes. In its residential form, this type is represented by the rowhouse with a backbuilding and outbuilding creating a private yard. In its commercial form, the rear yard accommodates substantial parking.

- **Court Yard**: a building that occupies the boundaries of its lot while internally defining one or more private patios. This is the most urban of types as it is able to shelter the private realm from all sides. This type is common in hot climates, but is useful everywhere. Because of its ability to accommodate incompatible activities in close proximity, it is recommended for workshops, lodging, and schools. The high security provided by the boundary definition is useful for crime-prone urban cores.

- **Specialized**: a building is one not subject to typological categorization usually. Buildings dedicated to manufacturing and transportation, such as factories or airports, are often distorted by the trajectories of machines. Civic buildings, which must express the aspirations of institutions may also be exempt from the discipline of type. Certain communal residential types, such as hospitals and cohousing, may evolve unprecedented types. Such specialized buildings, where not envisioned by code may be permitted by exception in special districts.
## Building Types

### Specific Building Types

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Villa</strong></td>
<td>An edge yard building type. A single-family dwelling on a very large lot of rural character, shared by one or more ancillary buildings. The garage may be front loaded.</td>
</tr>
<tr>
<td><strong>House</strong></td>
<td>An edge yard building type. A single-family dwelling on a large lot, shared with an ancillary building in the rear yard. The garage may be front loaded.</td>
</tr>
<tr>
<td><strong>Cottage</strong></td>
<td>An edge yard building type. A single-family dwelling, shared with an ancillary building in the rear yard.</td>
</tr>
<tr>
<td><strong>Single House</strong></td>
<td>A single-family dwelling type which occupies one side of the lot, with the primary yard to the other side, with ancillary building in the rear yard. Variant: Double House</td>
</tr>
<tr>
<td><strong>Patio House</strong></td>
<td>A courtyard building type which surrounds one or more private yards. A single family dwelling type with buildings on all lot lines. Syn.: Courtyard House</td>
</tr>
<tr>
<td><strong>Rowhouse</strong></td>
<td>A rear yard building type. A single family dwelling with common walls on the side lot lines, the facades forming a continuous frontage line. Syn.: Townhouse, Terrace House</td>
</tr>
<tr>
<td><strong>Flexhouse</strong></td>
<td>A rear yard, fully mixed-use building type with one dwelling above or behind a commercial space. Syn.: Live-Work, Shopfront</td>
</tr>
<tr>
<td><strong>Apartment Building</strong></td>
<td>A rear yard residential building type accommodating multiple dwellings disposed above and beside each other, sharing a common entry. Variant: Loft Building</td>
</tr>
<tr>
<td><strong>Mixed-Use Block</strong></td>
<td>A rear yard, flexible residential or commercial building type. Commercial buildings have floorplates deeper than residential ones. Syn.: Warehouse, Flex Building, Office Building</td>
</tr>
</tbody>
</table>

### Building Transsection

- **Rural**
- **Urban**

© 2002 Duany Plater-Zyberk & Company (Version 3.2)
• Platting: the subdivision of private land within the block structure, enabling small-scale, independent ownership. Platting is an important, often overlooked, instrument of coding. Platting appears graphically on a regulating plan as lot lines and frontage lines. Without platting it is impossible to control precisely the building type for size, disposition, and configuration.

The following classification of lot width assumes alley/lane parking in addition to on-street parking.

- **Lot Width:** the increment for platting in North America has historically been the lot 25 ft wide and 100 ft deep. This system has been adequate, creating 25 ft lots for rowhouses as well as 50 ft and 100 ft lots for houses, shops, and other buildings. The advent of the automobile, however, has overlaid a new set of dimensional constraints which should be reflected in new platting standards. The 25 ft increment is somewhat wasteful, as it does not correspond to the basic increments for parking which are 12 ft for head-in parking and 72 ft for a double parking row. A precise correspondence of platting and parking increments can increase density by eliminating recurring slivers of wasted width.

- **Lot Width:** 18 ft, 24 ft, 36 ft, 54 ft, 72 ft, 100 ft, 144 ft.

**Building Type Module:** This module reconciles parking width (9 ft-12 ft) and the rod guarantees the highest possible flexibility and efficiency by eliminating wasted land. See: Parking Ratio.

**Rod:** a measure of land originally 16.5 ft (17 c) but updated to the more flexible 6 ft for use as a measure of lot width. This module reconciles parking width (9-12 ft) and the more common unit types. As parking determines density, the rod guarantees the highest possible flexibility and efficiency by eliminating wasted land. See: Parking Ratio.

- **Parking:** the provision of parking decks or transit.

- **Building Type Insights:** Wider lots tend to degrade the scale of the urban fabric. Efficiency does not increase over the 72 ft lot and bigger buildings should be accommodated through greater lot depth.

- **Building Type Insights:** Higher increments involve the doubling of the 72 ft lot to 144 ft. Higher densities are achieved by the provision of parking decks or transit.

- **Building Type Insights:** The next increment, 72 ft (4 x 18 ft) is the smallest that can incorporate a double head-in parking lot, with room for planting. Assuming a building pad of 50 ft depth, this lot will accommodate 10 places to the rear and 3 in front. This number will deliver 6-8 apartments (37-49 units/ac) or an office building of 3250-4250 sq ft. This lot width yields the highest density for surface parking.
Density: the theoretical capacity of a lot to accommodate quantities of certain building uses. It is a code technique to designate the number of dwellings which may be accommodated within a standard measure of land area. Usually it is expressed in units/acre.

Maximum Density: the capacity of a lot, usually determined by parking capacity, not by lot coverage or floor-area ratio. Thus the size and configuration of a lot is an important determinant of density insofar as it can efficiently accommodate surface parking. The provision of parking in structures or below ground decouples the theoretical density, which is then controlled only by the practical, economic, and aesthetic limits of parking decks.

Net Density: a dependable measure of the efficiency of a building type as it excludes the highly variable areas of thoroughfare and open space included in gross density calculations.

Gross Density: tbd
• Boarding House: a residential building not larger than a house having one or several bedrooms available for long-term letting. Cooking facilities are communal.

• Inn: a residential building compatible in scale with a single-family house having one or several bedrooms available for short-term letting. Cooking facilities are communal.

• Hostel: a residential building larger than a house which may accommodate the following programs: single-room occupancy, commune, hospice, managed care, group home, and transitional housing. Hostels, when introduced to the neighborhood structure, should be subject to binding agreements and periodic inspections.

• Hotel: a large residential building having bedrooms and common rooms available for short-term letting. Cooking facilities are communal.

• Warehouse: a commercial building type being primarily a single-story loft likely to be used for manufacturing or storage. Rear and side yards, if provided, must be masked by walls. Warehouses may be located at the Center Zones or segregated to districts, depending on the extent of noxious emanations. Warehouses are always served by alleys which must be especially wide to accommodate trailer trucks. Syn.: Workshop, Industrial Building, Flex Building

• Parking Deck: a specialized building type dedicated to accommodate parking in quantity by vertical stacking. Parking decks are usually only required at Core Zones. This building type may be destructive to pedestrian quality and should therefore be assigned to the B streets in a tartan grid, masked by liner buildings, or provided with retail frontage at the ground level. Syn.: Parking Garage, Parking Structure, Structured Parking, Parking Ramp

• Clubhouse: premises dedicated to the activities and purposes of private, not-for-profit communal organizations. Clubhouses qualify for locations on public and civic tracts.

• Meeting Hall: premises, usually located at the Center Zone, designed for common assembly. A meeting hall should contain at least one room having an area of 4 sq ft per each dwelling of the neighborhood it serves. This building may be temporarily used as the sales and administrative offices of a development during the construction phase. Provision of a meeting hall is a requirement of a TND Ordinance. See: community council

• Cohousing: a model of community which directly associates a limited number of dwellings with certain jointly owned communal facilities, including a dining room. A cohousing site plan usually creates a pedestrian campus independent of frontages. Parking is not located buildingside in order to encourage social interaction by pedestrian trajectory.

• Studio: the smallest type of apartment, one that does not have a separate bedroom. Syn.: Efficiency

• Loft: a high-ceilinged and well-lit dwelling with few partitions reaching the ceiling. A loft building increases ceiling height as a trade-off for increasing depth. Such buildings would otherwise be unsuitable for residential use.

• Apartment: a dwelling not coinciding with its own lot but sharing a building with other dwellings.

• Expandable Housing: a dwelling which is capable of evolving in size in response to need. An expandable building must be constructed of normative material which is permanently available (in open stock), and the configuration must be sufficiently simple to be able to receive additions. Many modernist style buildings are too specialized in material form and detail to easily support change. To this end, architectural regulations should require normative material. Syn.: Grow House

See: Back Building
Source: Stuart Brandt

• Main Building: the principal building on a lot, disposed to provide the façade on the frontage, in distinction to the back building and the outbuilding which are ancillary in use and form and usually to the rear of the lot. Syn.: Principal Building

• Backbuilding: an ancillary segment of building extending from a principal building into a rear yard. A properly designed back building is disposed to increase the privacy of the backyard by masking neighboring buildings. It is ideally one story to avoid blocking sunlight to the yard. A back building may connect the principal building to an outbuilding.

• Outbuilding: a secondary building associated with a principal building by ownership and shared lot. An outbuilding may be rented but not sold separately. It is usually disposed adjacent to the rear lot line, and it is subject to specific limits of size and use to prevent overloading of the infrastructure. Typical limits are two stories with a maximum lot coverage of 600 sq ft (which is the footprint of two cars within a garage below). Syn.: Accessory Building, Ancillary Building, Backyard Cottage, Garage Apartment, Granny Flat

• Ancillary Apartment: a secondary residential unit that with a principal one, shares ownership, site and utilities. An ancillary apartment can be within the principal building or within an outbuilding, usually above a garage. Ancillary units are of great social benefit as they are usually both affordable and intermixed with market-rate units. Conventional suburban practice forbids ancillary apartments, categorically fearing an overload of parking, traffic and consumption of sewage capacity. Legitimate concern should arise if the ancillary apartment is developed as a full multi-bedroom unit, creating the equivalent of a duplex. This risk can be eliminated by controlling the size of the unit to no more than 400 sq ft, so that it can house a single person or a couple but not a larger family.

• Building: a man-made structure, fixed in place, with the potential of human entrance and inhabitation. Buildings, not thoroughfares, are the primary element of town planning. Buildings are subject to variations in function, disposition, and configuration.

• Function, Disposition & Configuration: the primary determinants of building typology, contributing the variants necessary to create a neighborhood.

1. Function: the possible uses permitted within a building and its lot. Codes sometimes specify restrictions to the entry level or the outbuilding.

2. Disposition: the placement of outbuilding on lot. Placement is determined by dimensional setbacks or build-to requirements measured from the lot boundary lines.

3. Configuration: the three-dimensional form of a building, including its tectonic language. Configuration includes the form and materials of roofs, walls, openings, and other elements.

• Typology: the process of creation, selection and transformation of type as follows:

1. Archetype: the platonic ideal, e.g. the generic urban dwelling providing a habitable private realm while defining public realm.

2. Prototype: the first example to be created or perfected, e.g. the 18th century London terrace house with a rear mews.

3. Type: the prototype appropriated and transformed through a process of emulation, e.g. the Philadelphia rowhouse enfronting a mixed-use street, with a walled yard and an alley to the rear.

4. Stereotype: the misuse or misunderstanding of a type, which thereby undermines its function and meaning, e.g. the suburban townhome with its front on a parking lot and an open lawn at the rear.

5. Emulation: the process of design by which a model or prototype is identified, modified, and utilized. The process assures performance similar to that of the model. Although vulnerable to the selection of an unsuitable model, the process of emulation is always more dependable than the process of invention.

• Pastiche: a creative work made up of selections from various prior works (Webster’s). A descriptive term, considered pejorative, commonly applied to the New Urbanism.
1. Child Care Center: premises that serve for the daytime care of children below school age. Child care centers may be located anywhere within the neighborhood structure so long as the heavy drop-off requirements are accommodated. The associated play yards may be placed at center block locations, away from traffic.

2. Primary School: serves young children and contributes important meeting facilities to the neighborhood. Primary schools should be seamlessly integrated with the neighborhood structure as they serve a segment that does not drive. The influential educator John Dewey placed such schools at the physical center of the neighborhood. Contemporary market research (American Livex) rates the elementary school as the most desirable amenity, not only for children but for the general utility of its larger rooms and sports fields. It is therefore important that a civic site be reserved for a private or public elementary school. However, contrary to the recommendation of the neighborhood unit, this site should not be at the center but at the edge. There are two reasons for this. One is that current playing fields are large enough to impede pedestrian continuity to the neighborhood center from the areas beyond, which are in their shadow. Another is that the population within a single neighborhood tends to age as a cohort, creating a variable need for classrooms. A school at the edge, served by several neighborhoods, will tend to even out the generational needs. 3. High School: serves teenagers, a demographic segment with social behavior patterns considered by some to be noxious. Proximity to a high school tends to degrade the value of housing. This, with high parking requirements, justifies the segregation of high schools from the neighborhood structure. 4. College: serves older students, a segment considered to have acceptable patterns of social behavior. Colleges, therefore, need not be segregated from the neighborhood structure. There are two models. One intersperses college facilities among neighborhood buildings, sharing the thoroughfare system. Another places college buildings within a separate campus, which may be as specialized as a district but seamlessly attached to a neighborhood, as a college is always an important cultural and economic asset to a community. See: Campus

- School: a civic building, dedicated to formal, ongoing education. For the purposes of town planning, schools come in four broad categories. Each has a specific place within the neighborhood structure.

- Ambulatory: a courtyard defined by an arcade along its edges. An ambulatory, unlike a courtyard or a patio may be independent of a building. An ambulatory defines an interior room able to shield an open space from a noisy environment.

- Peristyle: a colonnade that rings a patio or courtyard. While it is not necessary to have colonnades on all sides of a patio, their total absence will doom a patio. To neglect the porosity of at least one of its defining edges seems to be necessary to habitability; this is particularly true when the dimensions are small.

- Dingbat: a building which denies typological discipline without functional justification, or which is otherwise disruptive to the urban fabric. Modernist buildings tend to extremes of articulation and heterogeneity of tectonic expression in disregard of the sectors they embody. Source: L.A. Stang

- Stilt House: a common dingbat building. A building which reads like a house. This type shares edges. An ambulatory, unlike a courtyard or a patio may be independent of a building. An ambulatory defines an interior room able to shield an open space from a noisy environment.

- Belvedere: an elevated structure intended to provide a long-distance view. A belvedere may be a pavilion within an open space or a portion of a building. Codes enabling belvedere will give access to a view (such as a waterfront) to buildings behind the front elevation. A belvedere can add substantial value to the full depth of a community. Source: Italian "beautiful to see."

- Pavilion: a civic building type of undefined use. A pavilion is usually an open-sided, roofed structure, freestanding within an open space. Syn.: Gazebo

- Kiosk: a small enclosable, movable building available for small-scale retail. A kiosk, being inexpensive, is an excellent business incubator. It is useful for periodic events such as festivals, as well as a remedial device to enliven a public place.

- Pergola: a linear pavilion with the roof as an open trellis supporting climbing plants. Pergolas are one of the most economical of the ornamental civic buildings.

- Gateway: an urban element which marks the entrance or the threshold of a sector or a district. One of the elements useful to orientation within the urban fabric. Gateways are misused in CSD practice to segregate housing by market segment. They are rare in TND practice which values centers over edges. Source: Kevin Lynch

- Single House: a sideyard residential building type. A single family dwelling with one wall on the directly side line. A single house creates a larger and more private side yard than does a detached house. Syn.:

- Zero Lot Line House, Sideyard House

- Double House: a sideyard multiple residential type. A pair of dwellings, side by side or one above the other to create a building which reads like a house. This type is particularly suitable to corner lots, where one entrance may face the frontage and another the flankage, thus assigning to each dwelling a private front yard.

- Triple-Deck: an edgeyard multiple residential building type. A small apartment building of three dwellings stacked one above the other; creating a building which reads like a house. Three stories is the maximum acceptable height for a walk-up apartment building in North America. Syn.: Triplex

- Patio Building: a courtyard building type with the potential of common walls on all the lot lines and the yard at the center. Patio buildings provide yards (court yards) of utmost privacy as building or high walls surround all sides. The courtyard efficiently consolidates all the yards which are distributed along the periphery in house and cottage types. Patio buildings are intrinsically more expensive than other types and are therefore recommended for urban reinstallation. Syn.: Courtyard Building.
### Optimum Market Housing Mix by Type

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>MARKET SEGMENT</th>
<th>BUILDING PROGRAM</th>
<th>BUILDING TYPE</th>
<th>TRANSCECT LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Non-Family Residential</td>
<td>Economical without frills. It consists of studio, loft or one bedroom units. The kitchen, dining, and living areas coalesce.</td>
<td>Rental apartments, row-houses or outbuildings. Parking pads are usually provided instead of garages. Mixed-use commercial buildings are possible</td>
<td>General and Center Zones</td>
</tr>
<tr>
<td>P2</td>
<td>New-Family Residential</td>
<td>Composed of middle-aged couples and children. The ethos is risk-aware. Syn.: Move-Up Buyers, Move-Over Buyers</td>
<td>Tends to luxury with some duplication of rooms and some amenities. It consists of three to five bedrooms and two to four bathrooms. The master bedroom suite tends to be substantial. The kitchen, dining, and living areas tend to be separate, with a family room adjacent to the kitchen.</td>
<td>Houses with garages for 2 or 3 cars and storage.</td>
</tr>
<tr>
<td>P3</td>
<td>Full-Family Residential</td>
<td>Composed of older singles and couples, without children at home. There is a preference for pedestrian access to daily needs at Center Zones. The ethos is risk-averse. Syn.: Retirees, Empty Nesters, Move-Down Buyers.</td>
<td>Ranges from the economical to the luxurious. It consists of one to three bedrooms and one to three bathrooms. The kitchen, dining, and living areas may be separated or shared. The distinguishing factor is that the master bedroom is on the main level.</td>
<td>Apartments, rowhouses, or cottages, with garages.</td>
</tr>
<tr>
<td>P4</td>
<td>Post-Family Residential</td>
<td>Composed of young singles and couples, without children. Includes communal living arrangements such as cohousing and boarding houses. The ethos is risk-oblivious. Syn.: Starter, Entry-Level, First-Time Buyer.</td>
<td>Economical, without duplication or frills. It consists of two or three bedrooms and one or two bathrooms. The kitchen, dining, and living areas tend to coalesce.</td>
<td>Houses with garages for 2 or 3 cars and storage.</td>
</tr>
<tr>
<td>P5</td>
<td>Limited Flex</td>
<td>Available for commercial and residential uses. The residential use need not be associated by ownership to the operation of the commercial.</td>
<td>Home office, home occupation, live-work unit, business incubator.</td>
<td>Center and Core Zones as well as Districts</td>
</tr>
<tr>
<td>P6</td>
<td>Restricted Flex</td>
<td>Restricted to commercial uses.</td>
<td>Office buildings and flex warehouses.</td>
<td>Center and Core Zones</td>
</tr>
<tr>
<td>P7</td>
<td>Open Flex</td>
<td>Program is restricted to uses with negative consequences on adjacent lots, usually as a result of noise, vibration, pollution or socioeconomic disruption. Consequences confined to the lot boundary are not considered specialized programs.</td>
<td>Buildings without typological discipline for reasons of cultural expression</td>
<td>District only</td>
</tr>
<tr>
<td>P8</td>
<td>Civic</td>
<td>Program is restricted to not-for-profit organizations dedicated to religion, arts and culture, education, government, social service, transit and the like.</td>
<td>Buildings without typological discipline. Distorted by the trajectories of machines or sequences of rooms.</td>
<td>All Zones</td>
</tr>
</tbody>
</table>

### Building Key (See M1.1)

- **P1** Non-Family Residential
- **P2** New-Family Residential
- **P3** Full-Family Residential
- **P4** Post-Family Residential
- **P5** Limited Flex
- **P6** Restricted Flex
- **P7** Open Flex
- **P8** Civic

### Market Segmentation
- **Ethos:** the characteristic and distinguishing attitudes of a racial, political, occupational or other group. Source: Webster’s Dictionary
- **Webster’s Dictionary:** subcategorized in order to discern niches and emergent trends.

### Building Types
- **For Sale Detached House:**
  - Urban Areas: 42% 50%
  - Suburban Areas: 42% 45%
  - Rural Areas: 50% 64%
  - Average: 48%
- **For Sale Rowhouse & Live/work:**
  - Urban Areas: 26%
  - Suburban Areas: 29%
  - Rural Areas: 50%
- **For Sale Apartment & Loft:**
  - Urban Areas: 22%
  - Suburban Areas: 24%
  - Rural Areas: 32%
- **Rental Apartment & Loft:**
  - Urban Areas: 24%
  - Suburban Areas: 28%
  - Rural Areas: 32%
- **Average Parking per Household:**
  - Urban Areas: 7
  - Suburban Areas: 1.1
  - Rural Areas: 1.3

**Sources:**
1. Detroit, M & St. Louis, MO
2. White Plains, NY & St. Louis Park, MN
3. Social Circle, GA & Flower Mound, TX

---

© 2032 Quany Plater-Zyberk & Company (Version 3.2)
Shops work best in certain mutually supportive combinations. The grouping is associated with a specific service area within the region. Conventional suburban versions of these combinations have been rationalized by the ULI. These standard retail groupings are now recognized by developers, merchants, and lending institutions to the exclusion of all other patterns. This authority, in addition to a record of genuine success, forces the retail component of Traditional Neighborhood Development to be conceived as translations of certain basic types emerged, each distinctive in function as determined by its major tenant or tenants.

A shopping center is a group of commercial establishments planned, developed, owned, and managed as a unit and related in location, size, and type of shops, to the trade area. It provides on-site parking in definite relationship to the types and sizes of stores. As the shopping center evolved, certain basic types emerged, each distinctive in function as determined by its major tenant or tenants.

The grouping is associated with a specific service area within the region. Conventional suburban versions of these combinations have been rationalized by the ULI. These standard retail groupings are now recognized by developers, merchants, and lending institutions to the exclusion of all other patterns. This authority, in addition to a record of genuine success, forces the retail component of Traditional Neighborhood Development to be conceived as translations of these ULI classifications. Fortunately, certain of these classifications are functionally equivalent to those required for TNDs.

### Retail Type by Size & Service Area

<table>
<thead>
<tr>
<th>ULI</th>
<th>TND</th>
<th>Size (sq ft)</th>
<th>Service Area (radius)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenience Store</td>
<td>Neighborhood Store</td>
<td>800</td>
<td>1 mile</td>
</tr>
<tr>
<td>Convenience Center</td>
<td>Main Street Shops</td>
<td>15,000</td>
<td>1 mile</td>
</tr>
<tr>
<td>Neighborhood Center</td>
<td>Town Center Shops</td>
<td>30,000</td>
<td>2 miles</td>
</tr>
<tr>
<td>Regional Center</td>
<td>Shopping District</td>
<td>300,000</td>
<td>5 miles</td>
</tr>
</tbody>
</table>

Source: Thomas Comitta

The following definitions are taken from the Shopping Center Development Handbook published by the Urban Land Institute (ULI), and from the National Association of Convenience Stores (NACS).

**Convenience Store**

A convenience store is a retail business that provides a convenient location for quick purchases from a wide array of products (predominantly food). Convenience stores are typically less than 5,000 sq ft with convenient pedestrian access and parking, and extended hours of operation.

**Convenience Center**

A convenience center, similar to a convenience store, provides for the sale of personal services (dry cleaning, barber shop, shoe repair) and convenience goods (food, drugs, and sundries). The convenience center is anchored by some type of personal/convenience retail such as a minimarket. It has a typical gross leasable area of about 20,000 sq ft.

**Neighborhood Center**

A neighborhood center provides for the sale of convenience goods and personal services for the day-to-day needs of the immediate neighborhood. The supermarket is the principal tenant. In theory, the neighborhood center has a typical gross leasable area of 50,000 sq ft. In practice, it may range in size from 30,000 to 100,000 sq ft.

**Regional Center**

A regional center provides for the sale of general merchandise (apparel, furniture, and home furnishings) in depth and variety, as well as a range of services and recreational facilities. It is anchored by one or two full-line department stores of generally not less than 75,000 sq ft. In theory, its typical size is 450,000 sq ft of gross leasable area. In practice, it may range from 300,000 to 850,000 sq ft. The regional center is the second largest type of shopping center, providing services typical of a business district yet not as extensive as those of the super regional mall.
LOCATION OF COMMERCIAL PROGRAMS

WORKPLACES

- Home Occupations: commercial enterprises permitted anywhere, including Suburban and General Zones. The work quarters should be invisible from the frontage, usually located within a backbuilding or an outbuilding. Home occupations are small and quiet non retail businesses, seldom visited by clients, requiring little parking, no signage, and having only one or two employees. The most likely businesses are professional and artisanal, location-neutral, or Internet-based. The permitted activities are defined by the Restricted Use category. Syn: Home-Based Business

- Live Work Units: small commercial enterprises permitted at Center Zones, with ground floor occupied by commercial and a residential unit above. Commercial space may be home-based business or leased independently.

- Main Street Offices: small commercial enterprises permitted at Neighborhood Center Zones, the offices usually occupy the frontage at the ground story, with residential use above. Parking is to the rear of the buildings. Businesses may include retail sales, with a limited number of employees and where customers or clients may visit. The permitted uses are defined by the Restricted Use category.

- Downtown Offices: sizable commercial enterprises permitted within Core Zones, located at a regional intersection and shared by several neighborhoods. A downtown is the equivalent of the ULI Neighborhood Center. These are businesses having any number of employees, customers, clients, or patients. The retail quarters occupy the ground story with residential or commercial uses recommended above. Main streets supply ordinary goods supported by a trade area of tk dwellings. The anchor tenant is a supermarket of 60,000 sq ft or larger, with the following stores ideally appended: banks, a bookstore, a coffee bar, a liquor store, a video rental, a cleaner and laundry, a hardware store, a barber shop and hairdresser, a pharmacy, and two or three restaurants.

- Shopping Districts: specialized retail sectors located at an intersection of regional significance as it must draw from a trade area of tk dwellings. Shopping districts are similar to the ULI Regional Center. The anchors may be two or more department stores or a multiplex cinema, supported by in-line specialty stores (principally apparel) and restaurants. Although the size of this type precludes its incorporation within a neighborhood proper (hence the District designation), it should be integrated with office buildings, hotels, and apartments to approach a balanced use.

RETAIL

- None

- Neighborhood Store: the smallest of the retail establishments, permitted at Center Zones. It is the equivalent of the ULI Convenience Store. The neighborhood store occupies a frontage at the ground story, with residential use recommended above. Parking is to the rear of the buildings. These establishments have a limited number of employees, where customers may arrive walking and bicycling. An anchor tenant of 2,500 sq ft can be supported by a trade area of tk dwellings. It may be reinforced by including a cafe, a contract post office, an automatic bank teller, and a newsstand. See: Post Office Syn: Home Office, Corner Store, Home Occupation

- Main Street Shops: retail enterprises permitted within Center and Core Zones, usually shared by two or more neighborhoods. Main street shops are the equivalent of the ULI Convenience Center. These are businesses having any number of employees, customers, clients or patients. The retail quarters occupy the ground story with residential or commercial uses recommended above. Main streets supply ordinary goods supported by a trade area of tk dwellings. The anchor tenant is a convenience market of 15,000 to 60,000 sq ft, with the following stores ideally appended: a branch bank, a bookstore with coffee bar, a video rental, a cleaner and laundry, a home (hardware) store, a barber shop and hairdresser, a pharmacy, and two or three restaurants.

- Town Center Shops: retail enterprises permitted within Core Zones, located at a regional intersection and shared by several neighborhoods. A downtown is the equivalent of the ULI Neighborhood Center. These are businesses having any number of employees, customers, clients, or patients. The retail quarters occupy the ground story with residential or commercial uses recommended above or interspersed. Downtowns are similar but larger than main streets, serving to supply ordinary goods supported by a trade area of tk dwellings. The anchor tenant is a supermarket of 60,000 sq ft or larger, with the following stores ideally appended: banks, a bookstore, a coffee bar, a liquor store, a video rental, a cleaner and laundry, a hardware store, a barber shop and hairdresser, a pharmacy, and restaurants.

- Business Districts: commercial enterprises which must be isolated in order to mitigate some intrinsic aspect which is destructive to the urban fabric. This may involve excessive building size or a parking requirement at the frontage; the generation of noise, smell, or vibration; large trucking needs or a hermetic building frontage. The permitted uses are defined by the specialized use category, which excludes housing and assumes the absence of a neighborhood structure. As a component of Traditional Neighborhood Development, the business district is not vested and must undergo a process of justification. See: Prohibited Use, Big Box Retail

C O M M E R C I A L  P R O G R A M
• Trade Area: the sector from which a retail establishment is likely to attract its customers. Such an area is rarely geographically contiguous, as it is distorted by the thoroughfare pattern and by competition. A trade area may be abstracted as a number of dwellings, the figure assuming little amount of competition. Big box merchants increase the trade area and are therefore valued for attracting cross-shoppers to the associated in-line stores which have a lesser draw area. A similar effect can be achieved by concatenating activities that will account for an extended time, i.e. dinner, a movie, and a drink. The trigger is that the longer the customers can be occupied, the further they will come, increasing the draw area. This is the drawing mechanism of anchorless retail at main streets. Syn.: Draw Area

• Anchoring: the function played by an urban element in attracting users to be found and consequently to adjacent elements which are not, by themselves, attractions. The most widespread use occurs at retailing sectors. A department store anchors a town center. A food court anchors a main street. A post office anchors a neighborhood. A retail establishment that is not connected to the building area that a retail tenant pays to lease. With enclosed shopping spaces, leading to costlier leases. The main street of a sector, which TND is not exempt, even if it forces the eccentric traffic (moving slowly). This is an ancient, immutable, pattern of vehicles as it affects retail. Through movement is the drive-by traffic upon which convenience shopping is dependent. Cross-shopping is currently reversing to its origins was first conciously exploited with the creation of the department store which internalized multiple shops. Cross-shopping is the drive-by traffic upon which convenience shopping is dependent. To-movement is the pattern generated by destination shopping, which may be placed virtually anywhere, as it will attract traffic to itself. Syn.: Drive-To/Drive-By. See: Location Neutral

• Location Neutral: businesses which can reach a market without access to drive-by traffic. Good restaurants are the most common category; professional services are often location-neutral.

• Main-Main Intersection: the intersection of the two most active thoroughfares of a sector and, as such, the preferred location for retail. Retail felines on drive-by traffic (moving slowly). This is an ancient, immutable, practice that CSD has honed to perfection and from which TND is not exempt, even if it forces the eccentric location of a neighborhood center or town core.

• To-Movement & Through-Movement: the movement pattern of vehicles as it affects retail. Through movement is the drive-by traffic upon which convenience shopping is dependent. To-movement is the pattern generated by destination shopping, which may be placed virtually anywhere, as it will attract traffic to itself. Syn.: Drive-To/Drive-By. See: Location Neutral

• Overidentified Flying Object: a big box store. An allusion to a configuration alien to the landscape and displaying extravagantly signage auto-oriented signage.

• Cannibal Retail: conventional suburban retail, usually “big-box that preys for its market on existing retail. The method of Cannibal Retail that leaves behind empty main streets, shopping centers, and shopping malls in sequence.

• Wrap: small retail shops lining the frontage of a big box retail store in order to overcome the dullness of its bland walls. Such shops are approximately 50 ft deep. Access to the big box is through one of the storefronts, acting as a passage and called a throat.

• Box Retail: large retail stores, usually over 35,000 sq. ft, offering wide choice, often at reduced prices. This type, pioneered by supermarkets, is now emulated by virtually every sector with the exception of clothing and restaurants. Big box retail is based upon very large market areas that draw customers from dozens of miles away. The profit advantage is derived from efficiency of distribution through centralization. This efficiency is, in fact, surreptitiously subsidized by the customer’s contribution to the store. Syn.: Anchor Retail

• Retail Management: the organizational technique by which various retail stores act in concert for their mutual benefit. The absence of retail management is the principal cause of the vulnerability and failure of local main street merchants in the face of competition by shopping centers. Such management usually includes: proactive leasing, the grouping of stores to catalyze cross-shopping, standards for storefront design, signage, and lighting, recommendations for store layout and display, joint periodic and seasonal advertising, standardized business hours, parking management, as well as established procedures for public space maintenance and security. Retail management, more than any aspect of physical design is responsible for the success of most shopping centers, and its absence for the failure of most main streets. Syn.: Curated Retail

• Cannibal Retail: conventional suburban retail, usually “big-box that preys for its market on existing retail. The method of Cannibal Retail that leaves behind empty main streets, shopping centers, and shopping malls in sequence.

• Distilled Location: a primary social condenser of the neighborhood. The post office brings a representative of every household to the center daily, thereby anchoring the corner store and other retail. The post office may be staffed in conjunction with a corner store. Syn.: Post Office

• Cross-Shopping: the effect of shops mutually supporting each other by proximity. This phenomenon was first conciously exploited with the creation of the department store which internalized multiple shops. Cross-shopping is currently reversing to its origins was first conciously exploited with the creation of the department store which internalized multiple shops. Cross-shopping is the drive-by traffic upon which convenience shopping is dependent. Cross-shopping is currently reversing to its origins was first conciously exploited with the creation of the department store which internalized multiple shops. Cross-shopping is the drive-by traffic upon which convenience shopping is dependent. Cross-shopping is the drive-by traffic upon which convenience shopping is dependent.

• Business Incubation: The fostering of economic diversity at the lower economic range by the provision of affordable quarters for shops and workplaces. Business incubators are the commercial equivalent of affordable housing. Conventional shopping centers, usually protect fragile start-up businesses by offering percentage leases. Traditional main street shops seldom do, creating a competitive disadvantage. Such leases should be available to TND businesses as part of a retail management policy. Traditional neighborhoods provide support for start-up business by generally permitting home occupations and a full range of flexible zoning categories, wherein a residential mortgage can cover both housing and business quarters. Note: it is important that incubator business quarters be built cheaply (Jane Jacobs: Small Businesses Need Cheap Space). Such shopfronts require the elaboration of the frontage only (the false front) as opposed to the all-round architectural development of freestanding retail on parking lot pad sites.

• Retail management, more than any aspect of physical design is responsible for the success of most shopping centers, and its absence for the failure of most main streets. Syn.: Curated Retail
The Code consists of five documents used in conjunction:

**REGULATING PLAN**
A map precisely locating the various zoning categories. The Regulating Plan also shows the form and location of public open spaces, and the type and trajectories of the various thoroughfares.

**URBAN STANDARDS**
A matrix of text and diagrams that regulate those aspects of private buildings which affect the public realm. The urban standards vary according to the zoning categories of the Regulating Plan. These include the frontage standards which encourage the provision of certain building types and frontage elements that influence social behavior. The urban standards define building function as the uses permitted in each of the zoning categories to various degrees, with emphasis on mixed use wherever possible. Parking needs are correlated to the various uses.

**THOROUGHFARE STANDARDS**
A matrix of drawings, specifications, and dimensions that assembles vehicular and pedestrian ways into types, specialized in both capacity and character. These specify vehicular ways, sidewalks, planters, street trees, and street lights. The combinations range from urban to rural. They are assigned to appropriate locations on the Regulating Plan.

**ARCHITECTURAL STANDARDS**
A matrix of text that specifies, for private buildings, the materials and configurations permitted for walls, roofs, openings, and other elements intended to produce visual harmony among disparate building types. The standards relate to the vernacular building traditions of the region, thus incorporating a suitable response to climate. Civic buildings are exempt from the architectural standards.

**LANDSCAPE STANDARDS**
A list of plant species with instructions regarding their location and planting pattern. The lists are separated into those pertaining to public areas and to private lots. The planting lists are coordinated toward achieving a coherent landscaping of the urban fabric. The selection and disposition of the planting is intended to support the urban-to-rural transect and to create an ecosystem compatible with the climate and hydrology of the site.

**GENERAL**
This Code is conceived and administered to guide the Community of xxxxxx within the City xxxxxx, xxxxx. The Code ensures that all new buildings are harmonious with each other and within the language of the traditional architecture of the region. The Code further assures that the community adheres to a neighborhood structure having the following characteristics:

- The neighborhood is limited in size by a five-minute walking distance from edge to center.
- Residences, shops, workplaces, and civic buildings are included in close proximity.
- A variety of thoroughfares serve the needs of the pedestrian and the automobile equitably.
- Public open spaces in the form of plazas, parks, and playgrounds provide places for informal social activity and recreation.
- Building frontages in disciplined alignment define the public space.
- Civic buildings reinforce the identity of the community, providing places for purposeful assembly.

The Code is legally binding by contract with the Primavera Corporation as a condition of the purchase of land within the community. It is administered by the Primavera Town Architect’s Office.

In matters of urban structure, the provisions of this Code shall take precedence over the City xxxx Zoning Code. In matters of health and safety, the City of Leon Zoning Code shall take precedence over the provisions of this Code.

Variances to provisions of the Regulating Plan are considered unique and not to set a precedent for future waivers and exceptions. Any variance is the allowance of a practice consistent with the general intent but not a specific provision of the Regulating Plan. A waiver may be granted administratively by the xxxxx Town Architect’s Office on the basis of hardship or design excellence.

Civic Buildings are not subject to the provisions of the Code. Their design shall be approved by the xxxxx Town Architect’s Office.

**IMPLEMENTATION**

**A Master Plan**
is illustrative and compliance is voluntary

**Guidelines**
are enforceable by covenant

The guidelines are translated to legal language

**A Code**
is instructive and enforceable by contract

**An Ordinance**
is mandatory and enforced as municipal law

© 2002 SUANY PLATER-ZYBERK & COMPANY (VERSION 3.2)
**METHOD A: IMPLEMENTATION BY URBAN BOUNDARY**

**Step 1**
Project the growth requirements of the region. The requirements should include the balancing of deficiencies of any land use which may be scarce and therefore cause overpricing. Translate the growth requirements into increments of land area that can accommodate them in five-, ten-, and twenty-year phases.

**Growth requirements include:**
- Greenfield development
- Infill Development
- Urban extensions
- Suburban retrofit
- Roadway intersections
- Rail stops

**Step 2**
Establish urban boundary lines that will accommodate the required growth areas in phases. The location for the expansions of the urban boundary should be seamless additions to incomplete neighborhoods and the creation of completely new neighborhoods. In some cases the creation of new villages (equivalent to freestanding neighborhoods) is more appropriate than the continued expansion of the urban fabric. The growth should be coordinated with the concurrent delivery of infrastructure.

Areas to remain temporarily or permanently outside of the urban boundary are to be designated with subcategories of reserve and preserve. A preserve is a designation applied to areas intended to never be urbanized. A reserve is a designation applied to areas intended for temporary preservation until inclusion as the urban boundary moves beyond it. The process of redesignating reserved land for urbanization according to established criteria is called a release.

**Step 3**
The areas within the urban boundary are vested for neighborhoods. Establishing a faster, proactive permitting process encourages earlier development at certain nodes that reinforces the regional transit pattern.

**Neighborhoods include:**
- Single-use housing pods
- Shop centers
- Business parks, including industrial
- Schools of every level
- Recreational open space

**Step 4**
The areas within the urban boundary are vested for the provisions of the TND Ordinance. Establishing a faster, proactive permitting process encourages earlier development at certain nodes that reinforces the regional transit pattern.

**Neighborhoods include:**
- Greenfield development
- Grayfield development
- Infill Development
- Urban extensions
- Suburban retrofit
- Parkway intersections
- Rail stops

**Step 5**
Permit all types of development other than TND’s as districts, only through a public review process leading to a variance, intended to be a disincentive. Specifically discourage the unjustifiable districts of CSD that consist of single-use housing subdivisions, single-use retail (shopping centers), and single-use workplace (business parks).

**METHOD B: IMPLEMENTATION BY RURAL BOUNDARY**

**Step 1**
Designate certain rural areas. Determine these areas, irrespective of property lines, being careful to use authentic (defensible) technical, environmental, cultural, and aesthetic criteria. Circumscribe these areas with a rural boundary line. The greenbelt has two subcategories: preserve and reserve. A preserve is a designation applied to areas intended never to be urbanized. A reserve is a designation applied to areas intended for temporary preservation until release for urbanization.

A release is the process of redesignating reserved land for urbanization according to established criteria.

**Rural Zones include:**
- Waterways and larger wetlands
- Unique scenic areas
- Habitat for diverse species
- Steep slopes
- Forest, groves and woodlots
- Cultural and historic resources
- Specialized agriculture
- View sheds for highways
- Current and future parks

**Step 2**
Connect the rural areas by a network of corridors. Map the corridors, leaving the specific trajectories somewhat flexible and establishing minimum standards for each type.

**Corridors include:**
- Natural corridors for wildlife
- Blazed trails
- Greenways for bicycles and pedestrians
- Parkways for motorized vehicles
- Reservations for rail lines
• Building Key: a system for the classification of buildings which specifies five attributes: The zoning category for which the building is suitable; the market segment which the building can fulfill; the minimum lot width that will accommodate the building; the building’s general type; the general climatic region to which the building responds.

The building key operates as a search engine by the selection of any one of the attributes. The selection of additional attributes increases the specificity and narrows the available range. The system was developed to coordinate the construction documents of the plan service industry with transect practice.

Buildings considered suitable for a TND, will be assigned a specific building key upon application to the Town Planning Institute.

The building key is a copyrighted system available to plan services and pattern books, The Town Planning Institute c/o The University of Miami School of Architecture, Coral Gables, FL 33123. The plans will be available in books and through the Internet.

Building Key Alt 1

Building Type
- Edge Yard
- Side Yard
- Rear Yard
- Court Yard
- Specialized

Climatic Region
- Warm Humid
- Warm Dry
- Cool Humid
- Cool Dry

Lot Width
- WH
- WD
- CH
- CD

Zoning Categories
- T2 Rural
- T3 Suburban
- T4 General
- T5 Center
- T6 Core

Program Type
- P1 Non-Family Residential
- P2 New-Family Residential
- P3 Full-Family Residential
- P4 Post-Family Residential
- P5 Restricted Flex
- P6 Limited Flex
- P7 Open Flex
- P8 Civic

Building Key Alt 2

Sites
- General Urban - Urban Center
- Rural Preserve
- Rural Reserve
- Sub Urban
- General Urban
- Urban Center
- Urban Core
- District

Buildings
- Mixed Use Building
- Apartment Building
- Flex House
- Row House
- Sideyard House
- Cottage
- House
- Villa

User
- Single / Couple
- Small Family
- Full Family
- Post Family
- Live / Work

Style
- Arts & Crafts
- Classical
- Coastal
- Colonial
- Italianate
- Mediterranean
- Modernist
- Victorian
- Cape Cod

Sizes
- Residential: 1,800 sq ft.
- Commercial: 475 sq ft.

Example of Use Alt 2
### USE CATEGORIES

The zoning categories enable a broad range of activity throughout the urban fabric. This is in contrast to the zoning of CSD that assigns different uses to sectors, at the minimum separating dwellings from shopping and from workplaces. While this is justified for certain categories of noxious activities, the absolute of this technique is usually unwarranted.

Mixed-use, while permeating the TND, is subtly variegated. This is in response to desired lifestyles ranging from isolated socialization, all of which should be accommodated within the neighborhood structure. Accordingly, a TND use code must incorporate a system for grading the intensity of mixed use. This is proposed under the categories of Restricted, Limited, and Open. Within each of these, a calibrated measure of mixed use is permitted. These three categories are applicable to buildings and lots held in private ownership.

There are two additional categories for buildings and open spaces held in common: Public and Civic. Public designates places administered by a governmental organization such as a park board or a school board. Civic designates places held in private but functioning communally, such as religious, cultural, environmental, or educational institution. A special category: Specialized, is assigned to uses with negative social or environmental consequences. These are permitted only through variance. Examples range from big-box retail, promoting vehicular use, to vending machines that undermine cafes.

<table>
<thead>
<tr>
<th>Restricted</th>
<th>Limited</th>
<th>Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential: premises available for long-term human habitation or means of ownership and rental, but excluding short-term letting of less than a month's duration.</td>
<td>Restricted Residential: the number of dwellings is restricted to one within a principal building and one within an ancillary building, and by the requirement of one assigned parking space for each dwelling. Both dwellings shall be under single ownership (e.g.: houses &amp; cottages).</td>
<td>Open Residential: the number of dwellings is limited by the requirement of 1.5 assigned parking spaces for each dwelling, a ratio which may be reduced according to the shared parking standard (e.g.: apartment buildings &amp; rowhouses).</td>
</tr>
<tr>
<td>Lodging: premises available for short-term human habitation, including daily and weekly letting.</td>
<td>Limited Lodging: the number of bedrooms available for lodging is limited by the requirement of one assigned parking space for each bedroom, in addition to the parking requirement of two spaces for a dwelling (e.g.: guest cottage).</td>
<td>Open Lodging: the number of bedrooms available for lodging is limited by the requirement of one assigned parking space for each bedroom, a ratio which may be reduced according to the shared parking standards. Food service may be provided only in the morning (e.g.: bed &amp; breakfast inn).</td>
</tr>
<tr>
<td>Office: premises available for the transaction of general business, but excluding retail sales and manufacturing.</td>
<td>Limited Office: the area available for office use is limited to the first story of the principal building and/or to the ancillary building, and by the requirement of one assigned parking space for each 250 sq ft, in addition to the parking requirement for each dwelling (e.g.: home office).</td>
<td>Open Office: the area available for office use is limited by the requirement of one assigned parking space for each 250 sq ft of gross office space, a ratio which may be reduced according to the shared parking standards (e.g.: corporate office).</td>
</tr>
<tr>
<td>Retail: premises available for the commercial sale of merchandise and prepared foods, but excluding manufacturing.</td>
<td>Limited Retail: the area available for retail use is limited to the first story of buildings within residential buildings, with the exception that one neighborhood storefront (at the first story of a corner location) shall be permitted for each 300 dwelling units (e.g.: corner store, cafe, newsstand, art store, bookstore).</td>
<td>Open Retail: the area available for retail use is limited by the requirement of one assigned parking space for each 250 sq ft of gross retail space, a ratio which may be reduced according to the shared parking standards (e.g.: shopfront, store).</td>
</tr>
<tr>
<td>Manufacturing: premises available for the creation, assembly, and repair of artifacts including their retail sale except such acts which create adverse impacts.</td>
<td>Limited Manufacturing: the area available for manufacturing use is limited to 500 sq ft within the first story of the ancillary building. Artifacts shall not be stored in the yard. There shall be no parking requirement assigned to this use (e.g.: home workshop, artist studio, woodcraft, furniture refinishing, bicycle repair).</td>
<td>Open Manufacturing: the area available for manufacturing use is limited to the building and a contiguous yard to its rear circumscribed by a solid masonry wall no less than 8 ft high. The parking requirement shall be negotiated according to the specific manufacturing activity (e.g.: warehouse).</td>
</tr>
<tr>
<td>Civic: premises available for not-for-profit organizations dedicated to religion, arts and culture, education, government, social service, transit, and the like.</td>
<td>Limited Civic: civic uses are conditional by approval of the Planning Board.</td>
<td>Open Civic: civic uses are conditional by approval of the Planning Board.</td>
</tr>
</tbody>
</table>

### IMPLEMENTATION

<table>
<thead>
<tr>
<th>Districts</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>RestRICTed</td>
</tr>
<tr>
<td>T3 Sub-Urban</td>
<td>Restricted</td>
</tr>
<tr>
<td>T4 General Urban</td>
<td>Limited</td>
</tr>
<tr>
<td>T5 Urban Center</td>
<td>Open</td>
</tr>
<tr>
<td>T6 Urban Core</td>
<td>Open</td>
</tr>
<tr>
<td>Specialized</td>
<td>Uses that are allowed only through the creation of a District by variance. These include: adverse impacts in General: uses with negative consequences on adjacent lots, usually as a result of noise, vibration, odor, pollution, or socioeconomic disruption. Consequences confined to the lot boundary are not considered to create adverse impact. Drive-through commercial where patrons remain in automobiles, except service stations, book and video drops, and banking facilities. Vending machines, except within buildings. Detached signs and billboards. “Big-Box” retail with parking lot on the street frontage. Industrial enterprises emanating noise, vibration, or smell beyond the boundary of its site. Commercial kennels and animal husbandry. Prisons except as accessories to police stations. Terminals for large scale transportation except bus terminals. Depots for large scale storage or distribution of goods. Scrap yards for the processing, storage and disposal of waste materials, except recycling collection centers. Automotive sales; service and repair permitted. Golf courses and other large open spaces including nurseries. Mineral extraction or mining. Cell phone towers. Labor pool buildings, half-way houses, and more.</td>
</tr>
</tbody>
</table>
Symbol System - Zoning: The current system of graphic symbols is thoroughly contaminated by conventional sub-urban zoning practice, showing categories that are single-use and single-density.

TNDs conceive every category as a gradation of mixed-use, with the district being the sole exception.

Conventional Suburban Development conceives categories as fixed. TND’s envision an evolution, with each zone upzoned over time into the next more urban condition. The proposed symbol system responds to such evolution by the densification of the line pattern or the darkening of the color.

Source: Derived from British Imperial practice 1900-1930.
Rebalancing a Sector: the techniques that may be applied toward the revitalization of existing troubled neighborhoods and main streets.

Suburban Retrofit: the techniques that may be applied toward the conversion of existing conventional suburban developments to balanced use. Suburban retrofits are uniformly difficult as CSD zoning is ordinarily rigid and the attendant regulatory process is adverse to change once the zoning is granted. Each of the single-use zones of CSD requires a different retrofit strategy as follows:

1. Housing Pods may be converted to balanced use by selecting appropriate sectors for rebuilding as denser types, others for mixed-use, and yet others for retail, workplace, squares, and civic sites. This is difficult to accomplish if a homeowners’ association is chartered in terms of voting ratios which discourage any sort of change. The mechanism is to grant additional balanced use zoning to the housing subdivision with the existing residents taking the profit, but even this must usually be done across staff opposition.

2. Shopping Centers may be converted to balanced use by concentrating the parking onto decks, thus liberating the surface parking for building sites dedicated to residential and office use. This is difficult to accomplish as all but the most successful shopping centers have a drive-by clientele that requires visible and convenient frontage parking. The mechanism is to grant additional balanced use zoning to shopping centers, allowing the market to operate.

3. Office Parks may be converted to balanced use by concentrating the parking onto decks, thus liberating the surface parking for building sites dedicated to residential and retail use. This is feasible because an office park has a destination (captive) clientele that requires visible and convenient frontage parking. The mechanism is to grant additional balanced use zoning to shopping centers, allowing the market to operate.

Review Marketing: the conventional analytical technique of projecting sales potential by researching the sales profile of the recent past. This approach is allergic to innovation, sluggish in discerning trends, and incapable of establishing unprecedented niche markets such as those for new build-ups and flex houses. Review marketing undermines the typological range necessary for Traditional Neighborhood Development. At its most destructive, this procedure funnels identical types into a cycle of overbuilding. A better method involves the use of focus groups.

Sales Velocity: the rate at which sales of real estate must take place in order to carry the costs of development. There are negative consequences to urbanization at a high rate, the most insidious of which is the difficulty of implementing sequential design, with its intrinsic feedback loop. Authentic variety (the equivalence of bio-diversity) is dissipated when the design process is thus compressed in time, and problems, when they emerge, tend to persist with a momentum beyond reason.

Marketing Strategy: the sales sequence which involves the introduction and explanation of a residence to the potential buyer. For TDNs, this entails a deprogramming from the usual amenities of gateway, golf course, cul-de-sac, gated prestige, and commodification by size of house or lot.

Catalytic Project: a project that, by virtue of its economic success, becomes a model of development, providing confidence and market comparables. The catalytic project is the most likely strategy to introduce change within a regulated but market-driven industry.

Amenity: An asset, extraneous to the dwelling which adds value. The most desirable assets are views (shore, golf frontage and mountain); security (gates, roving patrols, alarm systems); prestige (high-price range, civic ornaments); location (proximity, accessibility, visibility, climate); activity (skiing, golf, water, clubhouse); and community. The last is the only amenity that does not entail additional developmental cost.

Location: a factor which, as propagated by the adage ‘location, location, and location,’ is considered the foremost determinant in the decision to purchase. This may be an easy criteria in the practice of CSD. However, a preponderance of excellence in location is invariably associated with high-cost of land acquisition. Location is created by proximity to a desirable factor such as transportation (an airport or an important thoroughfare), a waterfront, a slope, a long vista, a pleasant climate, a popular sport (such as skiing), or a desirable community. Location may also be proactively created by the construction of an amenity such as a golf course, although this is expensive. The only method to economically achieve the value added by location is to create it on ordinary land through TND practice.

Urban Increment: the size of a phase of urbanization, the minimum phase being the buildings along both sides of a thoroughfare, a standard phase being the neighborhood. The completion of both sides of a thoroughfare creates the enclosure of public space which is one of the tangible differences between CSD and TND. The completion of a neighborhood confirms the full range of differences.

Starting Density: the initial build-out of a TND, with the implied expectation that it will evolve. A TND matures over time, usually increasing in density, becoming more urban in character, and larger in area. Thus a hamlet may become a village by acquiring a viable commercial center; a village may become a town by aggregating neighborhoods; ultimately a town may become a city by molting its building stock to a higher density. This organic process of growth is impossible with the zoning codes of CSD, which fix density and all other physical aspects as rigidly and permanently as possible. In contrast, the technique of a TND fixes only that which must be predictable, but permits other aspects to evolve. This includes the flexibility inherent with the platting module (the rod), as well as coding by type rather than statistically. Also, certain streetscapes are dimensionally interchangeable, thus a road can become a street as its character becomes more urban. There is in this flexibility a certain agility of response to shifting markets. A community, like all organisms, is either in the process of maturation or decay; it is either responsive or vulnerable. The single-use zones of CSD (shopping centers, office parks, etc.) are inherently fragile in their rigidity.

Location: an asset, extraneous to the dwelling which adds value. The most desirable assets are views (shore, golf frontage and mountain); security (gates, roving patrols, alarm systems); prestige (high-price range, civic ornaments); location (proximity, accessibility, visibility, climate); activity (skiing, golf, water, clubhouse); and community. The last is the only amenity that does not entail additional developmental cost.

Collateral Material: material which supports the sales effort of real estate development. This usually involves a sales center andbrochures. Because TDNs justify additional explanation, sometimes a videotape is warranted. Because the TND responds very specifically to each demographic segment, the collateral should be equipped with targeted modular inserts. Included in TND collateral material is a town or village seal (rather than a logo) as well as a newspaper as a means to respond to the fluid evolution that is typical of a TND.

PLR Process: path of Least Resistance Permit. An incentivized process encouraging certain types of development (presumably neighborhoods) over others. A PLR usually involves a high degree of reliability: faster, date-certain approvals, reliable density and protection from the vagaries of the “public process”. These are normal conditions becoming incentives only when in contrast to an existing process laden with friction, expense and uncertainty. The intention of a PLR is “to make the good easy and the bad difficult.” - Le Corbusier.

Area Calculations: the measure, usually stated in acres, of the land area available for various purposes. The Total Area is the area of the entire parcel or the sector in question. The developable area is the total area minus wetlands, steep slopes etc. The buildable area is the developable area minus R.O.W.s, parks, squares, playgrounds etc. The Buildable Area ranges from 50% to 65% in a typical New Urbanist greenfield project. Source: Zimmerman-Volk.

Source: Zimmerman-Volk.

© 2002 Quany Plater-Zyberk & Company (Version 3.2).
Zoning: the technique of assigning certain uses to certain sectors on a regulating plan. While technically neutral, zoning has come to be associated with the segregation of typical uses of CSD and thus (in the opinion of Leon Krier) is intrinsically tainted. Nevertheless, TND uses the technique to assign types to Core, Center, General, and Edge Zones, though all are mixed use.

Zoning Map: a crude plan, common to CSD which assigns specific uses to certain sectors. A proper regulating plan controls a host of additional prescrip-
tions including thoroughfare types, build-to-lines, retail frontages, and the location of terminated vistas. See: Regulating Plan

Sky Exposure Plane: the area calculated to be free of shadows cast by adjacent building(s). Preserving a Sky Exposure Plane on certain windows, yards and sidewalks should be a significant site planning in cold climates.

Environmental Zoning: the type of ordinance that discounts from density calculations those portions of land that are environmentally sensitive, thereby reducing overall density. This creates a disincentive for developing densely and encourages sprawl, unlike cluster zoning, which retains the allocated density.

Environmental Zoning: a code which is available as an op-

ion over existing zoning. An overlay code technically increases the possibility without undergoing the political difficulty of rescinding an existing code. A TND Ordinance is usually implemented as an overlay code, which is then incentivized over the existing one by higher density and faster permitting.

Boundary Lines: st/bd

Sky Exposure Plane: the area calculated to be free of shadows cast by adjacent building(s). Preserving a Sky Exposure Plane on certain windows, yards and sidewalks should be a significant site planning in cold climates.

Environmental Zoning: the type of ordinance that discounts from density calculations those portions of land that are environmentally sensitive, thereby reducing overall density. This creates a disincentive for developing densely and encourages sprawl, unlike cluster zoning, which retains the allocated density.

Environmental Zoning: a code which is available as an op-

ion over existing zoning. An overlay code technically increases the possibility without undergoing the political difficulty of rescinding an existing code. A TND Ordinance is usually implemented as an overlay code, which is then incentivized over the existing one by higher density and faster permitting.

Boundary Lines: st/bd

Environmental Zoning: the type of ordinance that discounts from density calculations those portions of land that are environmentally sensitive, thereby reducing overall density. This creates a disincentive for developing densely and encourages sprawl, unlike cluster zoning, which retains the allocated density.

Boundary Lines: st/bd

Environmental Zoning: the type of ordinance that discounts from density calculations those portions of land that are environmentally sensitive, thereby reducing overall density. This creates a disincentive for developing densely and encourages sprawl, unlike cluster zoning, which retains the allocated density.

Environmental Zoning: a code which is available as an op-

ion over existing zoning. An overlay code technically increases the possibility without undergoing the political difficulty of rescinding an existing code. A TND Ordinance is usually implemented as an overlay code, which is then incentivized over the existing one by higher density and faster permitting.

Boundary Lines: st/bd

Environmental Zoning: the type of ordinance that discounts from density calculations those portions of land that are environmentally sensitive, thereby reducing overall density. This creates a disincentive for developing densely and encourages sprawl, unlike cluster zoning, which retains the allocated density.

Environmental Zoning: a code which is available as an op-

ion over existing zoning. An overlay code technically increases the possibility without undergoing the political difficulty of rescinding an existing code. A TND Ordinance is usually implemented as an overlay code, which is then incentivized over the existing one by higher density and faster permitting.

Boundary Lines: st/bd

Environmental Zoning: the type of ordinance that discounts from density calculations those portions of land that are environmentally sensitive, thereby reducing overall density. This creates a disincentive for developing densely and encourages sprawl, unlike cluster zoning, which retains the allocated density.

Environmental Zoning: a code which is available as an op-

ion over existing zoning. An overlay code technically increases the possibility without undergoing the political difficulty of rescinding an existing code. A TND Ordinance is usually implemented as an overlay code, which is then incentivized over the existing one by higher density and faster permitting.

Boundary Lines: st/bd

Environmental Zoning: the type of ordinance that discounts from density calculations those portions of land that are environmentally sensitive, thereby reducing overall density. This creates a disincentive for developing densely and encourages sprawl, unlike cluster zoning, which retains the allocated density.

Environmental Zoning: a code which is available as an op-

ion over existing zoning. An overlay code technically increases the possibility without undergoing the political difficulty of rescinding an existing code. A TND Ordinance is usually implemented as an overlay code, which is then incentivized over the existing one by higher density and faster permitting.

Boundary Lines: st/bd

Environmental Zoning: the type of ordinance that discounts from density calculations those portions of land that are environmentally sensitive, thereby reducing overall density. This creates a disincentive for developing densely and encourages sprawl, unlike cluster zoning, which retains the allocated density.

Environmental Zoning: a code which is available as an op-

ion over existing zoning. An overlay code technically increases the possibility without undergoing the political difficulty of rescinding an existing code. A TND Ordinance is usually implemented as an overlay code, which is then incentivized over the existing one by higher density and faster permitting.

Boundary Lines: st/bd

Environmental Zoning: the type of ordinance that discounts from density calculations those portions of land that are environmentally sensitive, thereby reducing overall density. This creates a disincentive for developing densely and encourages sprawl, unlike cluster zoning, which retains the allocated density.

Environmental Zoning: a code which is available as an op-

ion over existing zoning. An overlay code technically increases the possibility without undergoing the political difficulty of rescinding an existing code. A TND Ordinance is usually implemented as an overlay code, which is then incentivized over the existing one by higher density and faster permitting.

Boundary Lines: st/bd

Environmental Zoning: the type of ordinance that discounts from density calculations those portions of land that are environmentally sensitive, thereby reducing overall density. This creates a disincentive for developing densely and encourages sprawl, unlike cluster zoning, which retains the allocated density.

Environmental Zoning: a code which is available as an op-

ion over existing zoning. An overlay code technically increases the possibility without undergoing the political difficulty of rescinding an existing code. A TND Ordinance is usually implemented as an overlay code, which is then incentivized over the existing one by higher density and faster permitting.

Boundary Lines: st/bd

Environmental Zoning: the type of ordinance that discounts from density calculations those portions of land that are environmentally sensitive, thereby reducing overall density. This creates a disincentive for developing densely and encourages sprawl, unlike cluster zoning, which retains the allocated density.
• Gable Garbage: a residential sector where a primary amenity is a circumventing wall that symbolizes security for purposes of marketing. This wall, if complete, and when coupled with a guarded entrance, may actually provide the reality of security.

• Big Hair House: a house where the roof is unnecessarily enlarged in order to feature the roof tile as a primary aesthetic. This is an effective but costly practice. More economical is to compute a distinguished facade.

• Pretenders: a house or a project displaying the superficial attributes of a TND for the purposes of marketing advantage. These usually involve porches, picket fences, a gazebo and a town square. Pretenders seriously undermine the concept of TNDs as they are similar enough to be confusing but fail to deliver the expected symbolic and environmental benefits.

• Gable Garbage: the contrivance of displaying as many gables as possible on the facade of a building in order to precluding more desirable elements, such as a back fence, a gazebo and a town square. The practice is not without drawbacks:
  1. Excessive articulations diminish the spatial enclosure of the thoroughfare, which is itself of market value.
  2. The budget is usually exhausted by these efforts, leaving no resource for the articulation of the rear yard in order to create outdoor privacy, this also being of great market value.

• North Dallas Special: a type of house laden with the architectural symbology of upper class inhabitation, displayed in grossly exaggerated form for很高 purposes of marketing. The term alludes to the particular concentration of this mutation in the suburbs north of Dallas, although the phenomenon is by no means confined to this region. The manifestation consists of a very complex roof form, a great deal of articulation of the plan ("breaking the knot"), the use of a great variety of window shapes with arches in abundance; a double-height portico ("entry feature"), a more expensive material on the front facade (brick, stone) with cheaper cladding (vinyl) to the sides and rear; and a thin veil of classicism (corns, entablatures, pediments, columns) constrained by no known canon. Certain compositional flaws are the consequence of the attempt to incorporate the variety of a large mansion into a house of middling size. The marketing is referenced as "curb appeal".

• Curb Appeal: the physical attributes, usually of a single-family house, which are thought to catalyze the decision to purchase. The allusion is to the top of the house as seen from the street curb, this being a controllable variable while all other aspects, such as cost, size, and convenience, are usually commodified to the point of parity with the competition. The general strategy of curb appeal is to agglomerate onto the facade as many articulations, gables, hyper-arches, window shapes, and as much classifying detail as the budget will allow. While the result may appeal to popular taste, the practice is not without drawbacks:

  1. Excessive articulations diminish the spatial enclosure of the thoroughfare, which is itself of market value.
  2. The budget is usually exhausted by these efforts, leaving no resource for the articulation of the rear yard in order to create outdoor privacy, this also being of great market value.

• CPTED: the application of behavioral and social science to physical design in order to minimize the actuality and the perception of crime. A specialty initiated by Oscar Newman, its main prescriptions are:
  1. Windows overlooking public space; eyes on the street.
  2. Clear assignment and demarcation of open space to public or private ownership, minimizing semi-public space.
  3. Delimitation of private open space by fences and walls.
  4. Adequate illumination. Provision of clear sight lines by straight passages; elimination of dense, low-lying vegetation and other potential hiding places.
  5. Curtailment of drive-by traffic by strangers creating discontinuous thoroughfares. All but the last are intrinsic to TND practice.

• Community Policing: the practice of crime prevention by assigning a police officer permanently to a specific sector for surveillance by foot or bicycle patrol. Community policing differs from the common practice of responding to emergencies by patrol car on a city-wide basis. It depends on the personal knowledge and observation of the police officer to discern potential crime before its occurrence. Community policing is technically impossible within the anti-pedestrian pattern of CSD.

• Community Council: the democratic, incorporated organization of owners of lots and buildings, including a measure of representation by apartment renters and retail tenants. The articles of incorporation of a council refer to an approved code, set standards for building construction and maintenance, and provide for the management of public tracts and the ongoing construction of civic improvements by special assessment. A community council, unlike the common homeowner’s or property owner’s association, accounts for the increase in the value of a TND, by including renters and tenants as well as owners, enfranchising all property owners as well as those who rent their dwellings and lease commercial premises. The community council integrates mixed-use and inclusive housing. It is an association which enfranchises all property owners, as well as those who rent their dwellings and lease commercial premises. This type of corporate entity does justice to the community of a TND which integrates mixed-use and has inclusive housing.

• Homeowners’ Association: an association common to CSD which enfranchises only the owners of residential properties.

• Property Owners’ Association: an association which enfranchises the owners of commercial as well as residential properties.

• Tenants’ Association: a Tenants’ Association is a Homeowners’ Association common to CSD, which enfranchises only the owners of residential properties. A Tenants Association enfranchises all property owners as well as those who rent their dwellings and lease commercial premises. It is the type of corporate entity that does justice to the community of a TND by integrating mixed-use and inclusive housing.

• Proprietor: the person or corporation responsible for the maintenance of a building. The proprietor of rental apartments or a commercial building has a particular responsibility for the ongoing vitality of the neighborhood and may be subject to controls by a community council. This practice is absent in CSD homeowners’ associations.

• Covenants & Restrictions: tbd
Charrette: term common to architects, meaning to work continuously and quickly toward an impending deadline. It is derived from the French for little cart. Architecture students at the Ecole des Beaux Arts in Paris had their drawings taken by such a cart to be judged by the assemblé professors. The carts approach was heralded by frantic work. The modern usage refers to a design process taking place in proximity to the site and in the presence of those affecting and affected by the outcome, generally the neighbors, developers, elected officials, and administrators. All who will ultimately pass judgment upon it. The process tends to catalyze agreement by engaging in ongoing negotiation during the stage of maximum flexibility, at the moment of conception. The principal advantages of a charrette are the efficiency of the process, the assimilation which it entails, and the accurate response to problems and opportunities. Ultimately, the purpose of a charrette is to give those concerned enough information to make rational decisions.

Workshop: a public design process similar to a charrette but differing in the degree of completion attained. A workshop produces the final design proposal outside the presence of the public.

Pedestrian Network Diagram: an analytical diagram which is generated as an overlay of a master plan drawing, extracting and displaying only those public areas which are dedicated to the pedestrian. The drawing shows the open spaces as well as sidewalks, passages, and paths, excluding vehicular pavement. A network plan verifies the connectivity of the pedestrian trajectories as well as the logical declension and balance between a multitude of development initiatives.

Sequential Design: a process of town planning which systematically exploits the factor of time in order to achieve character. The planning phase, rather than being carried out by a committee, is designed working sequentially. The building phase, rather than being designed by a single architectural team, is carried out by designers working independently over time. This process replicates, albeit in accelerated form, the historical development of an urban fabric. The authentic variety which ensues, and its gradual evolution, is the essence of its character.

Compositional Urbanism: a planning technique defined by: A foundation project establishing a fixed, priori figure of buildings, public open space and landscape; its execution in large-scale, predictable increments; their assembly over time that realizes strictly the form of the original project; and construction depending on a singular public and private authority. Source: Stef Polyzoïdes

Combination Urbanism: a planning technique defined by: An open-ended foundation establishing a field of development possibilities: type-based coding offering a menu of coordinated projects, buildings, public open spaces, and landscapes; the build-out over time incremental and relatively unpredictable; a balance between a multitude of development initiatives and civic oversight necessary during construction. Source: Stef Polyzoïdes

TOWN ARCHITECT: a regulator who administers the TND codes by verifying the compliance of submitted building designs. Ideally, this is a straightforward technical procedure requiring consultation by a committee only in the event that a variance is required. The town architect is also responsible for the design of the public spaces and their furnishing. The town architect is retained by a municipality or a community council.

Regulators: the staff and the procedures created to scrutinize projects for compliance with the codes and to grant permits. In TND practice, the office of the town architect, initially under the auspices of the community council, evolves into the municipal bureaucracy upon incorporation as a town. The procedures of regulators should be technocratic, rather than subjective or by committee opinion. As Jorge Luis Borges wrote: “Bureaucracies, to be effective, must be slow and impersonal, in the manner of planets and vegetables.”

Master Developer: the person or corporation responsible for the acquisition, design, permitting, financing, construction, marketing, and sale of the infrastructure and the buildings which are the product of the master developer. The master developer of a TND should be a founder.

Founder: the person responsible for the character of a community. This includes the conception of the community council documents, the support of nascent civic cultural institutions, and the attraction of merchants and residents of character. The founder provides the sociocultural software which enlivens the economic and infrastructural hardware provided by the master developer. See: Community Council

Builder: the developer of buildings, as opposed to the master developer individual or developer of the community. The developer (or Town Founder in the case of TNDs) creates and implements the master plan and code that the builder must follow. There is a naturally adversarial relationship between the master developer and the builder. The former tries to elevate the quality of the building to raise the value of the remainder of the landholding. The latter usually tries to build as economically as possible. A fixed price is attributed to a specific market segment, and the profit is the difference between the cost and selling price. The codes that are part of the master plan help maintain the builder’s standards and generate the predictability of the community which is a marketable asset.
**Hedgerow**: a hedge composed of trees.

**Fence**: permeable metal or wooden wall, independent of a building, located along a frontage line. Fences demarcate the public and private realms, separating the lot from the streetscape. Fences are appropriate for the more rural zones of the Transect. Fences may be used in conjunction with porches to provide the element of social inhabitation while controlling trespassing. See: **Street Wall**

**Deck**: a roofless floor structure, at rooftop or ground level specifically allowed to encroach into a yard. A deck is similar to a terrace but made of boards.

**Hedge**: an alignment of tightly growing shrubs. Hedges serve to delineate boundaries, to block winds and to define compartments within open spaces. A hedge is one of the variants of an urban street wall, performing a masking role along a frontage. It should be composed of an evergreen species.

**Palisade**: a fence made of small tree trunks vertically inserted into the ground. This and the splinter fence are the most rural of street walls.

**Screen**: a wall, a trellis, or a row of trees designed specifically to define a space, mask an undesirable view, or create more privacy. Also applicable to the interior of a building.

**Street Trees**: trees of a determined species selected for planting along a thoroughfare. Street trees should be selected for availability, durability, resistance to disease, and formal attributes in support of the urban intention of the transect. Street trees may be selected for shade in warm climates where the frontage setback is available, and they must be selected for their tight silhouettes on urban streetscapes where front setbacks are shallow.

**Shade Tree**: tbd

**Required Planting**: That portion of the landscaping which must be supplied and installed by code. Planting of street trees and the landscaping of open spaces is required of the master developer (the Founder). The trees on the private lots are required of the builder/developer or owner. The size and description of the required planting is controlled by the landscape regulations. The responsibility for the maintenance rests on the community council for the planting on public tracts, and on the property owner for the planting on private lots.

**Signage**: the graphic technique of imparting verbal and symbolic information, especially when applied to a building.

There are four fundamental types of signage:

1. **Traffic signs and signals that are standardized by speed/perception research.**
2. **Highway signs that are independent of a building, especially where the building is at some distance from the traffic.** This type of sign, to be effective at the speed and distances from which it must be seen, must be large, elevated and usually internally illuminated. It is often considered a visual blight and controlled by ordinance. 3. **Signage that is applied directly to a building and referred to as building signs.** 4. **Signage that is perpendicular to a building façade, to be seen by the pedestrian passerby, also referred to as blade signs.**

While the first is associated with highways and already degraded strip development, it manifests a certain viability. See: Learning From Las Vegas. Venturi et al. The latter two, however, must be controlled to be symbolic with the associated building. It is possible to conclude that there are three fundamental rules necessary to achieve signage of architectural dignity:

1. That it is no more than 30 inches high by any length.
2. That it is externally illuminated, not translucent, although back lighting is acceptable.
3. That it is designed concurrently and coherently with the façade or shopfront with which it is associated, sharing composition, material, and color.

**Architectural Tectonics**: the visual configuration of a building derived from the materials and methods of its construction.

**Architectural Harmony**: in urbanism, the condition of buildings sharing tectonic expression. A mixed-use sector requires a high level of harmony among its buildings to absorb the variety of uses.

**Harmony**: a quality generally held to be agreeable. Harmony in urbanism is primarily a visual phenomenon, derived from a compatible architectural syntax. This includes size, proportion, material, and color. Harmony is an important tool with TND, as it enables the necessary variety of building uses and types to coexist in close proximity.

**Proportion**: the ratio of the height to the width of a figural plane, solid, or space. Figures with similar proportions are intrinsically compatible visually, leading to harmony between buildings of different uses and by different designers. Compatible proportions are usually secured by coding, particularly by prescriptions within the architectural regulations pertaining to porches, fenestration, and roof slope.

**Tectonics**: the materials, techniques and configurations of building, the basis of architectural style. Architectural codes, when properly executed, are based upon the open system of tectonic elements, not upon the closed system of resolved details. Example: The Celebration Pattern Book.

**New Blight**: a building in such disharmony with the adjacent urban fabric in function, disposition or configuration, that it immediately reduces the value of the real estate in its proximity. Dingbats, parking lots, high schools, and collections of affordable housing usually have this effect. The optics of American inner cities seldom offer protection from this phenomenon. CSD practical, to its credit, is precise in the avoidance of the negative effect. It is an important function of TND codes to emulate this practice.

**Style/Fashion**: style is a permanent attribute of design. Fashion is subject to short-term cycles. The coding of an architectural syntax should endeavor to achieve style rather than fashion, as the urban fabric is a long-term proposition. Earlier buildings should not be out of fashion while the construction is still in process.
• Gallery Frontage Lines: those lot lines required to provide a covered gallery over the adjoining sidewalk. Arcade Frontage Lines: those lot lines required to provide a covered arcade spanning the sidewalk.

• Retail Frontage Line: those lot lines required to provide a storefront making the ground level available for commercial use.

• Focus Point: the location at the axial termination of a thoroughfare. A building at a terminated vista may be required by the Regulating Plan to receive the axes by articulation of the facade. Syn.: Terminated Vista

• Solar Building: a building disposed uniformly toward the most advantageous solar orientation. The resulting urbanism is usually buildings in parallel rows, incapable of defining a streetscape, establishing a facade or clearly differentiating public and private open space. Such a specialized concern has given solar buildings a bad reputation as urban buildings. This deficiency can be overcome by certain strategies followed individually or in combination:
  1. Allow the solar disposition of buildings on their lots, then resolve the frontage requirements by means of street walls.
  2. Dispose the buildings on their lots according to the requisites of the frontage, then resolve the variable solar orientation by specialized architectural elements such as massing controls, fenestration, overhangs, porches, balconies and differential insulation.

• Solar Thoroughfares: thoroughfares specifically designed for the sake of pedestrian comfort. In cold climates, solar thoroughfares running east-west have the sidewalk on the northern side, which is favored by sunlight as the southern sidewalks are shaded by buildings. In hot climates, the reverse is true, with the favored sidewalk to the south and the provision of street trees along the north to shade the sidewalk.

• Building Envelope: the maximum potential configuration of a building as determined by the code. The actual configuration of building is usually subtractive from the building envelope, except at mandatory build-to-lines.

• Enclosed Building Area: the measure of the area of a building for purposes of calculating floor area ratios and parking ratios. The enclosed building area calculation excludes porches, loggias, arcades, and patios, as these are considered to be of social utility, not to be disincentives.

• Lot Coverage: the maximum area of a lot which may be occupied by a structure. Lot coverage is expressed as a ratio. Arcades, open porches, decks, terraces, and stoops are excluded from the calculation.

• Parking Ratio: the relationship, fixed by code, between parking quantity, building use, and building size. Parking ratios are one of the determinants of building size along with floor area ratio (FAR), lot coverage and bulk controls. Parking ratio is usually the determinant, limiting building size. There are three conditions of parking which establish thresholds:
  1. No parking required. This is an exceedingly rare situation. While “downtown” income codes sometimes allow this, lending criteria and the reality of automobile use create a parking requirement nevertheless. Only in Manhattan and San Francisco are the densities, the use mix, the mature transit system, and the ethos such that a no-parking code is actually implemented. Parking structures. This is a rare situation which can be implemented when the value of land, the economics of the development, or the public subsidy justifies it. 3. Surface parking both in parking lots and on the street. This is a common situation which must be assumed in planning and coding unless otherwise stated. With surface parking, the constraint is masking the parking lots behind the buildings without creating excessively large blocks.

• Floor Area Ratio: tbd

• Footprint: tbd

• Double Frontage: an urban condition where a lot has more than one frontage, generally at the corner of a block. The primary frontage may be designated on the regulating plan. The secondary frontage is also called a flankage.

• Range: a set of buildings designed as a single composition. Generally applied to rowhouses.

• Liner Building: a building conceived specifically to mask a parking lot or a parking structure from the facade. Liner buildings are shallow in depth as they are conceived to mask parking without consuming it, as a conventional building would.

• Sleeve: Liner buildings on both sides of a thoroughfare to get past a difficult condition.

• Adverse Impact: the negative consequences of a use on adjacent lots, usually as a result of noise, vibration, odor or pollution. Consequences confined to the lot boundary are not considered to create adverse impact.

• Prohibited Use: premises which generate adverse impacts beyond their lot boundaries. TND codes prohibit outdoor vending machines, billboards, and local acts supporting drive-through transactions (with the exception of pedestrian stations) all of which undermine pedestrian-oriented commerce.

• Density: a measure of building in proportion to land area. Density is usually stated in units/acre for residential use and floor area ratio (FAR) for commercial use (an FAR of .5 means the built area is half the area of the lot). In theory, density is assigned as a function of zoning. In practice, the highest densities are determined by parking ratio. TNDs foster a variety of densities that correspond to a range of market segments. Core and Center Zones require the more urban attribute of higher density, while Edge and Greenedge Zones control density to provide a more rural lifestyle. See: Parking Ratio

• Shadow Density: the units or commercial building area that are to be allowed in addition to the basic zoned density, usually as an incentive.

• Mixed Use: multiple functions within the same building or the same general area through superimposition or within the same area through adjacency. Mixed use is one of the principles of TND development from which many of the benefits are in fact derived, including that of pedestrian activity and traffic capture. Suburban zoning categories specifically or by secondary consequence prohibit mixed use. TND ordinances assure it. Syn.: 24 Hour City, Day-Night Use.

• Vernacular: the common language of a region, particularly in reference to the architectural techniques. Through time and use, the vernacular has intrinsically resolved the architectural response to climate, construction technique, and to some extent, social mores. The writing of codes based on the emulation of the vernacular can dispense with basic research, resulting in design efficiency and the minimizing of errors.

• Regionalism: the thesis that the design of artifacts should be informed by the ethos of a region. Regionalism has a salutary effect on the urban pattern, a decidedly positive one on building types, and an essential one on the architectural vernacular.

• Ecological Building: a building which is constructed of materials that are, as far as possible, harvested and manufactured locally, recycled or recyclable, and derived from a renewable source. Ecological buildings are also expected to consume scant energy in maintaining the human comfort zone. Syn.: Green Building, Energy-Efficient Building

• Environmental Building: a building which is constructed primarily of materials which are nontoxic. Syn.: Healthy Building
• Roof: that element of a building that covers the top as the walls enclose the sides. The roof, perhaps more than any other tectonic element, defines a harmonious vernacular and should therefore be controlled for material, slope, and overhang by the architectural regulations.

• Eave: the junction of the wall of a building and an overhanging roof. To avoid discouraging pitched roofs, the designated maximum building height should be measured to the eave, not to the ridge of the roof.

• Gable: the orientation of a pitched roof that shows the vertical, triangular side rather than the slope. A gable facing towards a frontage individualizes a building more strongly than a shed that reads horizontally. Cite: of Alexandria, Virginia, forbids gables from facing frontages, except on civic buildings.

• Roof Overhang: the overhand cantilever of an architectural element beyond the building wall. balconies and roofs are the most common overhangs, and allowance must be made for them where setbacks are shallow. The first is by permitting an easement over the public right of way. The second is by holding a minimum setback of three to six feet and extending the sidewalks so that it is partially on private ground. The easement procedure is generally more difficult to arrange as the liability of public and private must be allocated. The degree of roof overhang and the slope are environmental and technical determinants as well as source of harmony in the building of a community.

• Roof Slope: the angle of the roof, usually stated as a ratio of vertical to horizontal. A certain slope of the roof is one of the attributes of the vernacular. It is usually an evolved technical response to rain, snow, wind, and available spanning and cladding material. This vernacular system is currently to be found undermined by efficient distribution systems with any material available anywhere and the architectural style rather than the environmental responses determining the slope.

• Fenestration: the openings which form part of a facade. Fenestration may be regulated as a ratio of the aggregate of the openings to the wall surface, and by height-to-width ratio. These ratios should be an attribute of a regional architectural vernacular. Such compatible proportions are an important determinant of visual harmony. See: Harmony

• Mullions: the subdivision of windows. Mullions were originally technique for assembling small glass panes into large windows. Mullions were inevitable when technology limited glass size, but this is no longer a determinant. They continue to be effective in creating a modicum of psychological privacy from the interior of buildings. Mullions are warranted when the distance between buildings is short, particularly with courtyards. The actual mechanism is the blinding when the eye focuses on the web of mullions rather than on the objects beyond, although the aesthetics of light and color are fully perceived.

• Color: an element of the architectural tectonic having certain environmental and aesthetic attributes. Color is useful primarily as an instrument of harmony. Wall, roof, and trim colors are generally controlled through the architectural regulations. Colors may be listed by name and number, or by reference to a single quadrant of the color wheel, where the colors are automatically harmonious. Civic buildings may be assigned a unique color to establish a semantic difference. A color may also be reserved for civic elements such as lamp posts, trash cans, and municipal vehicles. Example: the Queens Red

• Awning: an ancillary lightweight structure, usually cantilevered from a facade or an elevation, providing private outdoor space to an apartment. Balconies in great numbers, with excessive depth, tend to dematerialize the vertical plane of a facade, interfering with its role of spatial definition. A better alternative to avoid this is to use a French balcony and theloggias.

• French Balcony: a shallow balcony, almost flush with a facade, accessed by a single pair of inward-swinging doors. French balconies do not dematerialize the spatially-defining character of facades as does the "egg crate" of conventional deep balconies. French balconies virtually transform the adjacent interior room into an outdoor space.

• Tower: a tall building or portion thereof able to access a view which is distant or otherwise blocked. Ability to build a tower can increase the value of a building site not directly enfronting a desirable panorama. Providing a tower to increase density (as a high-rise) is questionable practice for several reasons:
   1. It tends to increase the parking, forcing the creation of unworthy frontages. 2. It may absorb the market, leaving similar sites empty for years. 3. It darkens with shadow and tends to degrade the privacy of all other buildings that are not towers.

• Chamfered Corner: a building corner which is cut back to a diagonal in order to permit a clear view triangle for vehicles in an urban condition of very short setback. A chamfered corner is an excellent location for the door of a commercial establishment, as it taps into the pedestrian flow from both thoroughfares.

• Phrase: a recess in a wall which may enclose a bench, a fountain, or sculpcture. An alcove is an effective device to enliven the otherwise dismal pedestrian experience of a street wall.

• Grille: a window-like opening in a street wall infilled by a perforated armature of tile, metal, or wood. Grilles permit ventilation and view while maintaining a secure perimeter.

• Gate: a door connecting one outdoor space with another. Gates have a range of material, shape, detail and sparcity, depending on the degree of privacy to be achieved, as well as the location on the Transect. The design should correspond to the wall upon which it is hung. A metal gate, for example, is not appropriate on a wooden fence.

• Trellis: a lattice-pattern frame supporting climbing plants, usually made of wood. A trellis may arch to form a tunnel, be straight as pergola or be a screen affixed to a wall.

• Arcade: a series of arches linked together, usually as an element of a building. An arcade, when over a sidewalk, is one of the most urban frontage types.

• Colonnade: a series of columns similar to an arcade but trabeated (spanned by straight lintels rather than arches). The canon of modernist architecture permits colonnades but demonizes arcades, although arcades offer superior structural performance, particularly at the moment connection.

• Loggia: an open-air room within the mass of a building with ceiling and floor but no wall on at least one side.

• Porch: an open air room appended to the mass of a building with floor and roof, but no walls on at least two sides.

• Outside Corner: the...