

The SmartCode Ethic: **Placemaking Beyond Aesthetics**

Text by Geoff Dyer
Images as credited

1. The SmartCode is a model city ordinance. Version 10 of the model code is now underway (Image: Duany Plater-Zyberk & Company).

Over the past several decades, North American municipalities have become experts at administering large parks, often at the exclusion or marginalisation of all other open spaces types. Even considering the term “green space”, one thinks first of just that: a big, green park in the context of a city. But parks are only one of a larger palette of green public spaces that collectively define the “places” of a city. Although existing squares and plazas are often maintained in the historical cores of towns and cities, the option to create new greens, plazas, and squares are often left off the menu in favour of large parks: both recreational and natural. This is because we have regulated away not only these more urban public spaces in our codes and ordinances, but also their contexts: the mixed-use, humanly scaled development patterns necessary to shape and support these spaces.

The SmartCode is a model regulatory ordinance aimed at creating more sustainable cities by enabling compact, walkable, mixed-use urbanism as an alternative to conventional zoning and development standards. Central to SmartCode is the regulation of public and private development parcels to form coherent, functional public spaces at a human scale. These places include not only large green spaces (such as parks), but also a diversity of other public places, such as greens, squares, plazas, and even urban streets. The creation and maintenance of these places, the process of which has been coined “placemaking”, in turn allow for a diversity of land uses, building types, residents, and users to coexist in a mutually reinforcing urban fabric that does not require compulsory automobile ownership. This is ultimately the foundation and prerequisite for a truly sustainable city.

Today there are over 75 adopted SmartCodes in North America including those in larger cities, such as Miami, Florida, and El Paso, Texas. As a mechanism to implement regulations aimed at more sustainable cities, this article examines the SmartCode from the Green Spaces perspective.¹

An Introduction to the SmartCode

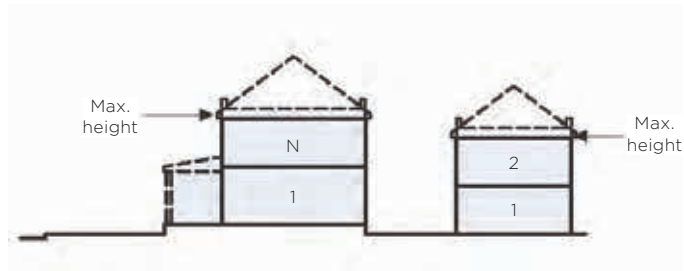
During the post-WWII era of the last century, the traditional practice of building urban humanly scaled cities was cast aside in favour of a unified urban planning theory based on strictly segregating land uses into distinct pods (zoning), and then reconnecting them through a dendritic system of automobile-focused thoroughfares (the functional classification of local, collector, and arterial streets). This experimental system dominated North American planning for much of the twentieth century, with development regulations (municipal codes and standards) and their attendant bureaucracies established to implement and enforce this ideology.

Towards the end of the twentieth century, the negative consequences of this development pattern became increasingly evident, the results of which have by now been widely quantified, analysed and discussed through numerous media under the guises of “suburbia”, “suburban sprawl”, and generally as automobile focused development patterns. Responding both to these consequences, and through a growing market desire for a more urban alternative to development patterns, the Congress for the New Urbanism was established in 1993 with a sustainability-driven mission to reestablish the time-tested practice of building mixed-use, regionally responsive, human-scaled urbanism. In this effort it was recognised early on that the most formidable barriers to this effort are the ubiquitous zoning and transportation rules that were put in place in nearly every municipality to enforce the segregated-use, automobile-focused development pattern of the post-WWII era, along with the multitude of specialists that have arisen over the decades to support this development pattern.

At its core, the SmartCode solves two problems: first, it establishes an alternative land-use code that regulates through form-based standards that are more suitable for mixed-use environments than conventional use-based (zoning) regulations, as illustrated in Figure 2; and second, it establishes transportation standards that demand equal or greater emphasis on walking and transporta-

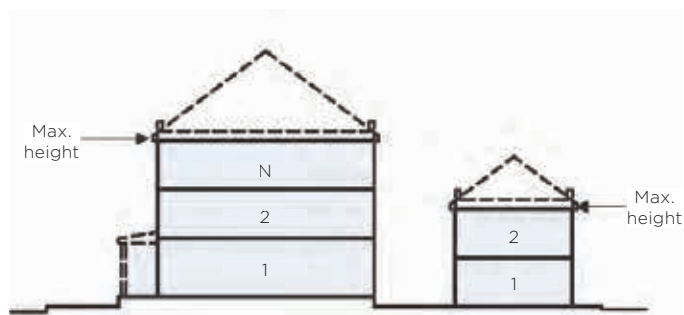
Building Configuration (T3)

1. Building height shall be measured in numbers of Storey, excluding Attics and raised basements.
2. Storey may not exceed 14 feet in height from finished floor to finished ceiling, except for a first floor Commercial function which must be a minimum of 11 ft with no maximum.
3. Height shall be measured to the eave or roof deck as specified on Table 8.



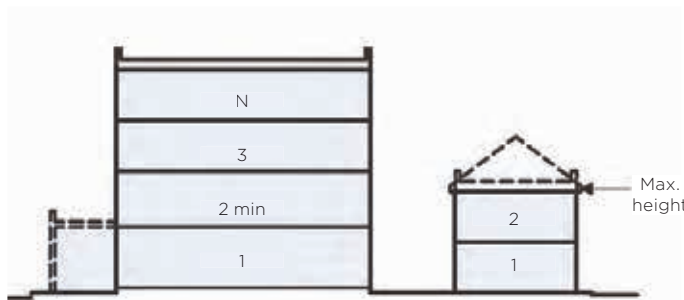
Building Configuration (T4)

1. Building height shall be measured in numbers of Storey, excluding Attics and raised basements.
2. Storey may not exceed 14 feet in height from finished floor to finished ceiling, except for a first floor Commercial function which must be a minimum of 11 ft with no maximum.
3. Height shall be measured to the eave or roof deck as specified on Table 8.



Building Configuration (T5)

1. Building height shall be measured in numbers of Storey, excluding Attics and raised basements.
2. Storey may not exceed 14 feet in height from finished floor to finished ceiling, except for a first floor Commercial function which must be a minimum of 11 ft with no maximum.
3. Height shall be measured to the eave or roof deck as specified on Table 8.
4. Expression Lines shall be as shown on Table 8.

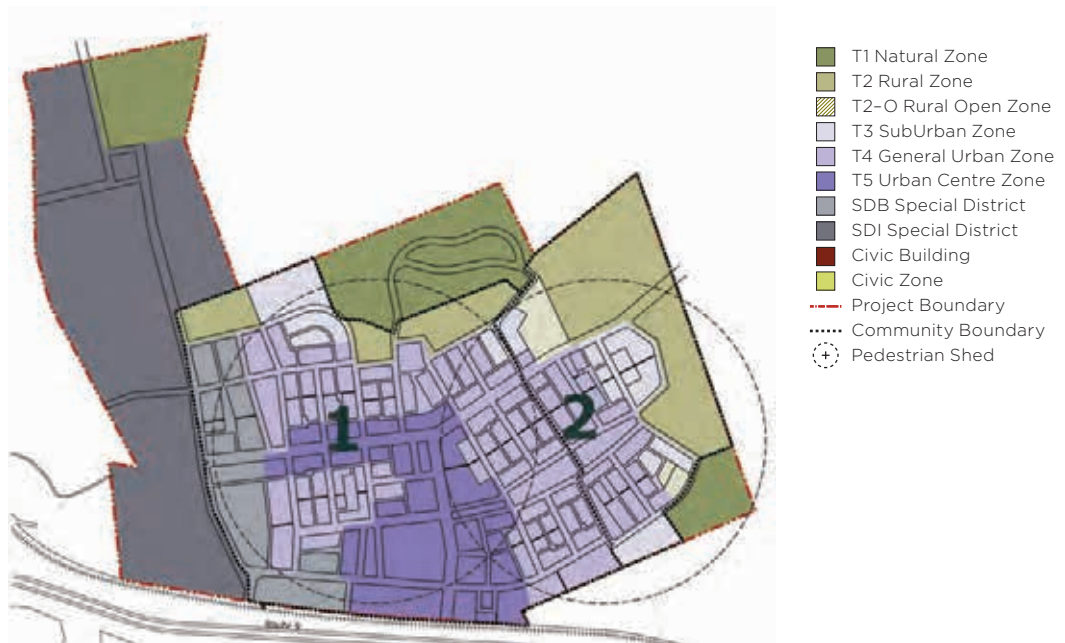


2

Extracted Form-based Graphics Codes for the Configuration of Buildings in Sub-Urban (T3), General Urban (T4), and Urban Centre (T5) Zones

2. Form-based graphic codes are used to illustrate transect-based zoning categories in SmartCode. While each allows for a range of land uses, the form of the buildings and how it relates to public space is more tightly regulated (Source: Duany Plater-Zyberk & Company).

3. Extract from a rezoning application for two new neighbourhoods under the recently adopted SmartCode in Ranson, West Virginia (Image: PlaceMakers Ilc and the City of Ranson, West Virginia).



3

Map of Transect Districts of Two New Neighbourhoods in Ranson, West Virginia

tion modes, other than private automobiles, while directly linking transportation facilities to the context of their land use and the region. But more than this, SmartCode provides a regulatory framework that connects the many specialists and city departments into a unified and integrated municipal regulation aimed at the common goal of enabling mixed-use urbanism as a more sustainable development pattern. Now in its tenth iteration, the SmartCode model represents the collective efforts and resulting best practices from numerous practitioners as initiated and compiled by Duany Plater-Zyberk & Company.

A Historical Perspective of Green Space “City Beautiful”: The modern urban park is born

The rapid industrialisation of the late nineteenth century gave rise to a new breed of civic heroes, a class of city builders bold enough to carve great parks and expansive green spaces from the asphyxiation of the relentless industrial city. Immortalised with the names of their great designers, such as Daniel Burnham’s Plan of Chicago, Kessler’s Parks and Boulevards of Kansas City, Olmsted and Vaux’s Central Park in New York, and John Nolen’s plans for Madison, Wisconsin (to name only a few), and gathered up into the flourishing City Beautiful movement of the early 1900s, these great parks and their designers are still celebrated today.

But their mission was more than simply creating big parks as a relief to the increasingly volatile urban environment. It was also one of fixing the city itself. At a time when mass production of the private automobile was just ramping up and the great frontier of cheap energy was at our doorstep, these great park builders also saw a vision where the timeless tradition of building human-scaled urbanism was gracefully integrated with modern transportation systems. This was a vision also proven outright by the successes of the great boulevards of France and Spain, the propositions of which saw a full menu of great urban public spaces that included urban

streets, boulevards, squares, plazas, and of course, large natural parks. But this vision was not to last.

Zoning the automobile city: From civic space to parks

Where the practice of creating large parks and open spaces prevailed into the post-WWII era, the idea of walkable, mixed-use urbanism did not. And with its dismissal went the full spectrum of urban open spaces: namely the plaza, the square, the green, and even the multimodal urban street. Today, the city departments in charge of public spaces have become experts at administering large parks. In fact, in most cases they have been aptly named the “parks department”, signifying the marginalisation of all public space into “parks”. For the purposes of this discussion, and as guided by the SmartCode, the broader palette of public spaces will hereon be described as civic spaces: those public places collectively owned and utilised by the city and its residents.

While always evolving and ever-expanding, the tradition of creating large green spaces and natural areas in and around urbanised areas has enjoyed a largely uninterrupted and relatively prolific history. Even the most unwalkable neighbourhoods of the 1970s and 1980s came with their required linear floodway parks, sports field complexes, and even large natural preserves (usually on undeveloped lands or those willfully preserved by their owners). But there is no mystery as to why large parks found a home in the post-war era. This was a time of coarse grain planning, of strictly segregating land uses into large development pods, and then connecting them back up with automobile-focused arterials and collector roads. Even though you had to drive to it, the big park manifest as a land-use pod was a natural fit with zoning regulations. All other green spaces were left to regulations written for each land-use pod, typically leftover space that included buffers, storm ponds, setbacks, berms, and the sliver of green that connected the more fortunate cul-de-sac with a larger park system. With large dead-end streets fronted

by the garages and parking lots of homogenous land uses, nowhere were the square, green, or plaza to be found.

The SmartCode: From parks to civic space

Current development standards and regulations for most North American municipalities are still based on the post-WWII vision of segregated land uses and an automobile-focused transportation system. Driven both by concerns over triple-bottom-line sustainability, changing market preferences, and positive economic development opportunities, municipal demand for alternative land-use regulations based on walkable, mixed-use urbanism continues to rise. Since 1981, over 244 of such codes have been adopted, 81 percent of these since 2003.² Of these, over 74 have been SmartCodes.

But why a new code? An early mistake of many municipalities is to simply add a mixed-use zone to their zoning ordinance and demand squares and plazas in policy plans. What is missing is an understanding of the underlying development patterns that the current codes require and the complexity of city departments and specialists that maintain the standards and practices based on this pattern. To effectively implement an alternative development code, the fundamental pattern must change.

Here's the difference: Conventional post-WWII codes are written to strictly segregate all uses into distinct land use pods. These pods are then reconnected through a dendritic (tree-like) hierarchy of automobile-oriented streets, that is, smaller local dead-end streets that lead into progressively larger streets through increasingly limited access points. As the automobile is "king", parking can occur anywhere within a lot, but a system of required setbacks buffers land uses from each other, from automobile-focused roadways, from individual lots, and from parking.

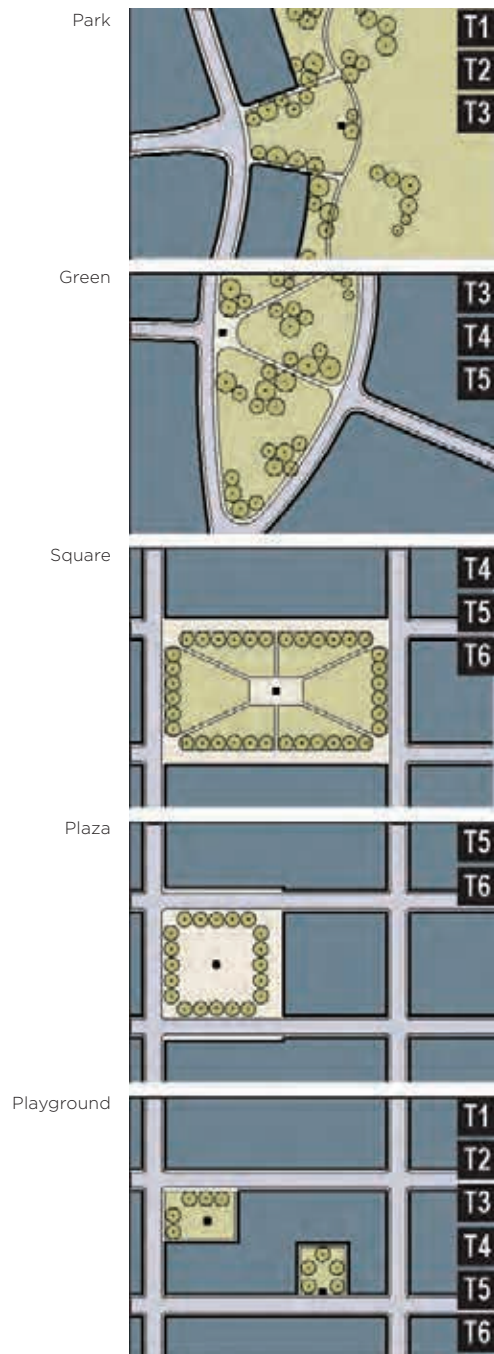
On the other hand, the SmartCode regulates at the increment of the neighbourhood. Generally measured by a quarter-mile increment, each neighbourhood has a diversity of land uses, building types, and public spaces. Rather than segregated land-use pods, the SmartCode is based on traditional urban-planning principles, where an interconnected network of pedestrian-friendly streets form urban blocks actively enfronted by buildings. Garages and off-street parking facilities are relegated to the centre of the block or rear of the lot. This is a pattern that can be experienced in almost any pre-WWII era city and is fundamental to allowing walkable, mixed-use urbanism to occur.

It is through the pattern of urban blocks and walkable streets that buildings can begin to shape places and that the full palette of civic spaces can be realised.

How the SmartCode Regulates Civic Space

The walkable neighbourhood unit

As a regulatory tool, the SmartCode is not about inspiring beauty or enforcing aesthetics. It enables the legal and bureaucratic circumstances for which walkable, mixed-use urbanism can once again be fully reinstated, or at the very least be allowed as a viable



Types of Civic Space Illustrated

alternative to conventional planning within a municipal regulatory environment. To achieve this, the SmartCode is organised around two central ideas: the walkable neighbourhood unit and the rural-urban transect. Figure 3 is extracted from the key pages of a neighbourhood-scaled rezoning application, based on a recently adopted SmartCode in Ranson, West Virginia. The diagram illustrates a number of key pre-requisites that the SmartCode requires as a basis for great placemaking at the scale of the neighbourhood.

These include:

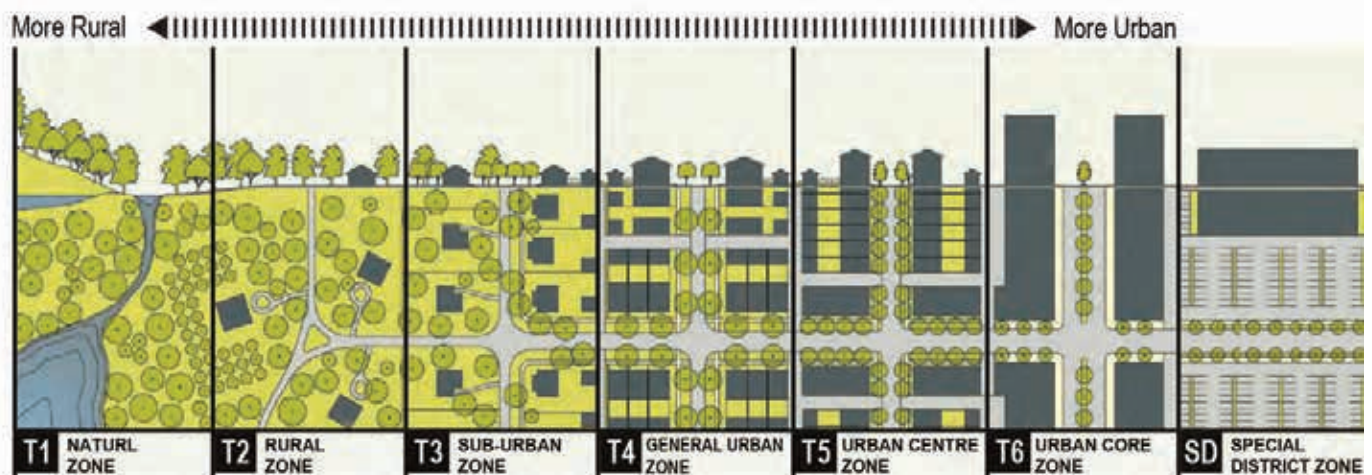
- Regional and environmentally significant green spaces are identified and preserved from the outset.
- The walkable neighbourhood unit, measured as a quarter-mile-radius (or 400-metre-radius) pedestrian shed that is roughly equivalent to a five-minute walk, is positioned in relation to property lines, major transportation routes, regional greenways, and other factors. This pedestrian shed is illustrated as circles on the plans in Figure 3, defining two distinct neighbourhoods.
- Each neighbourhood is required to have a range of mixed-use land-use zones at a range of characters and intensities (see “The urban-to-rural transect” in the following section). This ensures that the neighbourhood is diverse and that public spaces are matched to their appropriate context.
- Each neighbourhood is required to dedicate five percent of the developable space to civic spaces, one of which is a main public space defined by a plaza or square at the centre of the neigh-

bourhood. Playgrounds are also required within a 250-foot radius (or two-minute walk) of all residences.

- A range of pedestrian-friendly street types is arranged to form an interconnected network that defines urban blocks and shapes civic spaces.
- A typology of basic civic space types (Fig. 4) that includes but is not limited to parks, greens, squares, and plazas is keyed to the appropriate surrounding land-use context and are then linked to specific standards for each. As Figure 6 illustrates, these basic types can take a multitude of shapes and characters depending on their intended use and urban design aesthetic.

The urban-to-rural transect

The second fundamental organising mechanism of the SmartCode is the urban-to-rural transect. Originally derived from the study of ecology, the transect is a continuum of settlement intensity from the most natural or rural to the most urban (shown in Fig. 5). When this continuum is divided into zones, the transect becomes a powerful regulatory land-use instrument. The six basic transect zones represent six distinct environments for which each urban element can be coded to its appropriate context. This includes not only setbacks and building heights, but also elements such as lighting, landscape, signage, street types, and civic space types. Although there are many common patterns found throughout countries, provinces, and regions, each place has unique climactic, cultural, historical, and local industry differences that require the transect to be customised, or locally “calibrated”.



5

The Urban-to-Rural Transect

4. SmartCode identifies the basic civic space types: parks, greens, squares, plazas, and playgrounds (here showing Parks). Each is keyed to the appropriate transect-based zoning category (Image: Duany Plater-Zyberk & Company).

5. The urban-to-rural transect is becoming a best practice for regulations aimed at walkable, mixed-use urbanism rather than conventional use-based zoning approaches (Image: Duany Plater-Zyberk & Company).

Upon calibration, the resulting transect zones establish zoning districts based on form, character, and urban intensity that are more effective for regulating mixed-use urbanism than conventional use-based zoning. Beyond land use, the transect zones also allow for a common language that links various specialists to a common goal, and demands a range of context-sensitive options rather than one-size-fits-all solutions. In this way a range of stormwater, streets, and open space standards are keyed to the transect zones providing a direct link to their appropriate land-use context and the standards that are maintained by the respective city departments. A central innovation of the SmartCode, the transect has become a common best practice for most form-based regulatory codes.³

Civic Space Typology

The SmartCode model provides a typology of civic spaces situated on the transect from the most rural to the most urban: the Park, the Green, the Square, the Plaza, and the Playground. When calibrated, many municipalities will also include smaller-pocket parks, sports fields, and community gardens, aligned with their own open space policies. As basic types, each of these can be expanded into any number of configurations, as illustrated in Figure 6, and their standards can be calibrated to match local practices, climate, needs, and standards. The following is a brief explanation of each of the basic types and how they link to the transect.

The Park

The largest and most rural of the types, parks are generally a naturally disposed landscape defined by trails, meadows, woodlands, water bodies, and open structures. Although on the more rural end of the transect, their surrounding context can include any transect zone, such as the very urban context of Central Park in New York. Parks are largely shaped by their landscape and have regional significance.

The Green

The green is a well-defined but generally naturally shaped green space that is largely spatially defined by its landscape. The surface treatment is generally grassed for passive recreation but can include trees, paths, and open recreational structures. The context is generally lower-intensity land uses (lower transect zones) and freestanding building types that may or may not spatially define the space.

The Square

The square is an urban open space shaped by the block structure of urban streets and spatially defined by its surrounding buildings to create an outdoor room. Generally more formal in its geometry, the square can serve a range of uses but is generally reserved for passive recreation. Surface treatments include paved surfaces, grassed areas, landscaping, trees, sidewalks, paths, and both recreational and civic buildings. The square is reserved for more urban transect zones to ensure adequate spatial definition and activity by surrounding residences and other users.


The Plaza

The plaza is the most urban of the civic spaces. Generally smaller than a square and hardscaped to encourage passive usage, dining, and public gatherings, the plaza has strong spatial definition from its surrounding buildings and is intended to allow intensive human use. The plaza may also have water features, trees in grates and planters, and public art.

The Playground

The playground is available in all transect zones, appropriately changing the character of each. The playground is included as a basic type, based on the SmartCode requirement to have a playground within a two-minute walk of every residence.

You Don't Have to be Green to Be Green

The SmartCode provides an important regulatory mechanism to reestablish the green, square, and plaza as viable green space types. But just as the large park is often over emphasized in the urban context to the detriment of other important green space types, so is the idea that a green space must literally be green and vegetated. As described above, the transect provides a valuable tool to better understand the built environment. In most cases, as green spaces become more urban, they actually become smaller and less vegetated in favour of more intense use. While conventionally the environmental value of the ubiquitous park is tied to the quantity of its vegetation and the natural diversity it attracts, the urban green space is green for other reasons. Primary among these is the idea that humans living in higher densities use land and energy more efficiently, and can reduce the vehicle miles travelled and compulsory car ownership. This concept is illustrated in Figure 7, where social diversity increases as natural diversity drops off at the more urban side of the transect. Certainly the proximity to parks and natural areas is a desirable amenity to humans living in any environment. But the unique reward for living in walkable, mixed-use urbanism is certainly the expression and experience of city life that unfolds in the outdoor rooms of the city's greens, squares, and plazas: a full palette of places necessary and ubiquitous with healthy urban life. 

¹ For more information and an in-depth explanation of the SmartCode, please visit www.smartcodecentral.com.

² www.placemakers.com/how-we-teach/codes-study

³ Ibid.

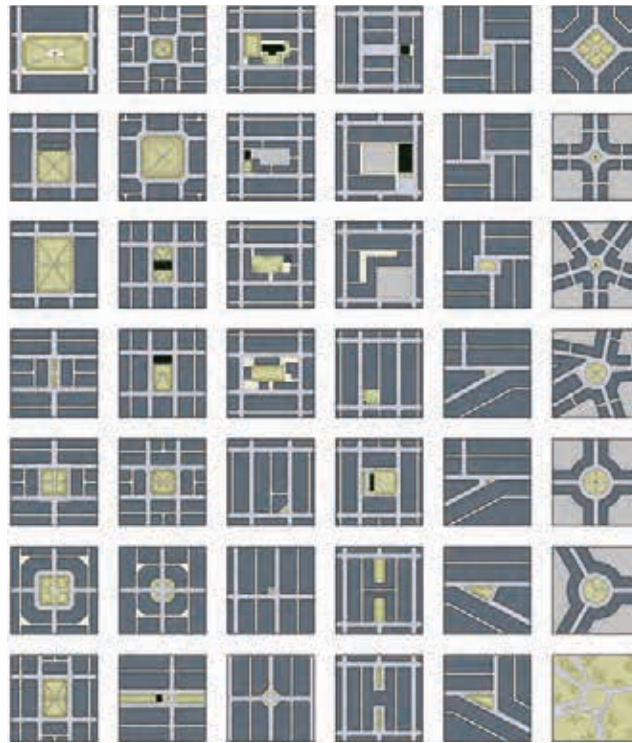
References:

2011 PlaceMakers LLC. "A Blueprint for the Next Century: Ranson Renewed." www.ransonrenewed.com.

2012 PlaceMakers LLC. "The Codes Study." www.placemakers.com/how-we-teach/codes-study.

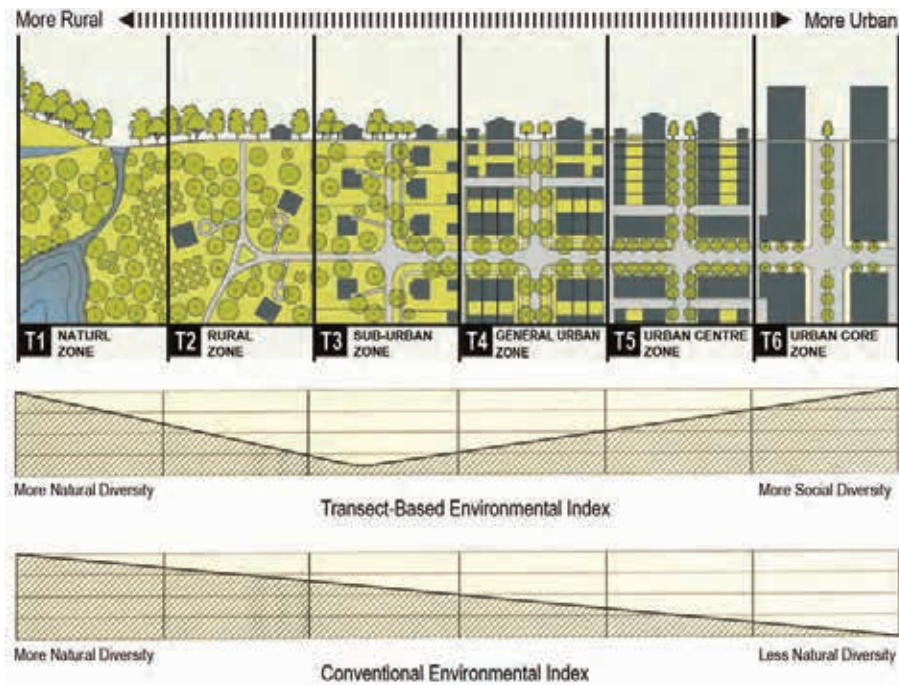
Duany Plater-Zyberk & Company. "SmartCode Central." www.smartcodecentral.com.

The Center for Applied Transect Studies. www.transect.org.



6

Catalogue of Civic Spaces (Compilation and image: Placemarkers Ilc)



7

A conventional analysis of the environmental performance of public spaces, based on natural diversity, compared to a transect-based analysis that factors in human social diversity. Higher social diversity tied to walkable urbanism has positive downstream effects on triple-bottom-line sustainability that cannot be factored by an emphasis on natural diversity (Image: Center for Applied Transect Studies).