



Section and plan illustrations of a Hawaiian village transect.

Image credit: Duany Plater Zyberk & Company

All Green is Not Good: Sustainability by the Transect

BY SANDY SORLIEN

New urbanists have long known that compact, walkable neighborhoods are inherently more sustainable than conventional suburban development (CSD) because they reduce vehicle miles traveled and household energy use, and they conserve open space. According to the new book “Growing Cooler,” researchers have found that, compared to those living in CSD, Americans living in compact urban neighborhoods with transportation options drive one-third fewer miles.¹

Yet we also know that sustainable development patterns alone are not enough. The climate crisis demands that we use every good tool available, from green roofs to wind farms to bicycle facilities. But the question is where and to what extent we use them, and this is where many “green” initiatives are in conflict with walkable urbanism.

Our understanding of the rural-to-urban Transect, as it reveals a range of distinct local habitats for humans, prompts our distress about some of the sustainability solutions that are inundating the planning field. Unfortunately, these solutions are often discipline-specific, and each discipline tends to apply its ideas universally. The LEED ratings concentrate on the individual building. Environmentalists concentrate on preserving natural lands and protecting watersheds. Alternative energy entrepreneurs focus on fueling our consumption more responsibly. Transit advocates focus on getting funding for rail. Bicycle advocates call for safety on the streets for riders. Visitability advocates call for zero-step-entry housing.

All of those efforts are essential to sustainable planning, but any one of them applied universally could be disastrous to the very urbanism that makes a city walkable. Bioswales, stream buffers and random “green space” can create mini-sprawl, suburban

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setbacks, and unusable patches in urban areas. A bicycle lane or transit route added to a new thoroughfare design may widen it enough to destroy the spatial containment of the “outdoor room” and make it harder for pedestrians to cross, inhibiting two-sided retail on a mixed-use main street. Worst yet, the latest stormwater regulations are focused on site-level mitigation that attempts to essentially return any site, even in the urban core, to the hydrology of the meadow. This encourages developers to find cheap land and leave much of it open, i.e., spread things out.

In an essay published last year, policy and codes analyst Lisa Nisenson wrote about Maryland, “The signals here are astounding. Sprawling McMansions can easily rate as ‘environmentally sensitive’ while mixed-use, compact designs, touted by the Department of Planning as best for the environment, don’t even make the cut.”²

The Metropolitan Institute has reported that 2.8 million acres of greyfield will become available in the next 25 years.³ If all that has to meet the “meadow” standard, we are in deep trouble. Needed reforms cannot take place, Nisenson warns, “unless those of us who understand the complexities of zoning get together with those who understand the complexities of cleaning up the environment.” Stormwater regulations, she says, must take into account imperviousness that is avoided on a smaller footprint at the neighborhood and regional scales.

The Transect is essentially the new urbanist “operating system,” and as such is our best hope for such coordination.⁴ Fortunately, many promising tools are already in place. The transect-based SmartCode, originally released by Duany-Plater Zyberk & Company (DPZ), has been open-source for several years and is available for free to municipalities for local calibration.⁵ There are now almost 100 SmartCodes either adopted or in process across the country for towns of all sizes, from Post Falls, Idaho

to Miami, Fla. According to Daniel Parolek, co-author of the new book *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers*, it appears that a large majority of new urbanists are using the Transect as a major part of their methodology, and nine out of 10 of the book's form-based code case studies used the Transect or a modified Transect as the organizing principle.⁶ Whatever the scale of our work — the building, block, neighborhood, city, or region — we can all plug in.

The new SmartCode Version 9 model code includes several supplementary modules, written to be integrated into the base SmartCode as well as into other transect-based codes. They are available for free download from the SmartCode Central Web site (www.smartcodecentral.com) and include annotations with advice for incorporating them into a local calibration. In addition to modules for Affordable Housing, Architecture, Thoroughfares and Visitability, there are several related directly to stormwater and other green issues, as follows:

Environmental Standards consists of stream, wetlands and stormwater provisions for New Community Plans. This two-page module was expanded from the Environmental section that appeared in older versions of the SmartCode. Because federal and state legislation often superseded it, calibrators of the code usually removed it. However, it should be used where possible, as it adapts EPA stream buffer standards to the Transect, from T-1 to T-6 zones. An annotation from the *SmartCode Version 9* and Manual reads, "Municipalities may overcome these limitations by working with state and federal agencies to create regional mitigation banks or by exempting certain urban areas."

Natural Drainage Standards is a basic one-page, text-only module with planting provisions for both the community and lot scale. Contributed by Mary Vogel of PlanGreen, it may institute either standards (mandatory) or guidelines (advisory) as appropriate.

Hazard Mitigation Standards is a series of short sections to be inserted into various articles of the base SmartCode where there are floodplain and post-disaster considerations. These were written by attorney William Wright for the post-Katrina Mississippi charrettes in 2005 and 2006 but can be used anywhere that Base Flood Elevations apply.

Sustainability Tables are graphic pages to supplement the text-based modules listed above, or they may be used alone as part of Article 6 of the base code. Jaime Correa and Associates contributed tables for Wind Powerpower, Solar Energy and Food Production; they have been working on a building orientation table as well. A table on Composting and Recycling was produced by Solid Resources Inc., and the comprehensive Light Imprint Storm Drainage Initiative, described elsewhere in this publication by Tom Low of DPZ, is represented by a one-page summary matrix organizing over 60 tools and techniques by Transect zone.

Because transportation options are crucial to sustainable communities, a detailed module on bicycle facilities is also in development.

Even without any modules, the base SmartCode coordinates numerous sustainability elements. It already incorporates transect-based designations for Bicycle Trails, Bicycle Lanes and Bicycle Routes (shared lanes with or without sharrows), as well as provisions for bicycle parking in the more urban T-zones. It requires street trees and private frontage planting to varying degrees along the Transect. And it accounts for intimate urbanism; for example if a right-of-way in T5 or T6 is less than 40 feet, the street tree requirement is waived. This enables some of the most walkable urbanism in the world, including the French Quarter of New Orleans.

As an ethical matter, the Transect underlying new urbanist codes ought to be a welcome entree into coordinated efforts between environmentalists and urbanists. It is, after all, about habitat. Environmentalists know that plant and animal habitats often subsist in a delicate balance, vulnerable to changes to even one of their inter-

dependent elements. The same is true of our habitat.

The future of compact urbanism may depend on transect-based initiatives written by teams.⁷ In the spirit of Lisa Nisenson's call to action, I urge new urbanist transect-based coders to join with policymakers and specialists to craft them, and soon.



T3 Sub-Urban Zone, University District, New Orleans. Street trees and natural drainage systems make sense in less urban zones.

Photo ©2007 by Sandy Sorlien



T5 Urban Center Zone, French Quarter, New Orleans. Intimate urban character would be ruined by street trees and bioswales.

Photo ©2007 by Sandy Sorlien

¹ Ewing, Reid, et al., *Growing Cooler: The Evidence on Urban Development and Climate Change*. Urban Land Institute, October 2007. Accessed from <<http://www.smartgrowthamerica.org/gcindex.html>>.

² Nisenson, Lisa, "A Browner Shade of Green: The New Water Rules and the Next Chapter of Sprawl." *PLANetizen*, June 11, 2007. Accessed from <<http://www.planetizen.com/node/24957>>.

³ Nelson, Arthur C., "Preparing for the Next Building Boom." Presentation to 6th Annual New Partners for Smart Growth conference, February 9, 2007. Accessed from www.smartgrowthonlineaudio.org/np2007/260b.pdf.

⁴ Introductions to the Transect concept are available from SmartCode Central, <www.smartcodecentral.com/transect.html> and Duany Plater-Zyberk & Company, <www.dpz.com/transect.aspx>.

⁵ *SmartCode Version 9* and Manual. New Urban Publications, 2008.

⁶ Parolek, Daniel G., "Form Based Codes: Significant Work in Progress." Presentation at CNU XV, Philadelphia, Pa., May 2007. Accessed from <<http://www.cnu.org/node/1108>>.

⁷ Contact Robert Alminana at robert@hallalminana.com for SmartCode Module guidelines.