

# THE FULLER



BUILDING  
BETTER METRICS:  
THE SYNTHESIS  
OF ECONOMICS,  
ENVIRONMENT,  
COMMUNITY,  
AND ART.

BY KURT D. CULBERTSON, FASLA

# MEASURE



In October 2010, the U.S. Department of Housing and Urban Development announced the winners of \$100 million in Sustainable Communities grants. These grants went to 45 areas of the country to create what HUD is calling Regional Plans for Sustainable Development. The grants are a huge step forward, part of the Obama administration's Partnership for Sustainable Communities, which unites HUD, the Department of Transportation, and the Environmental Protection Agency to coordinate public investments in infrastructure, facilities, and services across various federal agencies. The hope is that this kind of coordination will amplify the economic, community, and environmental benefits of the projects we target with tax dollars. By considering housing, transportation, and environmental protection in a full, synthetic way, the move marks a potential turning point in land-use planning and design in this country. For landscape architects who are adept at bringing together diverse, complex sets of knowledge in projects, this program presents a huge opportunity.

The Sustainable Communities grants are remarkable because they bring together these three federal departments that profoundly shape our natural and built environment—agencies not known in the past for their collaboration—but also because they look for measurable outcomes and heavily emphasize computer modeling and metrics to track the progress of proposed interventions. They help to formalize a new emphasis on measurement in planning and design issues.

These days, landscape architects are obsessed with green certification and rating systems and are busy searching for “points” to achieve the desired rating for their projects. Measurement has taken on a life of its own, especially since the founding of the U.S. Green Building Council nearly 20 years ago, which brought on huge growth in the development and application of rating and certification systems for green building—the council's Leadership in Energy and Environmental Design, or LEED, program now covers approximately 8,500 currently certified buildings. The number of ENERGY STAR-rated buildings is over 13,000. These are just a few of many such systems built around the notion that “what gets measured gets done.” A National Association of Homebuilders/McGraw-Hill construction survey shows that more than half of the NAHB's members, who build more than 80 percent of the homes in the United States, will incorporate green practices into their development in the next two years. Metrics-based systems, which reward projects for their proven ability to reduce water or energy use or provide measurable performance in a number of areas, have moved the environmental design discussion from platitudes to positive action. In that regard, they are to be applauded.

But making a limited number of environmental measures synonymous with sustainable design is short-sighted. A project can save water or cut energy use, yet contribute little to the success of a community culturally or economically. The benefits of sustainable development and, by extension, sustainable design

—  
**IMAGE CREDIT**  
Charles Steck

WE CAN MEASURE SAFETY AND HEALTH;  
THE HARD PART IS MEASURING HAPPINESS,  
IDENTITY, AND A SENSE OF BELONGING.



are commonly illustrated by three overlapping rings: environment, community, and economics. LEED and related programs such as Sustainable Sites typically deal with only one of these rings—environment. And they often focus on a very limited set of environmental issues. LEED-ND, which targets neighborhood developments, for instance, does not directly address the carbon impacts of development.

The LEED-ND rating system does indirectly contain elements that address questions of community, such as attainable pricing, parks, and transit and the proximity of jobs to housing. The establishment of maximum block lengths is meant to encourage walkable communities, which will help improve public health while promoting richer social connections. However, LEED-ND hints at only a few of the components that would comprise a healthy community in a social sense or promote cultural preservation.

ASLA's Sustainable Sites Initiative begins to strive for a broader view of sustainability. The bulk of the score sheet addresses environmental factors such as conserving water and preserving native plant communities, but the program also encourages designers to provide places for outdoor physical activities and social interaction. Of the 250 points possible within the scoring system, 32 pertain to human health and well-being. Among them are points awarded for promoting equitable site development and use, for promoting sustainability awareness and education, and for maintaining and protecting cultural and historical sites.

The Sustainable Sites Initiative suggests that there should be a more comprehensive system of metrics to address more than just a landscape's environmental performance. What might such a system look like? The path to more comprehensive sustainability may lie in a fusing of multiple approaches. There are precedents of sorts. The National Neighborhood Indicators Partnership, which the Urban Institute began in 2001, monitors community health to help understand the ways a neighborhood's characteristics affect the health of its residents. The various neighborhood indicator systems have their strengths and weaknesses, but these programs provide multiple advantages for developing a more complete system of metrics. Although the neighborhood indicators program is not a rating system involving certification, the extensive use of metrics does allow the comparison of a community relative to its peers based upon common lines of measurement. And for the 35 cities these programs cover, you can find good baseline data against which to measure how individual projects perform.

Health care administrators are figuring out how external factors affect a person's health and using that information to weigh policy choices, which has in turn inspired architects and interior designers to begin refining their own kinds of evidence-based design. And the research of landscape architects such as Larry Frank, ASLA, the Bombardier Chair in Sustainable Transportation at the University of British Columbia, is increasingly focused on the ties between urban form and public health. Frank is one of the principal researchers working to apply empirical data to issues of community design.





## EXISTING RATING SYSTEMS DON'T REALLY ADDRESS THE SOCIAL DIMENSIONS OF LANDSCAPE.

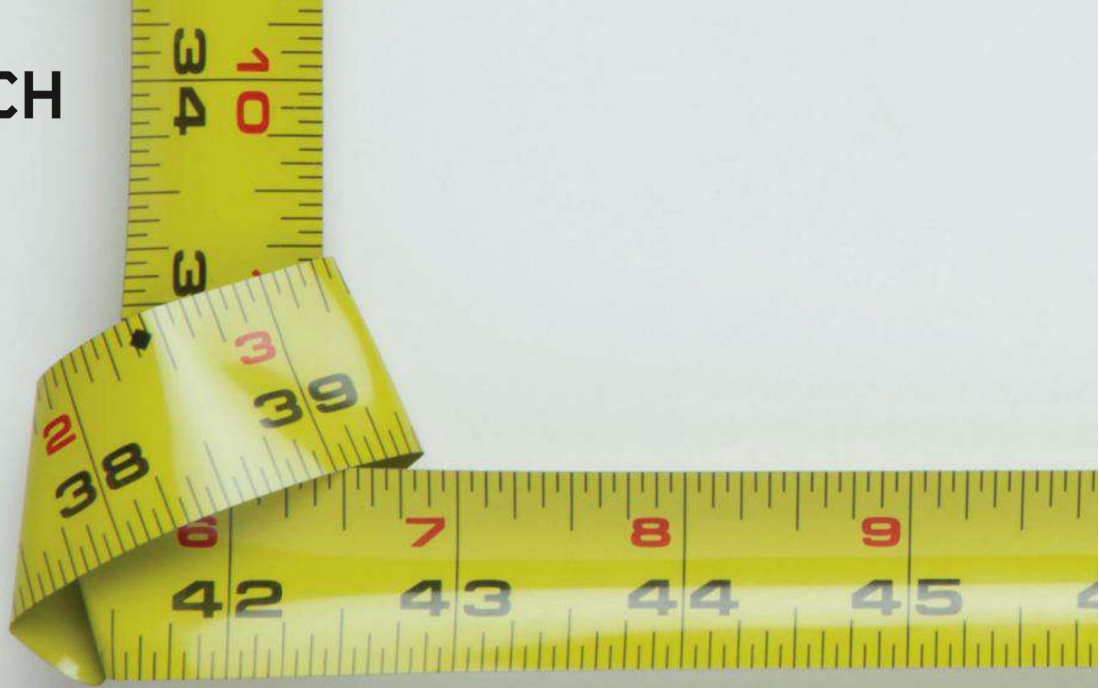
None of the programs I've described so far, though, really address the social dimensions of landscape. Is it possible to measure community spirit? Not all human endeavors can be reduced to numbers. Measuring community involvement and social capital, however, is precisely what the Harvard Professor Robert Putnam sought to do in his book, *Bowling Alone*; Putnam suggests that the decline of direct social contacts has increased isolation within our society. Putnam pointed out, for example, that a 10-minute increase in commute times cut involvement in community affairs by 10 percent. We can measure safety and health; the hard part is measuring happiness, identity, and a sense of belonging.

Similarly the community-based design approaches of Walter Hood, ASLA, and Randy Hester, FASLA, seek to address these questions as well. Hester's *Design for Ecological Democracy* is a manifesto for greater participation by the users of the landscape in the design of our environment. Hester argues for a participatory design process with the degree of public support for a project as his main metric.

What about economics? For development projects, we might think of economics in two ways. One we know well is the real estate income statement and balance sheet. An income statement is a metric. What is the net present value of the proposed project? What type of internal rate of return does it generate? What is the multiple of invested capital that is achieved? If projected values are sufficiently positive, development or redevelopment will proceed. If not, a project development or redevelopment will not occur.

Such questions, however, address only one side of the economic equation. A developer and its investors may make money on a project, but what about the community in which it's located? Does





## WE NEED TO ADD ART AND AESTHETICS TO THE WORKING DEFINITION OF SUSTAINABLE DEVELOPMENT.

it cost more to service the project than the taxes that can reasonably be collected (as is often the case with residential-only projects that lack the tax bases needed to provide significant revenue to the community)? Do public investments in parks, infrastructure improvements, or other amenities that stimulate redevelopment actually yield a return? Does the provision of tax-exempt bond funding to facilitate a development actually generate a return on the community's investment? Does the investment create jobs? Does it make transportation easier or harder for commuters?

A project may be financially successful in the short term but a failure over time. To be sustainable it must hold its own economically over many years. By adding financial metrics, a more complete measure of sustainability can be obtained. The sustaining effects on the community, environment, and economics all tend to reinforce each other.

Efforts to combine all of these measures are emerging, such as with the Global Reporting Initiative (GRI), which began in 1997 among an international alliance of businesses willing to report annually on their economic, environmental, and community performance. Today, more than 1,400 global companies participate in this program. The GRI's work bears on our concerns as landscape architects

because it is continually refining methodologies for measuring business success across economic, environmental, and community dimensions. It suggests that private profit and community benefit do not necessarily exclude each other. A similar program, the Star Community Index, which just released its first set of principles and goals in October, builds on the foundation of LEED and other environmental measurement systems to consider sustainability beyond individual projects for entire communities, but it hasn't yet defined the ways it will measure progress in terms of performance.

The convergence of all these diverse initiatives is bound to produce a much more comprehensive view of sustainability—but it will inevitably fall short. Have you ever seen a LEED-certified project that simply wasn't attractive or didn't contribute to the spirit of the community? Or a project that is a financial success but a visual blight on the landscape?

We need to add art and aesthetics to the working definition of sustainable development. But can these things be measured? The pioneering efforts of the U.S. Forest Service and individuals like Carl Steinitz, Honorary ASLA, and Stephen Sheppard, ASLA, in the field of visual resources assessment are efforts to measure aesthetic impacts of landscape change. This is tricky to measure, because the creation of art is a highly personal act, as is the evaluation of that creativity. Who decides how successful it is? Only professional peers? Post-occupancy interviews with users? Did the landscape design involve collaboration with other artists? Is the design successful compositionally? How are line, color, form, texture, and light and shadow expressed in the landscape? Does the work create authenticity and identity for the community? These kinds of questions may never appear on a LEED or Sustainable Sites score sheet, but they are still essential to a complete realization of the concept of sustainability.



Elizabeth Meyer, FASLA, addressed this issue in her article “Sustaining Beauty: The Performance of Appearance,” published in the Spring 2008 issue of the *Journal of Landscape Architecture* (and reprinted in the October 2008 issue of *LAM*). Meyer pointed out that Frederick Law Olmsted, in 1868, had the foresight to claim that “A park is a work of art, designed to produce certain effects upon the mind of men.” Olmsted did not suggest that such effects be measured, but he clearly believed that landscape design involved purely aesthetic concerns, among others.

As my firm, Design Workshop, has described this theoretical approach to our work with clients, collaborators, and our staff, we are repeatedly asked to show its tangible benefits. For the past seven years, we have applied these metrics to our projects and begun to gather evidence of success when measured by these factors. Thus far we’ve learned that to be effective, we have to clearly articulate the baseline conditions of our target metrics. Without the base data, improvement is hard to quantify. Our ability to establish metrics in certain areas, such as the carbon generation of individual real estate developments, is problematic. However, we should not be deterred by the absence of perfect measures, but should continue to experiment and try to improve their formulation.

One point of resistance firms encounter when they try to put performance measurements in place is that clients perceive the efforts as additional work, especially when money is tight. Some designers might argue that they must choose between the potential qualitative benefits that rigorous inquiry can produce or a profitable practice. Others might see the choice as one between the science of landscape architecture and an approach focused on

art. Still others may see a choice between rigor and creativity. In their 1998 book, *Built to Last*, authors Jim Collins and Jerry Porras spoke of “the genius of AND versus the tyranny of OR,” the belief that one cannot live with two seemingly contradictory views at the same time. They argued that firms that have achieved both longevity and enduring excellence have found a way to embrace the extremes of a number of dimensions simultaneously.

Since the first Earth Day in 1970, various efforts have been made to emphasize the landscape architect’s role as environmentalist, social reformer, entrepreneur, or artist. At times in the past 40 years, the profession has tended to place greater emphasis on one or the other of these roles. Ian McHarg, in his seminal *Design With Nature*, reminded the profession of its role as stewards of the environment. The pioneering work of Clare Cooper Marcus, Honorary ASLA, and William Whyte in the use of social research methods such as structured interviews, systematic observation, and post-occupancy evaluation taught landscape architects about the importance of the social and psychological aspects of landscape design, and particularly the value of community open space. The decade leading to the Great Recession illustrated the landscape architect’s role in the American housing economy and the emergence of landscape architecture firms as major business enterprises. The works of Martha Schwartz, ASLA, and Peter Walker, FASLA, are examples of design informed in large measure by principles of art. Today, many firms are trying to recenter landscape architecture at the intersection of all four areas of inquiry, and as they do so, it’s a good time to rethink the systems we use to measure a landscape’s success. ●

KURT D. CULBERTSON, FASLA, IS THE CHAIRMAN OF THE BOARD OF DESIGN WORKSHOP.