



Potentializing Austin's Future: White Paper

By Pliny Fisk

Co-Director, The Center for Maximizing Potential Building Systems

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The Rethink White Papers offer up fresh, innovative thinking to Austin citizens and decision-makers about the future of our City. They are intended to present some of the best sustainability thinking from Austin's thought-leaders in a way that is fresh, accessible and compelling. We hope the Rethink White Papers will inspire us all to take action for a bright green future for Austin.

Find the entire series at:

<http://austintexas.gov/departments/rethink-austin-white-papers>



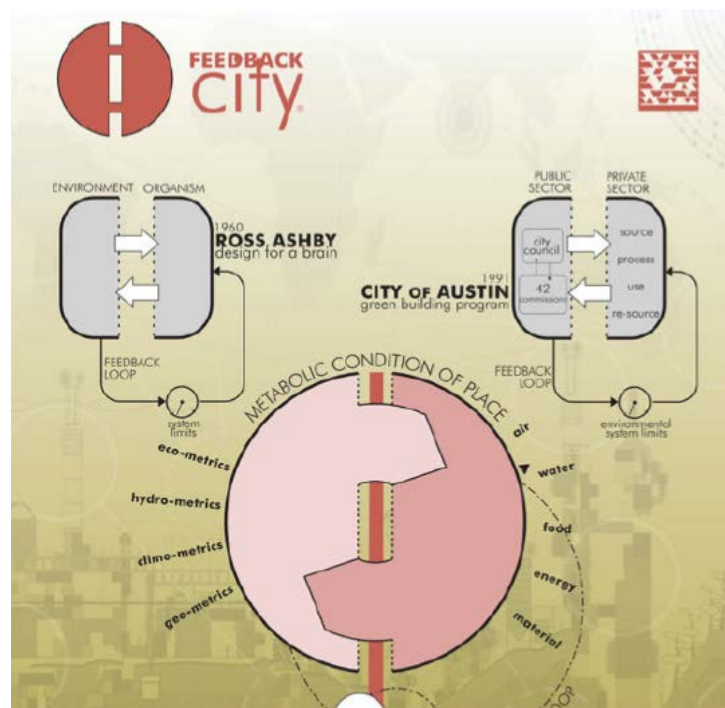
The mission of the Office of Sustainability is to provide leadership, influence positive action through engagement, and create measurable benefits for Austin related to climate, food, resource efficiency, and resiliency.

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It has been over 20 years since our Center helped create the first green building program in the world, collaborating with what was then called the City of Austin Environmental and Conservation Services Department. The original framework for the Austin Green Builder Program was an elegant systems model inspired by the field of cybernetics and extrapolated from Design for a Brain by Ross Ashby. In this model, the physical environment and organisms living within it were paired with the realms of the private and public sectors, including the many city commissions that recommend policy. The symbolic "brain" (City policy) that connects and informs the interactions between the environment and the private sector is regulated by "metabolic conditions of place" which include achieving critical balance between climate, hydrologic systems, economic systems, etc. For all systems to flourish, metabolic balance must be achieved – otherwise the environment or the private sector will perish.



This modified systems model was recognized with an award at the 1992 United Nations Earth Summit in Rio de Janeiro.



Jumping 20 years forward, a significant game changer is the reality of climate change, which has caused us in central Texas—and, indeed, people all over the world—to rethink the past and propose action with a larger perspective. A ‘rethink’ of Austin’s Green Building Program now faced with more frequent significant extreme weather events (such as flooding, wildfires, tornadoes, heat waves, and drought) might result in a quite different model than what was developed in 1992: one whose players simultaneously disrupt at several levels within a system in significant need of creating a non-fragile future.

Without dissecting why Austin’s Green Building Program has been so successful or where it might have holes, the Center for Maximum Potential Building Systems have decided to take a broad intuitive look at what a revised model might look like. We consider interventions based on environmental, social, and economic needs, including a new set of standards as to what “return on investment” (particularly avoidance of economic loss) might mean in our future. Interventions would be advanced with an eye towards the importance of establishing a new playing field for creative public, private, and philanthropic investment.

The question we put forward is this:

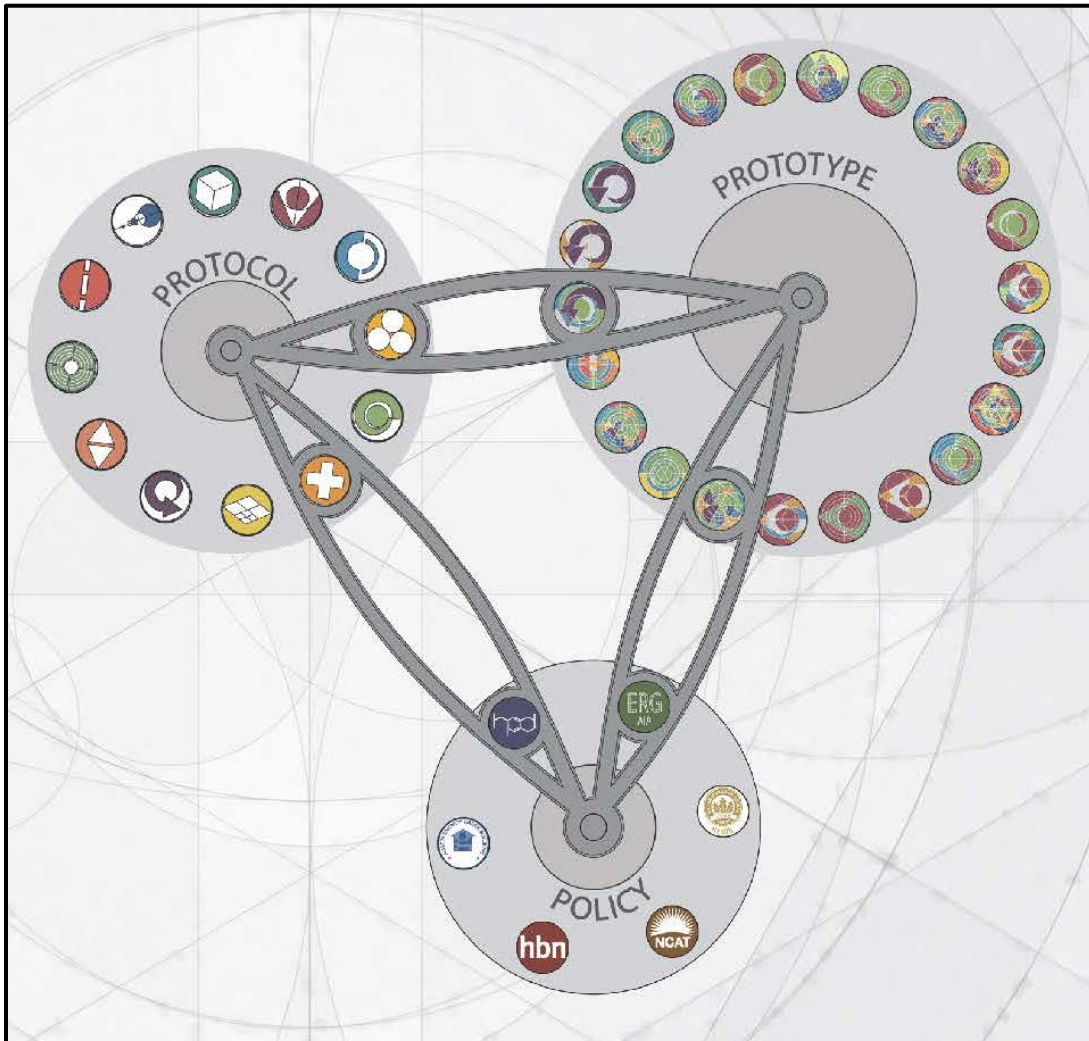
Is there a systemic mechanism that could simultaneously produce relevant prototypes, coupled with a new set of protocols and policies catalyzed by private, public and philanthropic foundations that go beyond Band-Aid-type, feel-good solutions?

We think the metaphor of a “potentiometer” could be used to potentialize creativity to proactively create our future. This new model – or creativity engine – would help us develop a new “toolkit of opportunities” in three areas:

Prototype – a test case based on actual evidence of relevance, intended to serve as the basis or standard for replication.

Protocol – a procedure, guideline or definition intended to clarify and streamline processes and routines, establish a consistent framework or context, or define metrics or performance standards.

Policy – establishes a publicly accessible domain, such as a code, standard, ordinance or covenant. Policy can expand the sphere of influence or market adoption from a single project to a standard practice that is accessible to the mainstream.



Interventions in all three areas would result in an actual cascade of changes in employment, environment, and social justice benefits. Some examples that our Center is actively engaged in delivering, as a new basis for the three P's include:

- A greenhouse-gas-digesting cement that simultaneously addresses wind, fire and potable water in a protective shell (presently under City review for East Austin). Our cement is derivable from fresh water created through saline water processing, addressing an issue throughout southern Travis County and coastal Texas, as well as a considerable portion of the world where fresh water is scarce.



- A fertilizer emanating from lignite coal (available throughout eastern Travis County) with proven results in growing renewable fuel, food and materials while absorbing a wide variety of air pollutants - another green product with vast employment implications.
- Water runoff control and treatment technologies such as our “speed bump pump” that injects oil-eating bacteria into every engine drip on our streets, roads and highways – going far beyond what roof harvesting is able to accomplish for ground water replenishment.

These are three examples from a pool of more than 40 seriously disruptive prototypes going through patent processing as part of our Center’s work. The potentiometer offers 12 protocols as part of the creativity engine that can be used to critique these prototypes; relevant policy interventions can support additional creativity with problem recognition and financial incentives. Six policies that the Center has helped to develop in the past with a spectrum of policy makers at the local, state, and national levels are also included as examples in the potentiometer.

There is good environmental, economic and cultural evidence that new insights are desperately needed - now. So this is a call to action to build an even stronger potentiometer – and to use it in guiding green development and a different kind of growth.

Creativity is flourishing right here in Austin in the solar and alternative transportation sector. We must tap into Austin’s creative, inventive, disruptive culture to become an urban laboratory at a scale that strategically tackles the most urgent challenges we face.

With a background in architecture, landscape architecture, and the systems sciences, Pliny Fisk has made pivotal contributions to the sustainability movement for more than four decades by developing replicable prototypes, protocols and policy initiatives. His prototypes challenge conventional wisdom about building design, engineering, materials, economic development, and landscape and regional planning.

Pliny has collaborated on federal demonstration greening efforts, including the Greening of the White House and Greening of the Grand Canyon, and on scores of other pivotal projects such as the University of Texas Health Science Center in Houston, the Seattle Justice Center, and on



Solar Decathlon entries with the University of Texas (2002) and Texas A&M University (2007). Pliny and his business partner and wife Gail Vittori have created policy initiatives, including the Austin Green Building Program, the National AIA's Environmental Resource Guide, and Greening the Texas Architecture + Engineering Guidelines, as examples of new protocols with broad potential applications.

Pliny and the Center he established in 1975 have received national and international recognition, including the 1992 Earth Summit Award (with the City of Austin), the Lewis Mumford Award, the U.S. Green Building Council's Sacred Tree Award, and The Passive Solar Pioneer Award. In 2006, Metropolis Magazine recognized Pliny and Gail as one of the country's 14 Visionaries; in 2008, Texas Monthly called them one of "35 People Who Will Shape Our Future."

Pliny has held professorships or Fellow positions at the University of Texas at Austin, Texas A&M University, the University of Oklahoma, Ball State University, the University of New Mexico, and Mississippi State University. He served as an advisor to the MacArthur Foundation and the Bill and Melinda Gates Foundation. He also served as a Peer Professional reviewer for the General Services Administration. He is an inventor, as well as CEO and founder of two proactive private sector technology companies: BioForms Design and the EcoInventorium.