

Texas Housing Research Program, National Consortium of  
Housing Research Centers  
**College of Architecture, Texas A&M  
University**

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## *2006 Annual Report*

### **Overview of 2006**

Housing research at Texas A&M University includes interdisciplinary activities between faculty researchers in research centers and laboratories in the Colleges of Architecture and Engineering. Housing policy, housing design, and community planning and design studies are underway in a number of departments. The College of Architecture was given an endowment from History Maker Homes in Dallas/Ft. Worth, Texas, of over \$2.4 million to endow chairs and professorships in support of housing research in the College of Architecture and the College of Business. The Department of Construction Science began a capital campaign to raise \$15 million for a new building for the department.

### **Projects**

#### **Design and Planning Studies**

Dr. Robin Abrams, Department of Architecture-

London 2012: looking at the revitalization of the Lower Lea Valley in East London, one of the largest brownfield restoration projects in the EU, which includes major transformation of neighborhoods and provision of new forms of housing, both adjacent to and as the legacy to the 2012 Olympics.

The evolution of zero energy housing communities, and their potential to resolve sustainability concerns, particularly in the UK. This includes such projects as BedZED, One Planet Living, and the Millennium Village.

Dr. Jose L. Fernandez-Solis, AIA, Department of Construction Science-

A series of research papers by Jose L. Fernandez-Solis, Godfried Augenbroe, Lauri Koskela and Ruben Vrijhoef have been submitted for presentation at the CIB 2007 Congress in South Africa, and the Lean Construction International Gathering 15 in East Lansing, Michigan. These papers are based on Fernandez-Solis dissertation (2006): *Is Building Construction Approaching the Threshold of Becoming Unsustainable? A System Theoretic*

*Exploration towards a Post Forester Model for Taming Unsustainable Exponentialoids.* The unifying theme of these papers centers on the “forces that drive exponential growth in construction”, “the effects of that growth on resource consumption and emissions generation”, “an understanding of sustainability as the complex force that tames exponentialoid growth.”

“Building construction capacity for change” is another paper that focuses on the industry capacity for change based on its complexity. Current “models for dealing with complexity such as Forrester and Sterman’s Systems Dynamics” are criticized in another paper. This study has led to the realization that building construction follows a different paradigm than that of other manufacturing industries based on papers on the “state of the art research in building construction” which creates a taxonomy for change based on Popperian Analytical Process of Conjecture and Refutations.

Finally, the elements that influence exponential growth that were discovered and analyzed in Fernandez-Solis 2006 work are presented in a paper that point to the need of further research. This research is envisioned along the lines of vector calculus with the initial objective to identify the criteria for a novel language (symbols and meanings) that captures the complexity of the elements that influence and ultimately are manifested in exponentialoid growth.

Dr. Kimberly Winson-Geideman, Department of Landscape Architecture and Urban Planning-

Wal-Mart as Urban Savior? Impacts on Residential Property Values in Low- and Middle-Income Urban Neighborhoods

Co-P.I.s Dr. Kimberly Winson-Geideman, Dr. Shannon Van Zandt, Dr. Dawn Jourdan, Shan Gao

Funded under a grant from the College Research and Investigatory Council at Texas A&M

As Wal-Mart moved from exurban to suburban and now to urban markets, the perceived threats from the presence of Wal-Mart and other supercenters have changed. While in exurban areas Wal-Mart was perceived as a threat to local businesses; the concerns related to the presence of supercenters in suburban areas are focused on adjacency effects on residential property from negative externalities. As Wal-Mart implements its strategy to enter urban markets, what consequences can planners and developers expect?

This research uses hedonic modeling to examine the relationship between income, proximity to retail services provided by supercenters and residential property values in middle- and low-income areas in Pasadena, Texas, an industrial suburb of Houston. Property values in low-income areas are negatively affected by proximity to supercenters, but in middle-income neighborhoods adjacency effects are limited and the retailer actually has a positive influence on properties located an optimal distance away.

Preserving Whose Neighborhood? The Effects of Adaptive Reuse by the Savannah College of Art & Design on Property Value and Community Change in Savannah, Georgia

Co-PIs Dr. Kinberly Winson-Geideman, Dr. Dawn Jourdan, Shan Gao

Funded under a grant by the Lincoln Institute of Land Policy

The purpose of this study is to examine the effects of adaptive reuse of historic buildings by the Savannah College of Art and Design (SCAD) on property values and neighborhood change in Savannah, Georgia. For this study, adaptive reuse is defined as the restoration and reuse of historic buildings originally built for occupation by a different type of land use than that for which it is currently being used. The study concludes that the demographic profile of residents living in the vicinity of SCAD buildings is changing rapidly, but no effect on property value is attributable to proximity to SCAD buildings.

Dr. Shannon Van Zandt, Department of Landscape Architecture and Urban Planning-

Research focuses on affordable housing policy, particularly outcomes from and issues related to low-income and minority homeownership. A research program related to understanding the relationship between housing availability/affordability (including spatial distribution, land use regulation, tenure and lending) and access to “opportunity” (jobs, education) was undertaken.

Funding:

Brazos Valley Affordable Housing Market Study

PIs: Shannon Van Zandt, Dawn Jourdan, June Martin, Cecilia Giusti

Budget: \$35,000

Sponsor: Brazos Valley Affordable Housing Corporation

Beaumont HOPE VI Evaluation

PIs: Shannon Van Zandt, Dawn Jourdan, June Martin

Budget: \$160,000 (over four years)

Sponsor: Beaumont Housing Authority (through HUD)

Presentations:

**Van Zandt, S** and \*P. Mhatre. “Low-income and Minority Access to Areas of High Opportunity: A Report Card for the Dallas Metroplex.” Presented at the Association of Collegiate Schools of Planning Annual Conference, Ft. Worth, TX, November 8-12, 2006.

**Van Zandt, S.** “Locational attainment of minority home buyers: Do minority participants in homeownership promotion programs achieve greater parity in housing outcomes?” Presented at the Urban Affairs Association Annual Conference, Montreal, Canada, April 19-22, 2006.

**Van Zandt, S.** and W.M. Rohe. Do First-Time Home Buyers Improve Their Neighborhood Quality? Presented at the U.S. Department of Housing and Urban Development’s Homeownership and Affordable Lending Seminar Series. Washington, DC, January 27, 2006.

Publications:

**Van Zandt, S.** and W.M. Rohe. 2006. Do First-Time Home Buyers Improve their Neighborhood Quality? *Journal of Urban Affairs* 28(5): 491-510.

Rohe, W.M., R. Quercia and **S. Van Zandt**. 2007. “The Social-Psychological Effects of Affordable Homeownership.” In *Chasing the American Dream: Multidisciplinary Perspectives on Affordable Home Ownership*. William M. Rohe and Harry Watson, Editors. Ithaca, NY: Cornell University Press (in press).

Papers under review:

**Van Zandt, S.** Racial/ethnic differences in housing outcomes for first-time, low-income home buyers: findings from a national homeownership education program. Conditionally Accepted: *Housing Policy Debate*

**Van Zandt, S.** Low-Income and Minority Homeownership: What Happens if We Meet Our Goals? *Journal of the American Planning Association* (solicited for Special Issue on the Future of Housing)

Bates, L. and **S. Van Zandt**. Illinois’ New Approach to Regulating Predatory Lending: Unintended Consequences of Borrower Triggers and Spatial Targeting. Submitted to *Housing Policy Debate*. Also listed as Working Paper 2007-02 for the Spatial Policy Analysis Research Consortium, University of Illinois.

Winson-Geideman, K., **S. Van Zandt**, D. Jourdan, and \*S. Gao. Wal-Mart as Urban Savior? Impacts on Residential Property Values in Low- and Middle-Income Urban Neighborhoods. Submitted to *Journal of Housing Research*

Bright, E., **S. Van Zandt** and \*Z. Tang. Robin Hood Reversed: A Study of Inequities in Property Tax Appraisals. Submitted to the *Journal of Housing Research*

New Course:

PLAN 689: Neighborhood Revitalization. Taught by Shannon Van Zandt.

### **Energy Services**

Texas Energy Codes- The Energy Systems Lab has State of Texas funding to assist municipalities throughout Texas on understanding, adopting and implementing the International Energy Conservation Code (IECC) and the International Residential Code (IRC – energy efficiency chapter). The ESL staff also determine municipality code compliance.

### **Sustainable Materials/Green Building Research**

Stockpile Sampling, Characterization and Beneficiation of Twin Oaks Power Station Coal Combustion By-Products (Phase One Study)

P.I.- Dr. Don Saylak, P.E.

Co-P.I. - Dr. Shondeep Sarkar, P.E.

Earth Materials Consultant – Dr. Charles W. Graham, AIA, FRICS

Compressed Earth Blocks – Thermal, structural performance; field quality control; building design

P.I. – Dr. Charles W. Graham, AIA, FRICS

Co-P.I. – Dr. Richard Burt

Research in coordination with Prof. John Moroney, Southwest Texas Community College, Del Rio, Texas; includes test modules

Earthquake Design for Compressed Earth Block Structures –

P.I. - P.I. – Dr. Charles W. Graham, AIA, FRICS

Co-P.I. – M.L. (Skip) Coody, P.E.

Research for a variety of consortia in the U.S., Mexico, Guatemala

### **Residential Construction Standards Development**

Home Construction Standards for Texas Residential Construction Standards Commission

P.I. – Joe Horlen, J.D.

Co.P.I. – Debra Ellis, J.D.

Structural Consultant – M.L. (Skip Coody, P.E.)

Texas Residential Construction Commission Mold Task Force Committee – Dr. Charles W. Graham, AIA, FRICS

## **Other Accomplishments**

**Sustainable and Earth Construction Courses-** Both the Sustainable Construction and Earth Construction Courses have been approved by the University and taught by Dr. Richard Burt, the instructor, who is LEED certified.

**Solar Decathlon** – The College of Architecture at Texas A&M University was selected in 2006 to be one of the contestants in the 2007 Solar Decathlon in Washington, DC by the U.S. Department of Energy.

**Hurricane Katrina and Rita Responses** - The College of Architecture developed a website with information for recovery from the hurricanes. Students in architectural studios designed prototype replacement housing for New Orleans and the Gulf Coast. Studies are continuing.

### ***O.N. Mitchell Jr. Graduate Student Fellowships***

During 2006, six fellowships were awarded to graduate students studying residential construction and visualization.

### ***Advisory Council***

The Housing Research Program reports to the Dean of the College of Architecture through the Department of Construction Science and the Center for Housing and Urban Development. The Residential Subcommittee of the Construction Industry Advisory Council (CIAC) for the Department of Construction Science provides advisory support.

### ***NAHB Student Chapter***

With over 120 members, the NAHB Student Chapter at Texas A&M University continues to be active. Community service projects are a major activity for the Chapter. The students in the Department assisted ABC television with construction of an “Extreme Makeover Home” during December. This was the first home built for a Texas family by the program. The family takes in rescue animals and had a great need for a new home.

### **Primary Contact**

Dr. Charles W. Graham, AIA, FRICS  
History Maker Homes Endowed Professor of  
Housing Research  
Department of Construction Science  
Texas A&M University  
College Station, Texas 77843-3137  
979-845-0216  
cwgraham@tamu.edu

**Alternate  
Contact**

Dr. Jorge Vanegas  
Director, Center for Housing and Urban Development  
College of Architecture  
Texas A&M University  
College Station, Texas 77843  
979-845-7070  
jvanegas@tamu.edu