

PROJECT SUMMARY

The lack of transparent empirical data that measures social, spatial, and environmental impacts of informal settlement development limits the ability of residents to participate in the planning processes that change their own neighborhoods. It also limits the extent to which cities in developing urban regions can claim equitable planning practices and outcomes. As a result, organized community groups in informal settlements are restrained from leveraging for housing and other neighborhood improvements, and public knowledge about the efficacy of development in improving urban livability is suppressed.

Building on research funded by the National Science Foundation (NSF) in 2014 (NSF #1331333), these findings shape the three-fold objective of this transdisciplinary research to be based at The University of Texas at Austin (UT) and undertaken in São Paulo, Brazil: (1) to identify the factors that informal settlement residents, planners, architects, and policy makers believe contribute to successful development; (2) apply criteria to a participatory post-occupancy evaluation (P-POE) of the processes and outcomes of four experimental approaches to development implemented in two informal settlements between 1990 and 2014; (3) input findings to a digital parametric urban design tool, developed by an Information Technology expert who is not the Candidate Fellow, that generates three dimensional future planning scenarios and text-based guidelines. The combined use of assessment criteria, evaluation, and the parametric tool has significant potential to synthesize the efforts of the diverse actors and institutions involved in development, increase citizen participation and project equity, visualize the fusion of policy goals and diverse user needs; and better align the goals and actual achievements of policies that directly affect some of the world's most vulnerable citizens in and beyond Brazil.

This research is being conducted by the Candidate Fellow and co-PI, Kristine Stiphany, an American citizen who will earn a PhD in Urban and Regional Planning in May of 2015. Kristine will be mentored by UT scholars Dr. Steven A. Moore (PI, School of Architecture) and Dr. Peter M. Ward (Co-PI, School of Public Policy). **Phase one**, funded by NSF in 2014 and now complete, examined the coevolution of housing and educational infrastructure in three settlements. Funding is sought from the NSF for **phase two**, *Constructing Empirical Public Decision-making: The Application of Situated Data to Development in Consolidated Informal Settlements*, the subject of this proposal. **Phase three** *Implementing an Evidence-Based Development Project*, will be undertaken at the completion of the proposed fellowship and under separate funding.

While the proposal is inspired by literature in International Planning, the **theoretical frameworks** and practical tools of Participatory Action Research (PAR) and Science and Technology Studies (STS) will guide the development and implementation of a P-POE in collaboration with two community groups in São Francisco (population 70,000/ n = 200) and Heliópolis (population 170,000/ n = 200), two settlements studied during phase one. Whereas PAR challenges expert accounts of marginalized people with strategies that advance the production of knowledge by marginalized people, STS examines the complex relationships between people, the production of knowledge, and the built environment. The interdisciplinary nature of PAR and STS; backgrounds of the Candidate Fellow and Mentors in Planning, Architecture, Public Policy, Sociology, and Geography; and partnership with community groups make this a unique interdisciplinary and transdisciplinary study.

The **intellectual merit** of this study includes the contribution to an emerging interest in planning in the relational analysis of social and spatial data afforded by STS. Second, it develops a participatory model for evaluating the impacts of informal settlement development and applying data findings to concrete outcomes. And third, it explores how to practically transform the development of informal settlements from a housing-centric, expert-driven enterprise to a transdisciplinary, research-based platform that increases citizen participation and improves the multiple risks that afflict developing cities.

The **broader impacts** of this study are the empowerment of community groups with situated data development and its translation into graphic formats that can visualize, and thus help to catalyze, long-term change. Second, findings will produce a practical, modifiable tool for application by community groups, planners, architects, and policy makers that are involved in informal settlement development worldwide. And third, a planning practicum taught at UT will extend to interdisciplinary students the opportunity to use the P-POE and digital tool to understand the spatial consequences of diverse planning visions in real life. The **concrete outcomes** include the Fellow's professional development through mentorships with two exceptional scholars at UT; continued work with community groups, academics, and professionals in São Paulo; an interdisciplinary seminar course and related planning practicum to be taught at UT; and an article to be submitted to a high impact, interdisciplinary journal.