

Urban Change, Infrastructure and Development:

Understanding and assessing needs and solutions from the street level to the globe

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Abstract: Urban environments are increasingly understood not just as where the majority of humanity now live, but also as embodying fast processes of social change and development. In this talk, I will present new general findings from urban science about the links between cities, infrastructure and development across scales. I will show how extraordinary new detailed data are revealing systematic features of physical and social environments at the very local levels (streets to neighborhoods), and how these fit into our understanding of human development, including issues of inequality. I will discuss evidence from the US at the census tract level, neighborhoods of South Africa and Brazil, and a new study measuring street access and development at the block level everywhere in Sub-Saharan Africa. This growing body of evidence paints a rich and holistic picture of processes of development, embedded in urban built spaces and infrastructure. It also suggests new strategies for the localization of sustainable development, and more modular approaches to policy solutions that are history and context appropriate and take advantage of co-production with neighborhood communities and local governments.

Bio: **Luís M. A. Bettencourt** is a Professor of Ecology and Evolution at the University of Chicago. He is also Associate Faculty of the Department of Sociology and External Professor at the Santa Fe Institute. His current research focuses on the modeling and theory of complex adaptive systems and, in particular, the processes that create and sustain cities. He connects interdisciplinary concepts together with new evidence and data to create new theoretical and methodological syntheses that account for the properties of urban environments and produce new science-based solutions to their challenges. This work also involves collaborations with interdisciplinary researchers worldwide, local governments and NGOs to co-produce new practices of sustainable development. His work is well-known academically and in the media, and has been influential in developing new theory and creative approaches to challenges of urbanization and complexity worldwide.

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