Title

From fail-safe to safe-to-fail: sustainability and resilience in the new urban world

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Abstract

Abstract: The extent to which the 21st Century world will be "sustainable" depends in large part on the sustainability of cities. Early ideas on implementing sustainability focused on concepts of achieving stability, practicing effective management and the control of change and growth-- a "fail-safe" mentality. More recent thinking about change, disturbance, uncertainty, and adaptability is fundamental to the emerging science of resilience, the capacity of systems to reorganize and recover from change and disturbance without changing to other states-- in other words, systems that are "safe to fail." While the concept of resilience is intellectually intriguing, it remains largely unpracticed in contemporary urban planning and design. This essay discusses the theory of resilience as it applies to urban conditions, and offers a suite of strategies intended to build urban resilience capacity: multifunctionality, redundancy and modularization, (bio and social) diversity, multi-scale networks and connectivity, and adaptive planning and design. The strategies are discussed in the context of resilience theory and sustainability science, and are …