

Design and technical guide for implementing innovative municipal scale coastal resilience in Southern Connecticut

Alexander J. Felson, Urban Ecology and Design Lab (UEDLAB), Yale School of Architecture and Alex Felson Landscape Architect (AFLA)

Robert O. Mendelsohn, Edwin Weyerhaeuser Davis Professor of Forest Policy, Yale School of Forestry and Professor of Economics; and Professor, School of Management

Carl Armento, Eugene Livshits, and Rebecca Andreucci, South Central Regional Council of Governance (SCRCOG)

Except where labelled, all of the drawings and maps were prepared by YALE UEDLAB for the Nature Conservancy as part of the Regional Framework for Coastal Resilience in South Central Connecticut with the SCRCOG. The Plan is part of the United States Department of the Interior Hurricane Sandy Coastal Resiliency Competitive Grant, October 2016. Drawings by Timothy Terway and Alex Felson with Yale Architecture students,

REGIONAL FRAMEWORK



OVERVIEW

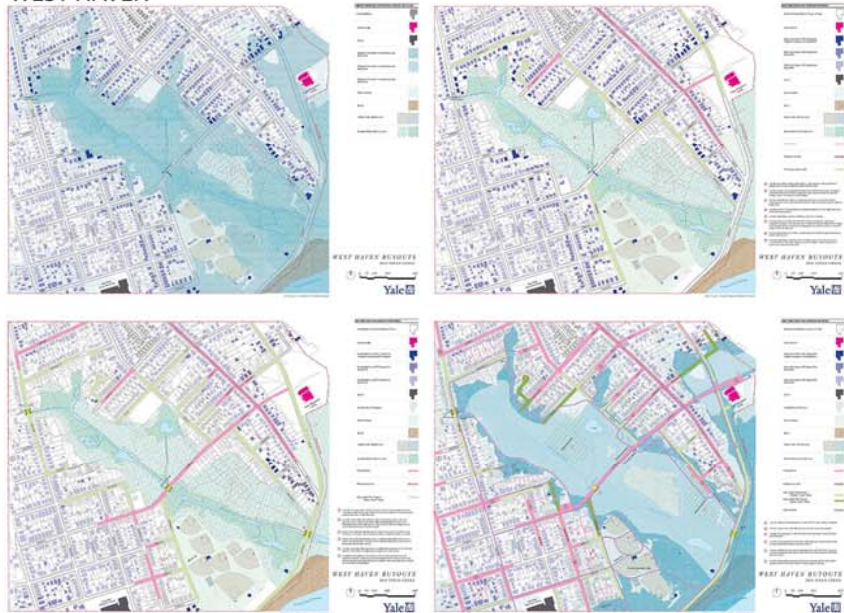
Coastal adaptation and resilience planning at the municipal scale face multiple challenges. Town planners are concerned with the tax base that coastal inhabitants represent, and, therefore, they seek solutions that preserve the existing configurations. This goes against the pressures of increased sea level rise and storm surges. There are several challenges to transition from planning to implementation, which range from lack of communication and decision tools, gaps in valuing urban ecosystem services, a peripheral role for ecologists in the creative design process, and a mismatch of the objectives and timelines across the different disciplines.

This proposal seeks to overcome some of these challenges that practitioners, planners and policymakers encounter, with the recognition that more than ever before the socio-economic and mounting environmental pressures upon built environments particularly in urban areas demand careful assessments to inform innovative actions. Using coastal adaptation strategies applied to selected projects, this proposal will build on exemplary projects that integrate social, ecological and economic goals. The strategies address land use changes and innovations in housing, landscapes and habitats, roadways and utilities, towards a cohesive transformation of an urban coastline, over time. Having examined the practical application of the strategies, this proposal is to work with municipalities to prioritize projects and identify choice near-term opportunities that feed into long term planning through the use of a decision making support tool.

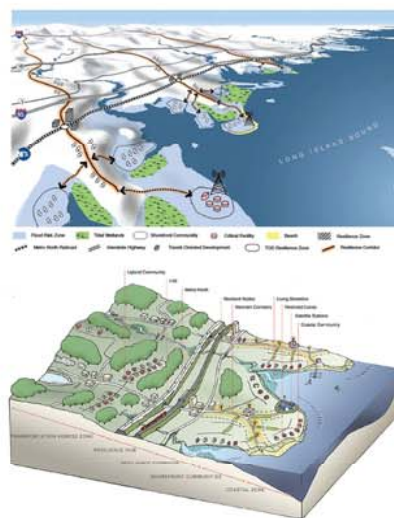
Each of the prioritized projects are intended to inform a broader state level set of lessons learned and ways of applying these coastal adaptation strategies more broadly to climate change adaptation. Each of the prioritized projects will be vetted through the application of the Economic Analysis/Decision Making Support Tool to refine the implementation process.

The outcome of this process will be a Design and Technical Guide based upon the evaluation of the Economic Analysis/Decision Making Support Tool by municipal staff and an advisory team with Legal and Engineering expertise. The Design and Technical Guide will serve as a toolkit to be integrated into the municipal planning process. They are intended ultimately to provide a guide for the transition from towns driven by hard infrastructure, road transportation and developer-driven housing to spaces created with equity, human health, ecosystem function, and climate change as drivers of planning and design.

WEST HAVEN

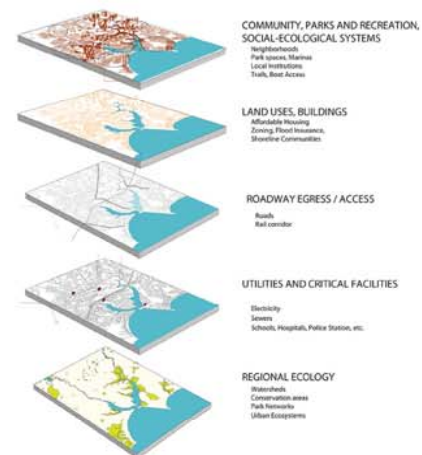


EAST HAVEN



RESILIENCE CORRIDOR

AFLA, Alex Felson Landscape Architect with Kate Hagemann, National Disaster Resilience Competition, U.S. Department of Housing and Urban Development CDBG-DR, Connecticut's application, October 2015. Drawings by Andy Sternad and Alex Felson.



Resilience Corridors are urban redevelopment corridors functioning as an extension of transit-oriented developments to improve transportation, utilities, stormwater and habitats through economic development. Resilience corridors respond to Connecticut's complex geology and topography, building on ridgelines extending down to the coast and creating access to vulnerable communities and critical facilities (hospitals, fire stations, power generation). Utilizing roadways along ridgelines provides an investment strategy for long-term functionality where the state can collaborate with municipalities to enhance the safety and livability of shoreline communities. Thus they function as a local egress (emergency route) and doubles as a state investment corridor.