

Project Title: Decision Making in the Face of Climate Uncertainty
Project Abstract (Brief Description): Sea level rise, increased frequency and intensity of flooding, and other extreme weather events have sparked a growing recognition that managed retreat must be among the solutions considered, in some locations, to protect human life, livelihoods, and substantial public and private infrastructure investments. To attract growth and increase the tax base, local governments often have an immediate economic incentive to authorize development in areas known to be at high risk to extreme weather events now and in the future. Expensive public and private transportation infrastructure, such as roads, bridges, or locks, and infrastructure designed to defend these assets from encroaching climate events (such as sea walls or levies), are built or repeatedly maintained despite these known and increasing risks. Moreover, displacing natural protections (such as wetlands or greenspace) serves to further increase risks. Longer term, the economic and human costs of continuing to build and re-build in high-risk areas may far outweigh any short term benefit to the local economy, but quantifying these costs in terms relevant to local communities can be difficult. This project will examine the need for managed retreat, case studies, and the significant challenges to implementing managed retreat as an adaptation strategy (e.g., resources, policy, law, role of insurance, cultural acceptance, and ability of relocated area to absorb increased population), with a particular focus on transportation and its interdependencies with other critical infrastructure systems. The project will also develop a decision making framework that can be used by transportation planners attempting to evaluate managed retreat as a potential adaptation strategy.
Describe Implementation of Research Outcomes (or why not implemented) - Place any photos here <i>To be determined upon conclusion of the project:</i>
Impacts/Benefits of Implementation (actual, not anticipated) <i>To be determined upon conclusion of the project:</i>
Web Links: martrec.uark.edu
Budget (Funding) Amounts & Source(s) (US DOT +Match(s) =Total Costs): (USDOT + Matching funds = Total Cost): USDOT (MarTREC) funds: \$99,398; matching: \$50,000. Total Cost: \$149,398.
Project Start and End Dates: December 1, 2019 – September 30, 2023 Complete
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