



MarTREC UTC Project Information Form
USDOT Tier 1 University Transportation Center
Agency ID or Contract Number 69A3551747130

Project Title: Dredging projects selection when the random shoaling effect is considered
Project Abstract (Brief Description): Dredging is a constant operation to maintain the waterway shipping capacity along the rivers, coastal lines as well as ports and harbors. The goal is to achieve a maximum network capacity to support the regional and national economies within the range of a given budget. Shoaling happens after dredging to partially offset or undermine the dredging benefits. Wisely spending the dredging budget for a network capacity by considering the shoaling effect is the objective of this proposed research. This proposal assumes shoaling at each location/section follows a known probability distribution with a given draft. It will build on earlier models and algorithms developed by the research team to propose optimality based stochastic model and algorithms for this particular problem, which specially considers interdependency of project effects on the network. This project expects to complement other researchers' earlier work that adopts discrete scenario based optimization method through simulation.
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 \$70,000 + Matching funds \$35,000=Total \$105,000.
Project Start and End Dates: 10/1/2019 – 9/31/2020
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Principal Investigator Institution (University): Texas A&M University