



Optimal Dispatching Policies for Donation Collection with Stochastic Demand

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This study introduces a Markov decision process (MDP) model for collecting donations and distributing them to disaster survivors. Donations that accumulate over time at collection sites are periodically transported to a relief center where they are used to satisfy the stochastic demands of beneficiaries. The MDP model minimizes expected unsatisfied demand during a finite horizon.

Biography

Emmett Lodree, Jr. was born and raised in New Orleans, Louisiana. He earned his BS (1995) and MS (1997) in Mathematics from the University of New Orleans, followed by his MS (1999) and PhD (2001) in Industrial Engineering from the University of Missouri-Columbia. Currently, he is an Associate Professor of Operations Management at the University of Alabama, where he has been since 2009. His research program primarily focuses on the application of stochastic dynamic programming methods to problems in the area of disaster response logistics. His research interests also include inventory theory, humanitarian operations, and the interface between operations management and economics.