Yacht Club Cash Flow Forecasting Model and 10-Year Capital Investment Plan

Felix Ruble, Katherine Graves, David Nguyen, and Naseem Shah

School of Operations Research and Systems Engineering
George Mason University, Fairfax, VA

Corresponding Author: fruble@gmu.edu

Author Note: The four authors of this project are all senior Systems Engineering undergraduate students at George Mason University. This project served as their capstone. The team leader and point of contact is Felix Ruble.

Abstract: Due to a historical decrease in both revenue and capital reserves, a Maryland yacht club is currently unable to make capital investments necessary to maintain its aging infrastructure and retain membership. This project intended to provide a Cash Flow Forecasting Model to club leadership as a tool to simulate club operations over time and a 10-year Capital Investment Plan with optimized recommendations. Coded in Python, the model divided the yacht club into a set of profit and loss centers, where each profit and loss center had predefined input parameters. The model then used these parameters to calculate and forecast cash flow line items. The team then used this model to produce cost constraints for the capital investment plan. Potential items were assessed using these constraints and multi-attribute utility functions.

Keywords: Cash Flow Forecasting Model, Capital Investment Plan, Python, Utility Functions, Profit and Loss