



PROJECT TITLE: CONSULTANT MANAGEMENT ESTIMATING TOOL

PRINCIPAL INVESTIGATORS: DR. TREFOR P. WILLIAMS, RUTGERS UNIVERSITY, DR. NEVILLE PARKER , CITY COLLEGE OF NEW YORK/CUNY

SPONSORS: NEW YORK STATE DEPARTMENT OF TRANSPORTATION RESEARCH AND INNOVATIVE TECHNOLOGY ADMINISTRATION / USDOT

INSTITUTIONS: RUTGERS UNIVERSITY
CITY UNIVERSITY OF NEW YORK

COMPLETION DATE: APRIL 2012

State transportation agencies typically negotiate with designers to determine the cost and staffing levels for the design of highway and bridge infrastructure. In the traditional Design-Bid-Build project format the design consultants are selected based on the merit of their proposal. After the designer is selected, the designer enters a negotiation with the state transportation agency to determine the design fee and the allowable billable hours for the various design activities.

The New York State Department of Transportation (NYSDOT) regularly contracts with engineering consultants for design services for some of their capital improvement projects. The contracts are administered through their Consultant Management Bureau. The Consultant Management Bureau is responsible for establishing the scope of work for a project and preparing an independent staffing estimate for the design effort involved.

The purpose of this research was to develop a database for the NYSDOT to provide Consultant Management Bureau managers with a predictive and comparative tool to aide in negotiations with design consultants. The functions of the estimating tool are to provide comparisons of the hourly staffing level of similar completed projects and to make a prediction of the total required hours for the project using regression analysis. The tool was developed using Microsoft Access. The database is continuously updated as additional projects are completed so it serves the dual purpose of assisting managers in determining appropriate staffing levels and as a repository of historical data.

Initial reports of Estimating Tool use have indicated that it provides useful information to NYSDOT managers. The system provides managers with additional information about the appropriate

staffing levels for a project design based on the projects type and characteristics. This additional information assists in the development of more accurate initial staffing plans. The system has also proven to be useful as a systematic way of logging historical project data. It is anticipated that as the database expands in size the utility of the system will increase.

The use of this system is expected to result in cost savings to the NYSDOT. The estimating tool will decrease the amount of time spent negotiating staffing levels and reduce errors in allocating resources to a design project. Additionally the tool will allow NYSDOT managers to better monitor and identify the need to reallocate resources, i.e. running over/under budget hours, providing cost savings.

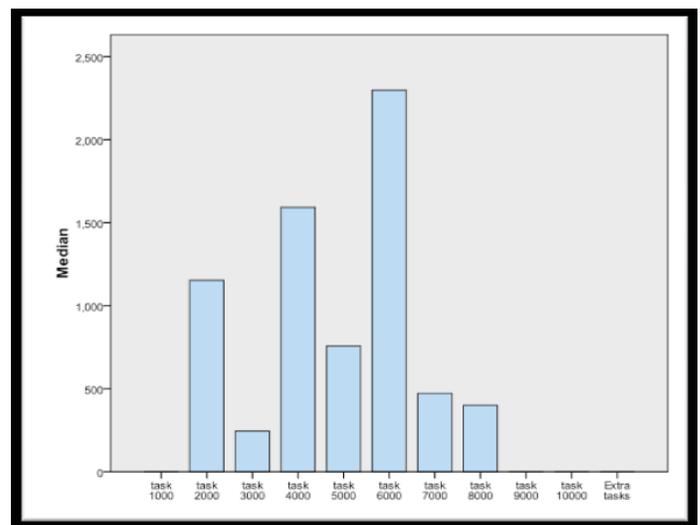


Figure 1: Median Values for Design Hours