

ABSTRACT

The Important things that need to know when planning the construction project are to optimize the time and the cost. In order to avoid construction project overdue, project crashing is used. One of project crashing method is Time-Cost Trade off. With this method, time and cost can be optimized without compromising quality.

Purpose of this study is to analyze time and cost change before and after crashing with variation of work-time increase and heavy equipment increase, to see which time and cost change due to work-time and heavy equipment increase is most effective, cost due to heavy equipment increase, and fine cost.

The data used in this study is from the road construction project data of Yogyakarta – Barongan (Imogiri). Data analysis using Microsoft Project 2010, Microsoft Excel 2010 with time cost trade off method. Critical line and cost increase due to work-time increase is from Microsoft project 2010 analysis result, and duration acceleration and cost increase due to duration acceleration is from time cost trade off analysis.

Result from this study shows that from three work-time increase variaton, the optimum work-time increase is 3 hours with crashing duration of 33.92 days and cost total is Rp. Rp23,599,317,276.54. For heavy equipment increase the optimum cost is with heavy equipment increase from 3 hours of overtime with crashing duration of 33.92 days with cost total of Rp23,214,100,428.31

Project crashing cost with overtime or heavy equipment increase are less than cost should construction project overduing and fined.

Key words : *Time Cost Trade off, Microsoft Project 2010, Additional of Work Hours, Additional of Equipments, Cost, Time*

