

ABSTRACT

The preparation of a series of activities in scheduling process must be made in detail to facilitate the project evaluation process, so the designed construction projects can run effectively and efficiently. This study aims to find the critical path, completion durations, and project costs before and after acceleration using proposed overtime as an alternative to crash the scheduling of the remaining project work. The case study in this research takes the Jakarta – Cikampek II Selatan Toll Road Package III project which focuses on the remaining work at stations (STA) 53+950 to 54+550. Some of the data needed in this study are an activity list, duration, list of workers wages, budget plan, and real estimate of cost at 4A Zone. In this study, the Critical Path Method (CPM) was used to compile a network planning diagrams, determine the critical path, and calculate the project completion duration. The Crashing Project method was applied to crash the schedule through the calculation of direct and indirect costs in each activity whose duration changes due to acceleration, cost slope, and total project costs due to the implementation of crashing methods with the proposed addition of working hours (overtime). The critical path was found in the activity of mobilization, tree felling, clearing, digging for disposal, borrow material, subgrade preparation, base course (A grade), subbase course (B grade), drainage layer, lean concrete (t = 10 cm), concrete pavement, installation of concrete barrier type B, and toll road signage. In the CPM, the duration of project completion is 214 days. The total project cost under normal circumstance is Rp22.073.412.654. After accelerating with the Crashing Project by proposed overtime was obtained the reduction total cost of Rp32.004.882 from the total normal cost of Rp22.073.412.654 to Rp22.041.407.771 with an optimum duration of 183 days.

Keywords — [CPM, Planning, Overtime, Crashing, Scheduling]