Abstract

The development and increase in the volume of rail transport trip in Java Island causing the volume of railroad in this Island need to increased. The most suitable solution to improve this is by way of a double railroad development in the cross. Hence, the appropriate methods should be implemented along with the adjusted condition of cost and existing time.

By far, construction of the implemented railroad is by using the conventional construction methods of operation. On the contrary, the mechanical method of operation had been previously used by PT.KAI. This research was made to understand the comparison between the conventional method of project implementation and the mechanical method in terms of cost and time.

After completing several analysis of the work item unit price, and labor productivity, gained some quite significant differences. Among them are the differences in costs and accelerating time. Viewed from the aspect of cost, the implementation of railway development projects between Patuguran double-Navan will be considerably cheaper by using the conventional methods of operation compared to the mechanical implementation. According to the result of the analysis, the total value of work with mechanical methods of Rp.193,908,484,874.60 and the total value of the work with conventional methods of Rp.155,742,232,029.85. This shows that the double railway construction project of Patuguran-Purwokerto with mechanical methods will be much more expensive of 24.506% or Rp.38,166,252,844.75 than conventional methods of project implementation. Regarding to the execution time, the conventional
method execution time is 73 weeks, or 12 weeks longer compared to
the execution of work by the mechanical method.

In conclusion, the conventional method is definitely suitable to
be implemented for the double railway construction project of
Patuguran-Purwokerto owing to the efficiency of time and cost, in
particular referred to the predicted cost and time and the actual
situation.

**Keywords**: conventional implementation methods, mechanical
method of operation, double path rail.