

Developing conceptual design of high speed railways using value engineering method: Creating optimum project benefits

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Abstrak

As a consequence of an improvement in productivity, due to shorter travel time and further development in connectivity, a High Speed Train (HST) project is one kind of infrastructure which has a potential for positive impact on economic development and growth. However, HST project feasibility rarely meets related stakeholders' expectations, since the benefits and added value are considered low, when compared to the value of investment. Therefore, a comprehensive study is required by producing innovative ideas to improve the feasibility of HST projects, from the viewpoint of both technical and economic aspects. This study is aimed at improving the feasibility of project investment for the conceptual design of Jakarta-Surabaya HST project by using Value Engineering (VE). The methodology uses both qualitative and quantitative approaches through in-depth interviews and life cycle cost analysis. Route 1 selected as the best scenario that has 4 stations connecting Jakarta to Cirebon to Semarang, and to Surabaya. The HST project requires a budget of 36 Trillion IDR with operational and maintenance costs estimated for about 1.2 Billion IDR per year for 685 km of high speed train infrastructure.