

ABSTRAK

Pembangunan jalan layang busway dipilih oleh Pemerintah DKI Jakarta untuk mengurangi titik kemacetan dikawasan padat penduduk dengan menambah jalan baru ditengah jalan eksisting. Pembangunan dilaksanakan pada tahun 2014 sampai dengan tahun 2016, permasalahan keterlambatan pelaksanaan proyek dan cacat mutu pekerjaan pada jalan layang salah satunya disebabkan oleh buruknya teknis pelaksanaan dan penjadwalan yang kurang optimum. Berdasarkan permasalahan tersebut, maka perlu dilakukan analisis faktor-faktor yang memengaruhi durasi waktu pelaksanaan dan mutu konstruksi pada pembangunan jalan layang. Analisis pengaruh penerapan integrasi *Precedence Diagram Method* (PDM), *Line Of Balance* (LOB) dan *Six Sigma* untuk mengefisiensi durasi waktu pelaksanaan dan mengurangi terjadinya *defect*. Hasil analisis statistika didapatkan faktor-faktor dominan dalam durasi waktu pelaksanaan dan mutu konstruksi pada jalan layang. Gabungan dari faktor durasi waktu pelaksanaan (X1), faktor pelaksanaan mutu konstruksi (X2), penerapan metode integrasi PDM dan LOB (X3), dan penerapan metode Six Sigma (X4) secara simultan berpengaruh sebesar 77,60 % terhadap kinerja waktu dan mutu (Y) proyek jalan layang, dengan persamaan model matematika regresi : $Y = 13,638 + 0,214X1 + 0,190X2 + 0,196X3 + 0,314X4 + e$.

Kata Kunci : *Precedence Diagram Method (PDM), Line Of Balance (LOB), Six Sigma.*



ABSTRACT

The construction of the elevated busway was chosen by the DKI Jakarta Government to break down congestion points in densely populated areas by adding a new road in the middle of the existing road. The construction was carried out from 2014 to 2016, the problem of delays in project implementation and defects in the quality of work on the flyover, one of which was caused by poor technical implementation and less than optimum scheduling. Based on these problems, it is necessary to analyze the factors that affect the duration of implementation and the quality of construction in the construction of flyovers. Analysis of the influence of the application of the Precedence Diagram Method (PDM), Line Of Balance (LOB) and Six Sigma integration to streamline the implementation time duration and reduce the occurrence of defects. The results of statistical analysis obtained the dominant factors in the duration of implementation time and the quality of construction on the flyover. The combination of the implementation time duration factor (X1), the construction quality implementation factor (X2), the application of the PDM and LOB integration methods (X3), and the implementation of the Six Sigma method (X4) simultaneously have an effect of 77.60% on time and quality performance (Y) flyover project, with the equation of the regression mathematical model: $Y = 13.638 + 0.214X1 + 0.190X2 + 0.196X3 + 0.314X4 + e$.

Keywords: *Precedence Diagram Method (PDM), Line Of Balance (LOB), Six Sigma.*



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