

ABSTRAK

Poppy Tasya Margaretha Siagian NIM 5203510008: Analisis Perbandingan Metode Konvensional dengan Metode *Slipform Concrete Paver* Terhadap *Value Stream Mapping* Pelaksanaan Pekerjaan Perkerasan Kaku (Studi Kasus : Proyek Pembangunan Jalan Tol Trans Sumatera Ruas Indrapura-Kisaran Seksi II). Proyek Akhir. Fakultas Teknik Universitas Negeri Medan.2024

Pelaksanaan pekerjaan perkerasan kaku pada proyek Pembangunan jalan tol Indrapura-Kisaran menggunakan dua metode yaitu, konvensional dan *slipform concrete paver* karena dipengaruhi oleh factor lebar jalan. Biaya untuk pelaksanaan perkerasan kaku lebih mahal dibandingkan perkerasan lentur dengan persentase 33,63% oleh karena itu perlu dilakukan pengendalian waktu dengan melihat aliran proses dan mengidentifikasi pemborosan yaitu menggunakan pendekatan *Value Stream Mapping*. Penelitian ini bertujuan untuk mengetahui perbedaan aliran proses, total waktu siklus dan hambatan pekerjaan perkerasan kaku. Metode penelitian yang digunakan adalah *Value Stream Mapping*, Penelitian dilakukan dengan cara pengamatan langsung dan mencatat pada *work sampling*. Hasil pengamatan dibuat dalam bentuk *Value Stream Mapping* untuk mengetahui perbedaan aliran proses dan total waktu siklus, hambatan pekerjaan didapat dari hasil *work sampling* penyebab *Non Value Adding Activity Uncertainty*. Hasil Penelitian menunjukkan terdapat perbedaan bentuk *Value Stream Mapping*, metode Konvensional terdiri dari 10 jenis pekerjaan dan terdapat 5 jenis pekerjaan yang dapat dibandingkan. Sedangkan metode *slipform concrete paver* terdiri 5 jenis pekerjaan. Jenis pekerjaan yang dibandingkan meliputi, pemasangan plastic, pekerjaan dowel, *mobilisasi* material, pekerjaan pemadatan, dan pekerjaan *quality control*. pekerjaan pemasangan plastic, pekerjaan dowel, pekerjaan material, pekerjaan pemadatan dan pekerjaan *quality control*. Total waktu siklus pada metode konvensional 255,94 Menit dan untuk konversi metode *slipform concrete paver* 175,32 Menit sehingga terdapat perbedaan 80,62 Menit dengan persentase sebesar 49,75%. Terdapat 3 hambatan pada proses pelaksanaan perkerasan kaku yaitu, kurangnya pekerja dilapangan, kondisi lingkungan, proyek dan cuaca.

Kata Kunci : VSM, Perkerasan, Kaku

**COMPRATIVE ANALYSIS OF CONVENTIONAL METHODS WITH THE
SLIPFORM CONCRETE PAVER METHOD FOR VALUE STREAM
MAPPING IMPLEMENTATION OF RIGID PAVEMENT WORK (CASE
STUDY : TRANS SUMATERA TOLL ROAD CONTRUCTION PROJECT FOR
INDRAPURA-KISARAN SECTION II)**

Poppy Tasya Margaretha Siagian

5203510008

ABSTRACT

The implementation of rigid pavement work on the Indrapura-Kisaran toll road construction project uses two methods, namely, conventional and slipform concrete paver because it is influenced by the road width factor. The cost for the implementation of rigid pavement is more expensive than flexible pavement with a percentage of 33.63%, therefore it is necessary to control the time by looking at the process flow and identifying waste by using the Value Stream Mapping approach. This study aims to determine the difference in process flow, total cycle time and the resistance of rigid pavement work.

The research method used is Value Stream Mapping. The research was conducted by direct observation and taking notes on work sampling. The results of observations are made in the form of Value Stream Mapping to determine the difference between process flow and total cycle time, work constraints are obtained from the work sampling results that cause Non Value Adding Activity Uncensarry.

The research results show that there are different forms of Value Stream Mapping, the conventional method consists of 10 types of work and there are 5 types of work that can be compared. Meanwhile, the slipform concrete paver method consists of 5 types of work. The types of work compared include plastic installation, dowel work, material mobilization, compaction work and quality control work. plastic installation work, dowel work, material work, compaction work and quality control work. The total cycle time for the conventional method is 255.94 minutes and for the slipform concrete paver conversion method 175.32 minutes so there is a difference of 80.62 minutes with a percentage of 49.75%. There are 3 obstacles to the process of implementing rigid pavement, namely, lack of workers in the field, environmental conditions, projects and weather.

Keywords: VSM, Pavement, Rigid