COMPARATIVE STUDY OF RIGID PAVEMENT USING CONVENTIONAL AND PPCP (PRECAST PRESTRESSED CONCRETE PAVEMENT) METHOD RELATED TO PROJECT COST AND PROJECT DURATION.
(Case Study : Surabaya-Mojokerto Toll Road)

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Abstract
One of long-term government’s programs in developing road infrastructure is to provide trans-java toll road. There is a new construction method of rigid pavement introduced as PPCP (Precast Prestressed Concrete Pavement) which applied for the first time in Indonesia at Kanci-Pejagan Toll Road which connect Cirebon and Brebes. In East Java, there is a 34,05Km Surabaya-Mojokerto Toll Road project which built by conventional method of rigid pavement.

This research aim is to apply rigid pavement with PPCP method at Surabaya-Mojokerto Toll Road, and then compare it with its existing rigid pavement with conventional method, in related to project cost and project duration. The first step of analysis is to establish structural planning for PPCP method by considering existing traffic load data at Surabaya-Mojokerto Toll Road. Then, develop Bill of Quantity and calculating productivity for each activity as an input for cost and time analysis at every single
method. The last step is to compare both conventional method and PPCP method applied at Surabaya-Mojokerto Toll Road in relation to project cost and project duration. Then, the result of this comparison is an input for choosing the appropriate construction method for Surabaya-Mojokerto Toll Road.

The conclusion of this research, implementation of PPCP method at Surabaya-Mojokerto toll road is 127 days shorter than project duration with conventional method, but require additional direct cost as Rp.72.748.829.87. For indirect cost, PPCP method is saving Rp.870.360.822.00 instead of the conventional one, caused by 127 day shorten project duration.

**Keywords:** conventional method, project cost, project duration, PPCP (Precast Prestressed Concrete Pavement), rigid pavement, Surabaya-Mojokerto Toll Road.