

## ***ABSTRACT***

*Scheduling is a very critical thing to do in the planning stage. Making scheduling that is not reliable can result in losses for both the contractor and the project owner, including government projects. One method that can be used to accommodate the delay factor is FLASH (Fuzzy Logic Application for Scheduling). In this study, scheduling with FLASH was carried out on the Pules Bridge, Donokerto, Turi, Sleman Improvement project. This project was chosen because the Bridge is a connecting access whose existence is very important for the community. So if it is too late, this project is very disturbing and harms many parties. The purpose of this study is to identify the factors that cause project delays, make scheduling implementation and calculate the total cost of the project using the FLASH method.*

*This type of research is analytical. Data collection in the form of secondary data such as schedules and RAB was obtained from the Public Works and Community Development Agency of the Highways, while the primary data was obtained through interviews and questionnaires to related parties namely Public Works Agency, contractors and some similar contractors in Yogyakarta. Then identification of delay factors from the results of the questionnaire to find the value of  $\alpha$  cut for each bridge structure work, followed by the preparation of a network of Activity On Arrow (AOA), calculation of the value of FES (Fuzzy Early Start), FEF (Fuzzy Early Finish), FLS (Fuzzy Late Start), FLF (Fuzzy Late Finish), and threshold time to determine the critical path and maximum duration and minimum project completion. Furthermore, project costs are calculated in pessimistic and optimistic conditions by comparing the duration of obtaining labor and equipment costs in each condition.*

*The results of this study were the factors identified as the cause of the delay in the Pules bridge construction project were weather factors of 39.86%; equipment, material and finance at 18.5%; field conditions of 15%; and HR and managerial at 13.06%. From the results of calculations with FLASH for the implementation of the Pules Bridge project it can be carried out at the earliest 148 days at a cost of Rp. 3.948.871.192,19 and no later than 162 days with a budget of Rp. 4.031.725.085,63*

***Keyword:*** *Scheduling, Duration, Cost, FLASH.*