

## **ABSTRACT**

*PT. XYZ is a transportation services company. The company is engaged in freight travel transportation services. PT. XYZ who first introduced the service "Point to point (shuttle)" at the time Cipularang toll road opened in May 2005. After 8 years of existence, PT. XYZ currently has a departure point 15 in Jakarta and 7 in Bandung, and continues to grow and is always trying to provide the best service for its customers.*

*The costs incurred to perform maintenance frequently exceed the budgeted costs by PT. XYZ. It can be caused due to poor planning and less precise maintenance policy. PT. XYZ also set a budget amount based solely on cost data in the previous year. Travel vehicle in PT. XYZ also often experience problems in machine effectiveness with vehicles sometimes see unexpected damage when it needs to operate.*

*This research perform the calculation of Life Cycle Cost and Overall Equipment Effectiveness. The result is obtained that the optimal number of repair channels is at  $M = 3$  with retirement age at  $n = 4$  and the most minimal amount of life cycle cost is Rp 16,141,659,930. Life Cycle Cost difference between the existing and proposed is Rp 6,401,791,833.*

*Based on the results of measurements effectiveness of travel vehicle using OEE availability values obtained 93.67%, performance rate 80,10% and rate of quality 99.97% so the overall value of the OEE for a travel vehicle amounted to 75.01%. This value is still below the standard of JIPM that is equal to 85%. Through losses obtained from the calculation of OEE, six big losses that occur in the machine/equipment include equipment failure, setup and adjustment, idling and minor stoppages, reduced speed, rework losses, and yield / scrap losses. The main factor causing the low value of OEE is reduced speed.*

**Keywords:** *Life Cycle Cost , Overall Equipment Effectiveness*