The Cost Comparative Study of Flexible Pavement and Concrete Pavement Strengthening: a 20-Years Review

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Abstract. Comparative study of the cost of flexible road pavement with concrete (rigid) road pavement from a design age of 20 years to determine the comparison of the cost levels of the two types of pavement located on Jalan Antang Raya, Makassar City. So far, flexible pavement types have been used more frequently, while rigid pavement (concrete) is still relatively small, and there are still few studies on the two types of pavement in terms of cost efficiency. This research aims to find out the cost comparison of the two road pavement designs, both rigid and flexible, in terms of a design life of 20 years, and to find out how much it costs between rigid and flexible pavement construction in one meter. Pavement thickness planning uses characteristic analysis from the Bina Marga method for flexible road types and rigid road types using the AASHTO 1993 method to determine the thickness of the concrete road construction. The data used is traffic volume, road pavement characteristics, details of work volume, unit price analysis. From the results of the analysis of pavement thickness for both types of roads, the pavement thickness for LPB flexible pavement is 35 cm thick, LPA is 20 cm and Penetrating Asphal is 10 cm thick and the costs required for a road width of 7 meters, the cost of Flexible Pavement is IDR. 2,839,477.22/1 meter, while for LPB rigid pavement 35 cm thick, Bo Concrete 10 cm and rigid layer 20 cm thick at a cost of Rp. 5,856,033.62/1 meter with a 20-year design life.

Keywords: *Flexible Road, Rigid Road, design life 20 years, Pavement costs*.