ABSTRACT

Analysis of Facilities and Infrastructure Planning in the Bus Rapid Transit (BRT) Corridor of Ibu Kota Nusantara (IKN) Sumbu Kebangsaan

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The relocation of the capital city of the Republic of Indonesia from Jakarta to the Capital City of the Archipelago (IKN) in East Kalimantan aims to support equitable economic transformation throughout Indonesia. as part of this effort, planning and development of an efficient and sustainable transportation system is essential. This research focuses on analyzing the planning of facilities and infrastructure in the IKN National Axis Bus Rapid Transit (BRT) corridor. The research was conducted by analyzing operational planning, including BRT routes, determination of bus stop points, operating hours, selection of bus types and capacities, BRT stop design, and tariff determination. Based on the results of the analysis in this study, the BRT route was designed along 6 kilometers with 18 stop points. The system is operated for 17 hours every day, from 06:00 to 22:00, with adjusted service frequency for peak and off-peak hours. BYD electric bus type K-9 with a capacity of 60 passengers. The BRT bus stop design is designed to accommodate two buses at once and is equipped with adequate supporting facilities. Tariff calculation based on Vehicle Operating Cost (BOK) resulted in a cost per passenger kilometer of Rp. 1,825.72 rounded up to Rp. 2,000. Benchmarking with the Semarang and Hong Kong BRTs shows that although the IKN BRT is smaller in scale, there is great potential for future development.

Keywords: *BRT, Operational Planning*

Libraries : 25

Publication Years : 1996 - 2023