

ABSTRAK

Perlintasan sebidang JPL 177 Km 165+473 Jalan Gedebage Selatan merupakan perlintasan dengan tingkat aktivitas tinggi karena berada pada kawasan strategis berbagai pusat kegiatan. Penelitian ini bertujuan untuk mengevaluasi kesesuaian standar teknis perlintasan, menganalisis kinerja lalu lintas jalan dan operasional kereta api serta menilai kelaikan operasional perlintasan tersebut. Metode yang digunakan meliputi evaluasi terhadap geometrik jalan, jarak pandang, kelengkapan rambu dan marka serta analisis kinerja lalu lintas jalan dan operasional kereta api berdasarkan peraturan yang berlaku. Hasil evaluasi menunjukkan bahwa perlintasan JPL 177 tidak memenuhi standar teknis, baik dari aspek geometri jalan, jarak pandang, kelengkapan rambu dan marka. Kinerja lalu lintas pada perlintasan tersebut berada pada tingkat pelayanan (LOS) E dan F yang menunjukkan kondisi jenuh, sementara frekuensi kereta api mencapai 78 KA/hari dengan *headway* kurang dari 7 menit dan kecepatan kereta api yang tinggi yaitu 100 s.d 110 Km/jam. Nilai beban kinerja perlintasan mencapai 5.214.130 SMPK, jauh melampaui batas maksimum yang diizinkan, sehingga perlintasan JPL 177 dinyatakan sudah tidak laik dioperasikan sebagai perlintasan sebidang.

Kata Kunci: Perlintasan sebidang, JPL 177 Gedebage, kinerja lalu lintas, operasional kereta api, tingkat pelayanan jalan (LOS), beban kinerja (SMPK), tidak laik.

ABSTRACT

The level crossing JPL 177 at Km 165+473 on Gedebage Selatan Road is characterized by a high level of activity due to its location within a strategic area that accommodates various activity centers. This study aims to evaluate the compliance of the crossing with technical standards, analyze road traffic performance and railway operations, and assess the operational feasibility of the crossing. The methods employed include the evaluation of road geometry, sight distance, the adequacy of traffic signs and markings, as well as the analysis of road traffic performance and railway operations based on applicable regulations. The results indicate that the JPL 177 level crossing does not meet the required technical standards in terms of road geometry, sight distance, and the provision of traffic signs and markings. Traffic performance at the crossing is categorized at Level of Service (LOS) E and F, indicating congested conditions. Meanwhile, railway operations are intensive, with a frequency of 78 trains per day, headways of less than 7 minutes, and high train speeds ranging from 100 to 110 km/h. The performance load value reaches 5,214,130 SMPK, which significantly exceeds the allowable maximum limit. Therefore, the JPL 177 crossing is considered no longer feasible to be operated as a level crossing.

Keywords: *level crossing, JPL 177 Gedebage, traffic performance, railway operations, level of service (LOS), performance load (SMPK), infeasible*

