

Perancangan tebal perkerasan jalan di Indonesia diatur dalam pedoman Manual Desain Perkerasan Jalan (MDPJ). MDPJ memiliki tiga versi, yaitu MDPJ tahun 2013, 2017, dan 2024. Pembaruan metode MDPJ mencerminkan perbaikan metode mekanistik empiris seiring dengan hasil evaluasi teknis lapangan dan meningkatnya arus lalu lintas. Penelitian ini bertujuan merancang tebal perkerasan jalan lentur dan melakukan analisis komparatif untuk mengetahui perbedaan kriteria desain yang diterapkan dalam perancangan tersebut. Perancangan tebal perkerasan pada penelitian ini dilakukan menggunakan studi kasus Jalan Rejosari, Kabupaten Magelang. Metode perancangan yang digunakan yaitu Manual Desain Perkerasan Jalan versi tahun 2013, 2017, dan 2024. Hasil perancangan tebal perkerasan dan kriteria desain setiap metode kemudian dibandingkan dan dianalisis secara komparatif.

Hasil perancangan tebal perkerasan metode MDPJ 2024, didapatkan lapisan AC WC tebal 50 mm, lapisan LPA kelas A tebal 160 mm, lapisan LPA kelas B tebal 110 mm, dan lapisan stabilisasi tanah asli tebal 160 mm. Sementara itu, dengan pedoman MDPJ 2017 didapatkan lapisan AC WC tebal 50 mm, lapisan LPA kelas A tebal 220 mm, lapisan LPA kelas B tebal 150 mm, dan lapisan stabilisasi tanah tebal 200 mm. Terakhir, dengan MDP 2013 didapatkan lapisan AC WC 50 mm, lapisan LPA kelas A 300 mm, lapisan LPA kelas B tebal 200 mm, dan lapisan stabilisasi tanah tebal 260 mm. Hasil perancangan tebal lapisan perkerasan dengan MDP 2013 menghasilkan lapisan perkerasan yang paling tebal, sedangkan dengan MDPJ 2024 menghasilkan tebal lapisan yang paling tipis. Penurunan tebal lapisan perkerasan menunjukkan adanya perbedaan kriteria desain pada MDPJ tahun 2013, 2017, dan 2024. Perbedaan kriteria desain terletak pada analisis lalu lintas, analisis daya dukung tanah dasar, dan analisis lapisan perkerasan.

**Kata kunci:** Perancangan tebal perkerasan jalan, MDPJ 2024, MDPJ 2017, MDPJ 2013, Analisis komparatif.

The design of pavement thickness in Indonesia is regulated by the Manual of Pavement Design (MDPJ). The MDPJ has three versions, which are 2013, 2017, and 2024 MDPJ. The MDPJ method updates reflect improvements in empirical mechanistic methods in line with the results of field technical evaluations and increasing traffic flows. This research aims to design flexible pavement thickness and conduct comparative analysis to determine the differences in design criteria applied in the design. The design of pavement thickness in this research was conducted using a case study of Rejosari Road, Magelang Regency. The design method used was the 2013, 2017, and 2024 versions of the Pavement Design Manual. The results of pavement thickness design and design criteria for each method were compared and analyzed comparatively.

The results of the pavement thickness design using the MDPJ 2024 method showed, a 50 mm thick AC WC layer, 160 mm thick class A LPA layer, 110 mm thick class B LPA layer, and 160 mm thick native soil stabilization layer were obtained. Meanwhile, with the MDPJ 2017 guidelines, a 50 mm thick AC WC layer, 220 mm thick class A LPA layer, 150 mm thick class B LPA layer, and 200 mm thick native soil stabilization layer were obtained. Lastly, with MDPJ 2013, 50 mm thick AC WC layer, 300 mm thick class A LPA layer, 200 mm thick class B LPA layer, and 260 mm thick soil stabilization layer were obtained. The results of designing the pavement layer thickness with MDPJ 2013 resulted in the thickest pavement layer, while MDPJ 2024 resulted in thinnest layer thickness. The decrease in pavement layer thickness indicated the difference in design criteria MDPJ 2013, 2017, and 2024. The difference in design criteria lies in traffic analysis, subgrade bearing capacity analysis, and pavement layer analysis.

**Keywords:** Pavement thickness design, MDPJ 2024, MDPJ 2017, MDPJ 2013, Comparative analysis.