

Analisis Potensi Penggunaan Fasilitas Transfer Pejalan Kaki Antarmoda Angkutan Umum Berbasis Rel = Analysis of Willingness to Use Pedestrian Transfer Facility for Rail-Based Public Transport Intermodality

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Abstrak

Penelitian dilakukan untuk mengetahui potensi penggunaan fasilitas pejalan kaki sebagai penunjang proses transfer antarmoda angkutan umum berbasis rel berdasarkan kondisi hipotetikal fasilitas pejalan kaki sebagai moda yang dapat dipilih masyarakat untuk melakukan transfer dibandingkan dengan atribut waktu dan biaya moda kompetitor (mikrotrans) dengan pendekatan choice model. Metode analisis pada penelitian ini menggunakan model logit biner yang dibuat berdasarkan data primer hasil survei. Survei dilakukan dengan metode stated preference. Fungsi utilitas dibuat dengan metode regresi logistik dengan variabel hasil uji korelasi Spearman berdasarkan kelompok data pendapatan dan jenis kelamin diikuti dengan uji kelayakan menggunakan parameter uji Omnibus Test of Model Coefficients, Hosmer and Lameshow Test, Overall Percentage, -2 Log Likelihood, dan Nagelkerke R Square. Kemudian dilakukan uji validasi dengan membandingkan data hasil model dan data real menggunakan metode Root Mean Square Error. Selanjutnya dilakukan uji komparasi dengan metode Mann-Whitney dan Kruskal-Wallis untuk mengetahui signifikansi perbedaan dari model untuk setiap kelompok. Berdasarkan hasil analisis, model – model yang diuji dapat digabungkan dan diwakilkan oleh satu model. Probabilitas potensi penggunaan fasilitas transfer pejalan kaki adalah sebesar 70,74%. Keluaran lainnya dari penelitian ini adalah besaran value of time proses transfer antarmoda angkutan umum berbasis rel melalui jembatan pejalan kaki yaitu Rp586,52/menit (pendapatan rendah-sedang), Rp761,90/menit (pendapatan tinggi), Rp666,67/menit (perempuan) dan Rp577,64/menit (laki-laki).

.....The research was conducted to determine the potential use of pedestrian facilities as support for the intermodal transfer process of rail-based public transportation based on the hypothetical condition of pedestrian facilities as a mode that can be chosen by the public for transfer compared to the attributes of time and cost of competitor modes (mikrotrans) using a choice model approach. The analysis method in this study uses a binary logit model based on primary data from surveys. The survey was conducted using the stated preference method. The utility function was created using logistic regression methods with variables resulting from the Spearman correlation test based on income and gender data groups followed by feasibility test using the parameters of the Omnibus Test of Model Coefficients, Hosmer and Lameshow Test, Overall Percentage, -2 Log Likelihood, and Nagelkerke R Square. Then proceed with conducting validation test by comparing the model data and real data using the Root Mean Square Error method. Afterward, a comparative tests with the Mann-Whitney and Kruskal-Wallis methods were performed to determine the significance of differences in the model for each group. As the result, models tested can be combined and represented by a single model. The calculated probability for potential use of pedestrian transfer facility is 70,74%. Another output of this research is the value of time for the transfer process between rail-based public transportation through pedestrian bridge are Rp586,52/minute (low-medium income group), Rp761,90/minute (high income group), Rp666,67/minute (female gender group) and Rp577,64/minute (male

gender group).