



## ABSTRACT

In 2021, the population of motorized vehicles in DIY reached 3 million units of which 85% were motorcycles. The growth in the number of motorized vehicles results in increased congestion, pollution, and traffic accidents. In an effort to overcome transportation problems in Yogyakarta, in 2008 the government operated BRT (Bus Rapid Transit) based public transportation, Trans Jogja. However, various studies show that the load factor of Trans Jogja is very low. This study was conducted to see how much motorcycle users want to switch to Trans Jogja.

Primary data was obtained online and offline from 455 motorcycle users by answering a research questionnaire consisting of four sections: sociodemographic characteristics, travel characteristics, service factors that are prioritized to switch to Trans Jogja, and passenger preferences for the 8 scenarios offered. Data analysis was conducted using descriptive methods, crosstab, spatial analysis, factor analysis, and ordered logit with the help of JMP, SPSS, ArcMap, and STATA software.

The results of the crosstab analysis show that the sociodemographic characteristics of respondents that correlate with the number of motorcycle owners are age, income, pocket money, and number of family members. Based on the factor analysis of public transport services prioritized by motorcycle users to switch to Trans Jogja, 4 latent factors were obtained, namely Trans Jogja service performance, transit experience, bus facilities, and fees and parking. And the results of the ordered logit analysis in the state preference section show the highest probability of moving from motorcycles to Trans Jogja is in scenario 3 where the Trans Jogja ticket price is assumed to be free, the walking distance to the bus stop is 250 m, the travel time on the bus is 15 minutes, there is a road restriction policy with odd-even license plates and a paid road system.

**Keywords:** Motorcycle, Trans Jogja, mode shift, stated preference, ordered logit.