

## **ABSTRACT**

*Commuter mobility in urban areas remains heavily reliant on private vehicles due to weak connectivity in the first-mile and last-mile segments, as well as a mismatch between spatial planning and the actual travel patterns of passengers. Previous studies have predominantly applied uniform physical-spatial approaches, without adequately accounting for the local characteristics of station areas or the variability in user travel behavior when shaping Transit-Oriented Development (TOD) strategies. This gap highlights the need for a typological approach to station area planning that integrates both spatial attributes and passenger mobility behavior, enabling a more adaptive and context-sensitive planning framework.*

*This study aims to examine the formation of station area typologies along a transit corridor, identify travel behavior characteristics particularly during the first-mile and last-mile stages and investigate the relationship between travel patterns and station area typologies along the Jakarta Kota–Bogor commuter rail corridor. A quantitative approach was employed, combining exploratory and inferential methods. Primary data were collected through a questionnaire survey distributed to passengers at 24 stations. The analysis was conducted in three stages: (1) identifying passengers' socio-demographic characteristics and travel patterns; (2) constructing station area typologies based on spatial-functional variables using Principal Component Analysis (PCA) and K-Means Clustering; and (3) testing the relationship between travel behavior and station typologies using cross-tabulation, ANOVA, and partial correlation.*

*The findings reveal five distinct station area typologies: integrated central areas, dense commercial zones, medium-density residential areas, car-oriented suburban areas, and emerging mixed-use zones. Each typology demonstrates significant differences in travel behavior, particularly in terms of access mode, trip frequency, trip purpose, and first-mile/last-mile distance. Passengers in integrated central areas tend to use active modes and travel more frequently, whereas suburban areas are dominated by private vehicle use and exhibit longer access distances. The application of TOD concepts in transit corridors, such as those in Indonesia, can be effectively implemented by incorporating station area typologies and user travel profiles into planning and development strategies.*

*Keyword: travel pattern, typology, transit nodes, commuter rail station, first-mile, last-mile*