

On the transferability of pedestrian demand models: Empirical insights from Sydney, Melbourne and Brisbane

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In this study, we present an approach to pedestrian demand estimation using household travel survey data from Brisbane, Sydney, and Melbourne. The study develops and compares classical statistical modelling approaches with more advanced machine learning models to compare the intricate relationships between socio-economic factors, land use patterns, and pedestrian demand. To assess the transferability of the models, we cross-validate each city-specific model using data from the other two cities. Findings reveal both the strengths and limitations of developed pedestrian demand models and their transferability. The research highlights the factors that contribute to successful model transferability and identifies key differences in pedestrian demand characteristics across the three study locations.