Thesis Title	Assessing Changes in Travel Mode Choice Preferences During Smog Crisis: Evidence from Chiang Rai
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ABSTRACT

This study explores how smog crisis events influence travel mode choices in Chiang Rai, Thailand. As seasonal air pollution becomes more severe, understanding its impact on urban mobility is essential for public health and transportation planning. Using data from 406 respondents, this research compares travel behavior during non-air quality crisis and air quality crisis. A mixed methods approach was employed, integrating Multinomial Logit Model (MNL) and Exploratory Factor Analysis (EFA) to identify key behavioral and perceptual factors influencing mode selection. Results reveal that during air quality crisis, motorcycle usage declines while the use of private cars and alternatives increases, reflecting a preference for enclosed and flexible transport options. EFA identified five latent constructs Mode Choice, Health and Constraint, Social Recommendation, Perceived Behavioral Control, and Service Improvement that shape individual decisions. Regression analysis confirmed that income, travel cost, health concerns, and trip frequency play more significant roles under poor air quality. These findings provide critical insights for designing adaptive transport policies that prioritize safety, accessibility, and sustainability during environmental crisis in secondary cities like Chiang Rai.

Keywords: Mode Choice, Air Pollution, Urban Mobility, Multinomial Logit Model, Exploratory Factor Analysis