Understanding Campus Mobility Patterns and Promoting Active Travel on University Campuses: Evidence from Türkiye

Authors Raziye Peker.
Mustafa Sinan Yardım, PhD.
Kadir Berkhan Akalın, PhD.

Affiliations
Yildiz Technical University, Istanbul, Türkiye;
Eskisehir Osmangazi University, Eskisehir, Türkiye

INTRODUCTION

To investigate determinants of on-campus mode choice and promote cycling

STUDY AREA & DATA

Sample: 1,211 students across 8 Turkish public universities.

Current Mode Shares:

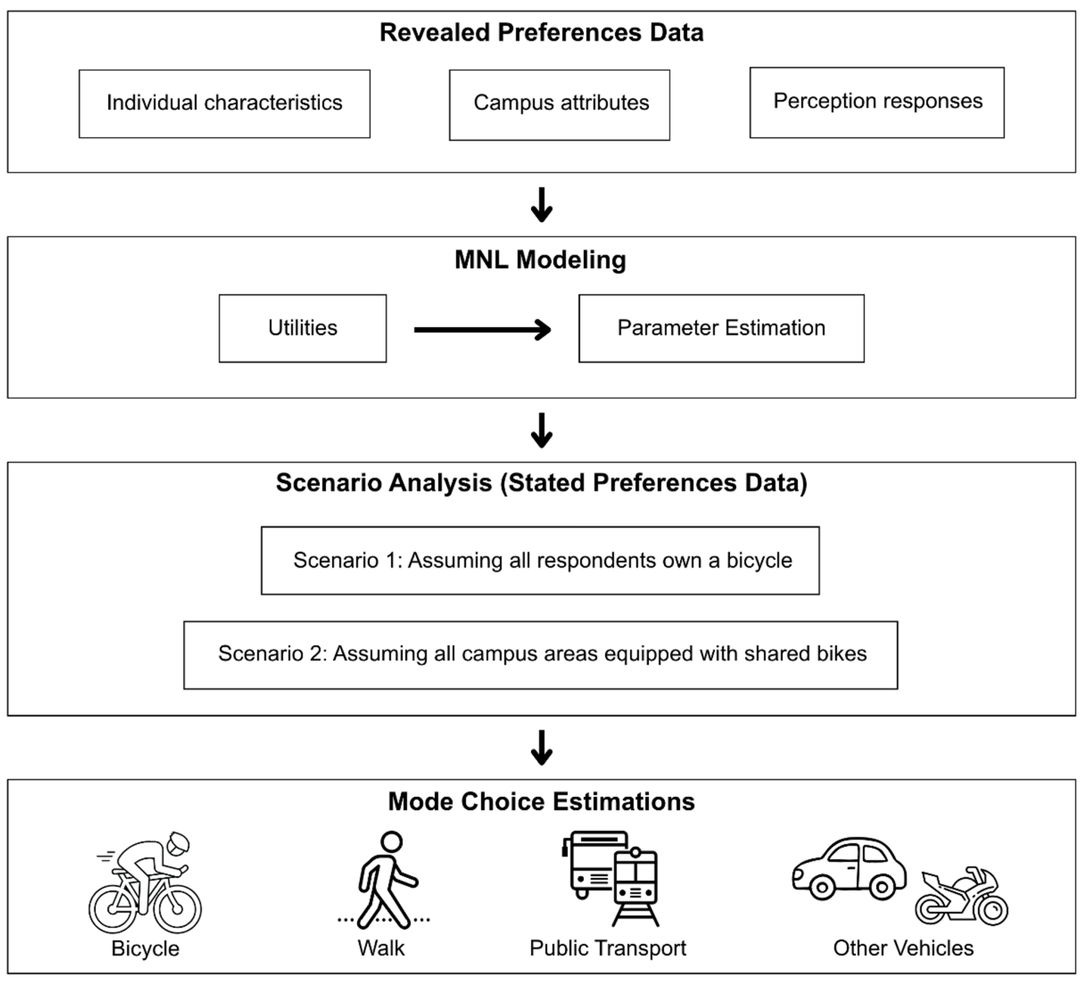
- 🚶 **Walk: 58.5%**
- 🚌 **Public Transport: 31.5%**
- 🚴 **Bicycle: 7.7%**
- 🚗 **Private Vehicles: 2.4%**

METHODOLOGY

Multinomial Logit (MNL) Model used to analyze mode choice behavior.

$$V_{ij} = \beta_{j0} + \sum_{k} \beta_{jk} x_{ijk}$$

β_{j0}, β_{jk} are the alternative specific parameters of mode j in dataset with explanatory variables,
x is the vector of explanatory variables.



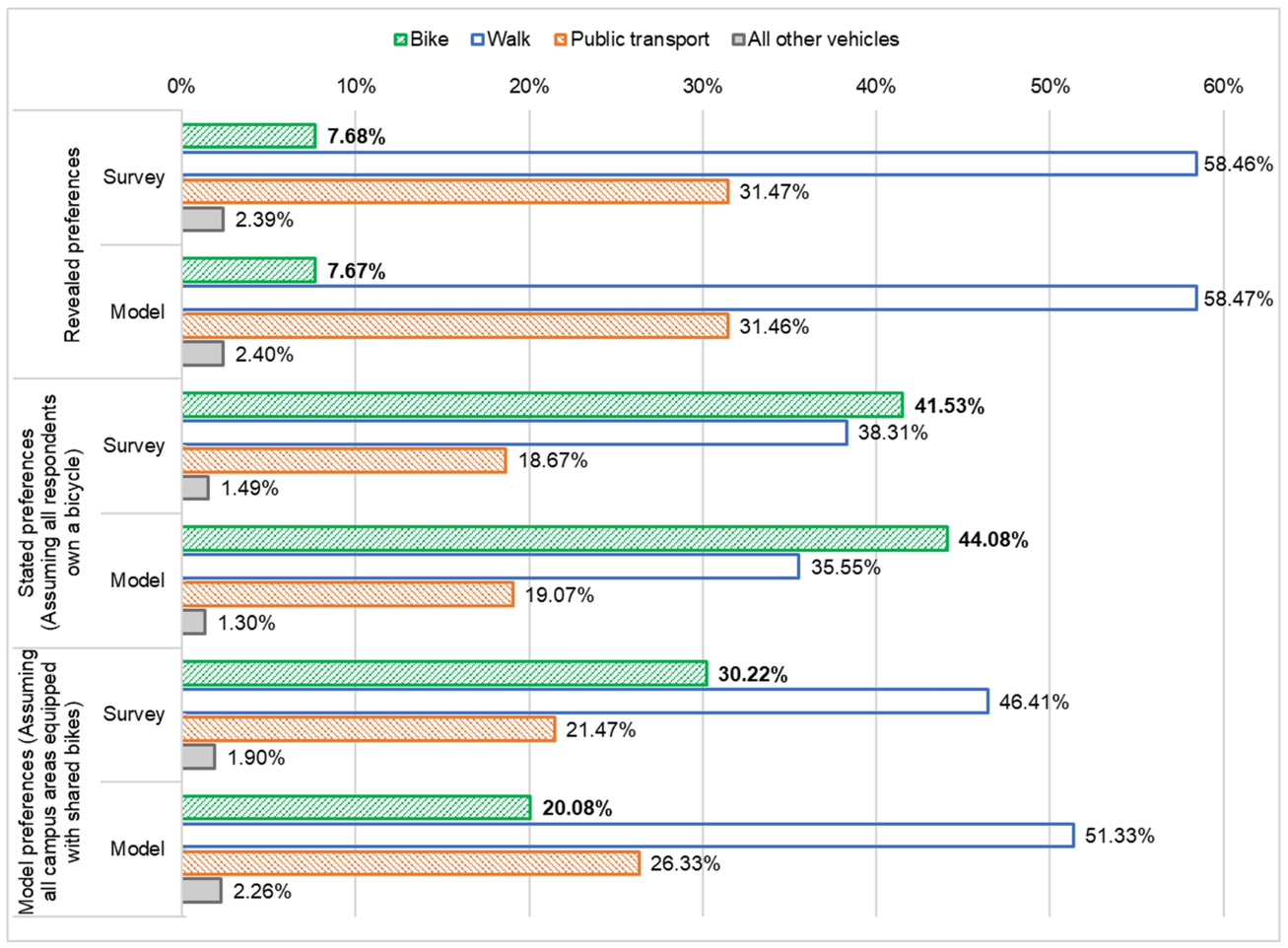
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WHAT DRIVES MODE CHOICE?

Explanatory Variables	Impact on Active Travel	Key Finding
Gender (Female)	(-) Negative	Females are significantly less likely to choose active or public transport.
Income & Car Ownership	(-) Negative	Strongly reduces the likelihood of choosing sustainable travel modes.
Dormitory Residence	(+) Positive	Living on campus strongly increases the preference for walking.
Bike-sharing System	(+) Positive	Availability of shared bikes drastically boosts bicycle preference.
Sidewalk Adequacy	(+) Positive	Continuous sidewalks strongly enhance the likelihood of walking.
Lighting Adequacy	(-) Negative	Unexpectedly correlated with increased private car use rather than active travel.

SCENARIO ANALYSIS: «LATENT DEMAND FOR CYCLING»



CONCLUSION & POLICY RECOMMENDATION

- Campus mobility strategies must adopt a holistic approach that includes not only transport infrastructure but also safety and gender dimensions.
- Strengthening walkability (continuous sidewalks, barrier-free pathways) and expanding dedicated bicycle lanes make active travel modes more attractive.
- Universities and local authorities should collaboratively implement shared micromobility (bike-sharing) systems to unlock the huge latent demand for cycling and foster more sustainable, inclusive, and student-centered campus environments.

REFERENCES

CONTACT INFORMATION

Raziye PEKER
raziye.peker@std.yildiz.edu.tr
+90 553 927 45 14