

# **Factors in American Commuting Modes**

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## **Abstract**

This research plans to understand data gathered around the topic of modes of transportation to work with respect to various demographics. The demographics that will be observed as contributing factors are tentatively the following: age, sex, race, citizenship status, earnings in the past year, occupation, place of work, travel time to work, housing type, and vehicles available. The aim of the research is to explain which factors contribute to choice of transportation. The modes of transportation are driving alone in a private vehicle, carpooling in a private vehicle, and taking public transportation (excluding taxicabs, which includes rideshare services such as Uber). Public transportation in America continues to be a growing sector and therefore it is relevant to understand what groups are more inclined to use the service versus commuting in private vehicles. The findings of this data could be implemented towards identifying focus groups to advertise towards taking methods of public transportation on their way to work. In order to research the topic, statistical techniques, such as developing a logistic regression model (subject to change as research progresses), will be performed on data gathered from the American Community Survey conducted by the United States Census Bureau.

## Datasets

- Number of records: 388
- Number of columns (fields/features): 4
  - Includes total, car/truck/van (alone), car/truck/van (carpool), public transport (excludes taxicab)
- Number of rows: 76 out of the available 97 will be used
  - Includes age, sex, race, citizenship status, earnings in the past year, occupation, place of work, travel time to work, housing type, and vehicles available
- Column data types: Categorical

## References

Tolga Ercan, Nuri Cihat Onat, Omer Tatari. Investigating carbon footprint reduction potential of public transportation in United States: A system dynamics approach, *Journal of Cleaner Production*, 133, 2016, Pages 1260-1276, 0959-6526, <https://doi.org/10.1016/j.jclepro.2016.06.051>

Popuri, Y., Proussaloglou, K., Ayvalik, C. *et al.* Importance of traveler attitudes in the choice of public transportation to work: findings from the Regional Transportation Authority Attitudinal Survey. *Transportation* 38, 643–661 (2011). <https://doi.org/10.1007/s11116-011-9336-y>