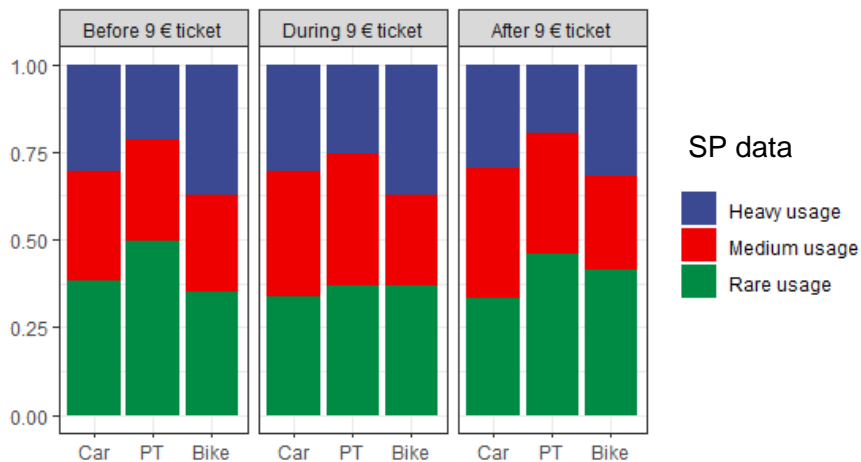


The 9 Euro-Ticket Experiment: Analysis of Travel Behavior in the Mobilität.Leben Study

Master's Thesis of Marina Waldmann

Mentoring:

Dr.-Ing. Allister Loder (TUM)



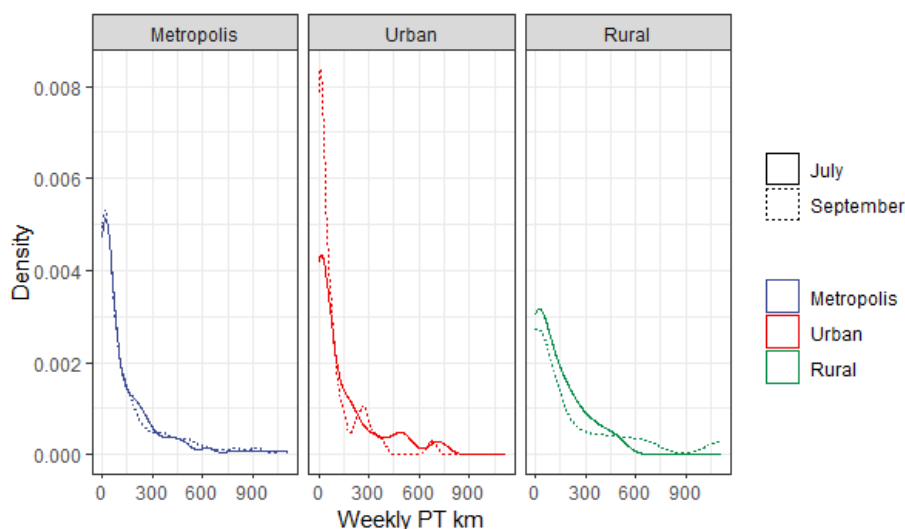
RP Comparison of daily traveled km of Mobilität.Leben data and MiD 2017, data from the Mobilität.Leben study (2022-07-09 to 2022-07-22, 2022-09-17 to 2022-09-30) and MiD MVV 2017

Mode	Percentages [%]			Daily traveled length [km/day]		
	MiD MVV 2017	July 2022	September 2022	MiD MVV 2017	July 2022	September 2022
Car	65 %	45 %	47 %	27.3	20.8	21.3
PT	28 %	40 %	42 %	11.8	18.6	19.1
Bike	4 %	10 %	6 %	1.7	4.6	2.5
Walk	3 %	5 %	5 %	1.3	2.4	2.4
Total*				42	46.4	45.2

*) 'Other' modes omitted

Methods:

- Data aggregation, exploration and descriptive analysis
- Non-parametric statistical tests (non-normal data distribution)
- Regression modeling: trip length models
 - Dependent variable Y: Mean weekly PT kilometers traveled by participant
 - Independent variables: Age, gender, household composition, car ownership, highest degree, employment status, previous travel pass ownership, region type of residence
 - Search for best model-fit: Multivariate linear models, transformation of Y, Heckman correction



9 Euro-Ticket: Time-limited, nation-scale natural behavioral experiment in Germany, summer 2022

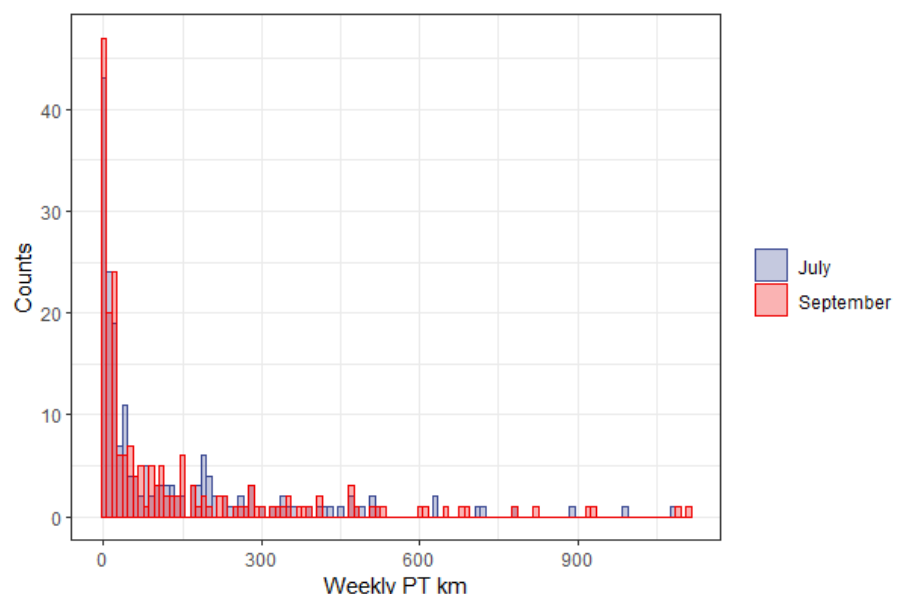
→ 9 Euro-Ticket as a unique opportunity to examine the impact of nearly free public transportation (PT) on travel behavior

Aim of the thesis: Analysis of the impact of the 9 Euro-Ticket on PT usage in general and according to selected characteristics

→ How much did PT usage increase and who contributed to this?

Data from the *Mobilität.Leben* study:

- Stated Preference (SP) data of approx. 1,400 participants who completed the first three surveys (before, during and post 9 Euro-Ticket)
- Revealed Preference (RP) data of the 200 “best trackers” whose travel patterns were analyzed for two representative weeks during and after the implementation of the ticket
- Sample is biased towards the Munich metropolitan area, weighting for gender and age



Results — Impact of 9 Euro Ticket on weekly PT mileage:

- SP: No change in PT usage of majority (71–72%), 22% claimed an increase of PT usage during 9 Euro-Ticket availability
- RP: No statistically significant impact of the 9 Euro-Ticket itself, however, differences in travel behavior during and post ticket (even slightly lower mean km/week during the ticket)
- Consistent (during and post 9 Euro-Ticket) significant positive correlation of mean PT mileage with previous travel pass ownership, negative correlation with age
- During 9 Euro-Ticket: Additional significant positive correlation of PT usage with having a university degree, significant negative correlation with car ownership, being a student and male gender
- Post 9 Euro-Ticket: Statistically significant negative correlation of living with children