

# Recent Public Transport Fare Policy Innovations in Germany: Insights from a Year-long GPS-Tracking Study

Prof. Dr. Allister Loder

Mobility Transitions in Europe

Perspectives from Munich, Brussels, and Vienna

31 May 2024



# Fare innovation started in early 2022



# The German response in June, July, and August 2022

## Fuel tax cut

0.3€/l gasoline &  
0.15€/l diesel



0€/l

## “9-Euro-Ticket“

Almost fare-free  
public transport

~55€/month  
and district



9€/month  
entire nation

70 transit districts  
become one



# A travel pass without subscription





# A nationwide travel pass, not per se an innovation



KlimaTicket (all services)

- 1095€ p.a.
- ~ 4.5% of median net income



Generalabonnement (all services)

- 4000 CHF p.a.
- ~ 6.3% of median net income



BahnCard 100 (all Deutsche Bahn Services + CityTicket)

- 4,400 Euro p.a.
- ~15% of median net income

# A successor was quickly demanded: the "Deutschlandticket"

- Started in May 2023
- Same features as "9-Euro-Ticket", but for **49 Euro** per month
- State-dependent discounts for
  - Students
  - (some) employed
  - (some) low-income households
- Subscription
- Cheaper than Klimaticket

## Germany gives green light to €49-a-month public transport ticket

Plan for ticket covering regional rail, metro, trams and buses across country follows success of €9 scheme last year

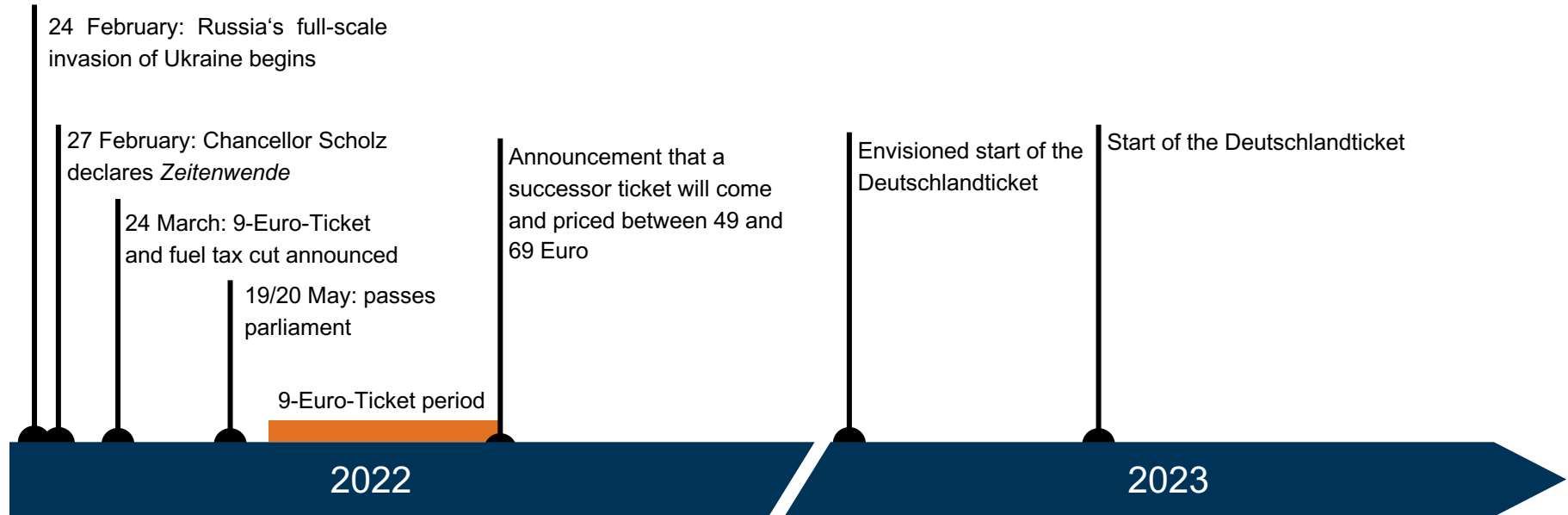
The Guardian



▶ A hydrogen train near Frankfurt, Germany. The €49 ticket scheme is aimed at getting passengers to switch to greener forms of transport. Photograph: Michael Probst/AP

Philip Oltermann in Berlin

# Timeline of the fare innovation





# Many observed the 9-Euro-Ticket

## App+Survey

- Mobilität.Leben (our study)
- DIW / Intervista (panel: initial N=4,800, N=1200 for survey, N=850 for app+survey with at 2 weeks of tracking)

## Survey only

- VDV-study ("Main study") on market research (cross-sectional/pseudo-panel, N= 100,000)
- Further university studies, e.g., Kassel, TU Dresden, UniBW (smaller, local, some were panel)
- Further consultancy studies, e.g., OpinionTRAIN (cross-sectional, N=2400)

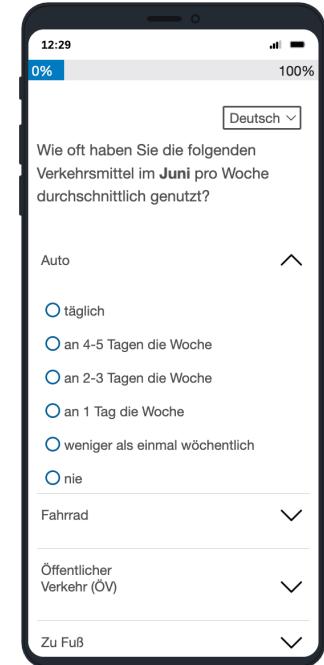
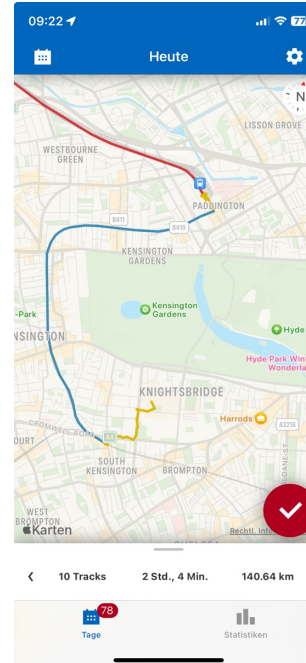
## Other

- Federal office of statistics / federal government: mobile phone data

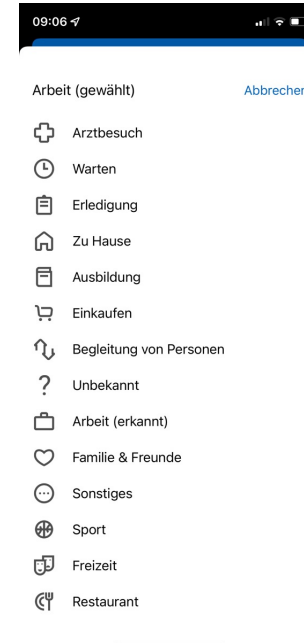
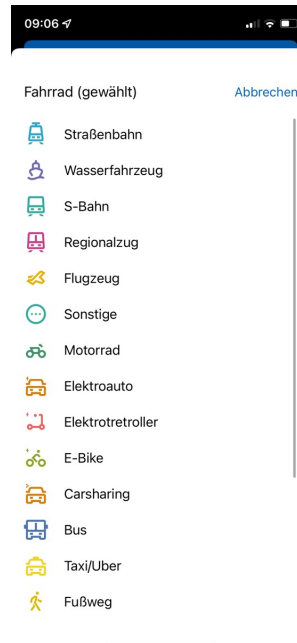
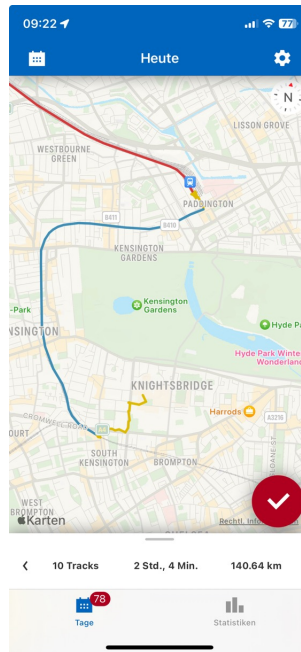
# Mobilität.Leben

# Mobilität.Leben

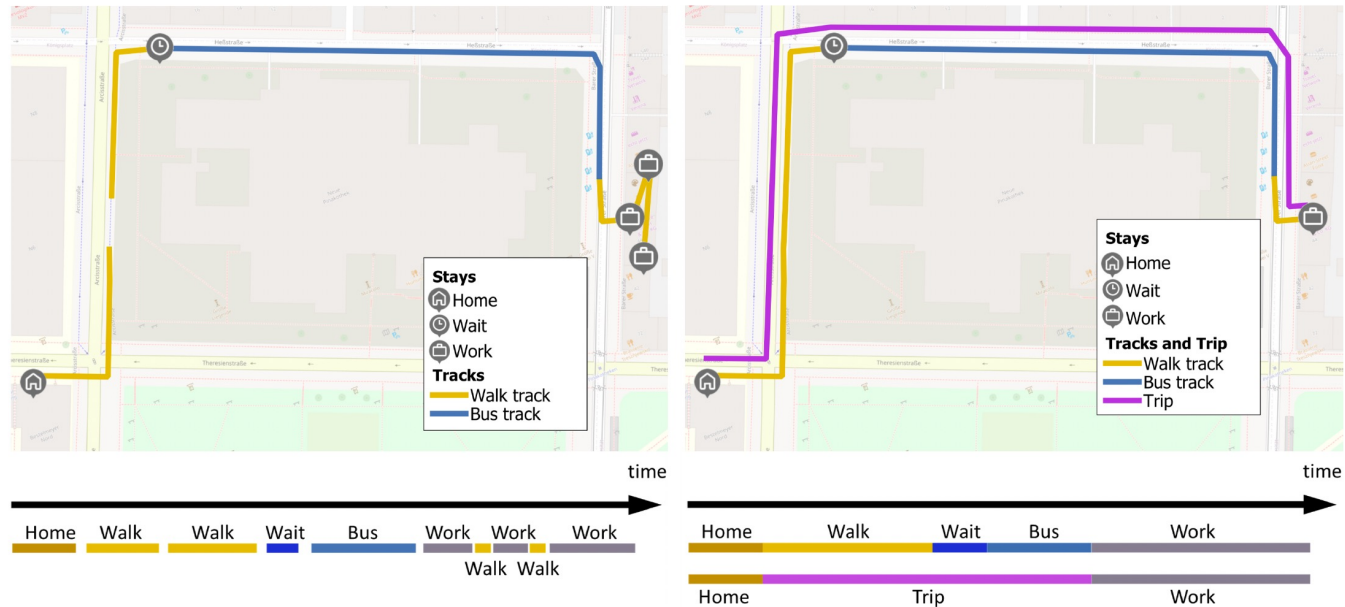
- Study from May 2022 to July 2023
- App for semi-passive travel diary generation and household surveys
- N = 2,624 participants, 1,158 with app
- Similar research designs
  - MOBIS/COVID (ETHZ 2019-2022)
  - Tsoleridis, Choudhury and Hess (2022)
  - ÖBB Klimaticket



# Mobilität.Leben-App: Little to no user input

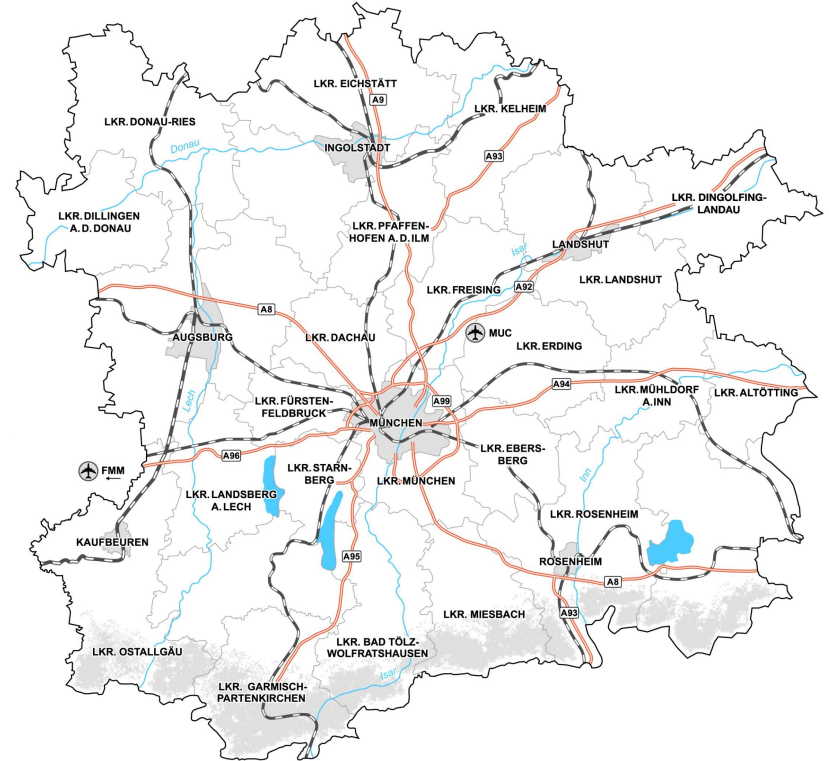


# Issue of trip identification



# Recruiting

- Media campaign in the Munich metropolitan area for survey + app (30 Euro compensation if tracking until September)
- Nationwide online panel for survey only (as backup, representative, ~10 Euro compensation through company)



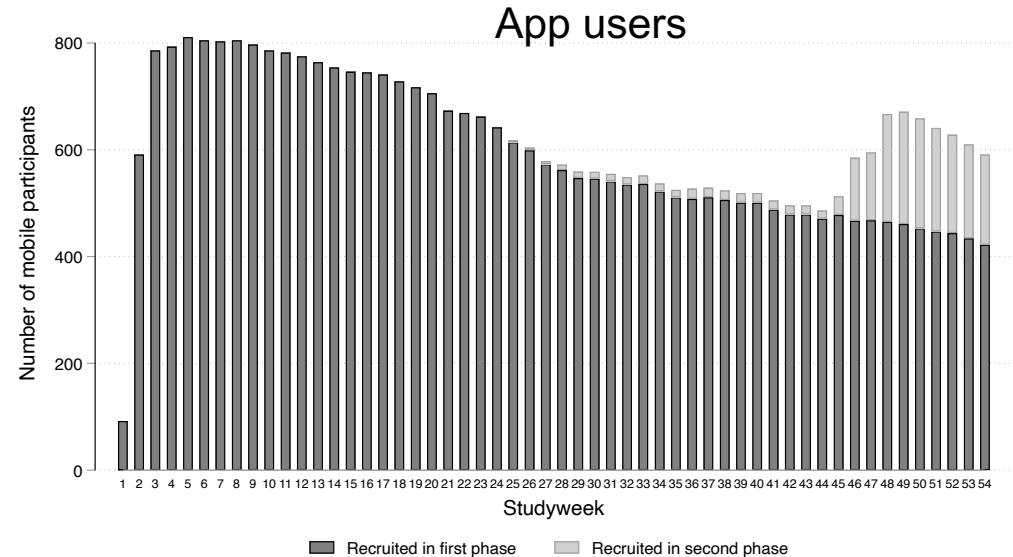
# Recruitment and participation

## 9-Euro-Ticket

- 2,316 participants
- 918 in the nationwide panel
- 927 activated the smartphone app
- 1,417 completed all questionnaires
- 690 completed questionnaires and provided tracking data

## Deutschlandticket

- 1010 respondents
- 439 from the nationwide panel
- 406 app users since May 2022 + 165 app users since March 2023



# 9-Euro-Ticket



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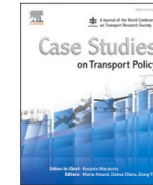


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### Observing Germany's nationwide public transport fare policy experiment “9-Euro-Ticket” – Empirical findings from a panel study

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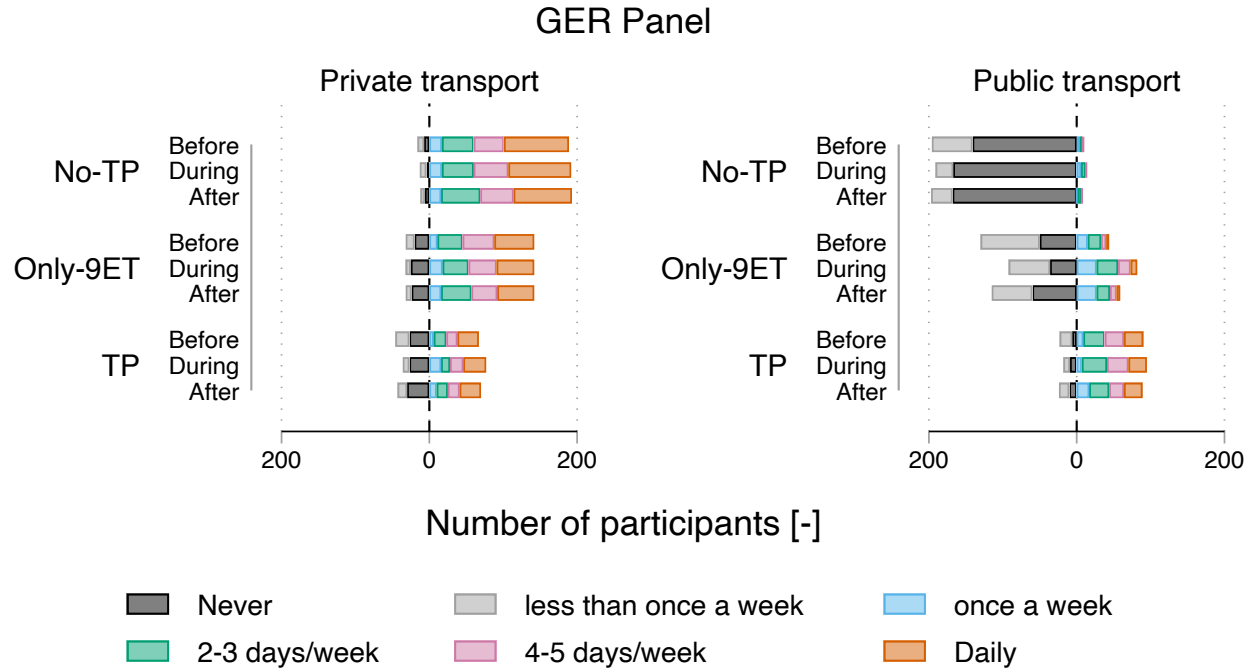
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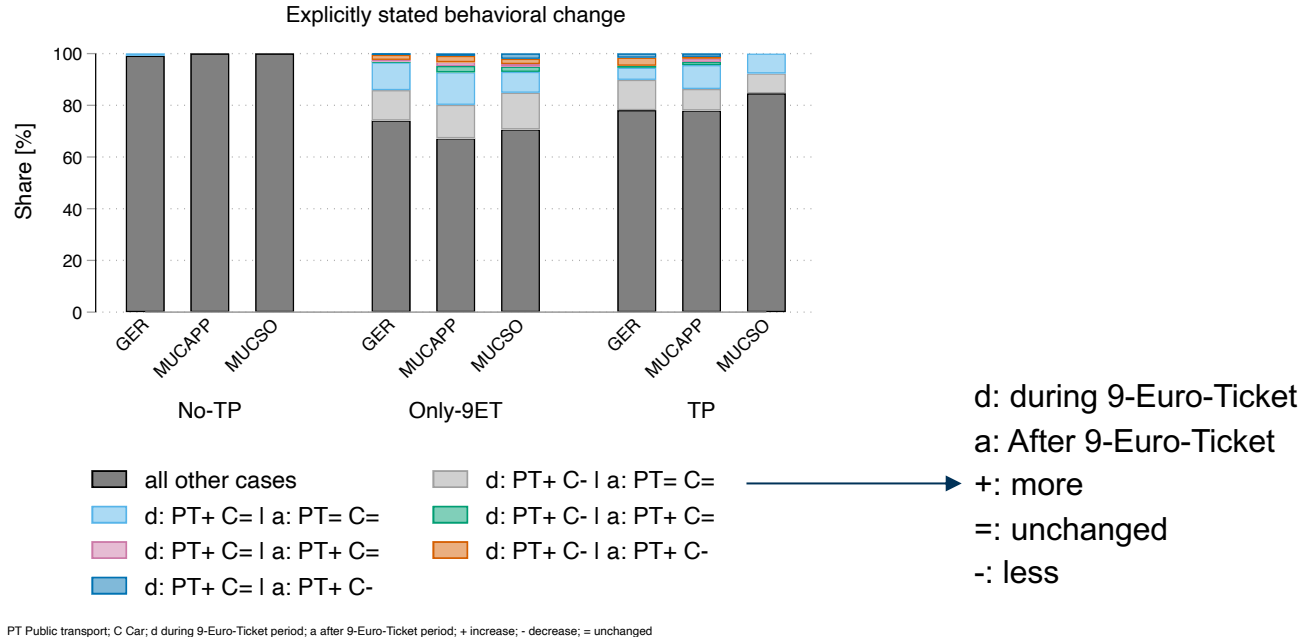
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# Stated changes in travel behavior



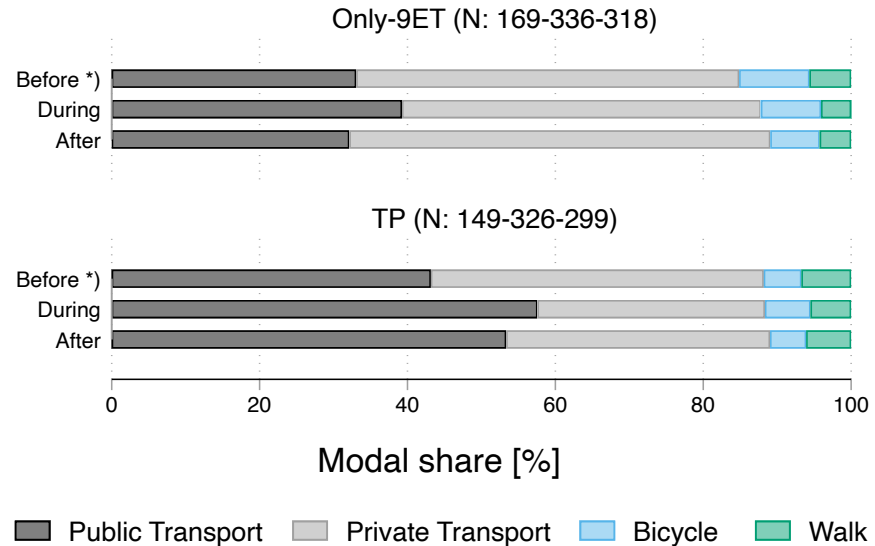
# Car – public transport substitution patterns



# Tracking results: changes in modal share

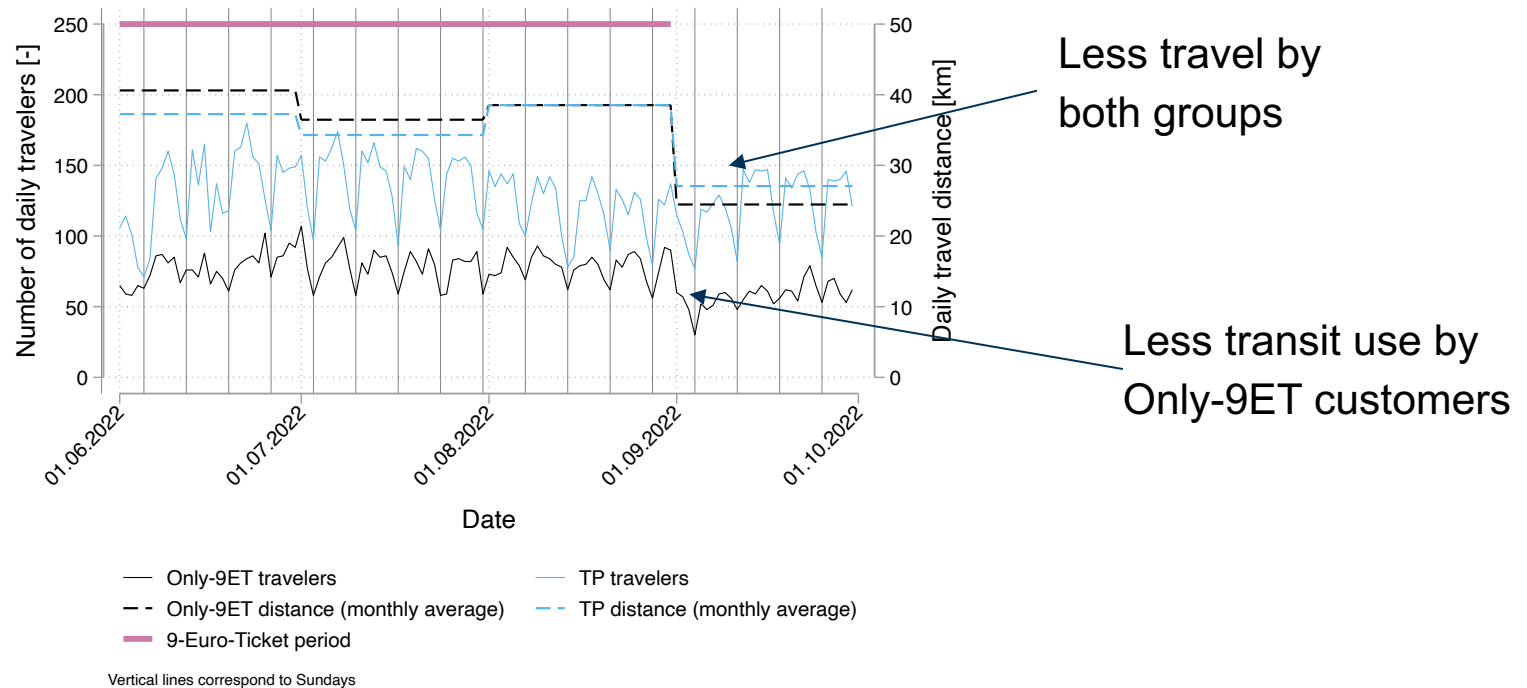
Almost everybody had the 9-Euro-Ticket

- Only-9ET: Had no travel pass before the 9-Euro-Ticket
- TP: Had a travel pass before the 9-Euro-Ticket

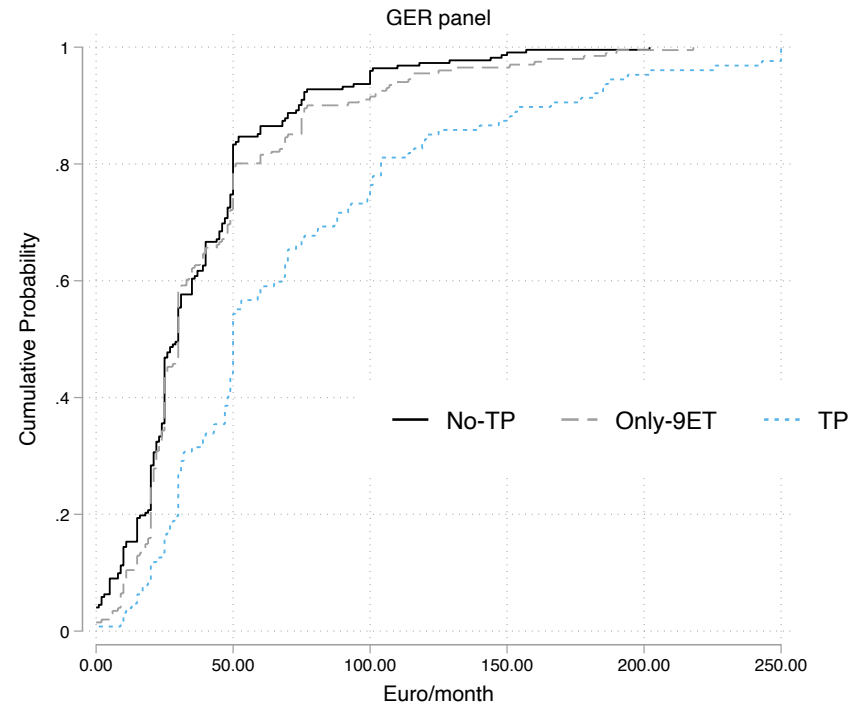


\*) limited validity due to ongoing recruitment

# Where are the changes coming from?



# Willingness to pay for a successor



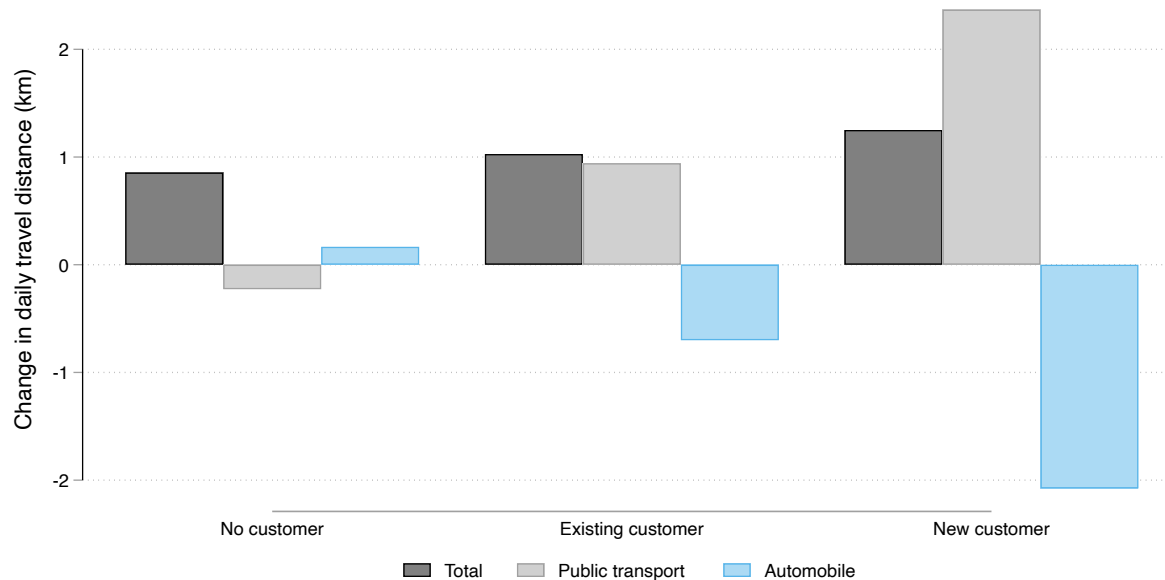
# Deutschlandticket

# Deutschlandticket ownership

- In our sample of app users (official VDV figures ~18%)
  - 38% are existing customers
  - 17% are new customers
  
- More new customers live outside the metropolitan areas

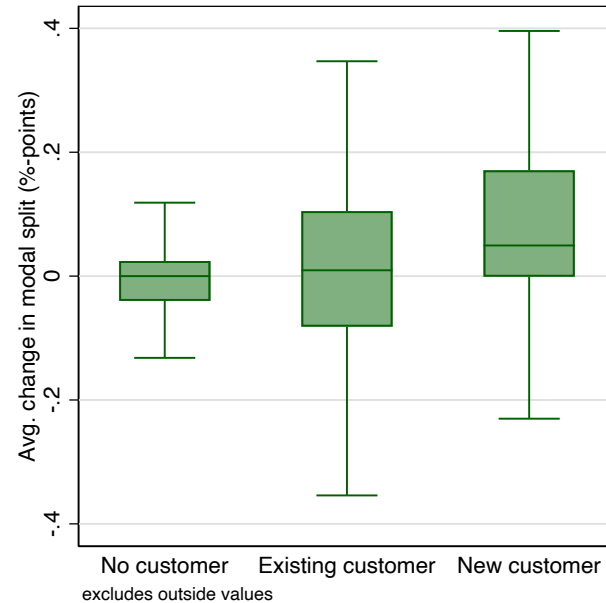


# Changes in average daily travel distance from April to May

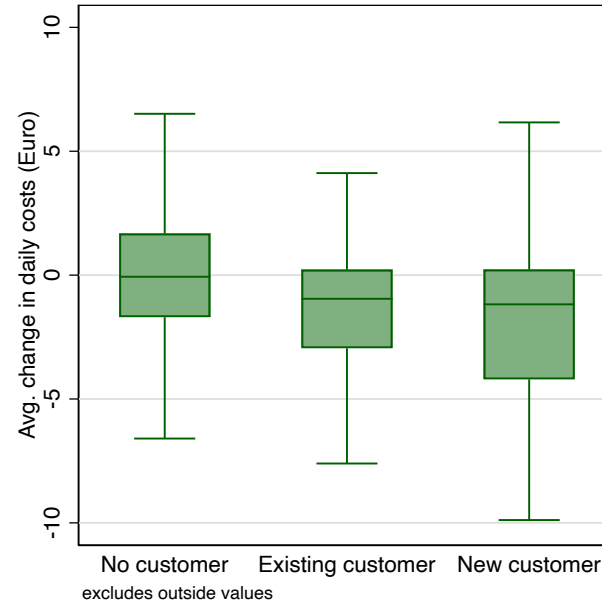


- More travel in May
- More PT use of new customers

# Changes in modal share (distance) from April to May



# Changes in generalized travel cost from April to May



# Conclusions

# Overall

- The “9-Euro-Ticket” and “Deutschlandticket” were disruptions
- The VDV main study 9-Euro-Ticket
  - 20% new customers and 27% activated customers
  - 16% induced travel
  - 17% of trips shifted from other modes, of which 10% from the car
- VDV main study Deutschlandticket
  - 11 million customers (6 million less than predicted), 20% new customers + 30% activated
  - Travel behavior?

# Mobilität.Leben

- Smartphone-based travel behavior data is promising (but complex, difficult to convince relevant stakeholders).
- Nevertheless, our efforts and the KlimaTicket study seemed to have convinced some relevant stakeholders to consider this method (MCube II will likely get a tracking too)
- Unique study and unique data that provide a solid data basis for many academic contributions
  - PhD theses > 5 ongoing
  - Student dissertations > 15 finished

# Transport policy

- As with fare-free public transport, both tickets increased ridership but did not lead to a windfall modal shift
- Induced demand can consume the carbon savings from less driving
- The issue of financing is still unsettled, but this is a social discussion: is public transport a public or private good?
- The silver bullet for sustainable mobility? **No.**

Thank you very much for your attention!

Questions?