RUHR
ECONOMIC PAPERS

Mark A. Andor
Nils Christian Hoenow
Eva Hümmecke
Eva H. Yang

The RWI Climate-Mobility Panel: Survey Data from 2018

RUHR UNIVERSITÄT BOCHUM RUB RWI #1154

Imprint

Ruhr Economic Papers

Published by

RWI – Leibniz-Institut für Wirtschaftsforschung
Hohenzollernstr. 1-3, 45128 Essen, Germany

Ruhr-Universität Bochum (RUB), Department of Economics
Universitätsstr. 150, 44801 Bochum, Germany

Technische Universität Dortmund, Department of Economic and Social Sciences
Vogelpothsweg 87, 44227 Dortmund, Germany

Universität Duisburg-Essen, Department of Economics
Universitätsstr. 12, 45117 Essen, Germany

Editors

Prof. Dr. Thomas K. Bauer
RUB, Department of Economics, Empirical Economics
Phone: +49 (0) 234/3 22 83 41, e-mail: thomas.bauer@rub.de

Prof. Dr. Ludger Linnemann
Technische Universität Dortmund, Department of Business and Economics
Economics – Applied Economics
Phone: +49 (0) 231/755-3102, e-mail: Ludger.Linnemann@tu-dortmund.de

Prof. Dr. Volker Clausen
University of Duisburg-Essen, Department of Economics
International Economics
Phone: +49 (0) 201/1 83 - 3655, e-mail: vclausen@vwl.uni-due.de

Prof. Dr. Ronald Bachmann, Prof. Dr. Almut Balleer, Prof. Dr. Manuel Frondel,
Prof. Dr. Ansgar Wübker
RWI, Phone: +49 (0) 201/81 49 - 213, e-mail: presse@rwi-essen.de

Editorial Office

Niels Oelgart
RWI, Phone: +49 (0) 201/81 49-213, e-mail: niels.oelgart@rwi-essen.de

Ruhr Economic Papers #1154

Responsible Editor: Manuel Frondel

ISSN 1864-4872 (online) – ISBN 978-3-96973-338-7

Ruhr Economic Papers #1154

Mark A. Andor, Nils Christian Hoenow, Eva Hümmecke, and Eva H. Yang

The RWI Climate-Mobility Panel: Survey Data from 2018

RUHR UNIVERSITÄT BOCHUM RUB RWI

Bibliografische Informationen der Deutschen Nationalbibliothek

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available on the Internet at **http://dnb.dnb.de**

RWI is funded by the Federal Government and the federal state of North Rhine-Westphalia.

https://dx.doi.org/10.4419/96973338
ISSN 1864-4872 (online)
ISBN 978-3-96973-338-7

Mark A. Andor, Nils Christian Hoenow, Eva Hümmecke, and Eva H. Yang*

The RWI Climate-Mobility Panel: Survey Data from 2018

Abstract

This data report describes the first wave of the RWI Climate-Mobility Panel, a recurring household survey that aims in particular to investigate individual mobility behavior and preferences with regard to mobility-related policies. It further includes information on attitudes towards environmental protection and climate change of household members in Germany as well as on socio-economic individual and household characteristics. The project was conducted by the RWI – Leibniz Institute for Economic Research and funded by Stiftung Mercator. This first survey includes data from more than 7,000 German households and was collected via *forsa* from April to June 2018. In combination with subsequent waves in 2019, 2022 and 2024, it is possible to monitor, for example, changes in mobility behavior and policy preferences over time. This first survey contains additional cross-sectional data on several transport-related topics, such as an assessment of the perceived costs of private car use and an experiment to assess participants' willingness to pay for public transport tickets, as well as selected psychological scales. This uniquely comprehensive dataset serves as a support to enable novel research and evidence-based policy decisions in the context of the mobility and transport transition.

JEL-Codes: D12, D83, L91, Q58, R41, R48

Keywords: Household panel; mobility; climate change; transport transition; acceptance; public transport; private transport

April 2025

*Mark A. Andor, RWI and RUB; Nils Christian Hoenow, RWI; Eva Hümmecke, RWI; Eva H. Yang, RWI. – *We gratefully acknowledge financial support by the Stiftung Mercator, without which this project would not have been possible. We are furthermore grateful for the cooperation with our colleagues from the Social Science Research Centre Berlin (WZB) and the InnoZ, in particular Lisa Ruhrort, Weert Canzler and Andreas Knie, as well as the RWI colleagues who have participated in the design of the survey, in particular Manuel Frondel, Andreas Gerster and Marco Horvath. Furthermore, we thank Tobias Larysch for excellent research assistance.* – *All correspondence to: Mark A. Andor, RWI – Leibniz Institute for Economic Research, Hohenzollernstr. 1-3, D-45128 Essen, Germany, e-mail: mark.andor@rwi-essen.de*

1 Introduction

This report introduces the RWI Climate-Mobility Panel, which aims to significantly advance our understanding of the interplay between individual mobility behavior and public attitudes towards transportation and environmental policies. This panel establishes a systematic approach to gathering data on how these behaviors and attitudes interact within the German population and fills critical gaps left by existing studies.

Conducted by the RWI – Leibniz Institute for Economic Research in Essen, the initial survey wave collected comprehensive data from German household members on mobility behaviors, preferences regarding transport policies, and attitudes towards environmental protection and climate change. This data was gathered between April and June 2018 through the *forsa.omninet* panel, which contains 100,000 members and is representative of the German population aged 14 and above with access to the internet.

Previous mobility studies, such as Mobility in Germany (MiD) and the German Mobility Panel (MOP), have provided valuable insights into individual mobility behaviors. The MiD offers extensive cross-sectional data from a large sample through travel diaries, while the MOP supplies longitudinal data by having household members document their travel behavior over consecutive days. However, both datasets leave unanswered questions regarding the connections between mobility behaviors and attitudes towards transportation policies, for example.

The RWI Climate-Mobility Panel aims to address these gaps by providing a nuanced understanding of how mobility decisions are made at the individual and household levels. This is crucial for informing effective mobility and environmental policies that resonate with citizens' needs and preferences.

This report focuses on the first survey wave of the RWI Climate-Mobility Panel, with subsequent waves for 2019, 2022, and 2024 to facilitate longitudinal analyses. Additionally, the survey captures unique cross-sectional data that will not be repeated in later waves, including an assessment of the costs of private car use and participants' willingness to pay for public transport tickets.

The Forschungsdatenzentrum (FDZ) Ruhr–the research data center at RWI – Leibniz Institute for Economic Research–offers the dataset free of charge to researchers through user agreements available at www.rwi-essen.de/fdz/. The QR code will direct users to a comprehensive overview of all datasets provided by the FDZ, including those associated with the RWI Climate-Mobility Panel.

The next section outlines the data collection process and provides guidance on utilizing the RWI Climate-Mobility Panel. We will then present the socio-demographic characteristics of the survey sample, compare them with official German data from the Mikrozensus and the Zensus, and review existing publications based on the first wave of the panel, alongside details on data access and supplementary materials available on the FDZ Ruhr website.

2 Survey and Data Collection

The survey questions were designed by the researchers of the RWI – Leibniz Institute for Economic Research. The survey was conducted on the individual level by interviewing randomly selected individuals aged 18 and older from the *forsa* household panel. The panel is representative of the German-speaking population aged 14 and above with access to the internet.[1] Panel members are recruited via telephone, and there is no option to actively apply for participation in the panel. This ensures that individuals who rarely use the internet can also participate in the surveys. Additionally, this minimizes the risk that the sample primarily consists of individuals particularly interested in the topic or survey bots.

The sample used for the survey was randomly drawn from the representative household panel. Unlike a quota sample, where individuals from various socio-demographic groups are invited to participate until predefined target quotas are met, a random sample allows for a direct comparison with the population to determine which groups participated in the survey with higher or lower probabilities. This provides insight into which aspects of the population are well-represented by the sample and where there are differences.

The data was collected from April 23 to June 12, 2018. In total, 10,587 *forsa.omninet* panelists received the survey, out of which 7,813 participants started it. Hence, the response rate was 73.8

[1] According to Statistisches Bundesamt (2018), the share of individuals between 16 and 74 years who used the internet in Germany in 2018 was about 90 %.

%. Out of those who started the survey, 6,812 participants completed it, yielding a completion rate of 87.2 % (and a response rate of 64.3 % when focusing on those who completed the whole survey), while 1,001 participants did not finish the survey. On average, it took around 30 minutes to complete the survey.

Generally, the data does not contain any sensitive information on individuals, such as real names or contact details. The data was already pseudonymized by *forsa* such that all participants are assigned an individual identification number. To further ensure the anonymity of the participants, we replace this variable with a new unique key as the identifying variable for each participant. This variable remains the same over all waves and can hence be used for merging different waves of the RWI Climate-Mobility Panel. The replacement ensures that the data cannot be linked to other datasets that were also collected by *forsa*. Further, we censored the last three digits of the zip codes of the respondents' region of residence. Open text answers, i.e., if respondents encountered problems while filling out the survey or comments on the experiments, are excluded from this dataset. The original survey as well as the dataset are in German. For the publication of this dataset, relevant files such as the survey, the dataset and the codebook were translated into English. The translated survey and the codebook are available as supplementary material.

The dataset contains three weighting factors: one for German households (household level), one for the entire German population (individual level) and one for the German population of internet users (individual level). The weighting factors consider the distribution across federal states, age and gender for the individual level and federal states and household size on the household level.

Within the variables, missing answers from participants are generally coded with a value of -2 in the dataset. This is the case if questions were not asked of respondents because, for example, they were excluded from the follow-up question due to a previous answer or were not (randomly) assigned to certain parts of the survey.

Content-wise, the first part of the survey focused on assessing individual mobility behavior including questions, such as the number of cars the household of the respondents' own, the modes of transport the participants use to travel to work, school or for private activities and how frequently they use those. Respondents were also asked about their opinion on different modes of transportation and potential barriers to using public transport. In another section, self-assess-

ments and attitudes towards environmental protection and climate change were asked. The survey also contained questions measuring psychological scales such as trust, reciprocity, self-regulation, altruism and prosocial behavior.

The survey further included an assessment of the perceived monthly costs of car usage, where car users were asked to guess their monthly costs and estimated the pollutants emitted by their cars. Further, the willingness to pay for a monthly public transport ticket was collected, for a part of the sample hypothetically and for another part through eliciting revealed preferences. For the elicitation of their willingness to pay, the participants were separated into different experimental groups that either received information on their personal costs of running cars or on their emitted carbon emissions from car use. Control groups were also used to create counterfactual observations. In a second stage of the experiment, participants within each group (treatment or control) were once again divided into different groups and presented with either information emphasizing the perceived advantages of car usage within the population or information about the average age of all registered vehicles in Germany, which served as the control condition. Respondents were then asked to state their maximum willingness to pay for a monthly public transport ticket. The main difference between the revealed preferences experiment and the hypothetical experiment is that in the revealed preferences experiment, respondents participated in an auction and could win a monthly public transportation pass within their region, whereas this option was not given in the hypothetical experiment.

Also, participants were asked to estimate their mobility behavior in the next twelve months, to reveal how they would allocate government expenditures and to evaluate policies for the transportation sector and mobility concepts. At the end of the survey, participants were asked to provide socio-economic details. The structure of the survey is illustrated in Table 1.

Table 1: Structure of the survey (first wave in 2018)

Section	Content
M.	Mobility and modes of transport (M1 - M22)
B.	Barriers to public transport use (B1 - B2)
V.	Attitudes towards environmental protection, climate change and general attitudes (V1 - V10)
C.	Costs of car usage (C1 - C3)
E-WTP.	Experiment - willingness to pay for public transport (C4_1_R - C4_4_H)
C (cont.)	Mobility behavior (additional questions), governmental spending and support for transport policies (C5 – C13)
S.	Socio-economic variables (S0 – S16)
O.	Open questions about problems with survey and experiment (OP1 - OP2)

3 Panel Applications

The 2018 data is the first wave of the RWI Climate-Mobility Panel collected by the RWI – Leibniz Institute for Economic Research. Together with the survey wave 2019, it was part of the project named “Mobilitätsdaten für die Verkehrswende” (Eng.: Data for the Mobility Transition). Additional waves were collected in the years 2022 and 2024 within the succeeding project “Die Mobilitätswende in Deutschland gemeinsam gestalten – Lehren aus dem Ruhrgebiet” (Eng.: Creating the Mobility Transition in Germany together).

Key elements and questions of the 2018 wave are repeated in the following years to allow for the creation of a panel dataset. The parts of the survey that are repeated across all waves focus primarily on individual mobility behavior and preferences for mobility-related policies. This allows to monitor changes over time. In addition, there are also some parts that are unique to the respective year of data collection in each wave.

Information on which questions are repeated in other waves of the panel can be found in the codebook. In a few instances, questions that are repeated in other years were slightly modified, for example through different conditions set to filter questions or through changes in reply items. In such cases, the presence of deviations is marked with an asterisk (*) in the codebook to indicate that users must be cautious when analyzing the respective variables in a time series or panel application. The codebook as well as the survey for this wave (2018) can be found on the FDZ Ruhr website.

4 Sample Description

This section provides an overview of the socio-economic characteristics of the individual participants in the sample and, in part, of the households in which the participants live. Distributions are compared with the overall population in Germany through official data from the Mikrozensus 2018, reported by the German Federal Statistical Office (Statistisches Bundesamt 2019, 2025b, 2025c) and the Zensus 2011, also reported by the German Federal Statistical Office (Statistisches Bundesamt 2025a). For the age distribution, an extrapolation for the year 2018 is used that is based on data from the Zensus 2011. For the comparison between the overall population and the sample for all other socio-economic characteristics, the Mikrozensus 2018 is used. Both, the Zensus and Mikrozensus were conducted at the household level and include information of all household members. In our survey sample, some characteristics are also collected for the whole

household, such as net household income, but other characteristics are assessed only at the individual level, such as age and the level of education. In the following, the descriptive statistics are shown for those participants who completed the survey and gave an answer to the respective question other than "(don't know) / no answer". Therefore, the number of respondents can differ by question.

The distribution of the households in the sample across federal states (Table 2) is generally consistent with the regional distribution in the Mikrozensus 2018 (Statistisches Bundesamt 2019). The shares of participants are slightly overrepresented for our sample in Berlin, Brandenburg and North Rhine-Westphalia, while the share of respondents from Baden-Wuerttemberg is slightly underrepresented.

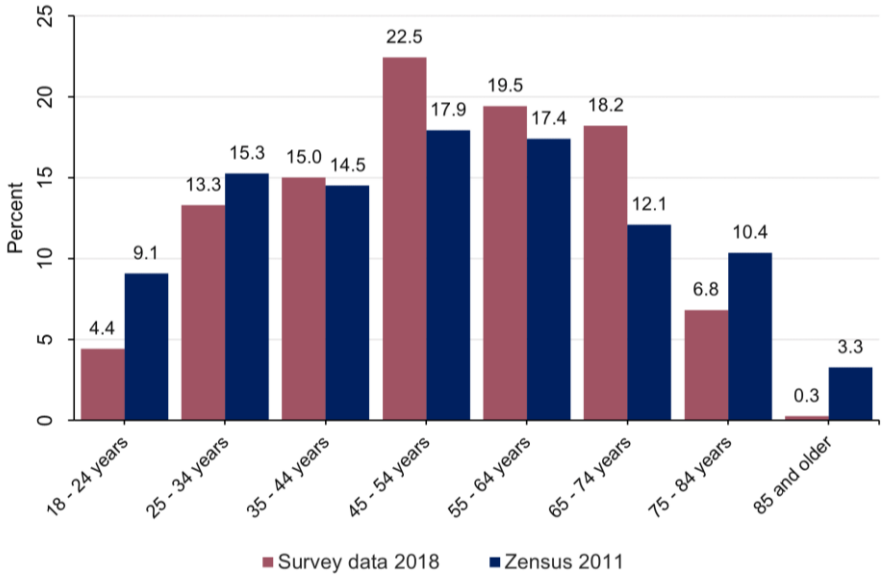
Table 2: Distribution of households across federal states in the sample (n=6,812) and in Germany according to Mikrozensus 2018. Source: Statistisches Bundesamt (2019)

Federal state	Number of households in sample	Share of households in sample	Share of households according to Mikrozensus
Baden-Wuerttemberg	676	9.9 %	12.8 %
Bavaria	1,118	16.4 %	15.6 %
Berlin	379	5.6 %	4.9 %
Brandenburg	328	4.8 %	3.0 %
Bremen	75	1.1 %	0.9 %
Hamburg	122	1.8 %	2.4 %
Hesse	464	6.8 %	7.5 %
Lower Saxony	619	9.1 %	9.6 %
Mecklenburg-Western Pomerania	126	1.9 %	2.0 %
North Rhine-Westphalia	1,551	22.8 %	21.2 %
Rhineland-Palatinate	280	4.1 %	4.7 %
Saarland	71	1.0 %	1.2 %
Saxony	368	5.4 %	5.2 %
Saxony-Anhalt	185	2.7 %	2.8 %
Schleswig-Holstein	262	3.9 %	3.6 %
Thuringia	188	2.8 %	2.7 %

The respondents are between 18 and 92 years old and the mean as well as the median age is 52 years. For a comparison, age is grouped in eight classes (Figure 1). The largest age group is from 45 to 54 years (22.5 %), followed by 55 to 64 years (19.5 %) and 65 to 74 years (18.2 %). The

comparison of the age distribution with that of the Zensus[2] (Statistisches Bundesamt 2025a) shows that individuals aged 18 to 24 and 75 and older seem to be underrepresented in the survey sample, while individuals between 45 to 74 tend to be overrepresented.

Figure 1: Age distribution in the sample (n=6,812) and according to Zensus 2011. Source: Statistisches Bundesamt (2025a)



53.7 % of the sample is male, while 46.3 % is female. Individuals with a higher general school education seem to be overrepresented in our sample (Table 3). Whereas 32.6 % of the population have the highest school-leaving qualification according to the Mikrozensus, 44 % of the sample have this school-leaving qualification.

Table 3: Distribution of highest school-leaving certificate in the sample (n=6,751) and according to Mikrozensus 2018. Source: Statistisches Bundesamt (2025b)

Highest school-leaving qualification	Share in the sample	Share according to Mikrozensus
No school-leaving qualification yet	0.3 %	3.6 %
No school-leaving qualification	0.6 %	4.0 %
Secondary general school[1]	19.2 %	29.7 %
Intermediate secondary school[2]	35.9 %	30.0 %
Upper secondary school[3] (Higher education entrance qualification)	44.0 %	32.6 %

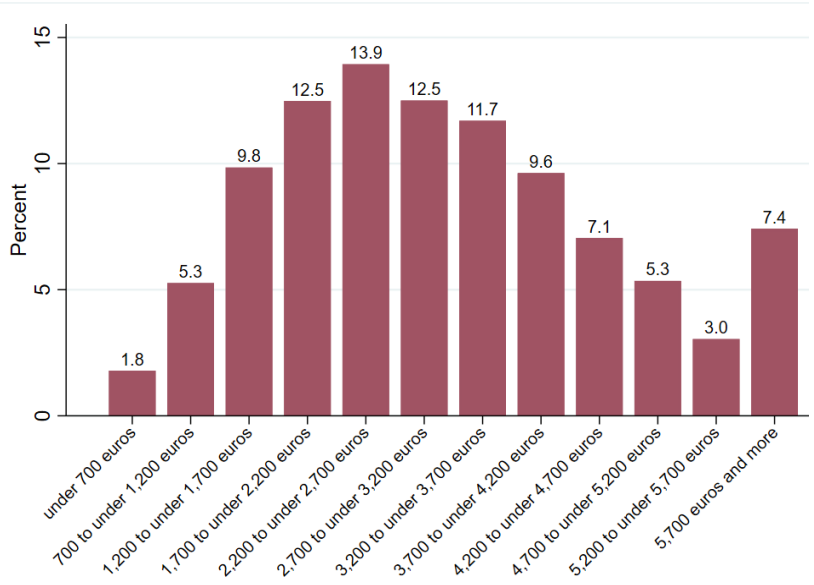
1: German: Haupt-/Volksschule
2: German: Mittlere Reife / Realschule
3: German: (Fach-)Hochschulreife

[2] Extrapolation of the population status is provided for 2018, results are based on the Zensus 2011.

In addition, the share of survey participants with an academic degree, i.e., a degree from a university or a doctorate, of 26.5 % exceeds the percentage in the Mikrozensus of 17.9 % (Statistisches Bundesamt 2025c). One obvious reason for these differences is that the Mikrozensus includes individuals who are 15 years or older, whereas in our sample only individuals who are 18 or older are included.

The monthly net household income is measured on a scale of 500-euros intervals ranging from less than 700 euros to 5,700 euros and above, resulting in 12 categories (Figure 2). The median income is in the income group from 3,200 to 3,700 euros. The largest share of the sample has a monthly household net income between 2,200 to 2,700 euros (13.9 %).

Figure 2: Distribution of monthly net household income in the sample (n=5,984)



Since the income groups are defined differently for the Mikrozensus, the income groups in Table 4 are summarized in five similar classes to allow comparisons.

Table 4: Distribution of monthly net household income in the sample (n=5,984) and according to Mikrozensus 2018. Source: Statistisches Bundesamt (2019)

Share in the sample		Share according to Mikrozensus	
Under 700 euros	1.8 %	Under 900 euros	8.4 %
700 – 1,200 euros	5.3 %	900 – 1,300 euros	11.5 %
1,200 – 2,700 euros	36.2 %	1,300 – 2,600 euros	38.3 %
2,700 – 4,700 euros	40.9 %	2,600 – 4,500 euros	29.0 %
More than 4,700 euros	15.8 %	More than 4,500 euros	15.3 %

It stands out that households with an income of 2,700 to 4,700 euros seem to be overrepresented in our sample. The overrepresentation of households with higher income groups is likely associated with the overrepresentation of highly educated individuals participating in the survey.

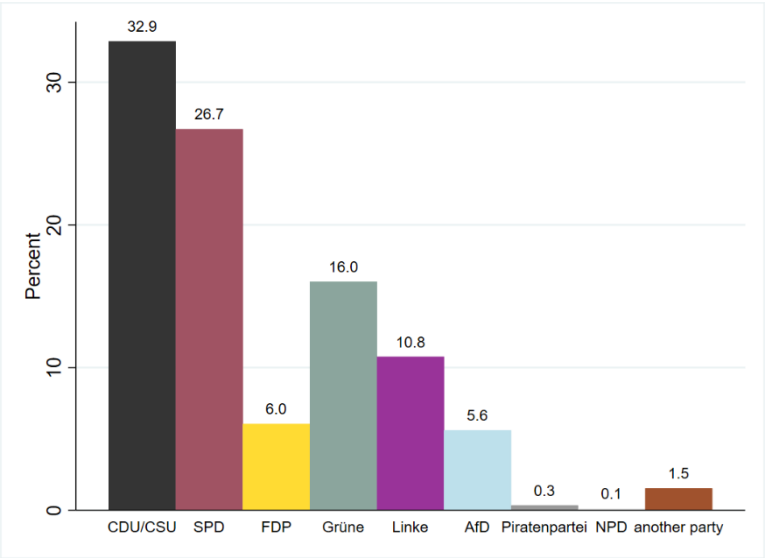
Further, single-person households seem to be underrepresented in the sample with 25 % compared to 41.9 % according to the Mikrozensus (Table 5). Meanwhile, two-person households are overrepresented with 44.4 %. Persons living in households with 3 or 4 members and above account for about 15 % and 16 %, respectively.

Table 5: Distribution of household size in the sample (n=6,746) and according to Mikrozensus 2018. Source: Statistisches Bundesamt (2019)

	Share in the sample	Share according to Mikrozensus
Single household	25.0 %	41.9 %
Two-person household	44.4 %	33.8 %
Three-person household	14.7 %	11.9 %
Four and more persons in household	15.9 %	12.5 %

In addition to socio-economic characteristics, respondents were also asked about their preferences for a political party. 4,351 respondents (63,8 %) indicated that they tend to favor a specific party (Figure 3). 32.9 % choose the Christian Democratic Union (CDU) or its sister party, the Christian Social Union (CSU), as their favored party, followed by the Social Democratic Party (SPD) with 26.7 % and Alliance '90 / The Greens (Bündnis 90 / Die Grünen) with 16 %.

Figure 3: Answer to the question in the survey: "Many people lean towards a specific political party for a long time [...]. Do you generally favor a specific party? [If yes] And which party is that?" (n=4,351)



5 Existing Publications Based on the Data

So far, seven publications based on the RWI Climate-Mobility Panel have been published, which are listed in Table 6.

Table 6: Existing publications based on the RWI Climate-Mobility Panel (first wave in 2018)

Overview
Andor, M. A., Fink, L., Frondel, M., Gerster, A., & Horvath, M. (2021). Kostenloser ÖPNV: Akzeptanz in der Bevölkerung und mögliche Auswirkungen auf das Mobilitätsverhalten. *List Forum für Wirtschafts- und Finanzpolitik* 46: 299-325. DOI: 10.1007/s41025-020-00207-y
Andor, M. A., Frondel, M., Horvath, M., Larysch, T., & Ruhrort, L. (2020a). Präferenzen und Einstellungen zu vieldiskutierten verkehrspolitischen Maßnahmen: Ergebnisse einer Erhebung aus dem Jahr 2018. *List Forum für Wirtschafts- und Finanzpolitik* 45: 255-280. DOI: 10.1007/s41025-019-00184-x
Andor, M. A., Gerster, A., Gillingham, K. T., & Horvath, M. (2020b). Running a Car Costs Much More Than People Think – Stalling the Uptake of Green Travel. *Nature* 580: 453-455. DOI: 10.1038/d41586-020-01118-w
Andor, M. A., Helmers, V., Hoenow, N. C., Hümmecke, E., & Memmen, M. (2024a). Stimmungsbild Verkehrspolitik: Wie steht die deutsche Bevölkerung zu den meistdiskutierten verkehrspolitischen Maßnahmen? – Ein bundesweiter Vergleich der Zustimmung in der Bevölkerung. *RWI Materialien*. 164. RWI. https://www.rwi-essen.de/fileadmin/user_upload/RWI/Publikationen/RWI_Materialien/rwi-materialien_164.pdf.
Andor M. A., Hümmecke, E., & Memmen, M. (2024b). Präferenzen und Einstellungen zu vieldiskutierten verkehrspolitischen Maßnahmen: Ergebnisse der dritten Welle des RWI Klima-Mobilitäts-Panels aus dem Jahr 2022. *RWI Materialien*. 169. RWI. https://www.rwi-essen.de/fileadmin/user_upload/RWI/Publikationen/RWI_Materialien/rwi-materialien_169.pdf.
Frondel, M. (2019). Verkehrswende: Busstreifen okay, höhere Parkkosten nicht. *RWI Impact Notes* 08/2019. https://hdl.handle.net/10419/216892.
RWI – Leibniz-Institut für Wirtschaftsforschung (Ed.) & Stiftung Mercator (Ed.) (2019). Weniger Staus, Staub und Gestank per sozial ausgewogener Städte-Maut (Gemeinsame Handlungsempfehlungen von RWI und WZB). *RWI Positionen* 74. RWI. https://www.rwi-essen.de/publikationen/politikberatend/rwi-positionen/detail/weniger-staus-staub-und-gestank-per-sozial-2552.

6 Data Access

The dataset is available as a Scientific Use File at the FDZ Ruhr, the research data center at RWI – Leibniz Institute for Economic Research. The data access is only granted for scientific, noncommercial studies. Potential users include researchers affiliated with scientific institutions, universities, and government agencies. Access requires a signed data usage agreement, which can be applied for on the FDZ Ruhr website. The data can be obtained as a Stata® dataset (.dta) or a csv file. Users are requested to cite the source correctly and to inform FDZ Ruhr about publications with the data. When using the dataset please cite it as follows:

Andor, M. A., Frondel, M., Gerster, A., Hoenow, N. C., Horvath, M., Hümmecke, E., & Yang, E. H. (2025). RWI Climate-Mobility Panel - First Survey Wave in 2018 [Data set]. In *RWI-Micro* (Version 1). RWI – Leibniz Institute for Economic Research. https://doi.org/10.7807/RWI:CLIMATE:MOBILITY:2018:V1

In addition to the data set, we would be very pleased if you would cite this data report.

References

Andor, M. A., Fink, L., Frondel, M., Gerster, A., & Horvath, M. (2021). Kostenloser ÖPNV: Akzeptanz in der Bevölkerung und mögliche Auswirkungen auf das Mobilitätsverhalten. *List Forum für Wirtschafts- und Finanzpolitik* 46: 299-325. DOI: 10.1007/s41025-020-00207-y

Andor, M. A., Frondel, M., Horvath, M., Larysch, T., & Ruhrort, L. (2020a). Präferenzen und Einstellungen zu vieldiskutierten verkehrspolitischen Maßnahmen: Ergebnisse einer Erhebung aus dem Jahr 2018. *List Forum für Wirtschafts- und Finanzpolitik* 45: 255-280. DOI: 10.1007/s41025-019-00184-x

Andor, M. A., Gerster, A., Gillingham, K. T., & Horvath, M. (2020b). Running a Car Costs Much More Than People Think – Stalling the Uptake of Green Travel. *Nature* 580: 453-455. DOI: 10.1038/d41586-020-01118-w

Andor, M. A., Helmers, V., Hoenow N. C., Hümmecke, E., & Memmen, M. (2024a). Stimmungsbild Verkehrspolitik: Wie steht die deutsche Bevölkerung zu den meistdiskutierten verkehrspolitischen Maßnahmen? – Ein bundesweiter Vergleich der Zustimmung in der Bevölkerung. *RWI Materialien*. 164. RWI. https://www.rwi-essen.de/fileadmin/user_upload/RWI/Publikationen/RWI_Materialien/rwi-materialien_164.pdf. Accessed: 31 January 2025.

Andor, M. A., Hümmecke, E., & Memmen, M. (2024b). Präferenzen und Einstellungen zu vieldiskutierten verkehrspolitischen Maßnahmen: Ergebnisse der dritten Welle des RWI Klima-Mobilitäts-Panels aus dem Jahr 2022. *RWI Materialien*. 169. RWI. https://www.rwi-essen.de/fileadmin/user_upload/RWI/Publikationen/RWI_Materialien/rwi-materialien_169.pdf. Accessed: 31 January 2025.

Frondel, M. (2019). Verkehrswende: Busstreifen okay, höhere Parkkosten nicht. *RWI Impact Notes* 08/2019. https://hdl.handle.net/10419/216892. Accessed: 31 January 2025.

RWI – Leibniz-Institut für Wirtschaftsforschung (Ed.) & Stiftung Mercator (Ed.) (2019). Weniger Staus, Staub und Gestank per sozial ausgewogener Städte-Maut (Gemeinsame Handlungsempfehlungen von RWI und WZB). *RWI Positionen* 74. RWI. https://www.rwi-essen.de/publikationen/politikberatend/rwi-positionen/detail/weniger-staus-staub-und-gestank-per-sozial-2552. Accessed: 31 January 2025.

Statistisches Bundesamt (2018). 90 % der Bevölkerung in Deutschland sind online. Pressemitteilung Nr. 330 vom 5. September 2018. https://www.destatis.de/DE/Presse/Pressemitteilungen/2018/09/PD18_330_634.html. Accessed: 26 March 2025.

Statistisches Bundesamt (2019). Bevölkerung und Erwerbstätigkeit. Fachserie 1 Reihe 3. https://www.statistischebibliothek.de/mir/servlets/MCRFileNodeServlet/DEHeft_derivate_00054484/2010300187004.pdf. Accessed: 31 January 2025.

Statistisches Bundesamt (2025a). Fortschreibung des Bevölkerungsstandes. Wiesbaden: DeStatis, 12411-0005. Accessed: 31 January 2025.

Statistisches Bundesamt (2025b). Bevölkerung (ab 15 Jahren): Bundesländer, Jahre (bis 2019), Geschlecht, Allgemeine Schulausbildung. Wiesbaden: DeStatis, 12211-9014. Accessed: 31 January 2025.

Statistisches Bundesamt (2025c). Bevölkerung (ab 15 Jahren): Deutschland, Jahre (bis 2019), Geschlecht, Altersgruppen, Beruflicher Bildungsabschluss. Wiesbaden: DeStatis, 12211-9013. Accessed: 31 January 2025.