Mobility in Germany 2002

Setting Standards for Travel Surveys

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bility in Germany 2002:
ntents of Presentation

- Approach and survey design
- Field results
- Nonresponse-study
- Some results
- Reporting and data dissemination

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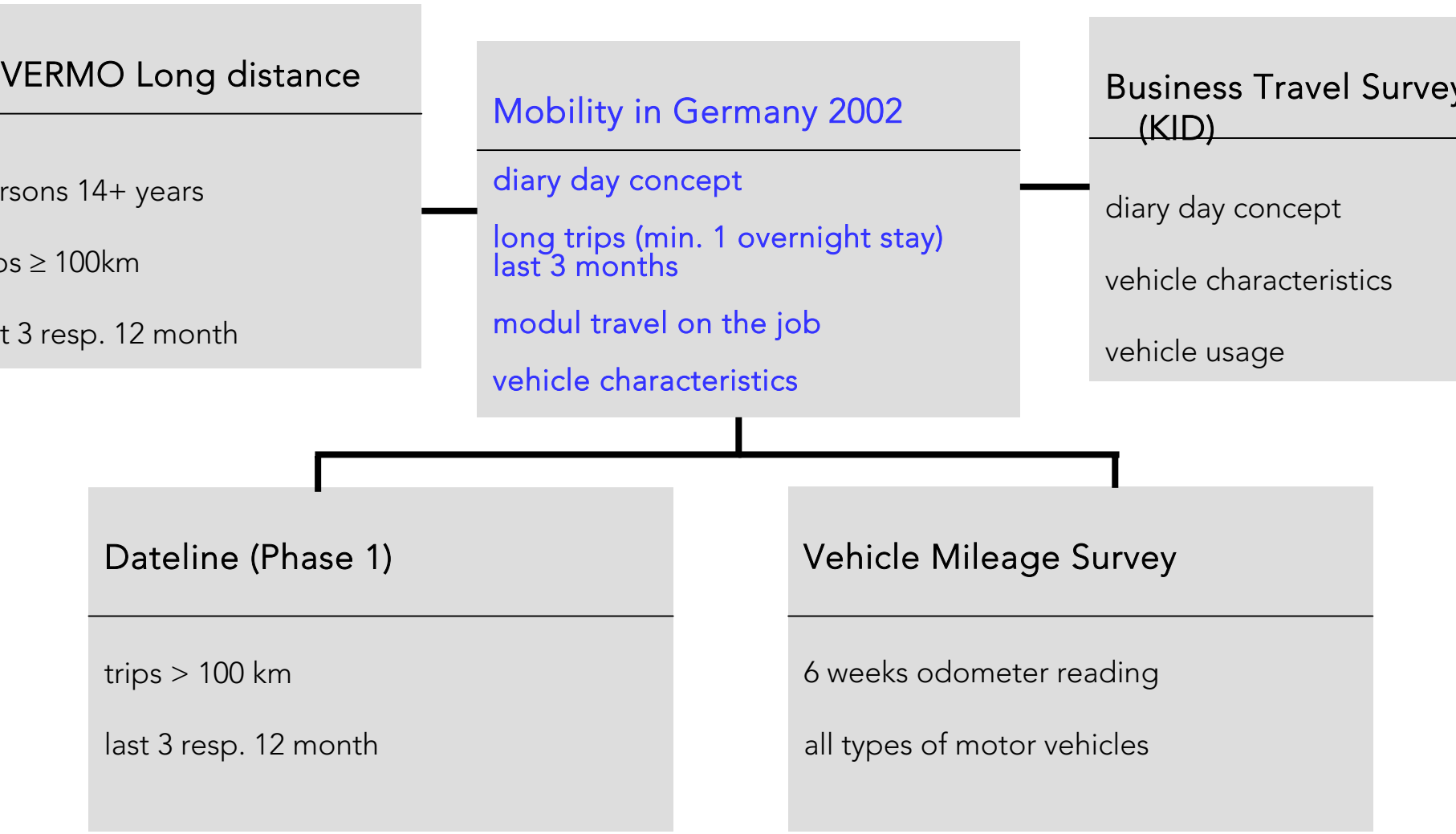
Approach and survey design

bility in Germany 2002:
nkages to other current Surveys



bility in Germany 2002:
proach

PILOT STUDY

- nation-wide random sample from registries of residents by types of region (BBR), 32 municipalities
- development of the survey instruments
- decisions concerning core components and options
- experimental design (2,400 households)
- including a combination of different survey methods
- (mail only and a mixed mode by phone/mail)
- comparison of different versions
- selectivity analyses
- determination of the method concerning the main study

MAIN SURVEY (autumn 2001 to summer 2003)

- size of random sample net 25,000 households based on registries of residents
- states or regions add-on by app. another 24,000 households
- collection of information of the whole household
- survey guided by fixed diary-dates and lasting 12 months
- non-response-study

bility in Germany 2002:
novations

Sample and Method

- stratified random sampling from registers
- mixed mode CATI/SAQ
- reliable information on response
- analysis of selectivity
- extended non-response-study
- field information

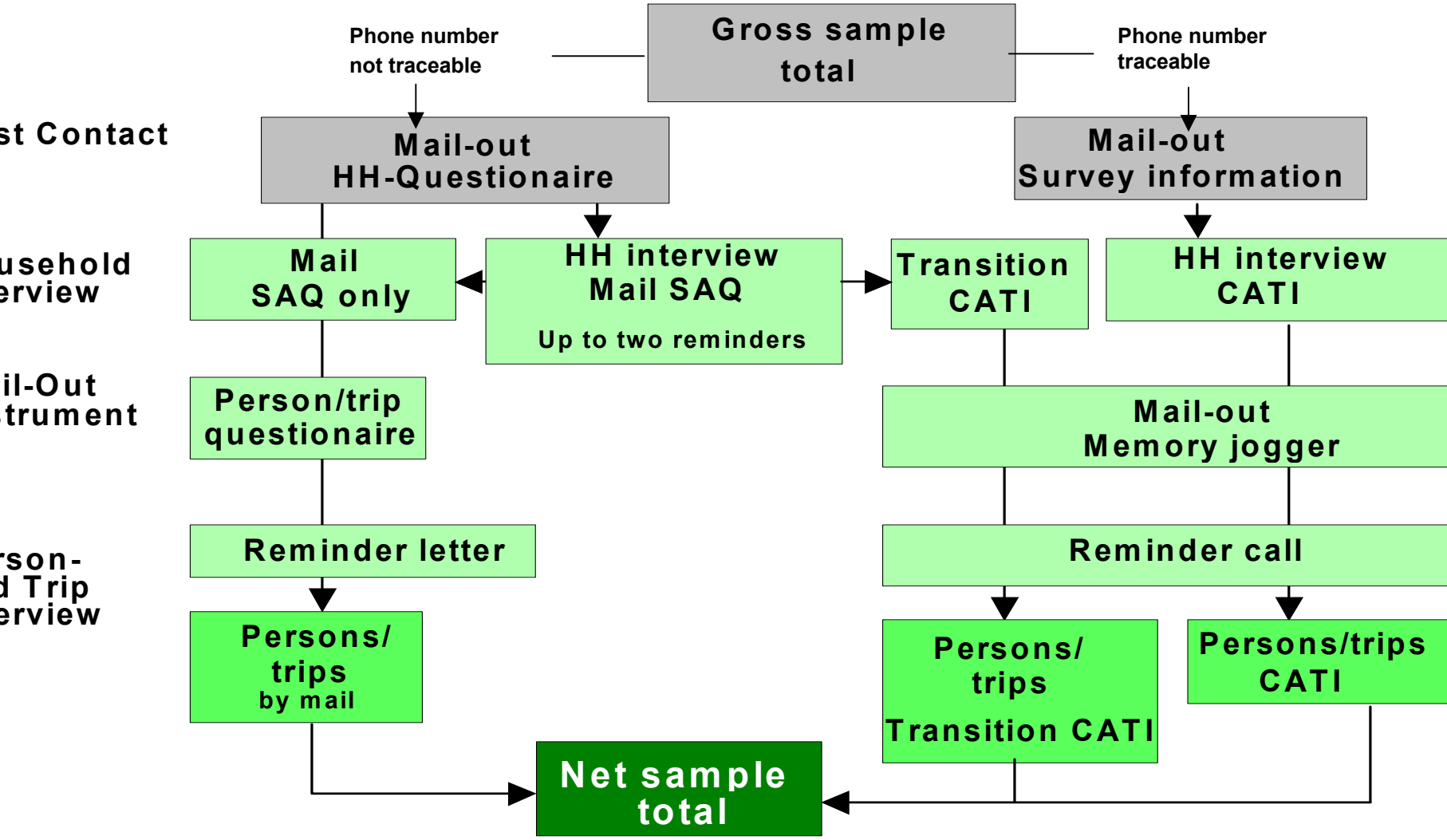
Households

- foreigners
- children
- vehicle data
- handicaps
- income

Mobility

- professional mobility
- long distance trips
- vehicle mileage
- full household context
- trip details
- trip end geocoding
- reasons zero trips

bility in Germany 2002:
vey Process



bility in Germany 2002:
mple Size

National Sample

	Number of Interviews*	Planned net	In %
Schleswig-Holstein	1.019	1.000	101,9
Hamburg	784	750	104,5
Niedersachsen	2.542	2.500	101,7
Bremen	766	750	102,1
Nordrhein-Westfalen	4.156	4.000	103,9
Hessen	2.241	2.200	101,9
Rheinland-Pfalz	1.438	1.400	102,7
Baden-Württemberg	2.593	2.500	103,7
Bayern	2.651	2.500	106,0
Saarland	775	750	103,3
Berlin	1.354	1.300	104,2
Brandenburg	1.045	1.000	104,5
Mecklenburg-Vorpommern	739	750	98,5
Sachsen	1.683	1.600	105,2
Sachsen-Anhalt	1.015	1.000	101,5
Thüringen	1.047	1.000	104,7
Total (National Sample)	**25.848**	**25.000**	**103,4**

Regional Add-Ons

Hamburg Stadtgebiet	750	750	100,0
Hamburg Umland	1.268	1.250	101,4
Bremen Stadtgebiet	781	750	104,1
Bremen Umland	1.041	1.000	104,1
Region Hannover	4.082	4.000	102,1
Mecklenburg-Vorpommern	1.007	1.000	100,7
Nordrhein-Westfalen	4.154	4.000	103,9
Rheinland-Pfalz	1.079	1.000	107,9
Hessen	6.520	6.050	107,8
Thüringen	1.005	1.000	100,5
Stadt München	3.375	3.300	102,3
Total (Regional Add-Ons)	**25.062**	**24.100**	**104,0**

* As defined by the 50 % rule

bility in Germany 2002:
rvey Contents

Households

- Household size
- Vehicle ownership
- Telephone
- Living area
- Profile of household members
- Income
- Telephone number
- Cellular, computer, internet

Persons

- Socio-demographics
- School/Occupation
- Drivers license
- Long distance trips last quarter
- Duration of residence
- Accessibility transit
- Car availability
- Bike availability
- [Bike access & storage]
- Transit/rail subscription
- Mode usage habits
- Handicaps
- Accessibility normal destinations
- [Reasons for not participating in survey]

Vehicles

- Vehicle data
- Annual mileage
- [Main driver]
- [Usual parking space]

Trips

- Purpose/aim/activity
- Modes
- Distance
- Duration (departure/arrival)
- Destination address
- Number of companions
- Business trips module
- [Use of household vehicle]

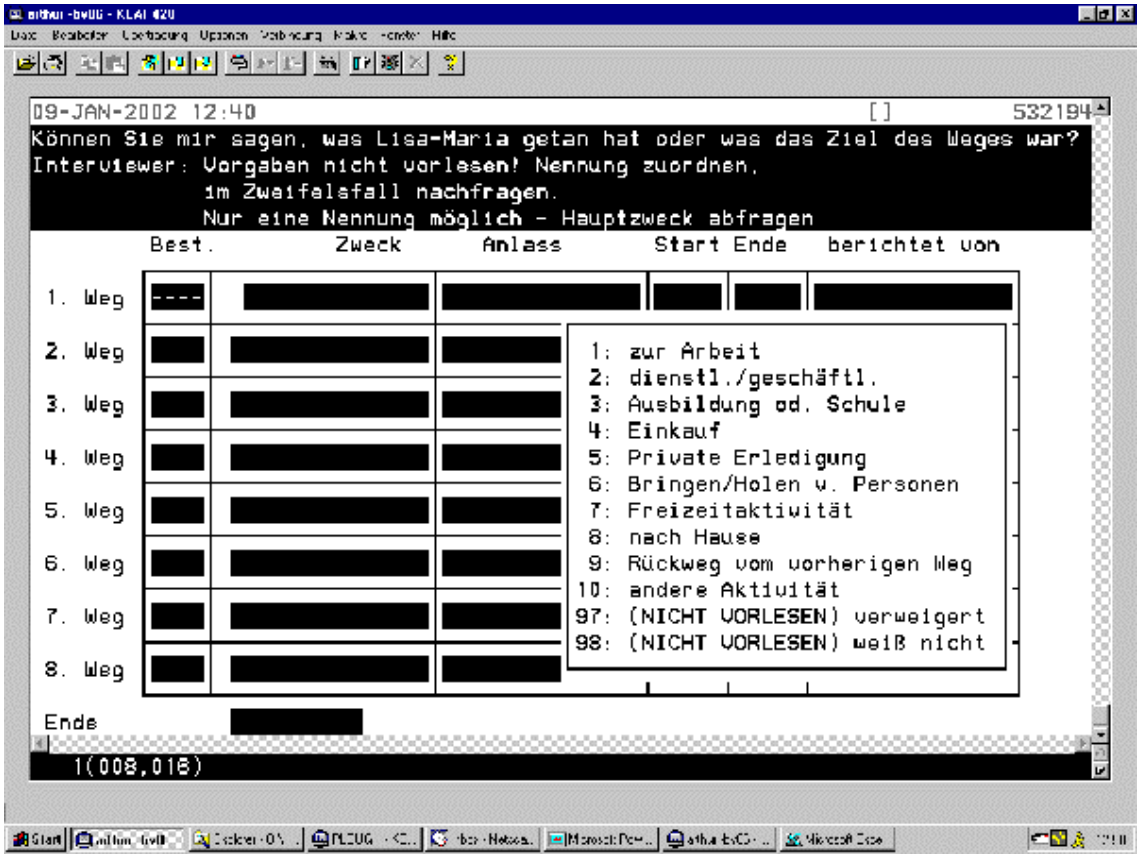
- Zero trips
- Normal day
- Car availability
- Weather

- Odometer reading
- [Use in household]

– KONTIV-Expansions

Only in CATI

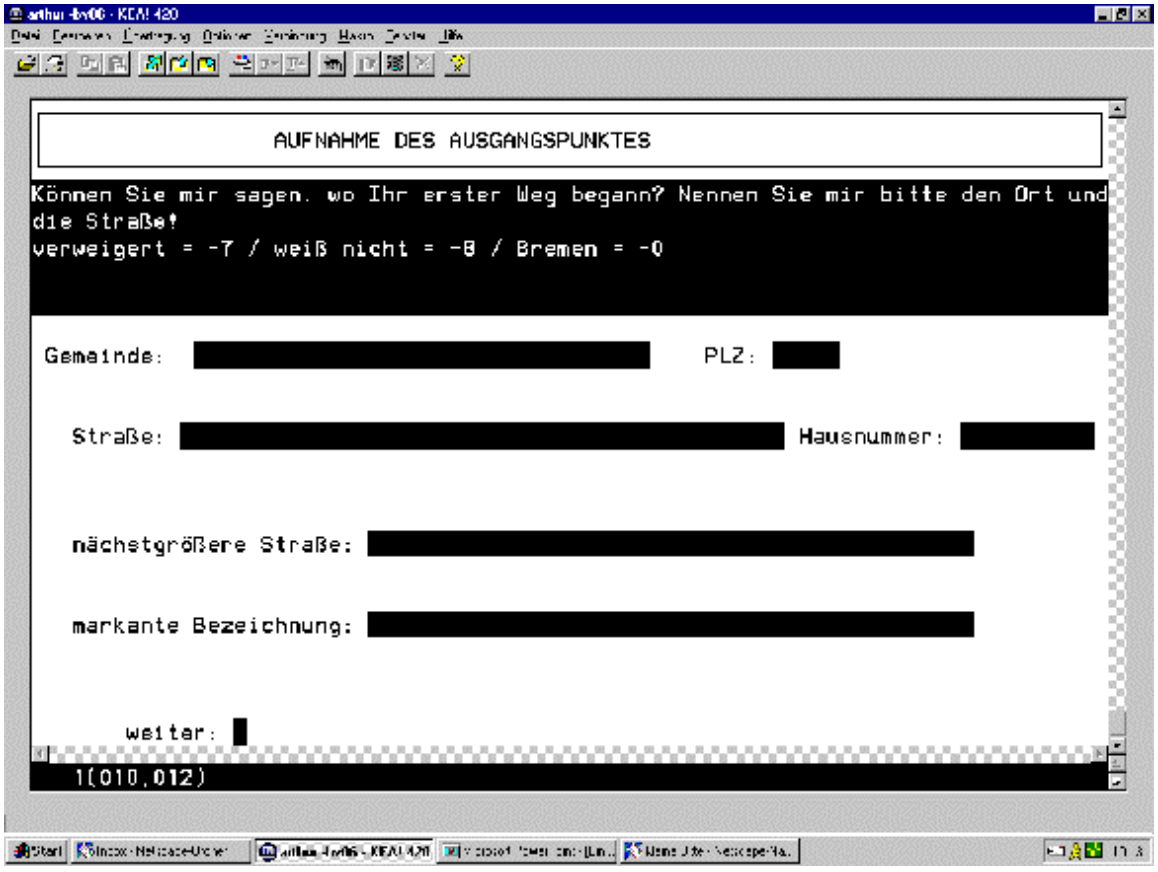
bility in Germany 2002:
TI-Instrument



Acquiring the routes by phone, the interaction between interviewer and target person is crucial. Unlike the mail interview, a better comprehensibility of the daily routine is given. Additionally, inquiries are made concerning forgotten routes - those are mainly short walks like e.g. early morning walk to a bread shop or jogging path.

First of all, the data acquisition mask of the interviewer provides a rough recording of all routes during day. Forgotten routes can be added later and are listed automatically into the time schedule. The CATI-programme enables the interviewer as well to notice forgotten ways back and to inquire specifically. Th opportunities are lacking in a mail survey, to the data quality's disadvantage.

bility in Germany 2002:
ocoding as a New Feature



As basis for the geocoding, the starting and destination addresses of each route are recorded as detailed as possible. If it is impossible t obtain detailed information, least rough data will be recorded.

Concerning the analyses, th data protection laws must b taken into account. The collected addresses must n admit conclusions about single individuals. Therefor the exact data is only used t pass on further information e.g. the walking distance to the next bus stop. Thus,

the final data set consists only of the information about sto and distance, yet not the exact address.

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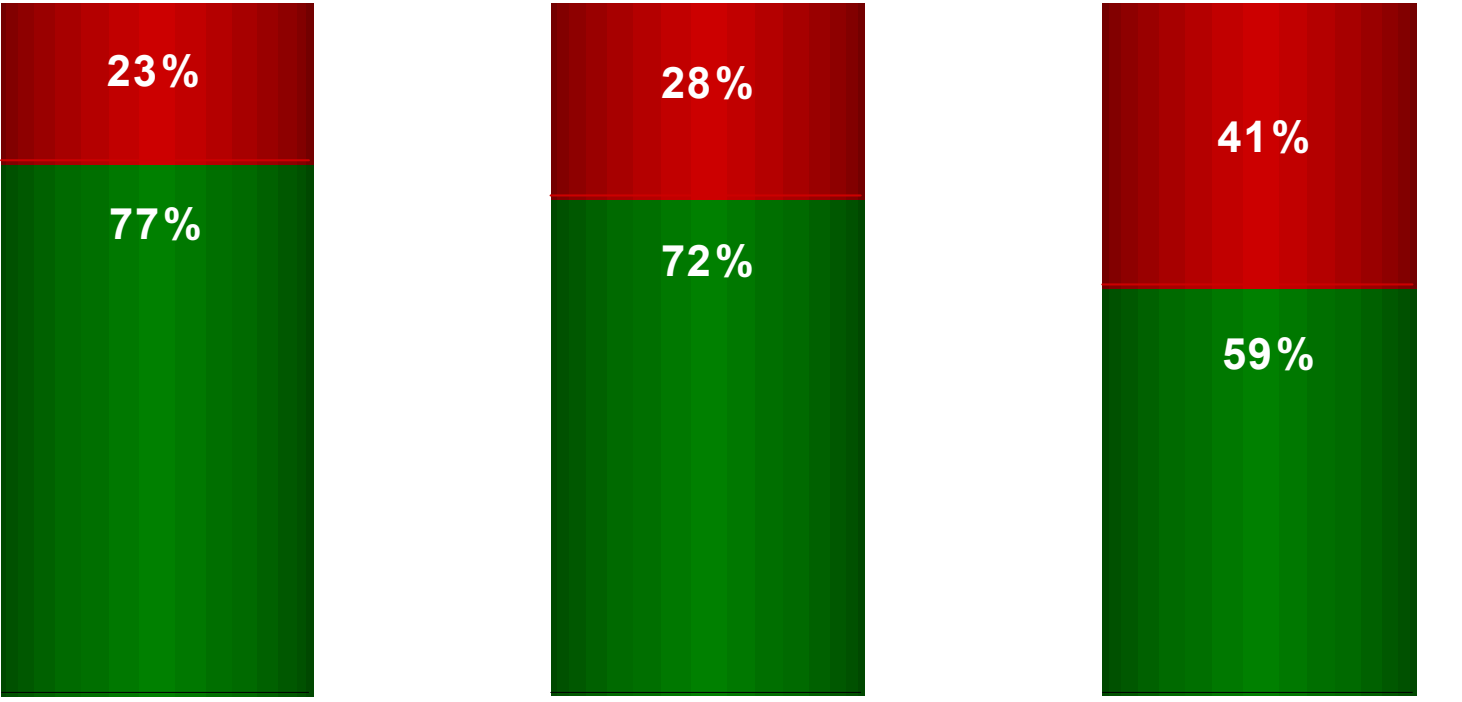
Field results

bility in Germany 2002:
sults on Criteria for a completed Household



"1-Person-Rule"

(Person- and Trip Interview with at least one Person in Householdt)

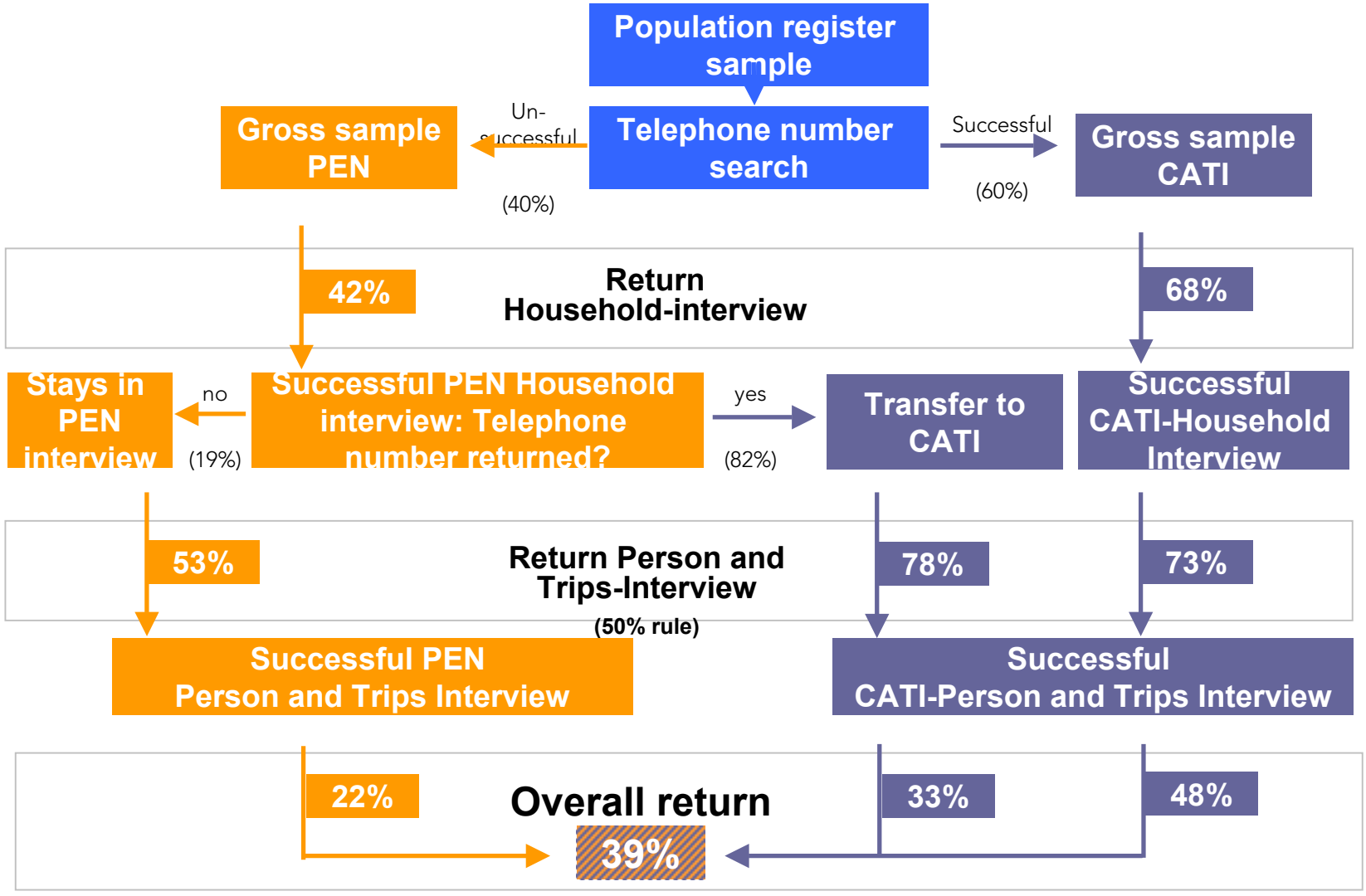
"50-Percent-Rule"

(Person- and Trip Interview with at least Half of Household Members)

"100-Percent-Rule"

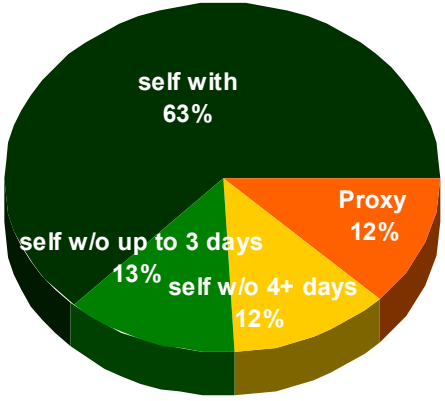
(Person- and Trip Interview with all Household Members)

bility in Germany 2002:
rvey Process and Response Rates (50-%-rule) in the Process Levels

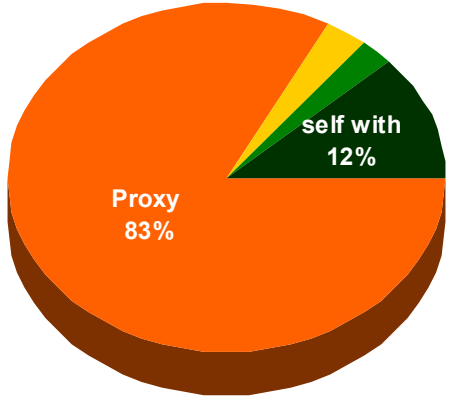


obility in Germany 2002: Person and Trip Interview by Age oup – Self / Proxy - with / without Jogger

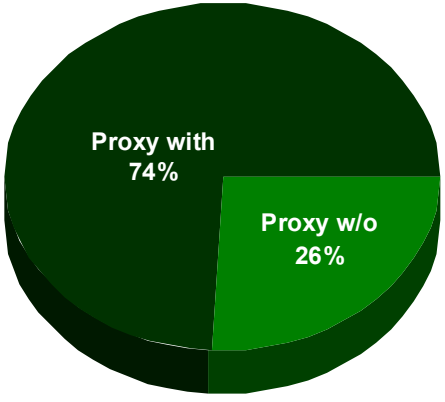
14 Years up



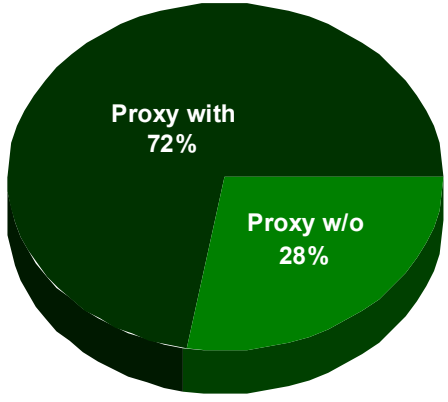
10 to 13 Years



6 to 9 Years



0 to 5 Years



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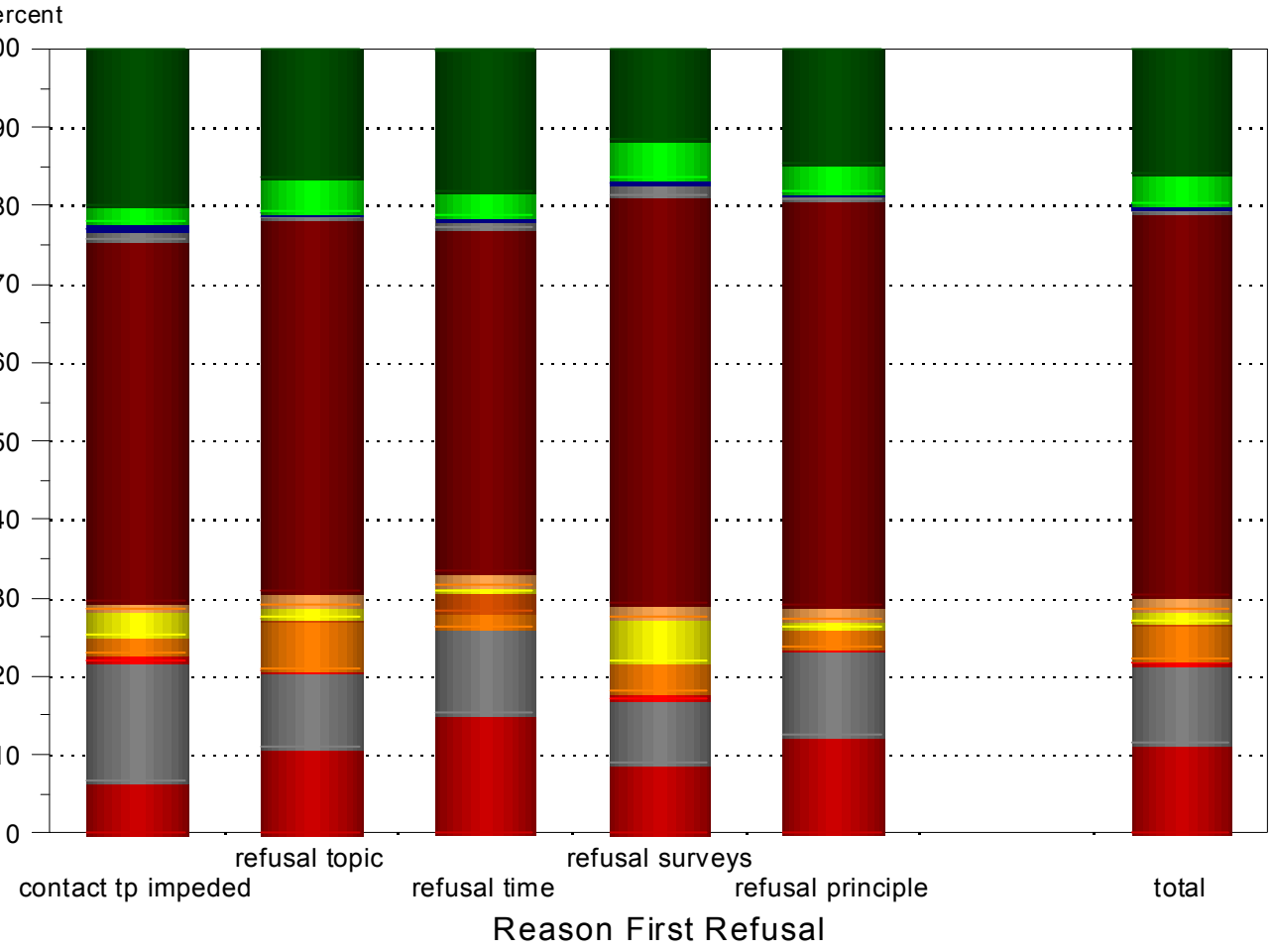
Refusal conversion and Nonresponse-study

bility in Germany 2002:
sults of Recontacting Refusals by Reason First Refusal



bility in Germany 2002:
nresponse-Study

- For the additional quality assurance, a supplementary nonresponse study was implemented beyond the usual recontacting of soft refusals.

- The nonresponse study addressed "total nonrespondents".

- Within the telephonic available households , the nonrespon-dents were contacted by phone, the remaining house-holds were contacted by interviewer.

- Based on our experience with other nonresponse-studies, we drastically cut the programme of questions to increase the number of sucessfull interviews.

		CATI	PAPI
Gross Sample I		981	495
Non sample		39	83
Verified Gross Sample		942	412
	in %	100 %	100 %
Interviews		412	289
	in %	44 %	70 %
Refusals		514	119
	in %	55 %	29 %
No contact		16	4
	in %	2 %	1 %

bility in Germany 2002:
sults of Nonresponse-Study

Contrast: Sucessfull Interviews Main Study vs. Sucessfull Nonresponse-Interviews (ref = Nonresponse-Interview)		
Items	**odds-ratio**	**p-value**
Nationality		
missing	0,95	0,83
German	1,70	0,01
other	ref	ref
Survey Mode		
PAPI	0,06	0,00
CATI	ref	ref
Sex		
male	1,22	0,02
female	ref	ref
Household		
Singles	1,99	0,00
2 Persons	1,73	0,00
3 Persons	1,50	0,03
4 Persons	1,15	0,44
5 Persons ore more	ref	ref
Transit-Target Groups		
Less Mobile	0,89	0,44
Captives	1,05	0,83
Daily Users	1,67	0,02
Weekly or Monthly Users	1,12	0,56
Car User with good Transit Conditions	1,29	0,04
Car Users with Bad Transit Conditions	ref	ref
Number of Trips per Day		
missing	0,80	0,21
none	0,57	0,00
1-2 Trips	0,57	0,00
3-4 Trips	0,81	0,14
5 Trips or more	ref	ref
Number of Cars in Household		
none	1,14	0,42
one	ref	ref
two	1,40	0,00
three or more	1,06	0,73
McFadden Pseudo-R^2	0,09	

The significant effects are illustrated by comparing the main study with the nonresponse study, mainly resulting in minor participation rates for:

- **foreign residents**
- **women**
- **less mobile people**
- **elderly people (not illustrated)**
- **bigger households (resulting from the required questioning of all household members)**

Yet, the effects are few, and the minor size of the nonresponse study does not justify a balance within the weighting.

In the Scientific Use File, a selection variable was included, which provides the in the selection process determined inverse mill's ratios. They can be used as corrective factor within the multivariate analyses.

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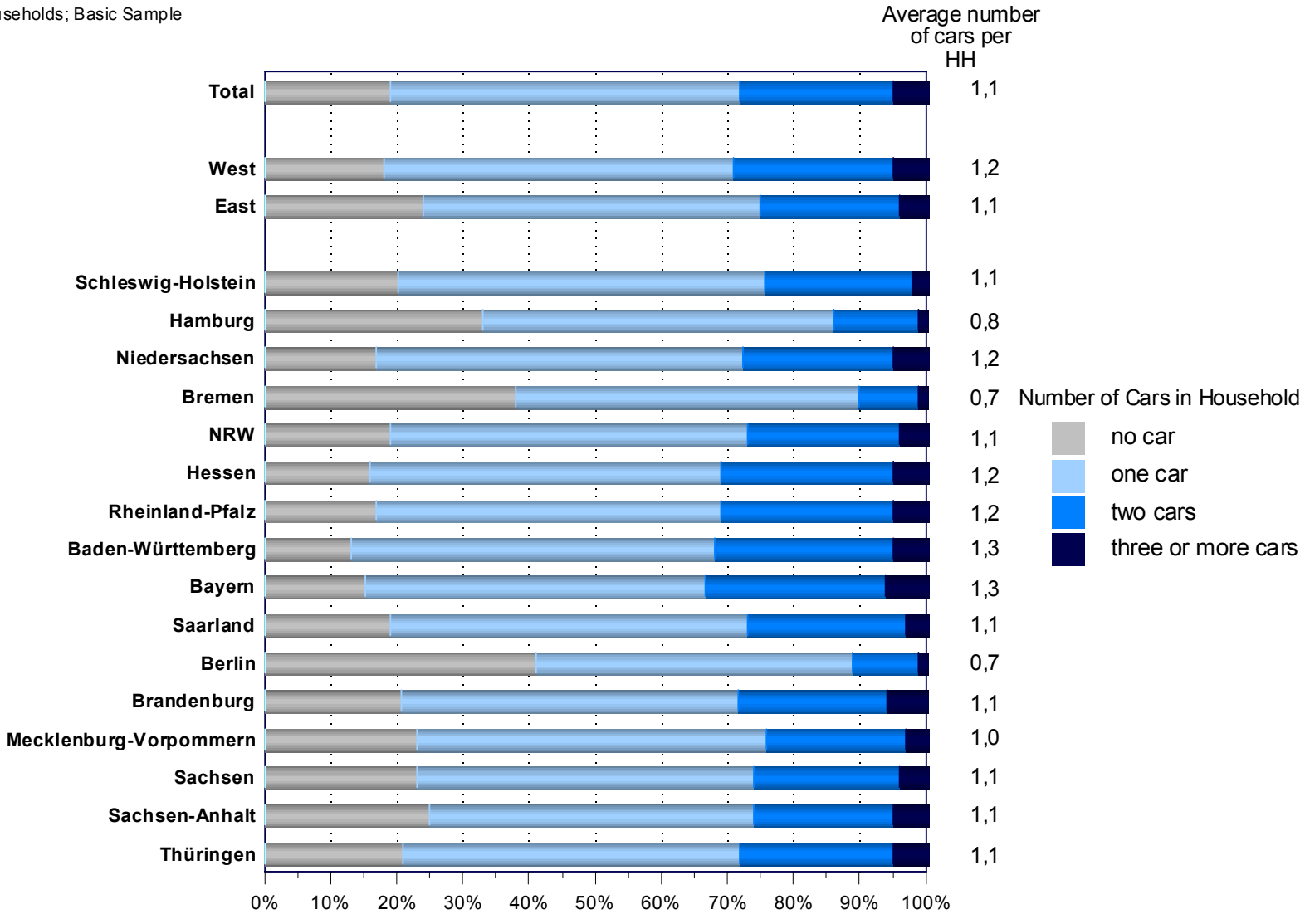
Some results

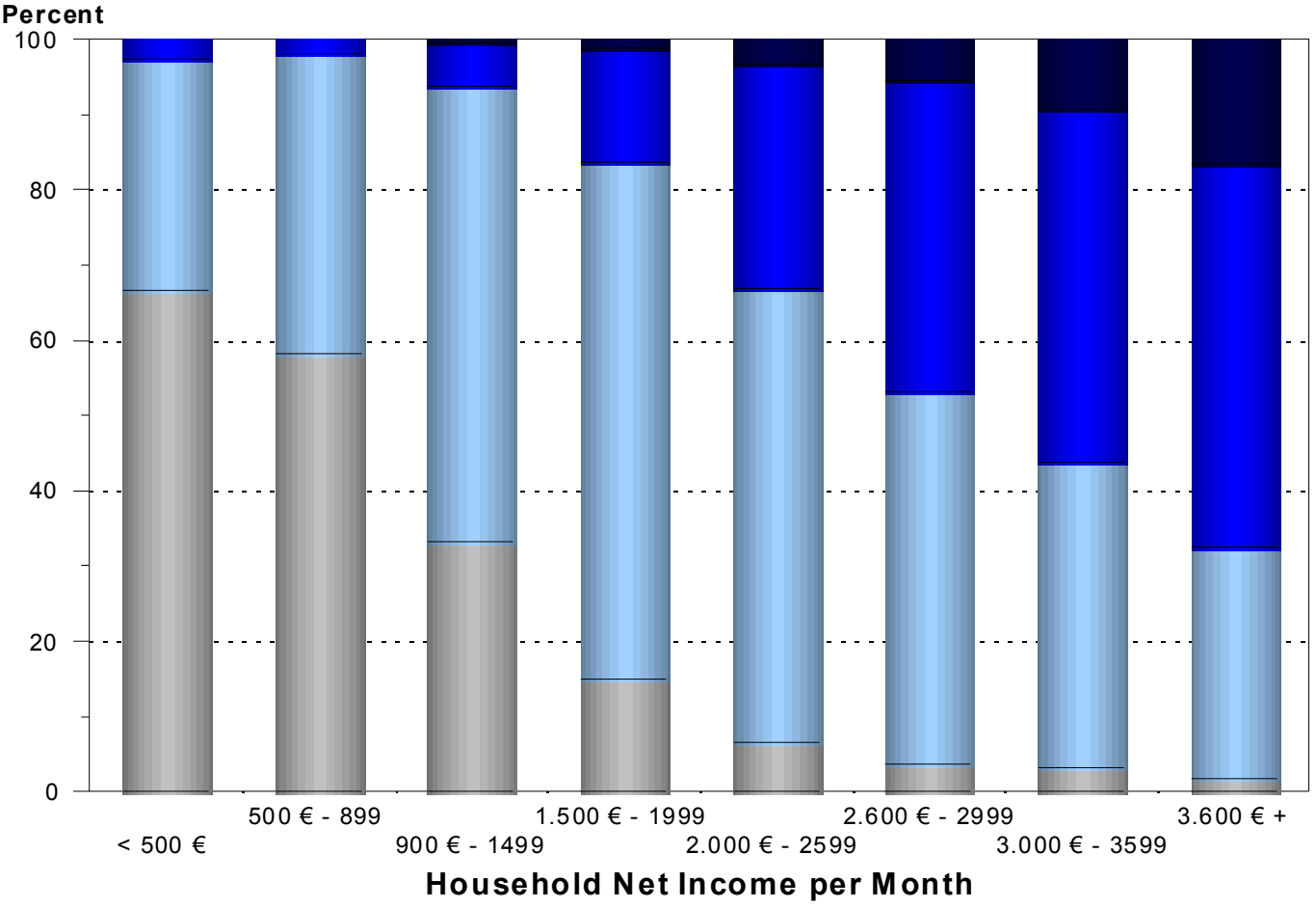
bility in Germany 2002:
r Ownership of Households by States

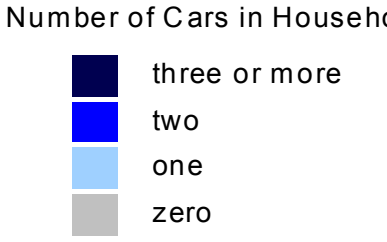
Households; Basic Sample



bility in Germany 2002:
r Ownership of Households by Income

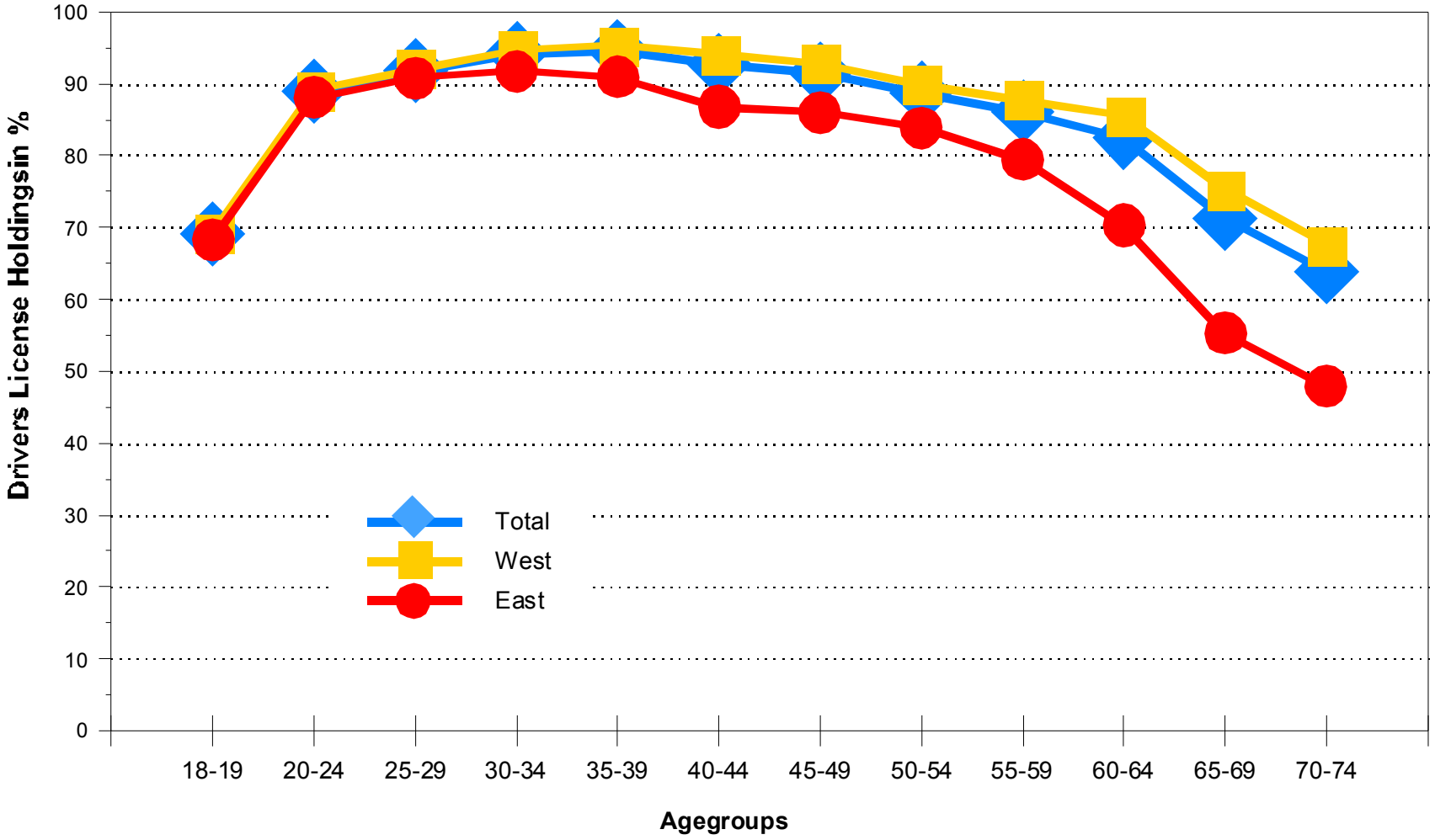
holds; Basisc Sample





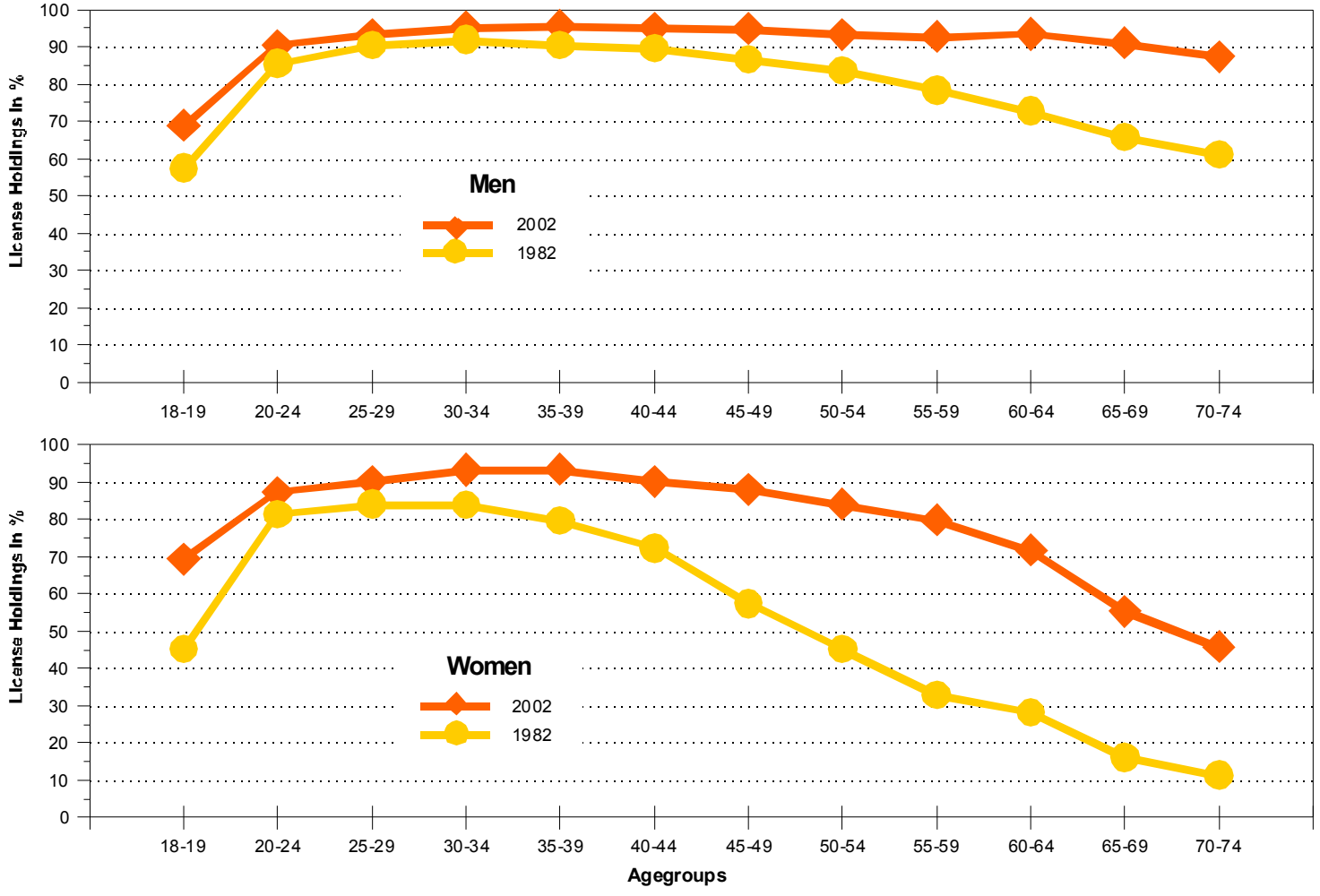
bility in Germany 2002:
vers License Holdings for East- and West Germany

Persons 18 Years up; Basic Sample



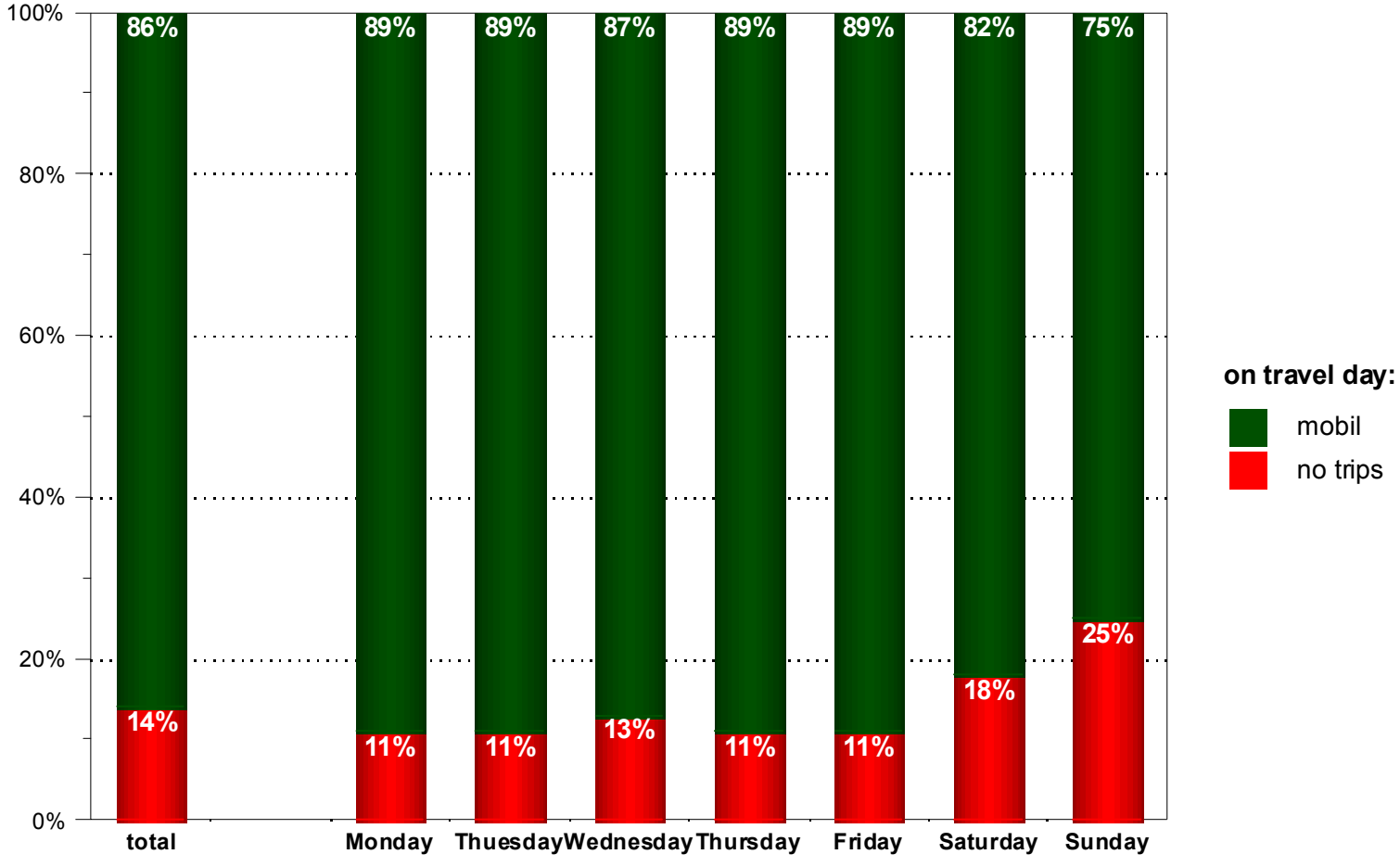
obility in Germany 2002:
cense Holdings by Age and Gender

Persons 18 Years plus; Basic sample



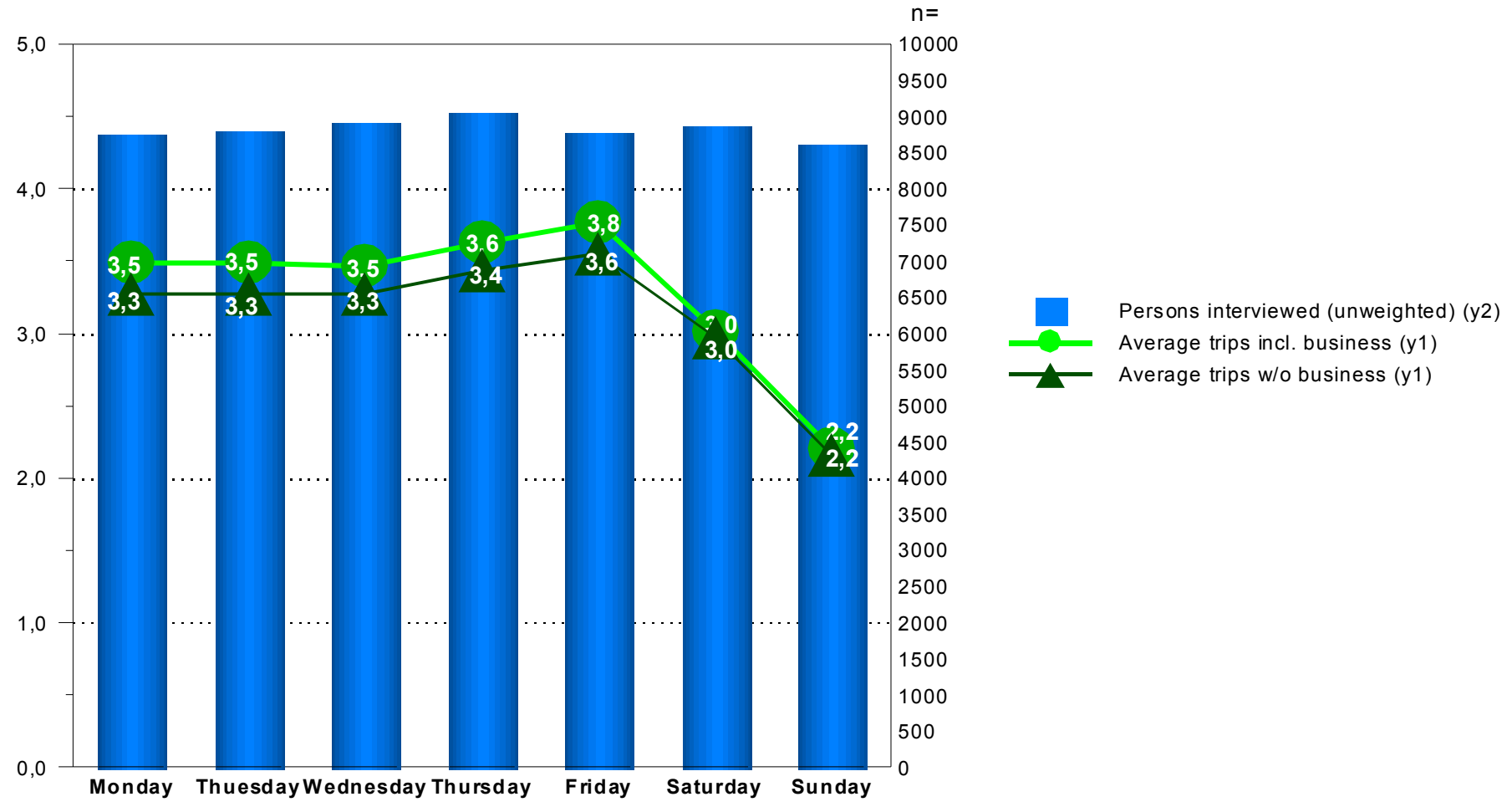
bility in Germany 2002:
bility Participation by Day of the Week

Self or provy interview on trips, persons 0 years plus; Basic sample

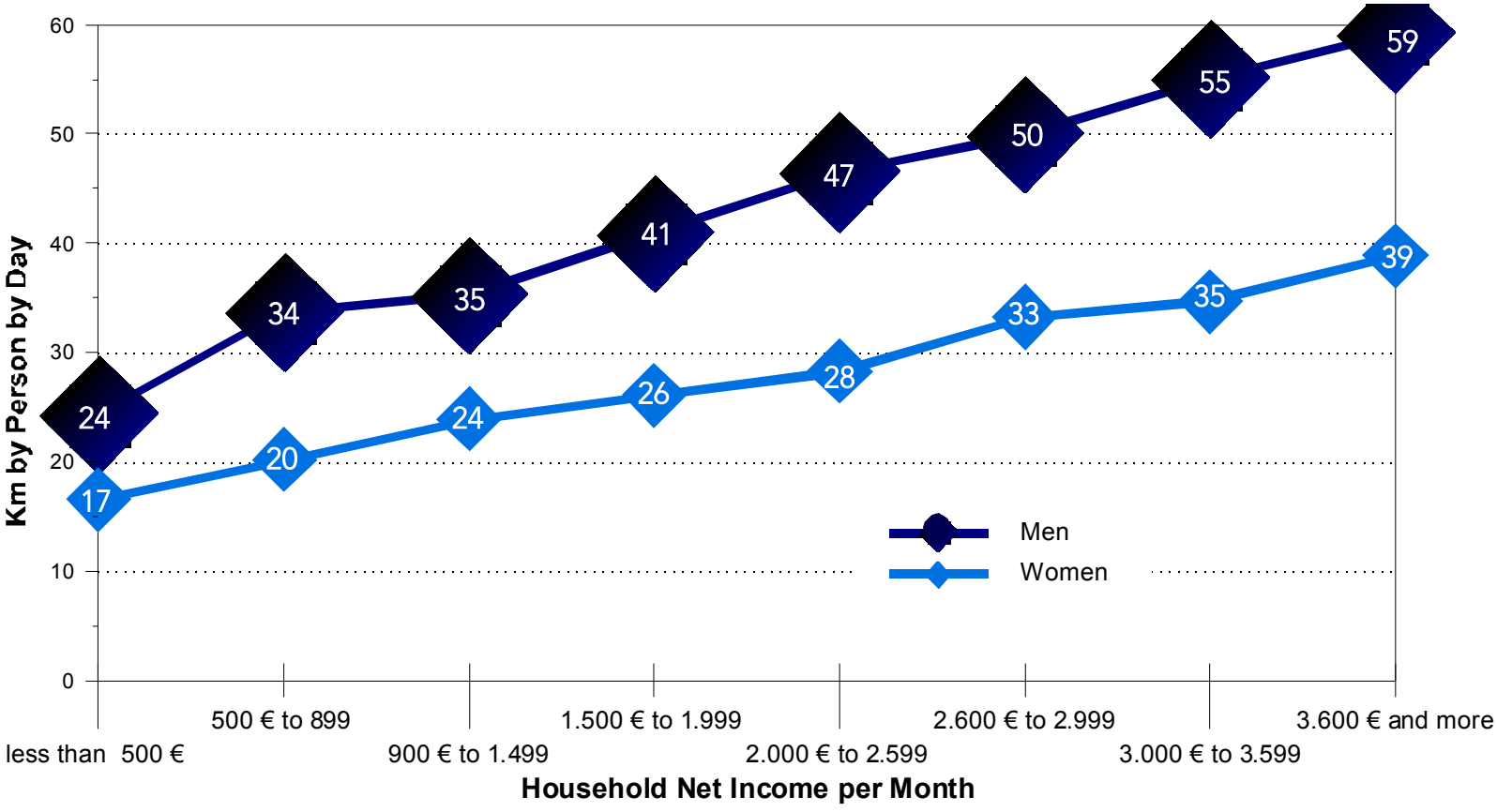


bility in Germany 2002:
ps per Day of the Week with / without Trips on the Job

or proxy interview on trips, persons 0 years plus; Basic sample

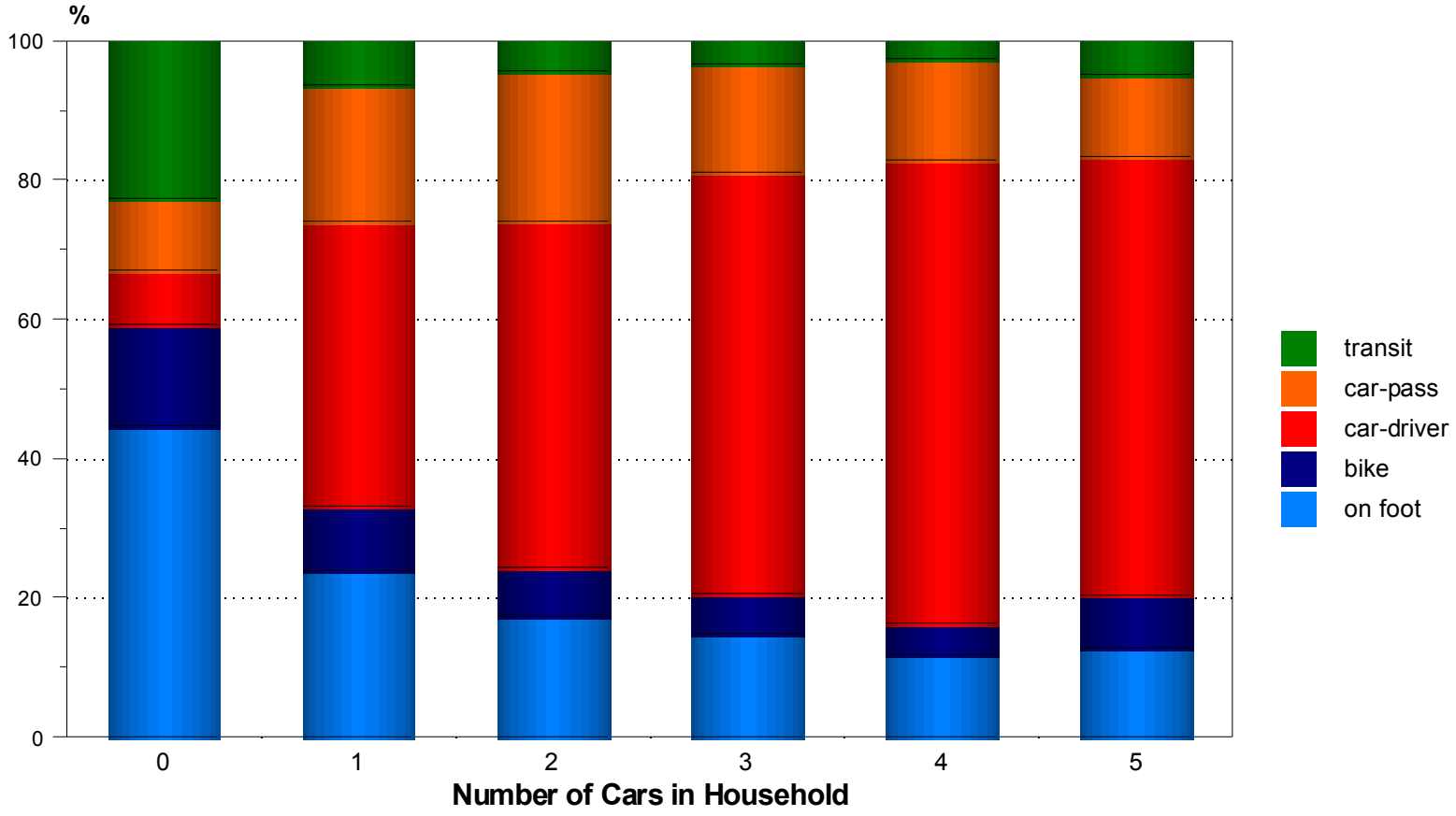


bility in Germany 2002:
come and Daily Travel



bility in Germany 2002:
de Choice by Number of Cars in the Household

Self or proxy interview, persons 0 years plus; Basic sample



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Reporting and data dissemination

- Survey information for participants on the web
- Interim results continually updated on

  http://www.kontiv2002.de
- Papers and articles
- Dissemination of data via

  http://www.clearingstelle-verkehr.de/
- Reporting tool MiT freely available

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Conclusions

bility in Germany 2002:
nclusions

- MiD is a general purpose NTS
- The process of designing and coordinating federal surveys was successful
- Interaction of instruments and contents: adapted methods make for extended results
- Household context challenging but possible
- Technological and behavioral changes will require methodological adaptations