



General Assembly Vienna

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Experiences KPI Distraction

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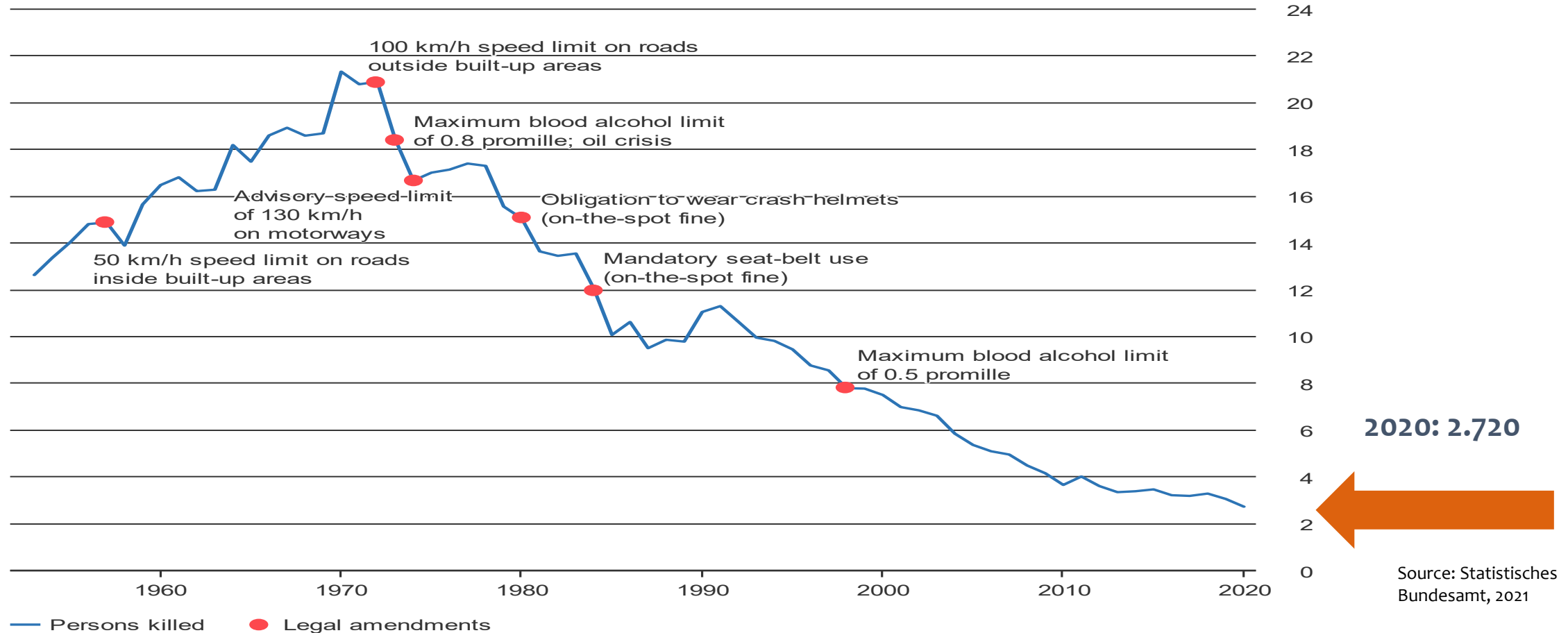
Federal Highway Research Institute (BASt)

Germany

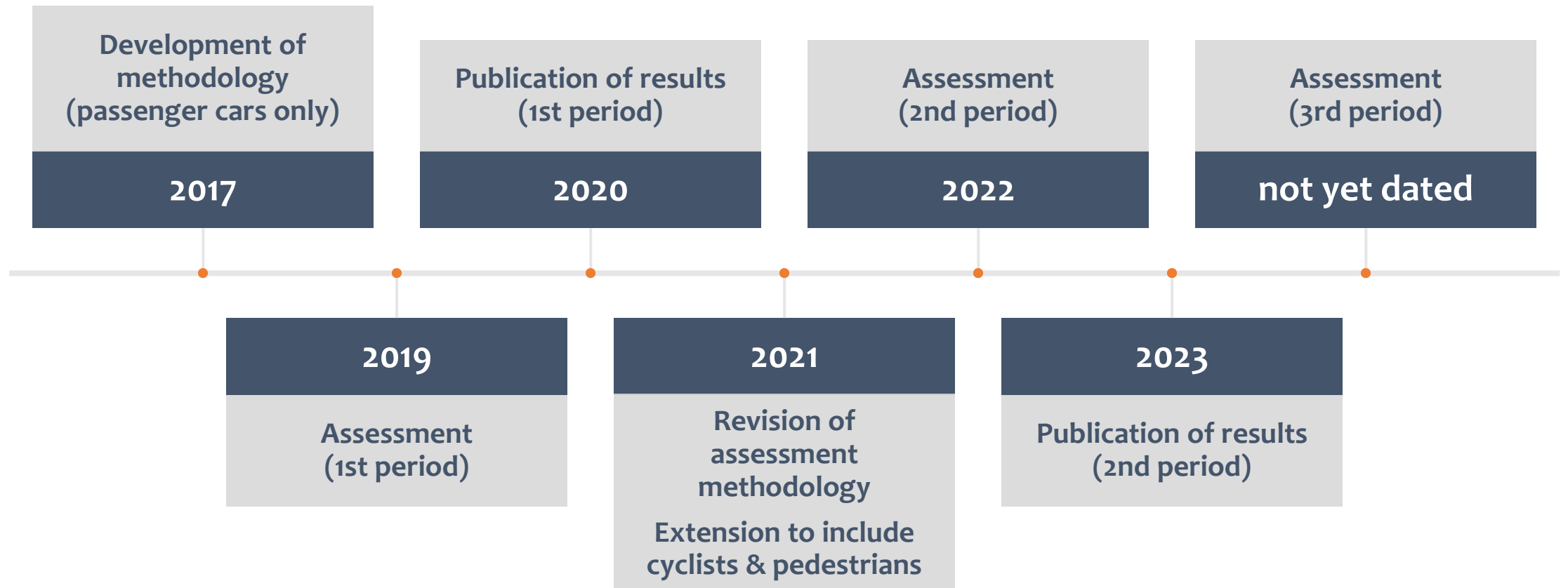
Road Safety in Germany

Trend in the number of persons killed in road traffic accidents

Thousand

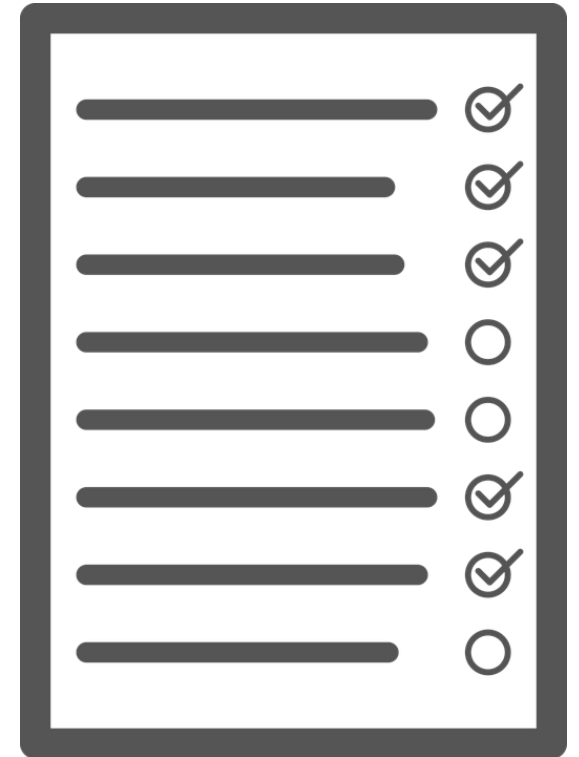


History of KPI Distraction



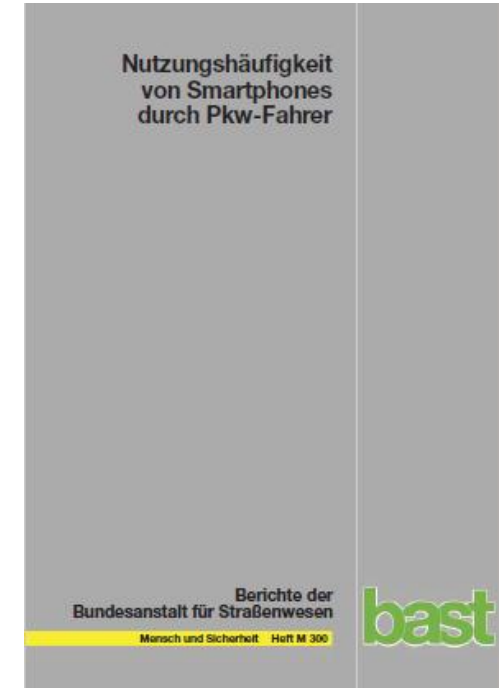
Prerequisites for concept development

- Assessment of smartphone use while driving
- Passenger car drivers
- Point prevalence
- Roadside observations
- Representative data
 - Types of roads
 - Times of the day
 - Days of the week
- Periodic assessment
- Comparability to assessment of seat belt use (done since 1970)



1st Assessment period: Key features

- Determination of observation sites
- Training of observers
 - Handbook
 - Training video
 - Training survey
- Conduction of observations
 - 05/2019 – 09/2019
 - 8 cities/regions
 - built-up areas, outside built-up areas (rural roads) & motorways
 - Days of the week: Tuesday - Thursday
 - Hours of the day: 07:00 – 10:00 and 10:30 – 13:30
 - Sequence: 55 min observation – 5 min break
 - Teams of 2 at each observation site
 - Counting of vehicles (2 minutes) at each location



available:
<https://bast.opus.hbz-nrw.de>

Observed characteristics

- No distraction by smartphone use
- Speaking hands-free
- Speaking hand-held
- Use of smartphone hand-held (e.g. typing)
- Use of any device mounted at center console
- Use of device assumed (not visible)
- Control measures (Eating/Drinking, Smoking)
- Gender
- Age group
- Passenger(s)

Tablet application
„Smarty“

The screenshot shows a tablet application interface with a blue background. It features several input fields and icons:

- Top row:** A car icon in a red-bordered box, a fork and knife icon in a yellow-bordered box, a coffee cup icon in a yellow-bordered box, and an age group field with the value "< 25".
- Second row:** A hand holding a smartphone icon in a red-bordered box, a hand holding a smartphone icon in a red-bordered box, a hand holding a smartphone icon in a red-bordered box, a cigarette icon in a blue-bordered box, and an age group field with the value "25-65".
- Third row:** A hand holding a smartphone icon in a red-bordered box, a cigarette icon in a blue-bordered box, a cigarette icon in a blue-bordered box, and an age group field with the value "65+".
- Fourth row:** A smiley face icon in a red-bordered box, a male and female icon in a purple-bordered box, and a "Speichern + Weiter" button.
- Fifth row:** A smiley face icon in a red-bordered box, a male and female icon in a green-bordered box, and a "Speichern + Weiter" button.
- Sixth row:** A no mobile phone icon in a red-bordered box, a male and female icon in a green-bordered box, and a "Speichern + Weiter" button.
- Bottom row:** An "Erhebung Beenden" button and a "Zurück" button.

Observation site: built-up area



Bild A 1-23: Duisburg Innerorts, Kartendarstellung

Observation site: motorway

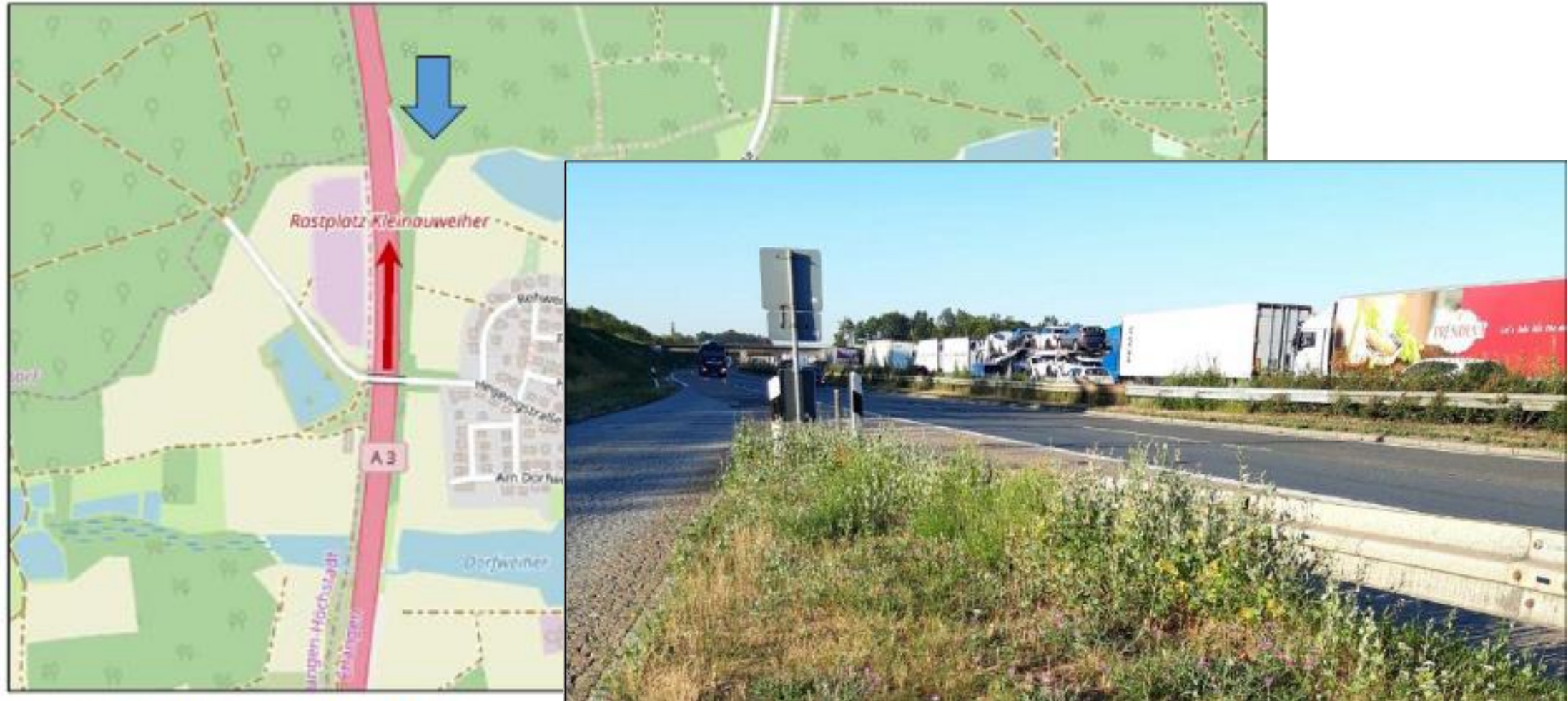
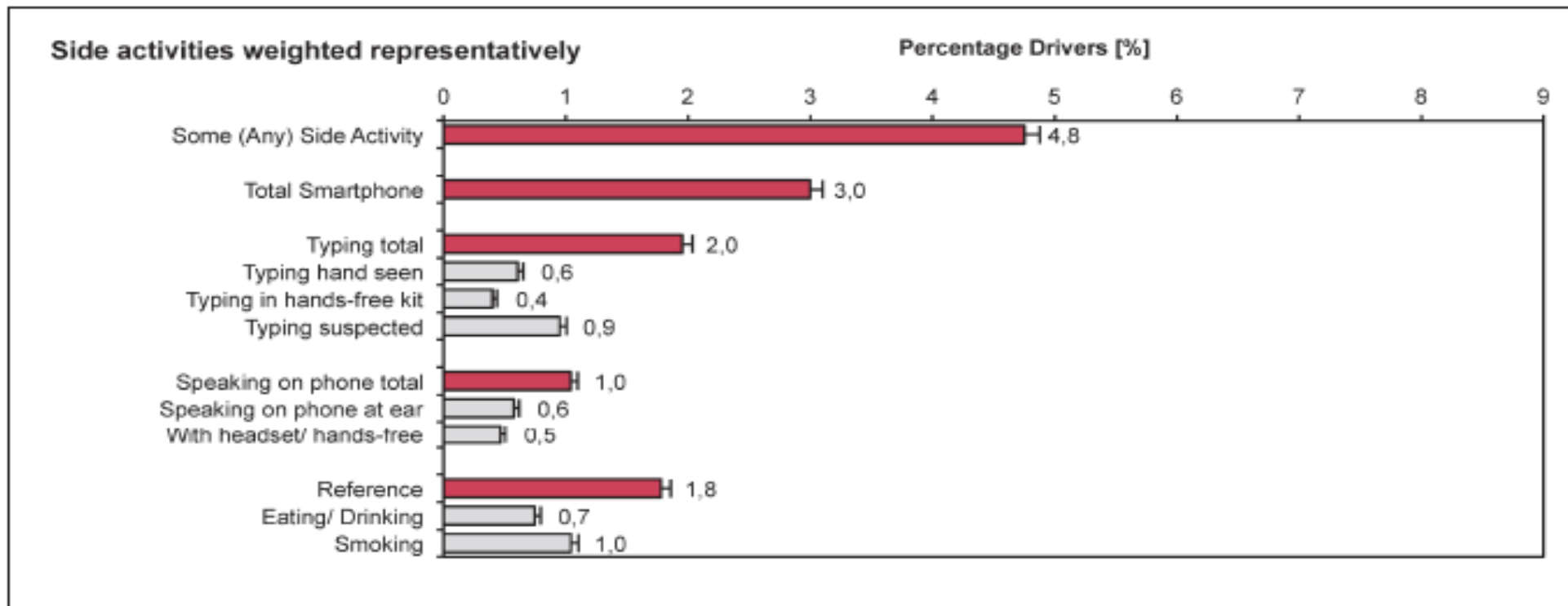


Bild A 1-13: Amberg Autobahn, Kartendarstellung

Brief overview of results

- 145,040 car drivers observed
- Frequency of smartphone use (weighted data):



(Kathmann et al., 2019)

Fig.: 3-1 Weighted frequencies of side activities [percentages and 95%-confidence interval, sum values may differ due to rounding]

Experiences

- Roadside observations suitable for the assessment
- All categories well observable
- Age estimation is difficult
- Teams of two are effective
- Precise instructions required
- Training of observers is very important
- Careful selection of observation sites is important but time-consuming
- Broad regional spread necessary



Experiences (cont.)

- Observations preferably in summer and during daylight
- Importance of breaks
- Focus on times with high traffic volume is effective
- Weighting of data necessary for representativeness
- Smartphone use on weekends is different
- Assessment on weekends is feasible but causes extensive effort



Thank you
for your attention!

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Available KPI in Germany

KPI	Availability
Speed	No
Safety belt	Yes
Protective equipment	Yes
Alcohol	Assessment in progress
Distraction	Yes
Vehicle safety	No
Infrastructure	No
Post-crash-care	Yes