

# Driver Assistance Projections

## Informal Document to support ECE/TRANS/WP.29/GRE/2020/4

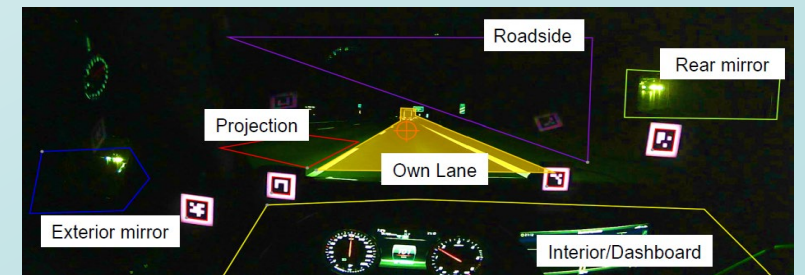
### Review: Feedback from 82nd GRE

- Standardization of symbols
- To conduct further investigations on distraction



### Further studies on flashing Driver Assistance Projections and distraction potential

*Leibniz Universität Hannover*





# Standardization of Symbols

## Driver Assistance Projections - Extension of the dashboard

- Optional additional means to provide safety-related assistance to the driver
- Define *Pattern* and *Symbols* - Standardize *Symbols*
- Therefore proposed to have the similar approach as in UN R121: *If own conception of a symbol, **the design principles** laid down in paragraph 4. of ISO 2575 „Road vehicles — Symbols for controls, indicators and tell-tales” shall be followed.*

### Approach in ECE/TRANS/WP.29/GRE/2020/4:

Define „Driver Assistance Projections“, consist of:

„Driver Assistance Pattern“

„Driver Assistance Symbols“

Simple geometric shape, e.g. vehicle total-width marking



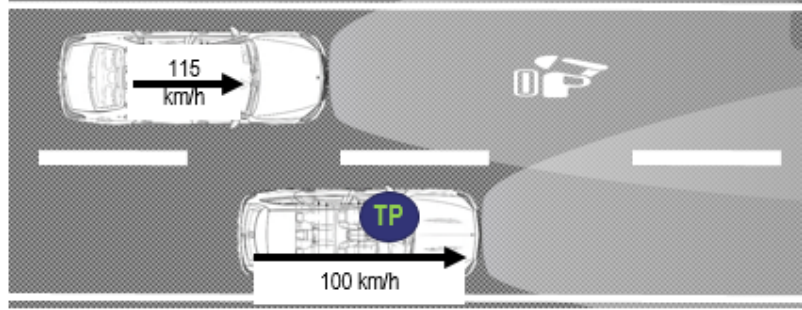
Standardized symbols, e.g. rear-end collision warning symbol



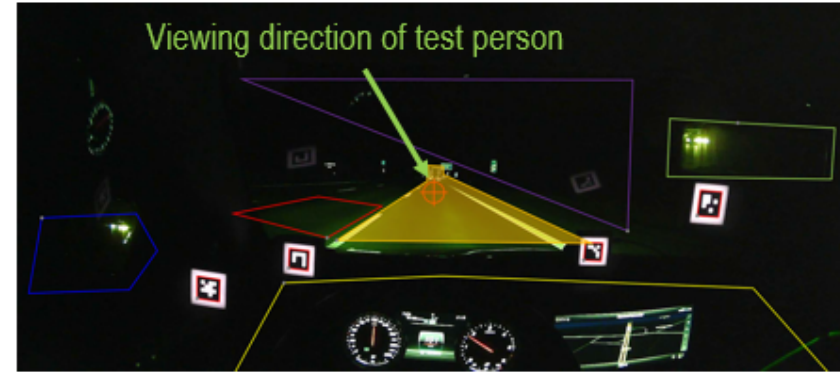


# Study setup: Distraction potential of road projection symbols

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Knöchelmann, Held  
“Distraction potential  
of road projection  
symbols”**



Test setup



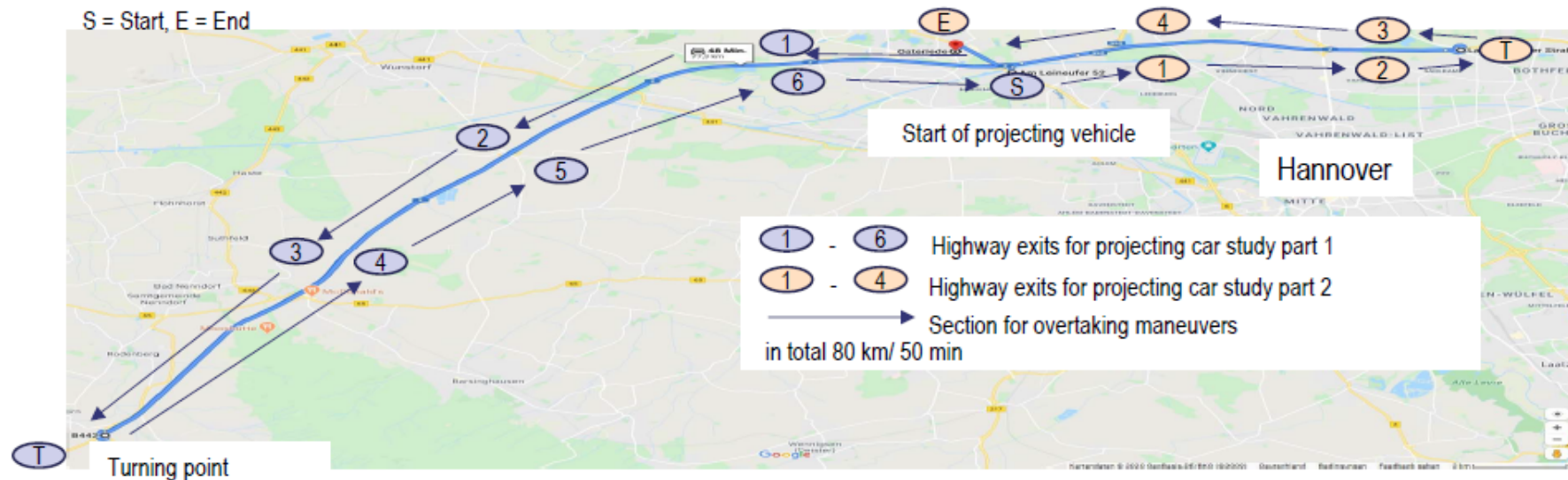
Eye marking map

- The test person is overtaken by the projecting vehicle while driving on the highway
- Test person wears eye-mark glasses to measure glance direction and duration
- Speed difference: 15 km/h, overtaking maneuver of ~6s
- Symbol: excavator
- Static projection: Permanently on
- Dynamic projection: Continuous flashing 1 Hz with 0.5 s off
- First results from 26 test persons (15 male, 11 female); outlook for End of Oct 2020: 39 (24 male, 15 female)
- Age in years:  $30.2 \pm 11.3$  (mean  $\pm$  standard deviation); Min. 19; Max. 69



# Study szenario and conclusions

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## Part 1

- Test persons are not informed about study objective
- Projected symbol is visible in peripheral field of vision of test person

- Visual attraction of the investigated projections in real traffic situations is low
- The study shows no indication of a decrease of road safety by static or blinking projections for other road users

## Part 2

- Test Persons are informed about study objective and every overtaking maneuver
- Projected symbol is visible in direct field of vision of test person

- The study indicates that when a test person is informed in advance, then a projection that is blinking becomes slightly more noticeable than one which projects statically.
- Other road participants are able to see the projected light but are not able to recognize the projection as the right symbol





Thank you