

Submitted by the experts from Japan

Informal document **GRE-83-49**  
83<sup>rd</sup> GRE, 19-23 October 2020  
agenda items 4.(c) and 6.(a)

# **Possible concerns on the document ECE/TRANS/WP.29/GRE/2020/4**

**October 2020**

**Japan**

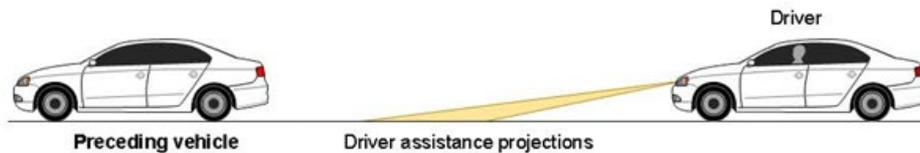
# Survey Report on Driver Assistance Projection

In May this year, Japan presented the results of a study on driver assistance projection at the meeting of IWG-SLR (See [SLR-38-17/Rev.1](#)).

Rear-end collisions is often caused by following drivers' distraction and there is a concern that **driver assistance projections might cause such distraction**. The study had been conducted to answer this question.

What we studied was **how the driver's reaction time changed** when the brake lights of a vehicle ahead lighted on **while his/her vehicle is projecting light symbols**, etc. on the road ahead.

## ● Schematic of the Experiment



## ● Experiment Setup

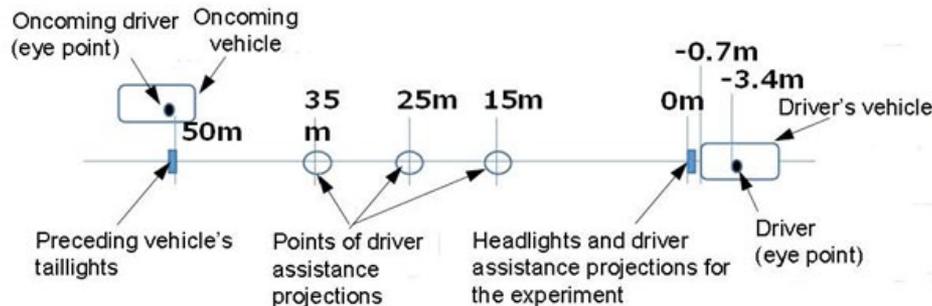


Fig.1 Excerpts from the presentation (SLR-38-17/Rev.1)

# Effects of Driver Assistance Projections on the Driver's Braking Reaction

The survey indicated that **projections caused a delay of 0.1 to 0.2 seconds in the drivers' brake reaction time**. Further, the presentation generated many comments from CPs that more detailed studies were necessary. The most notable comments were as follows:

1. The presentation shows a delay in brake reaction time caused by driver assistant projections, but isn't it still unclear what the safety implications are of road surface reflections, optimal projection distance, weather effects, optimal brightness/luminosity, etc.?
2. This is the result of a static experiment. Wouldn't we get different result if we evaluated a dynamic experiment?
3. Is there a risk from reflective glare on wet road surfaces?

The above comments suggest that **there are still many issues** to be clarified in ECE/TRANS/WP.29/GRE/2020/4. We need to continue discussion more in detail.

# Possible Concerns

1. Disability glare to oncoming traffic on wet road surfaces
2. Range of symbol types
3. Banning flashing or transforming symbols
4. Restriction on symbol colors
5. Limitation of the illumination range
6. Duration of symbol projection
7. Impact on oncoming traffic and pedestrians



Fig.2 Reflective glare of headlights on a wet road

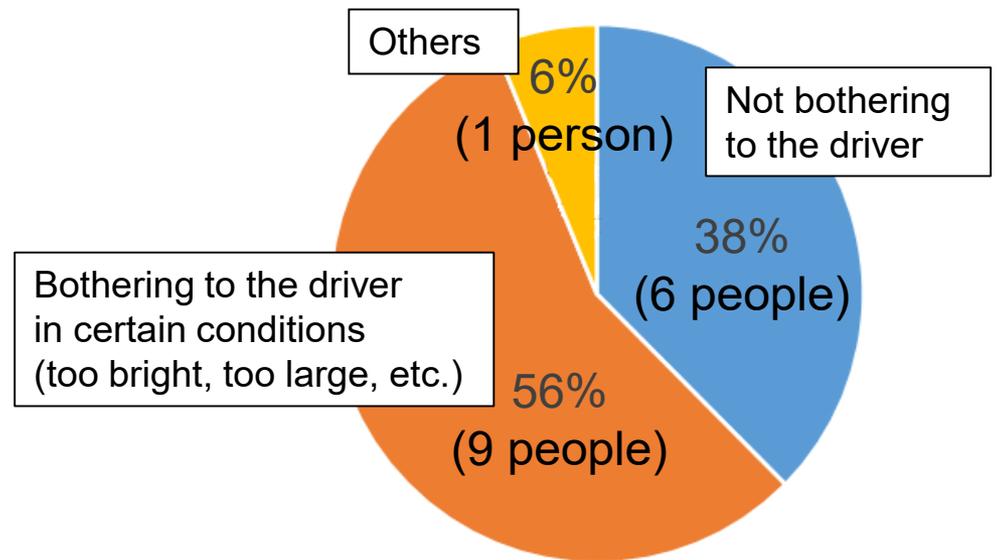


Fig.3 Results of a questionnaire survey on driver assistance projections as perceived by oncoming traffic