

Distraction issues and related Guideline in Japan



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Driver Distraction issues in Japan

In the past two decades:

- Cell-phones and car navigation systems spread rapidly
 - About cell-phones and car navigation systems
 - Road Traffic Act (National Police Agency)
 - From 1999: Prohibition of a call and operation in hand and a steady gaze on a display of a car navigation system while driving
 - From 2004: Strengthened penalties
 - About car navigation systems
 - JAMA guideline (2004, ver 3.0)
 - Display monitor location, content and display of visual information, operation of display monitor etc are restricted.
- At present :
- Using a smart phone while driving is effectively prohibited
 - It is difficult to investigate the related accident of reality in traffic statistics₂

Contents of JAMA HMI Guideline

1. Basic Concepts
2. Scope
3. Installation of Display Systems
4. Functions of Display Systems
5. Display System Operation While Driving
6. Presentation of Information to Users



5. Display System Operation While Driving

The operation task of a display monitor is prohibited, if the operation task fails to comply with the following standard:

- ① The Total Glance Time (TGT) shall not exceed 8 seconds.
- ② Using the occlusion method as a bench test, the Total Shutter Open Time shall not exceed 7.5 seconds.

EXPERIMENT

- 4 types of navigation systems, 9 different operations, 4 road types and 10 subject drivers
- glances and operations for navigation systems
- subject evaluation of uneasiness feeling and objective evaluation of vehicle lateral deviation

LCD Shutter Goggle



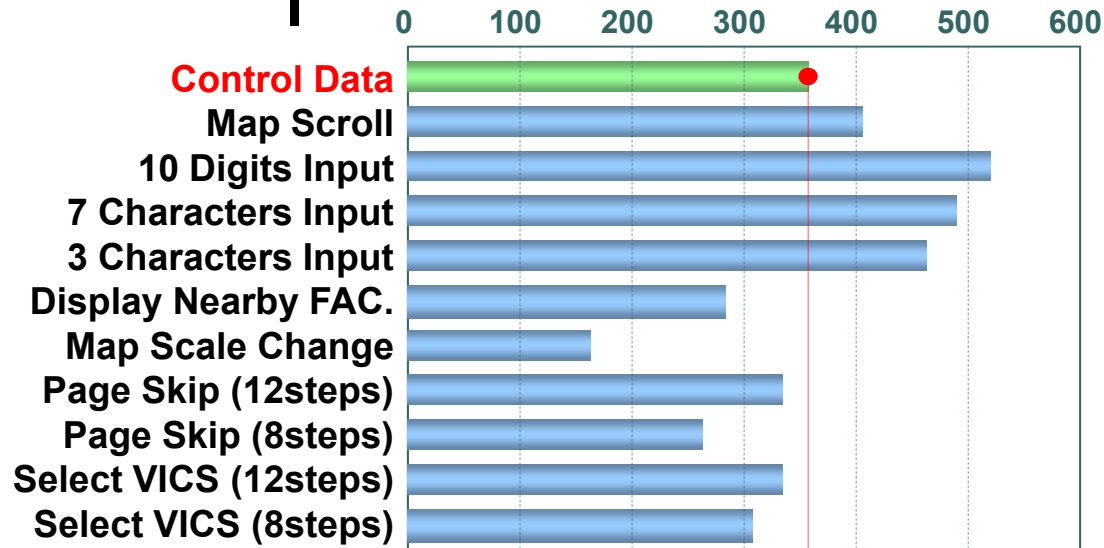
Shutter Open



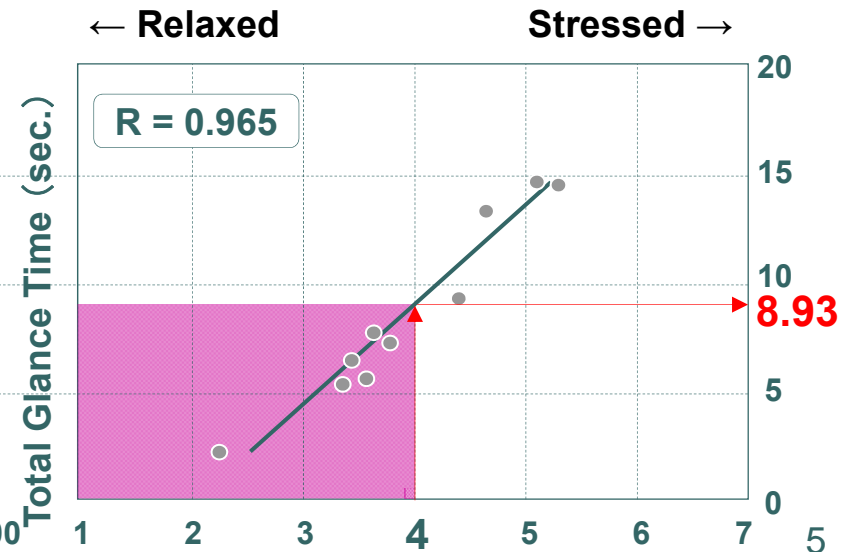
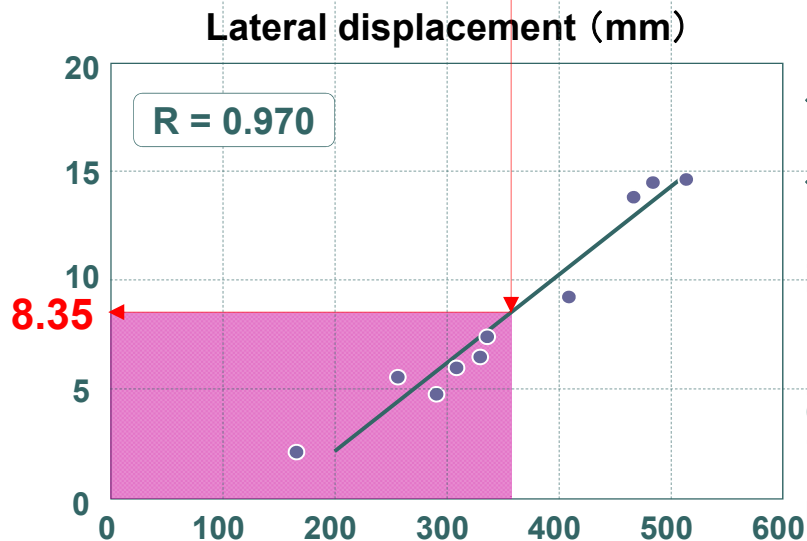
Shutter Close

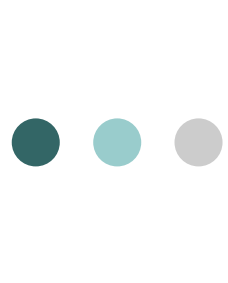


Basis of the Numerical Criterion for Display Monitor Operation



Glance times shorter than **8 seconds** cause no stress nor adversely affect vehicle behavior





Feature of JAMA guideline

- JAMA guideline permitted operations were determined based on quantitative performance.

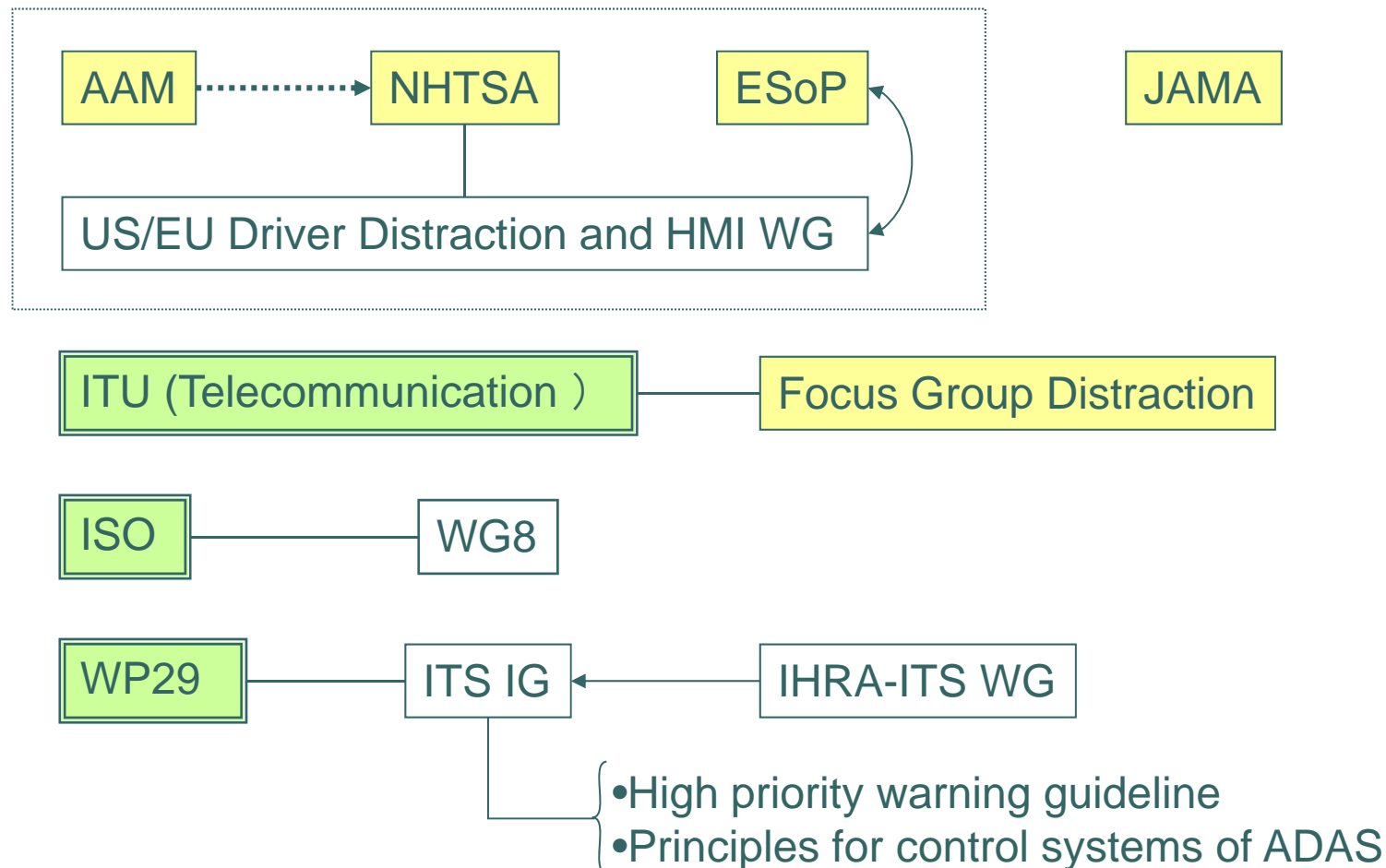
Requirements for permitted operations

- The Total Glance Time (TGT) shall not exceed 8 seconds.
- Using the occlusion method, the Total Shutter Open Time (TSOT) shall not exceed 7.5 seconds.

About occlusion method, refer to ISO 16673:2007
TGT criterion of JAMA (8 sec) is shorter than NHTSA guideline (12 sec).

International organizations related to Distraction Guideline

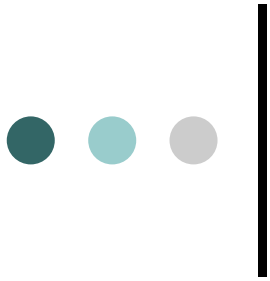
 proposes original guideline





Summary

- Driver's behavior is regulated by the Road Traffic Law of National Police Agency in Japan.
- Car navigation systems are produced referring to JAMA guidelines in Japan.
- JAMA Guidelines Ver 3.0 were established in 2004, as a voluntary basis, and has contributed traffic safety.
- NHTSA guideline is different from JAMA guideline in some reference value, such as Total Glance Time.



○ Thank you for your attention



Points for Further Steps

- Guidelines for installation and function of in-vehicle information/communication systems should be considered based on international harmonization.
- The test method should be common international, but on the other hand the peculiarities of each region, where the traffic conditions may differ from, should be taken into account.