

**New proposal for  
“Class IX Front and Close-proximity Passenger-side”  
Field of vision.**

2019.6.19 (VRU-Proxi IWG #10)

**JAPAN.**

# Purpose

To provide driver vision for safety of vehicle front and passenger side direction when the vehicle moving forward.

In order to achieve the purpose, "Front and Close-proximity Passenger-side " view devices (Class IX) was proposed.

This requirements has been mandatory in Japan.

"2.4.7. Class IX "Front and Close-proximity Passenger-side view devices", giving the field of vision defined in paragraph 15.2.4.9."

"15.2.4.9. Class IX Front and Close-proximity Passenger-side device "

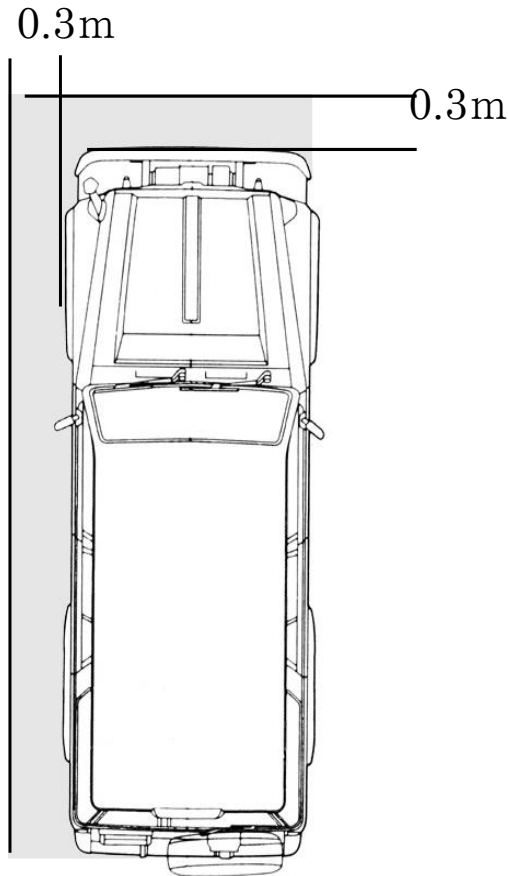
\* Extracted from VRU-Proxi-08-12

# Scope

M1~3, N1, N2 ≤ 7.5 t.

(N2 > 7.5t, N3 are covered by Class V and VI).

# Definitions of Class IX Field of View



Swipe pole (0.3m diameter, 1m height)

Requirement

At least part of pole should be visible within the field of view.

In addition,  
Static test and

The driver's ocular point adjustment same as R-125 were added.

# Multimodal approach for Class IX Field of View

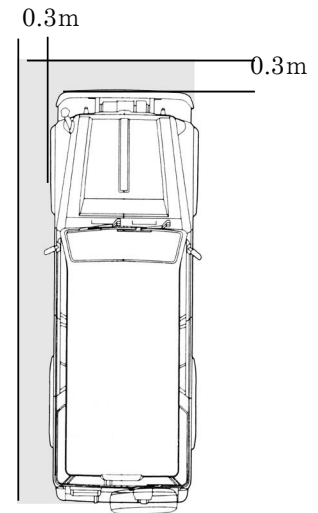
Driver can be perceived Class IX Field of View by;

- Direct vision from driver's ocular points
- Indirect vision
  - Camera monitor system
  - Combination of Class IX or other Class(es) device
- Detection systems (e.g. Sonar system)

In case of detection system, it needs clearance (non-detection area).

Detection need to be available from 0.2~.

Test method is similar as reversing detection system.



# Discussion points

- ✓ Another NEW regulation or amendments of R46.
  - ✓ Filed of view is very similar to Class V and VI of N categories
  - ✓ This proposal for M categories and small N categories
  - ✓ Multimodal approach including detection system
    - ✓ But Class VI allow vision support system such as detection system
- ✓ Detection system capability
  - ✓ Availability of detection system for passenger side
- ✓ Combined solution
  - ✓ Based on Direct view
  - ✓ Detection + Camera etc.

**Thank you for your attentions.**