

**New regulation proposal of Close-proximity field
of vision for vehicle moving off from standstill.**

JAPAN.

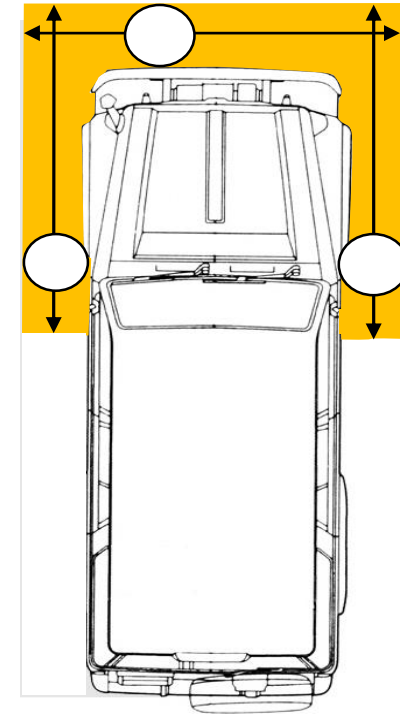
Proposal

New regulation for Close-proximity field of vision for vehicle moving off from standstill.

To propose vehicle close-proximity field of vision in order to prevent accidents when the vehicle moving off by driver awareness.

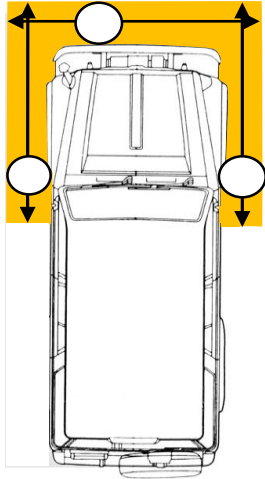
* Japan think 1st priority is increasing driver's awareness.

Scope: M1, N1



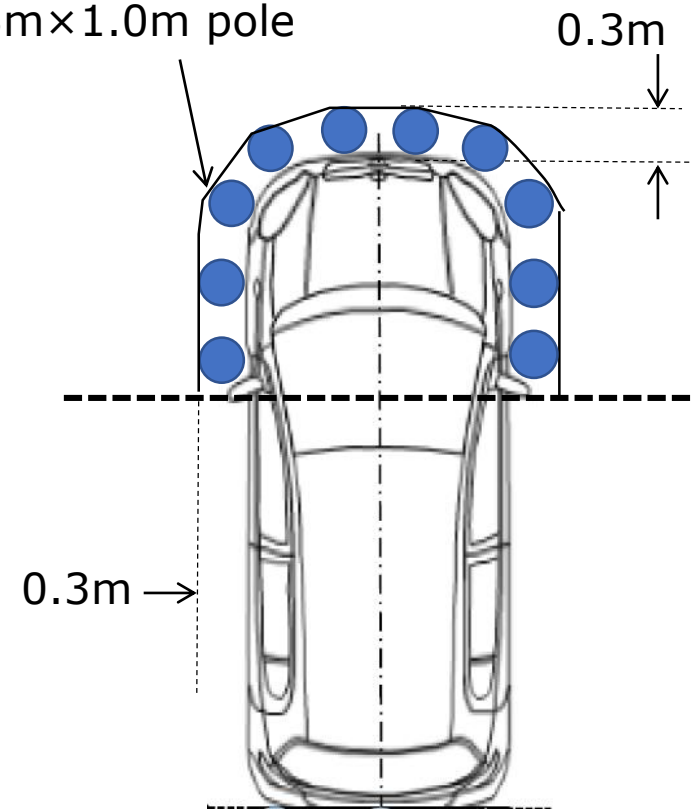
Proposal (continued)

Close-proximity field of vision



Center of side mirror (UN-R46 class III)

$\Phi 0.3\text{m} \times 1.0\text{m}$ pole



Any part of pole to be seen.

Ways of awareness

- Direct vision from adjusted driver's ocular point.
- Indirect vision (cameras, mirrors without periscope)
- Detection

* When the mirror mounted in front of entire vehicle, field of vision is limited to the front side only.

Proposal (continued)

Direct vision

Any part of pole to be seen from adjusted driver's ocular point.

- Methods of driver's ocular point adjustment
 - Based on Back Angle *same as R125
 - Based on driver's stretching (passenger's side and front side)
 - Based on driver looks out of the side window

Proposal (continued)

Direct vision

Any part of pole to be seen from adjusted driver's ocular point.

Methods of driver's ocular point adjustment

(1) Based on back angle *Same as R125

Back angle [°]	Adjustment distance [mm]		Back angle [°]	Adjustment distance [mm]	
	Forward/rearward	Upward/downward		Forward/rearward	Upward/downward
5	-186	28	23	-18	5
6	-177	27	24	-9	3
7	-167	27	25	0	0
8	-157	27	26	9	-3
9	-147	26	27	17	-5
10	-137	25	28	26	-8
11	-128	24	29	34	-11
12	-118	23	30	43	-14
13	-109	22	31	51	-18
14	-99	21	32	59	-21
15	-90	20	33	67	-24
16	-81	18	34	76	-28
17	-72	17	35	84	-32
18	-62	15	36	92	-35
19	-53	13	37	100	-39
20	-44	11	38	108	-43
21	-35	9	39	115	-48
22	-26	7	40	123	-52

(2) Based on driver's stretching (passenger's side and front side)

	Adjustment distance [mm]		
	Forward/rearward	Lateral	Upward/downward
Upward stretching	0	-10	40
Forward stretching	-140	-15	10
Lateral stretching	30	-110	15

(3) Based on driver looks out of the side window (driver's side)

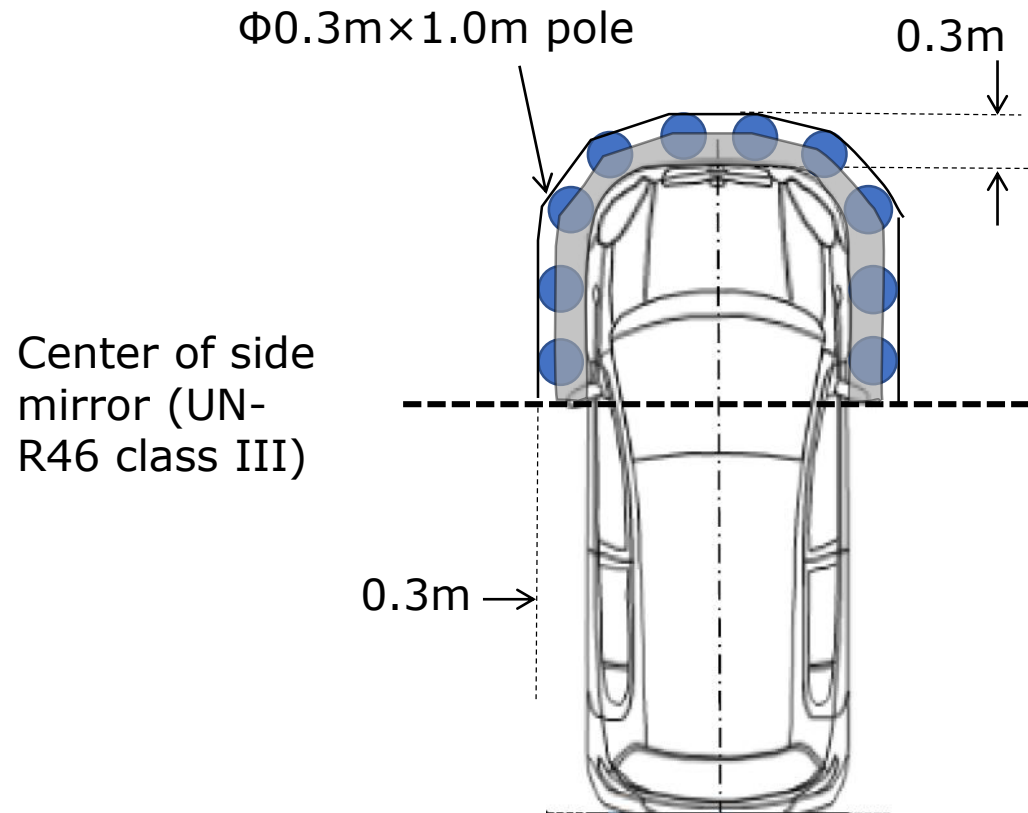
To be defined by study

Proposal (continued)

Indirect vision

Any part of pole to be seen in the camera image or mirror surface.

Detection



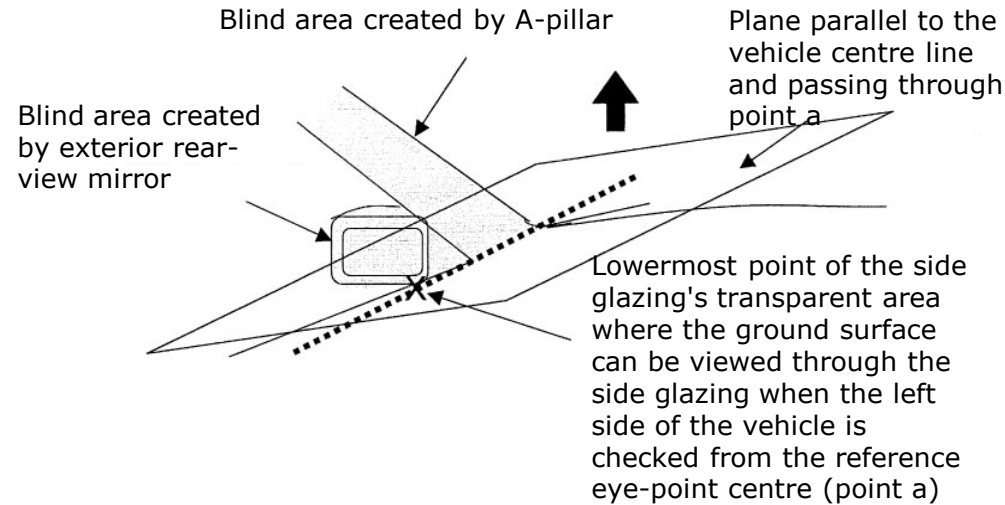
Detection needs 0.2m distance from vehicle.



Pole to be detected in the 0.1m range (rest of filed of vision).

Proposal (continued)

Exemption by blind area caused by A-pillar and side-mirror mount



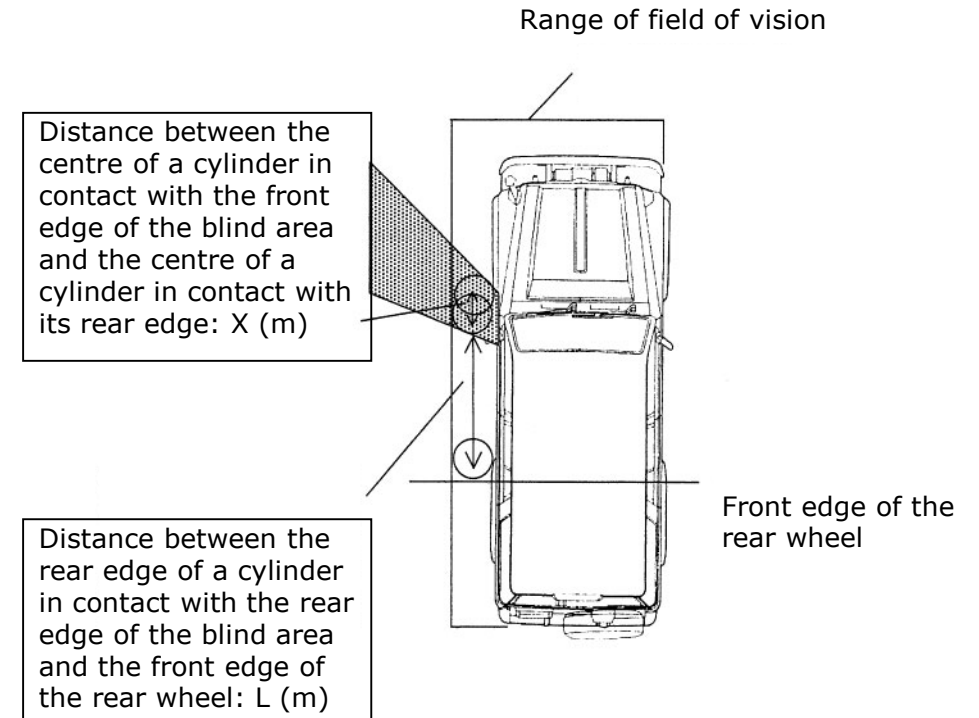
The range of the blind area created by the A-pillar or exterior rear-view mirror in paragraph 15.2.4.10. shall be an area that meets the following formula. In this case, if there are more than one blind area, each blind area shall meet the conditions of the formulae.

$$X \leq 0.292 \cdot L - 0.203$$

Where:

X [m]: is the limit of the excluded area, i.e. the distance between the centre of a cylinder in contact with the front edge of the blind area and the centre of a cylinder in contact with its rear edge.

L [m]: is located inside the blind area created by the A-pillar or exterior rear-view mirror. Distance between the rear edge of a cylinder in contact with the rear edge of the blind area and the front edge of the rear wheel.



Schedule

Nov., 2020	VRU-Proxi #16	Proposal and discussion
Mar., 2021	VRU-Proxi #17	Draft proposal and discussion
Jun., 2021	VRU-Proxi #18	Working document finalization
July., 2021	WD Submission to 122th GRSG	
Oct., 2021	122th GRSG	Proposal and adoption to WP29

Thank you for your attentions.