

ACPE IWG #10

■ Pedestrian operation area proposal

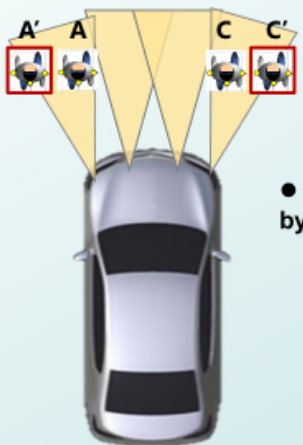
5.1.5. (d)

- (iii) In the case of a pedestrian obstacle, the entire pedestrian obstacle is located between two vertical longitudinal planes which are **0.1m within the extreme outer edge of the vehicle.**

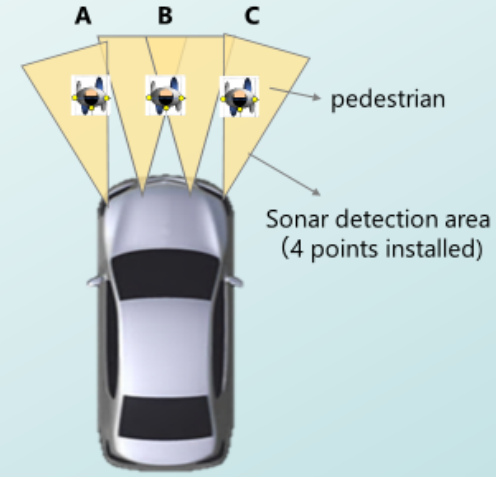
● ACPE-09-07 (Korea MTG)

Concern

- **Detection of Sonar sensor**
 - Sonar sensor does not have lateral resolution.
 - Using two sonar sensors data, system decide it's position.
 - To avoid false positive, with sonar, objects detected by two sensors are determined to be targets. (Ensuring detection reliability)
 - Regarding objects located at the edge of the vehicle, such as A and C, detection reliability cannot be ensured with just one sensor, and it is not possible to determine whether the object should be activated.



● We can't distinguish between A and A' by one sonar detection data.



Sonar detection area (4 points installed)

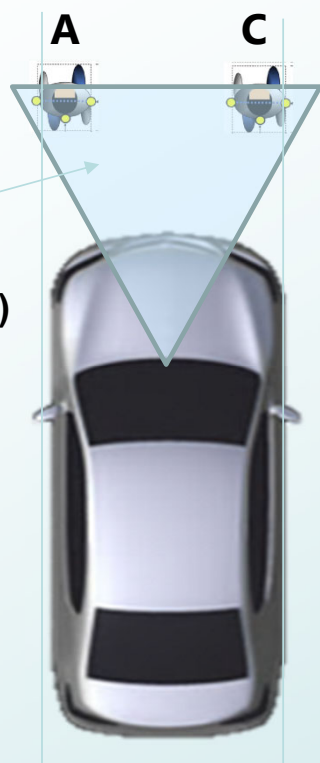
■ Pedestrian operation area

- Fy&mx& tr jsy&mjw&x&st&FHUJ&x~xyjr x ymfya zfwfsyjx&ujwfyts&flfrsxy% ujijxywfsx&hmojws.3
- Ny&mtzq&gj&fpjs&sy&ht&sn&jwfyts% yjhmsnf&kjfxrny-3

Explains that due to the detection characteristics of sonar, it is difficult to stably detect the ends of vehicles.

Difficulty robust operation for child pedestrian

■ Camera detection



■ Pedestrian detection at the edge of the vehicle

- Target ; Child pedestrian → Short height
- Detection distance :
Detection is required up to short distances
→ Only the upper chest area can be detected
→ Need to improve short-distance recognition performance
- Detection at the edge of the vehicle :
Image distortion is affected at the edges of the camera's field of view.
→ Robust detection is difficult

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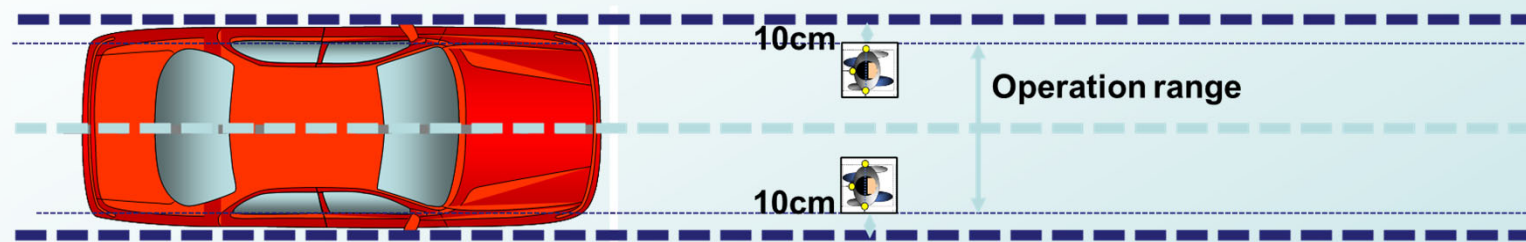


- Considering “False positive operation”
- Sensor detection also includes lateral position errors, and when trying to ensure operation up to the edge of the vehicle, it may detect objects on the roadside, increasing the possibility of false positive.

Proposal

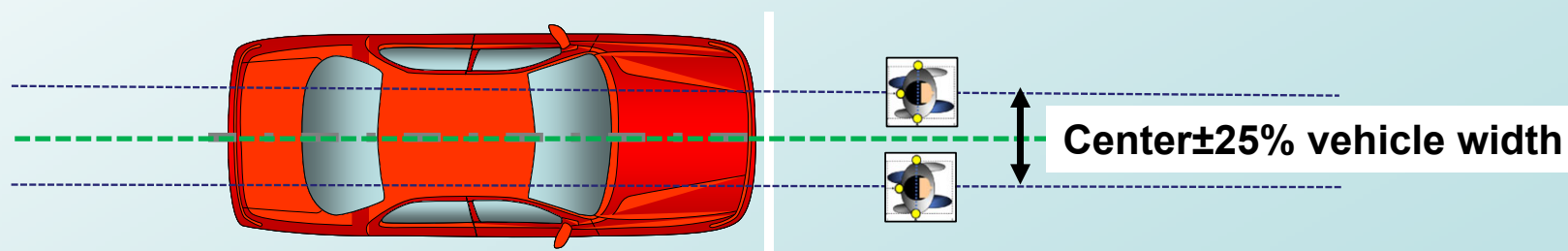
■ Current text

- (iii) In the case of a pedestrian obstacle, the entire pedestrian obstacle is located between two vertical longitudinal planes which are **0.1m within the extreme outer edge of the vehicle**.



■ Operation area proposal

Considering the robustness of ACPE pedestrian operation, propose a vehicle center $\pm 25\%$ range.



• Amendment text

- (iii) In the case of a pedestrian obstacle, the lateral offset between subject vehicle centreline and pedestrian centreline shall be 0.0 m and 25% of the subject vehicle width.



Proposal



- Amendment text

- 5.1.5 (d)

(iii) In the case of a pedestrian obstacle, the lateral offset between subject vehicle centreline and pedestrian centreline shall be 0.0 m and 25% of the subject vehicle width.

- Current 6.5.3

6.5.3 The lateral offset between the centreline of the pedestrian target and the extreme outer edge of the vehicle shall be at least 0.25m.

- amendment text

6.5.3 The lateral offset between the centreline of the pedestrian target and the extreme outer edge of ~~centreline of the~~ vehicle shall be at least ~~0.25m~~ within 25% vehicle width.



Thank you