

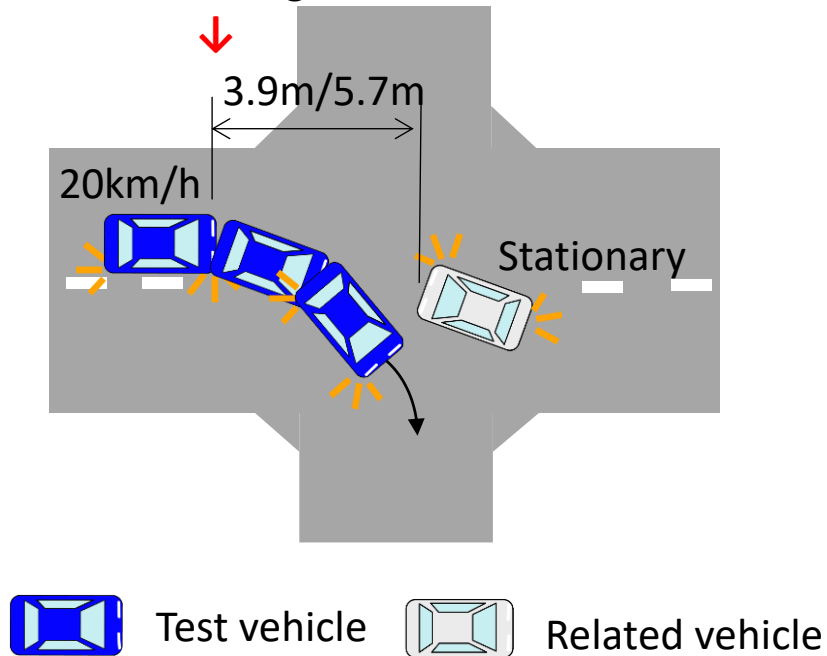
Supplementary information with regard to the experimental conditions as the study of False Reaction scenarios

- Answer to the questions from industry in AEBS-11-04 -

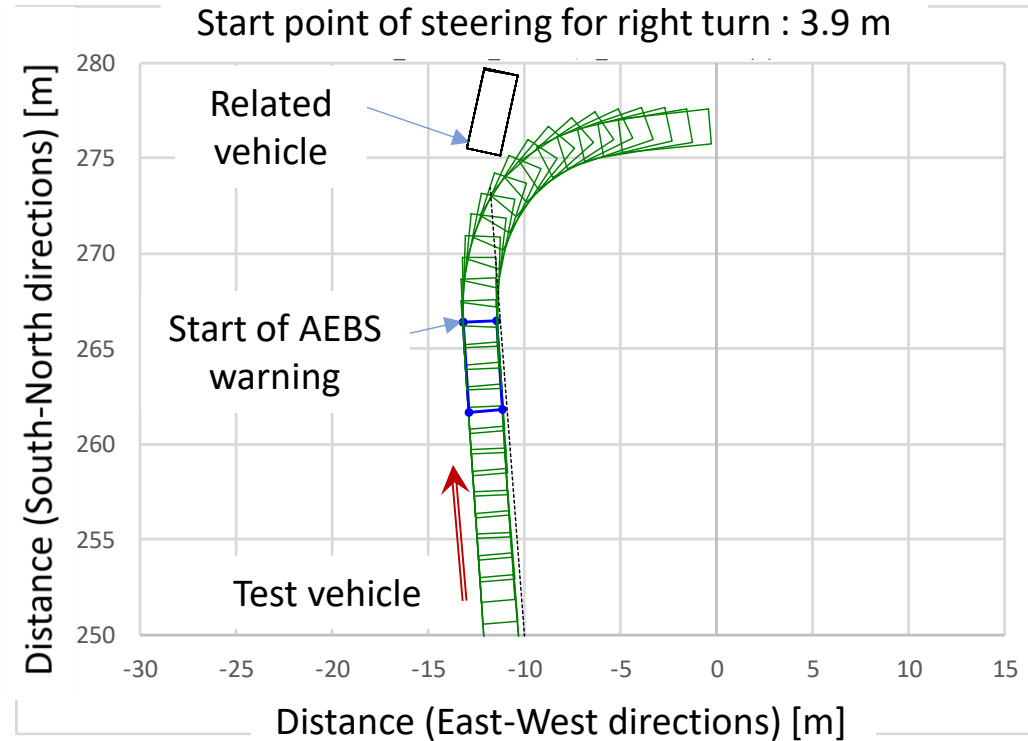
National Traffic Safety and Environment Laboratory

Draft Scenario 1

Start point of steering input for right turn



Example of trajectory of VUT



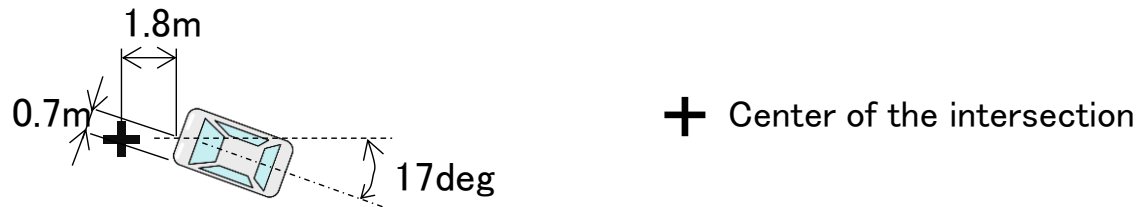
- Trajectory of VUT?
 - ➔ It was not strictly defined. Velocity (20km/h), start point of steering for right turn and lateral position (center of the lane) before right turn were defined.

- Lane width?

➔ It was approximately 3m.

- Position of the VUT before and after turning ➔ lat. position from VUT and Target?
- Position of the stationary target (in the intersection), angle of the stationary vehicle?

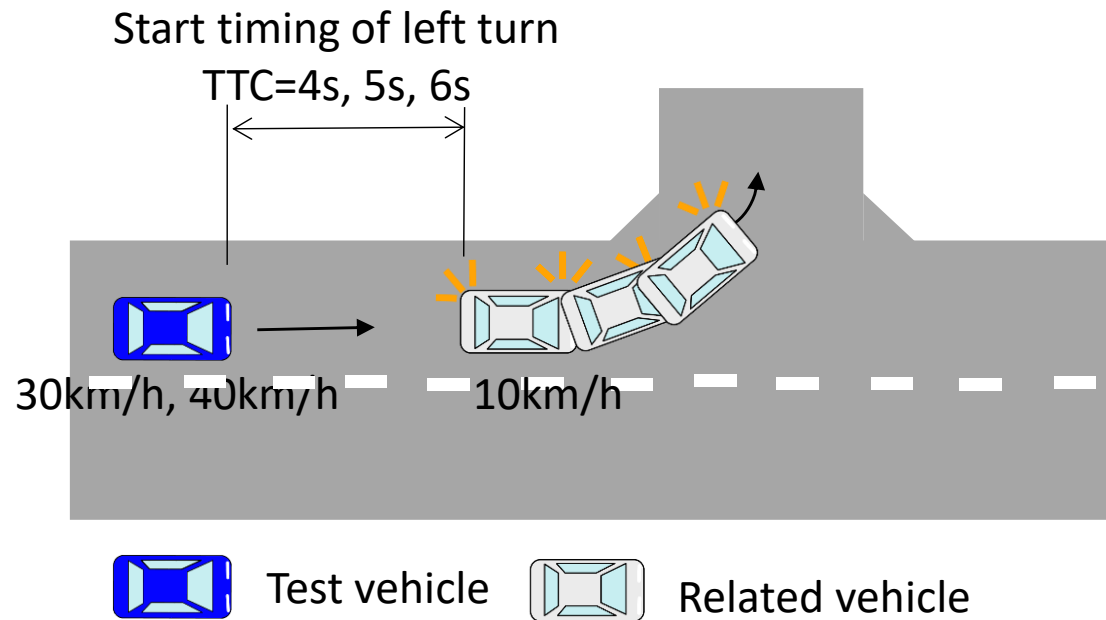
➔ Lat. position of VUT was approximately the right-side end in the lane.
Lat. Position of Target was specified. (See below figure.)



- v_constant?

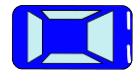
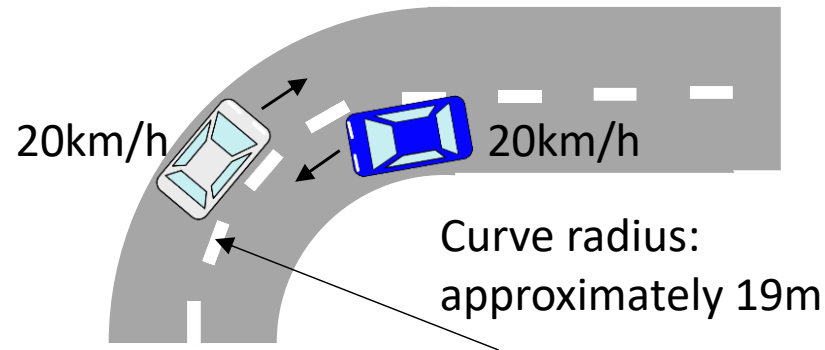
➔ Yes

Draft Scenario 2

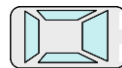


- Position of the VUT in the lane?
 - ➔ Both VUT and Related vehicle were approximately center of the lane.
- Lane width?
 - ➔ Approximately 3.5m.
- Trajectory of the GVT
 - ➔ It was not strictly specified (small radius left turn).
- v_{VUT} and v_{GVT} constant?
 - ➔ Yes
- Initial condition?
 - ➔ Both VUT and Related vehicle were stationary. The distance between the two vehicles was more than 100 m.

Draft Scenario 3



Test vehicle

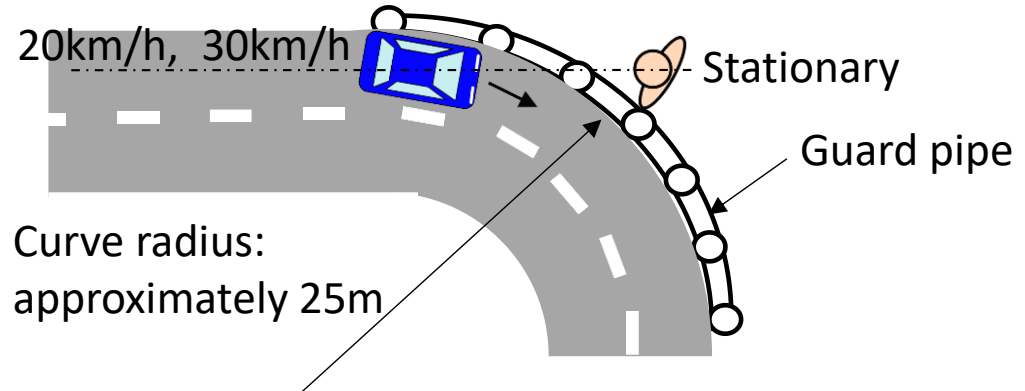


Related vehicle

- Position of the vehicles (Targets and objects)?
➡ Approximately center of each lane.
- Inner and outer radius?
➡ Inner radius was approximately 16 m, and outer radius was approximately 22 m.
- Trajectory of the vehicle?
➡ Both VUT and related vehicle drove in approximately center of each lane .
- Meeting point of GVT and target?
➡ Meeting point was approximately middle of the curve.

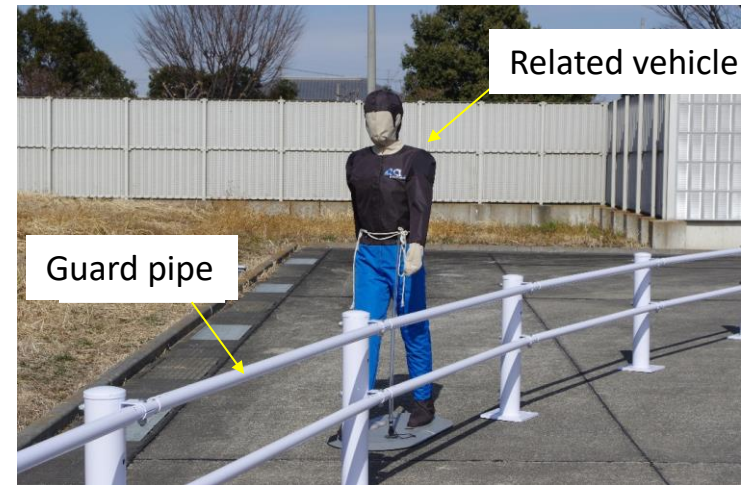
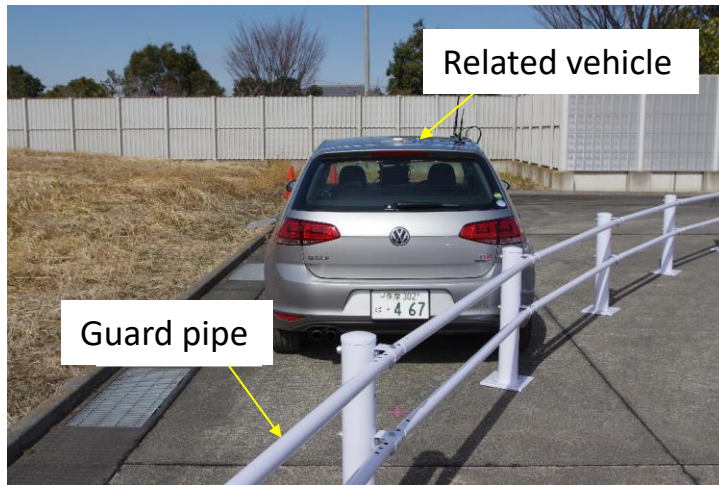
Draft Scenario 4

Car to Pedestrian

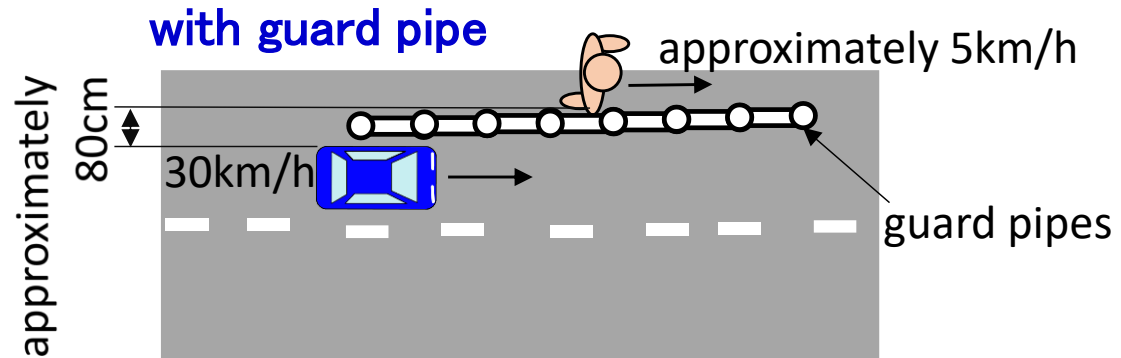


- Position of the vehicle (Targets and objects)?
 - ➔ VUT drove approximately center of the lane. The position of the stationary target was on the extension line of the center in the straight section of the lane.
- Detailed description of „guard pipe“?
 - ➔ Length of each guard pipe (straight shape) was 2 m, and diameter was 48.6 mm (exactly same type of guard pipe as the one which is used in actual road)
- Adult dummy (ISO19206-2)?
 - ➔ Yes
- Position of the stationary (+ viewing direction)?
 - ➔ The stationary target was located just outside of the guard pipe.

- Position of the stationary (+ viewing direction)?
➡ The stationary target was located just outside of the guard pipe.
(See below picture)

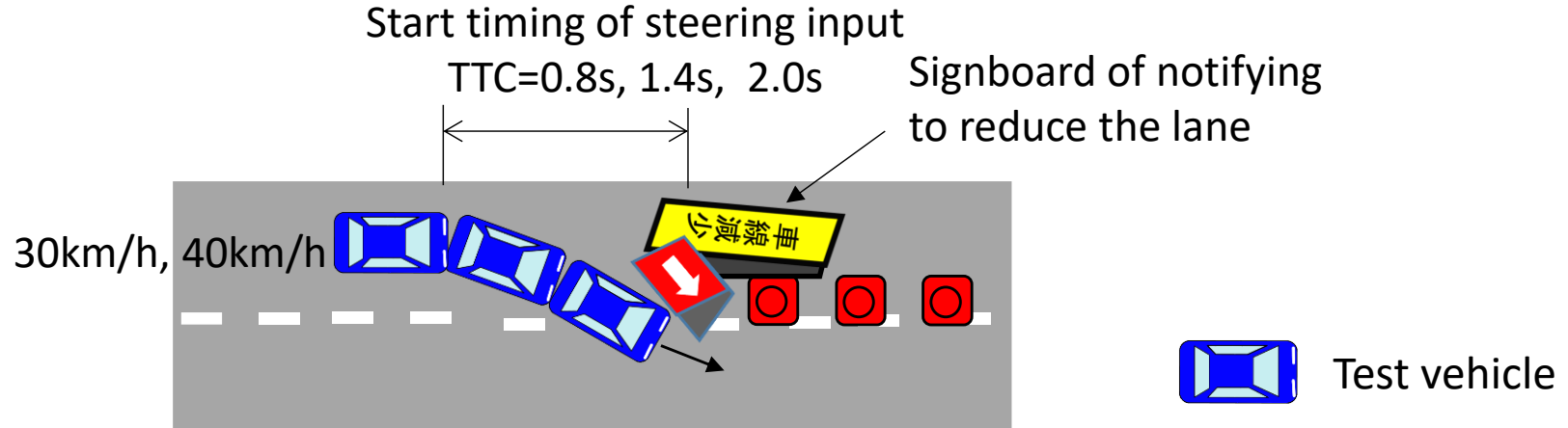


Draft Scenario 5



- Distance between the left side of the test vehicle and the guard pipes is approximately 50 cm.
- The pedestrian walks along the guard pipes. The distance between the left side of the test vehicle and pedestrian is approximately 80 cm.
- Description of the guard pipe
 - ➔ Length of each guard pipe (straight shape) was 2 m, and diameter was 48.6 mm (exactly same type of guard pipe as the one which is used in actual road)
- Adult dummy (19206-2)?
 - ➔ No. A real pedestrian was used.
- Position of the guard pipe to the vehicle or to the pedestrian
 - ➔ From the guard pipe to the vehicle was approximately 50 cm, and from guard pipe to the pedestrian was approximately 20 cm.
- Tolerances (only positive ones)?
 - ➔ Tolerances of VUT were +/-0.1m (lateral position) and +/-1 km/h.

Draft Scenario 6



- The signboard which notifies reducing the lane is located forward of the test vehicle (going straight), and the test vehicle approaches the signboard.
- . The test vehicle starts the steering input to the right side just when TTC between the test vehicle and the signboard becomes the specified value.
- The specified values of TTC are 2.0s, 1.4s, 0.8s (three conditions), and the speeds of the test vehicle are 30km/h and 40km/h (two conditions).

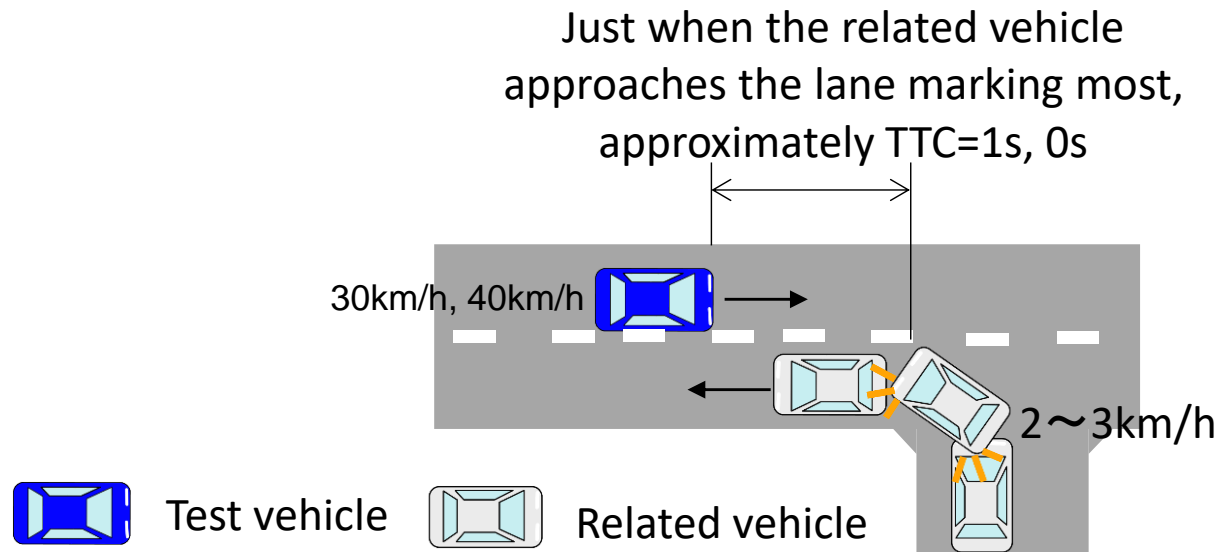
- Material of the signs?
 - ➡ The road construction sign was steel (and the arrow sign was plastic).

- Dimension of the material/signs?
 - ➡ Width was approximately 0.55 m, height was approximately 1.55 m.



- Position of the material?
 - ➡ Approximately center of the lane
- Trajectory of the VUT (v_{lat} , radius,...)
 - ➡ Trajectory of the VUT was not strictly defined.
- Position of the VUT in the lane
 - ➡ Lateral position before lane change was center of the lane (tolerance ± 0.1 m).
- Lane width
 - ➡ Approximately 3.5 m
- Use of Indicator?
 - ➡ No
- Physical limitation (steering at 0,8s)?
 - ➡ The condition of 0.8s was close to physical limitation.

Draft Scenario 7



- Trajectory of the target?
 - ➡ Left turn with the minimum turning radius (fully steered).
- Lat. distance of VUT and GVT?
 - ➡ Lateral distance was approximately 20 cm when the two vehicles approached most.
- Position of the VUT in the lane?
 - ➡ The right-side end (just the inside of the lane marking) in the lane
- Final position of the GVT in the lane?
 - ➡ Final position of related vehicle was at when the direction became almost parallel with the lane marking.