

Attachment 1: Procedures for Evaluating Automatic Braking (for Vehicles) under Japan's New Car Assessment Program (JNCAP)

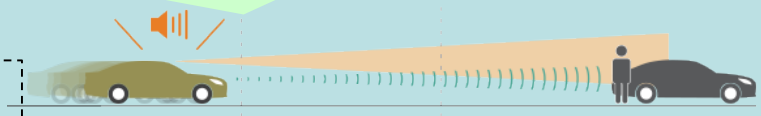
- Test vehicles (mainly ordinary/compact/light passenger cars):
Vehicle models that sold most in the latest year or that are requested by automakers to be tested
- How test vehicles are obtained:
In the same way as the general vehicle users, JNCAP purchases cars that are exhibited or in stock at dealers. If such purchase through dealers is difficult, JNCAP selects cars randomly at automakers' production plants and purchase them.
- Principles of performance testing under JNCAP
Based on the results of accident analyses, tests are conducted using methods whose accident reduction effect is high. Points are allocated for each accident status (scenario and speed).



* Source: Toyota's website

- Warning and braking tests (Warning: 16.5 points Braking: 15.5 points)
The test vehicle is driven between 10–60 km/h to approach the simulated vehicle (target) from behind, and warning and braking performances are tested with the following two scenarios: Evaluation is made based on the total score, which is the sum of the points calculated using the speed reduction percentage in each speed range.

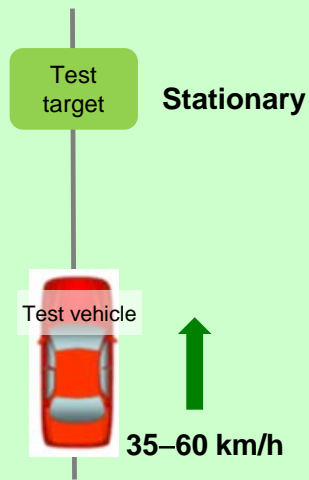
* Warning test: Evaluation is made based on the speed reduction percentage obtained when the accelerator pedal is released 1.0 s after and the brake pedal is applied 1.2 s after the warning activation.



Example of calculation of points for each speed range: If the test speed is 40 km/h, the collision speed is 10 km/h and the speed reduction percentage is 75%, $2.00 \times 0.75 = 1.50$ points

- Scenario of rear-ending a stationary vehicle (24 points)

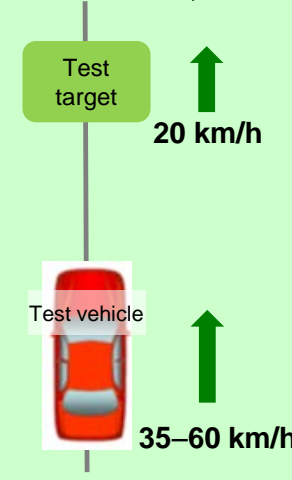
The test vehicle is driven between 10–50 km/h to approach the target (simulating a stationary vehicle) from behind.



Vehicle speed	Braking 11.5 pts.	Warning 12.5 pts.
10km/h	1.00	1.00
15km/h	1.00	1.00
20km/h	1.00	1.00
25km/h	1.00	1.00
30km/h	1.00	1.00
35km/h	2.00	2.00
40km/h	2.00	2.00
45km/h	1.50	1.50
50km/h	1.00	1.00
55km/h	-	0.50
60km/h	-	0.50

- Scenario of rear-ending a constant-speed vehicle (8 points)

The test vehicle is driven between 35–60 km/h to approach the target (simulating a vehicle traveling at a constant speed of 20 km/h) from behind.



Vehicle speed	Braking test	Warning test
35km/h	0.50	0.50
40km/h	0.50	0.50
45km/h	1.00	1.00
50km/h	1.00	1.00
55km/h	0.50	0.50
60km/h	0.50	0.50



* The target being towed

* Since the maximum speed of the currently available target is 50 km/h, these tests are not conducted at 55 or 60 km/h for the time being.