

BETA 8th International Conference

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The totally new evaluation scheme of JNCAP from 2020

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BETA CAE Systems Japan

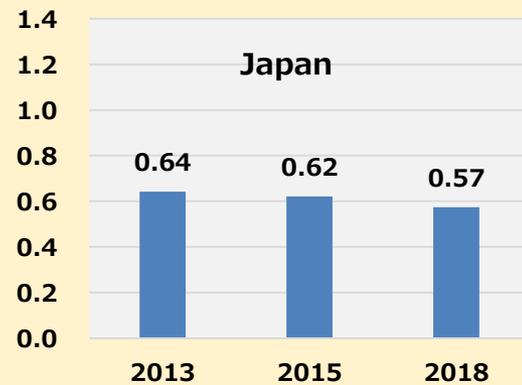
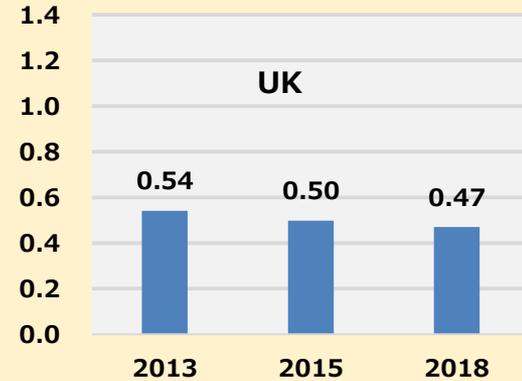
Professor Emeritus at Tokyo Institute of Technology

Chair of JNCAP

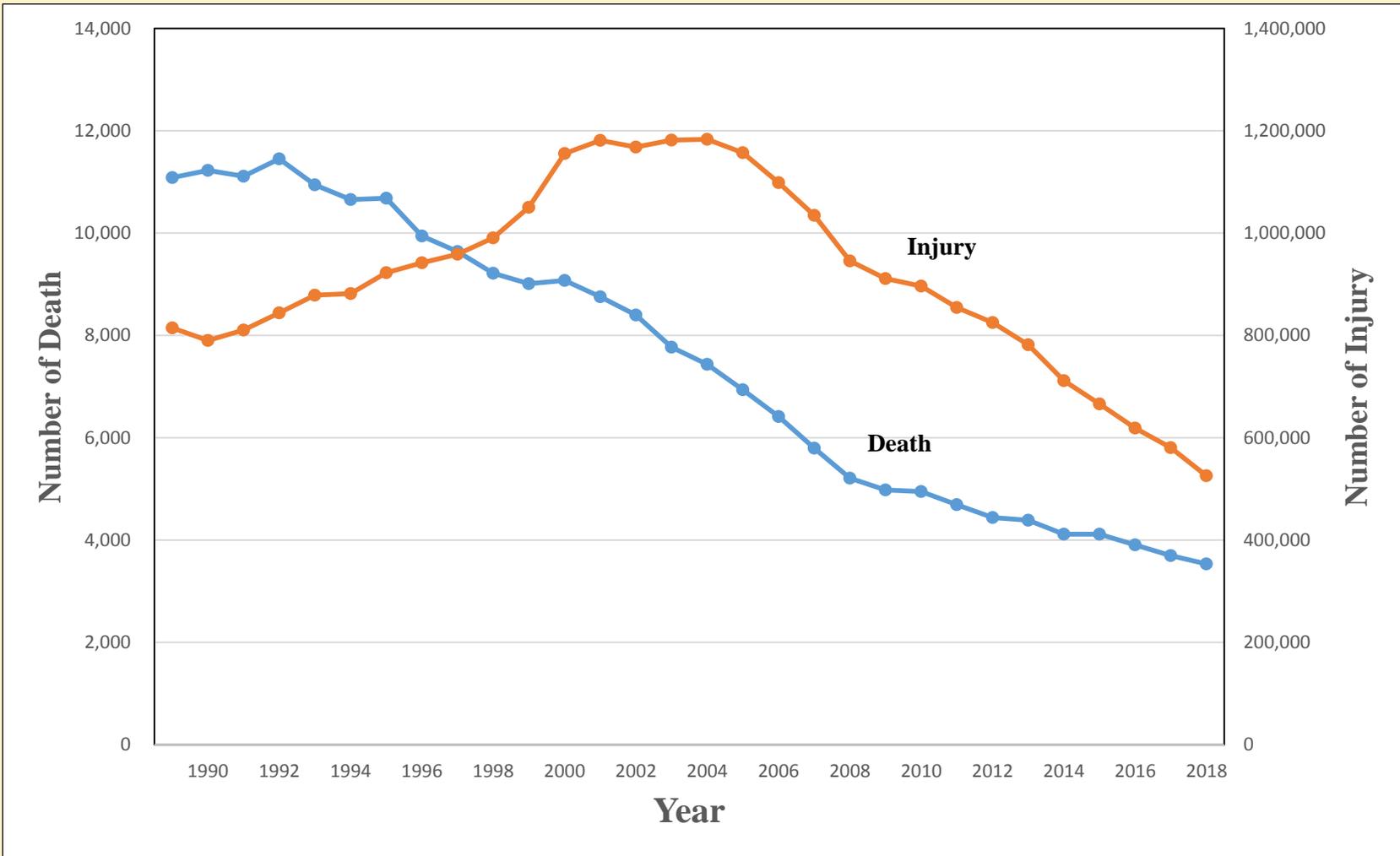
Rank	Name	Death rate
1	San Marino	0.00
2	Norway	0.34
3	Switzerland	0.36
4	Maldives	0.43
5	Sweden	0.44
6	United Kingdom	0.47
7	Finland	0.48
8	Spain	0.55
9	Germany	0.57
10	Japan	0.57
11	Netherlands	0.58
12	Austria	0.58
13	Malta	0.61
14	Iceland	0.62
15	Italy	0.65
16	Denmark	0.67
17	Luxembourg	0.69
18	Cyprus	0.71
19	Australia	0.71
20	Ireland	0.73
21	Barbados	0.77
22	Canada	0.78
23	France	0.82
24	Estonia	0.82
25	Czechia	0.83
26	Portugal	0.85
27	Greece	0.87
28	Belgium	0.87
29	Slovenia	0.89
30	New Zealand	0.89
31	Israel	1.03
32	Slovakia	1.06
33	Poland	1.10
34	United States of America	1.25
35	Qatar	1.34
36	Lithuania	1.38
37	Belarus	1.40
38	Hungary	1.51
39	Singapore	1.51
40	Croatia	1.54

Death Rate of Traffic Accident around the World at 10,000 Holding Cars

(WHO road safety fact 2018)

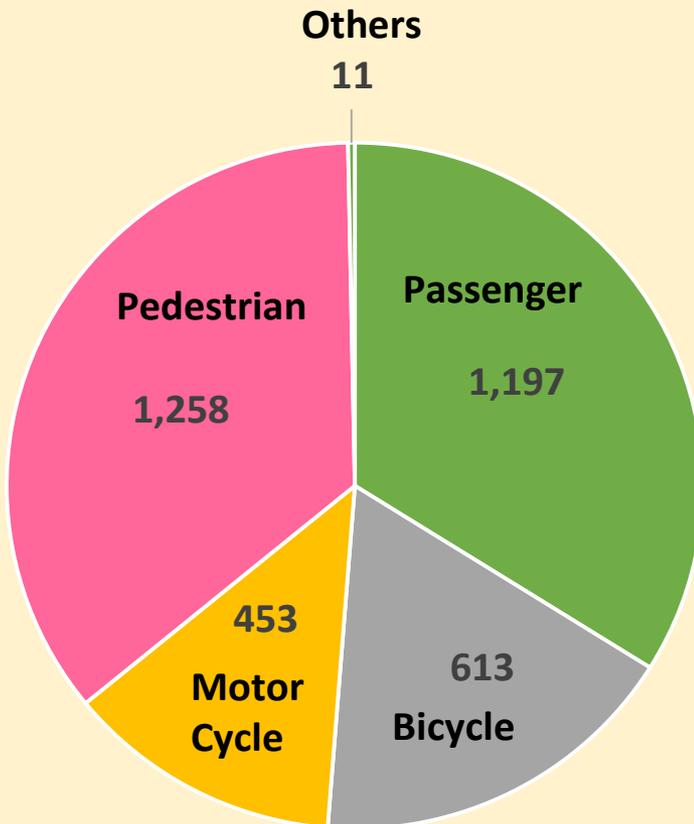


Improvement of Death Rate

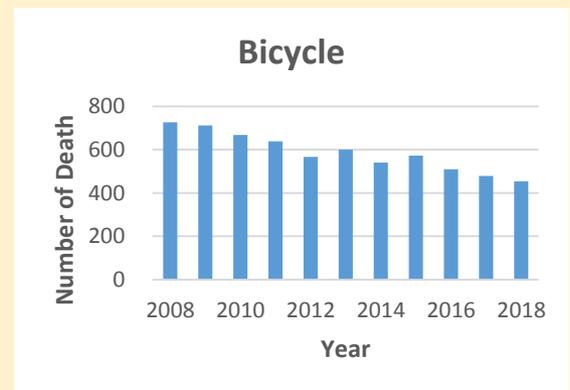
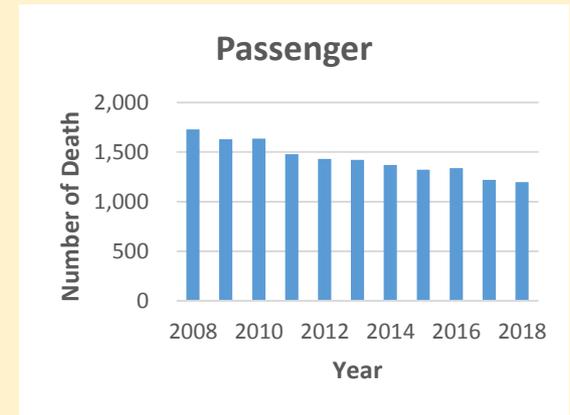


Number of Death by Traffic Accident in Japan

Statistics of Traffic Accident in Japan 2018



Number of Death Brake Down by Road User Type



Introduction of Active Safety Evaluation by JNCAP

Item	Point	2014	2015	2016	2017	2018	2019	2020
AEB (for Car)	33	33						
Rear View Monitor	6		39					
AEB (for Pedestrian) daytime	25			64				
LKA/LDP (LDW)	16				80			
ADB/AHB	5					85		
Wrong Pedal Stepping	2					87		
AEB (for Pedestrian) night time with lighting	40					127		
AEB (for Pedestrian) night time without lighting	15						142	
Bicycle (from 2021)	NA							



Implementation

33, 39, 64, 80, ... : Cumulative Total Point

Overall Evaluation will be combined with Passive Safety from 2020

Current Passive Safety Evaluation by JNCAP

Passenger Protection



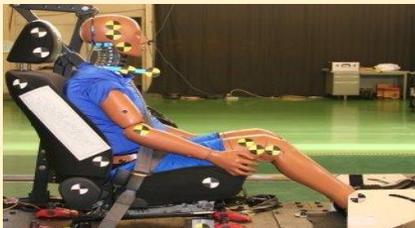
Frontal Impact
Full
55 km/h
Hybrid III



Frontal Impact
Offset
64 km/h
Hybrid III



Side Impact
MDB (1300kg)
55km/h
Euro SID



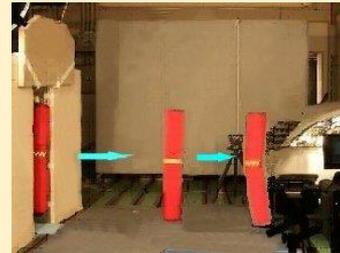
Rear Impact
Sled Test
20 km/h
BioRID

100 points

Pedestrian Protection



Head Protection
Grid System
40 km/h



Leg Protection
40 km/h

100 points

Point Assignment of Overall Evaluation from 2020

[Group: Active Safety]

Testing Item	Number of Death	Number of Injury	Total Cost in 10 ⁶ JPY	Point
AEBS (for Pedestrian)	849	2531	253,789	253.8
AEBS (for Car)	77	1951	54,434	54.4
LKA/LDP (LDW)	188	504	55,168	55.2
ADB/AHB	67	69	17,540	17.5
Rear View Monitor	16	348	10,286	10.3
Wrong Pedal Stepping	7	68	2,953	3.0
Total	1,204	5,471	394,170	394.2

Rank 5: More than 80 % of Total Point
Rank 4: More than 60 % of Total Point
Rank 3: More than 40 % of Total Point
Rank 2: More than 20 % of Total Point
Rank 1: Less than 20 % of Total Point

Death costs
JPY 244.5 billion
Injury costs
JPY 18.25 billion
1 Point = 10⁹ JPY

Individual Evaluation of Each Testing Item

[AEBS (for Car) and others]

Level 5: More than 80 % of Total Point

Level 4: More than 60 % of Total Point

Level 3: More than 40 % of Total Point

Level 2: More than 20 % of Total Point

Level 1: Less than 20 % of Total Point

[Additional Requirement for Rank 5]

Each Testing Item must be Level 4 or Level 5

Point Assignment of Overall Evaluation from 2020

[Group: Passive Safety]

Testing Item	Number of Death	Number of Injury	Total Cost in 10 ⁶ JPY	Point
Frontal (Full)	139	1,176	55,450	55.5
Frontal (Offset)	139	1,176	55,450	55.5
Side	82	734	33,446	33.4
Rear	3	135	3,197	3.2
Pedestrian	290	669	83,120	83.1
Total	653	3,890	230,663	230.7

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Rank 4: More than 60 % of Total Point

Rank 3: More than 40 % of Total Point

Rank 2; More than 20 % of Total Point

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[Frontal (Full) and others]

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[Additional Requirement for Rank 5]

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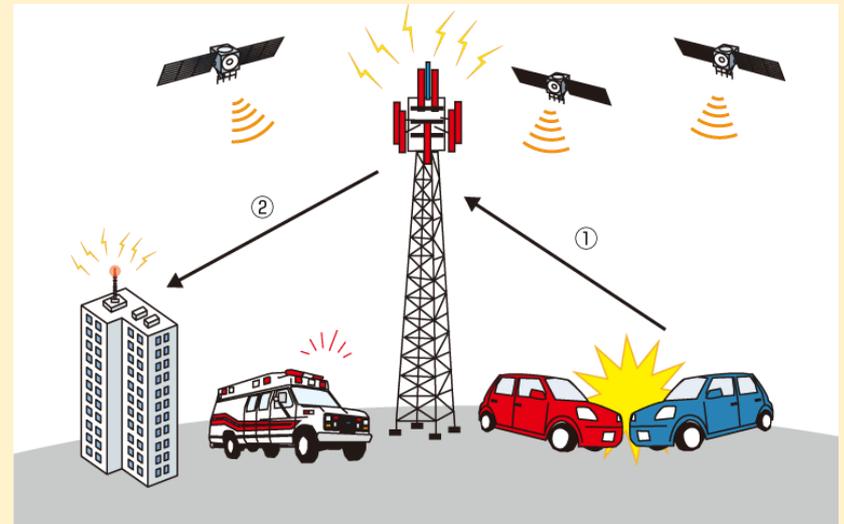
Point Assignment of Overall Evaluation from 2020

[Automatic Collision Notification]

Including Advanced Automatic Collision Notification if any

Number of Death	Number of Injury	Total Cost in 10 ⁶ JPY	Point
79	1,176	19,317	19.3

Death costs
JPY 244.5 billion
1 Point = 10⁹ JPY



Summery of Overall Evaluation from 2020 (provisional)

1) Point calculation is based on Social Loss expressed in money JPY

**Change of calculation base from the number of death to the social loss in money.
The estimated many is converted to the point.**

2) Group Evaluation (Active & Passive) and ACN

**Each group evaluation of Active Safety and Passive Safety is still important.
Automatic Collision Notification will be introduced in the star rating.**

3) Overall Evaluation

The star rating is applied by taking both groups evaluations into account.

- ☆☆☆☆☆ Both Groups must be Rank 5 and ACN must be equipped.**
- ☆☆☆☆ One Group must be Rank 4 and the other must be Rank 4 or Higher.**
- ☆☆☆ One Group must be Rank 3 and the other must be Rank 3 or Higher.**
- ☆☆ One Group must be Rank 2 and the other must be Rank 2 or Higher.**
- ☆ No condition**