ANCAP
Crash testing for safety
AUSTRALASIAN
NEW CAR ASSESSMENT
PROGRAM

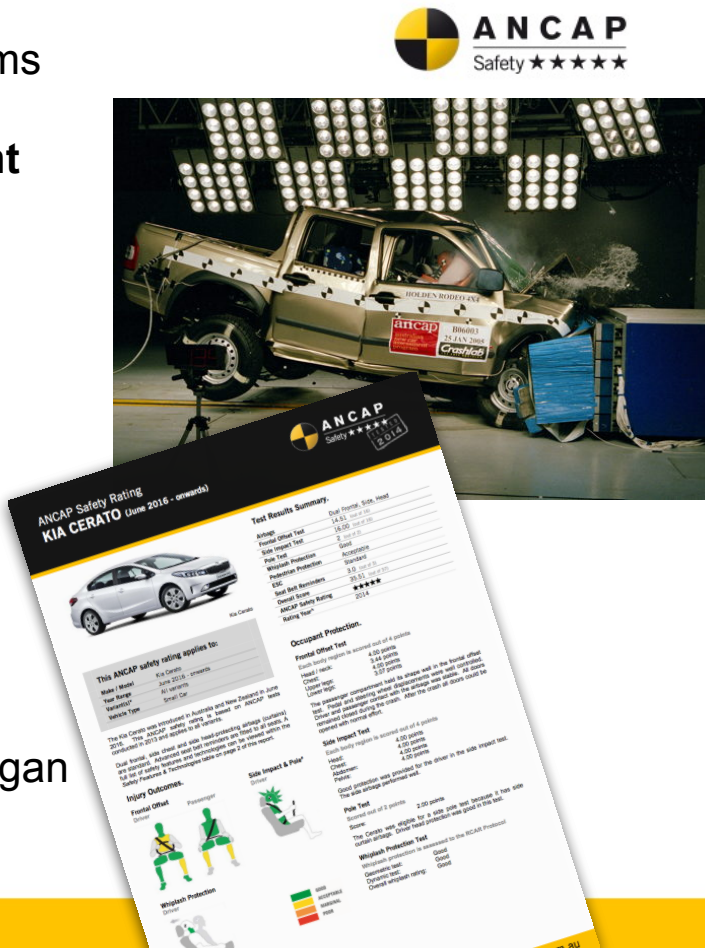
An NCAP Perspective on the Driver Distraction Project – Issues and Challenges

March 2017

Michael Paine
Technical Manager

What is NCAP?

- New Car Assessment Programs provide consumers with **independent** and **transparent information** on
  - car occupant protection
  - pedestrian protection
  - crash avoidance
- They use internationally recognised crash tests and technology assessments (protocols)
- US NCAP began in the late 1970s. Australasian NCAP began in 1992



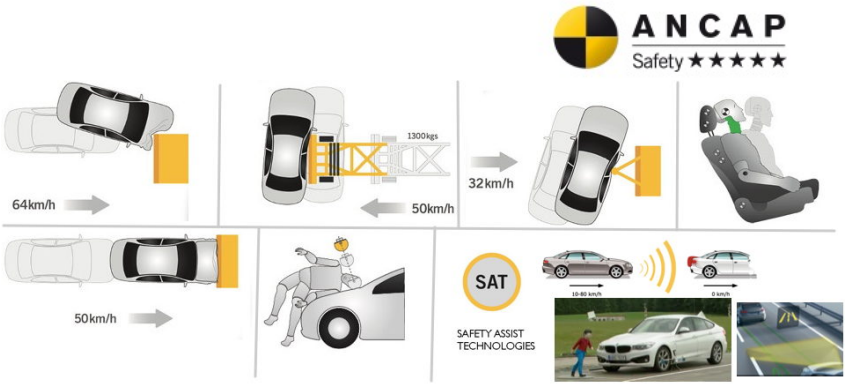
NCAPs operate in 9 regions

- US, Japan, Korea & China NCAPs are government operated
- IIHS is operated by insurers
- Others are a combination of government, insurers, motoring clubs and consumer organisations
- Independent of vehicle manufacturers

Bharat New Vehicle Safety Assessment Program
BNVSAP (India) is starting this year

Test & Assessment Protocols

- Each NCAP conducts tests and assessments in accordance with published protocols
- For a variety of reasons NCAP rating systems are not aligned but, where possible, they use similar test protocols
- NCAPs regularly meet under the Global NCAP network and exchange information about protocols & plans



Test & Assessment Protocols

- From 2018 ANCAP is aligning its rating system with Euro NCAP
- Test protocols published by Euro NCAP will become joint protocols

Test & Assessment Protocols

- Euro NCAP protocols currently include some provisions for assessing HMI but this does not directly cover driver distraction

5.3.6 Human Machine Interface (HMI)

HMI points can be achieved for the following:

- **Supplementary warning for the FCW system** **1 point**

In addition to the required audiovisual warning, a more sophisticated warning like head-up display, belt jerk, brake jerk or any other haptic feedback is awarded when it is issued at the same time as the audiovisual warning.

NOTE: The supplementary warning point is not applicable to AEB only systems

- A Euro NCAP working group has been formed to look at HMI - this will be described by another speaker

Requirements of Test & Assessment Protocols to be used by NCAPs

- **Test protocols** set out the test methods and the measurements/ observations to be recorded
- **Assessment protocols** describe the way in which the measurements and observations are turned into test scores and how these scores affect the overall rating
- To ensure credibility in the rating system the test and assessment protocols used by NCAPs need to be “regulation quality”
- Many NCAP tests are based on regulations but are conducted at a higher speed, with more stringent criteria

The 64km/h frontal offset test used by most NCAPs has been in use for more than two decades. Regulation R94 is the same but is conducted at 56km/h

Issues & Challenges

Protocols should be:

- Objective
- Discriminating (spreading the field)
- Repeatable (e.g. different labs obtain same scores)
- Equitable (fair across the range of vehicle types)
- Economically feasible
- Cost Effective (real world crash savings)

Challenge - how to make assessments more objective?

Try to provide a range of scenarios for the assessor to evaluate, instead of just pass/fail:
Hypothetical examples of Human Factors/Ease of Use criteria for Intelligent Speed Assistance (ISA)

Criteria Description	Weight (1-5)	Rating (Score)			
		Good (3)	**Acceptable (2)**	**Marginal (1)**	**Poor (0)**
ISA is default application	3	ISA is the default (or only) application on the device	ISA is not default but can be selected in one simple action	ISA is not default but can be selected in two simple actions	ISA is not default and is selected in more than two steps or steps are not simple
Driver interaction	5	Driver does not need to interact with device at all	Driver must turn on device initially	Driver must navigate through menu initially to enable ISA functionality	Driver must interact during driving
Audible alert type	4	Spoken information	High pitch alarm AND > 3Hz	Low pitch chime or < 3 Hz	Beep (or no audible alert)
Alert reoccurrence	2	Alert continuous while speed limit is exceeded	Alert reoccurs less than every 10 seconds	Alert reoccurs less than every 20 seconds	Alert reoccurs only once speed has dropped to limit or >30 seconds

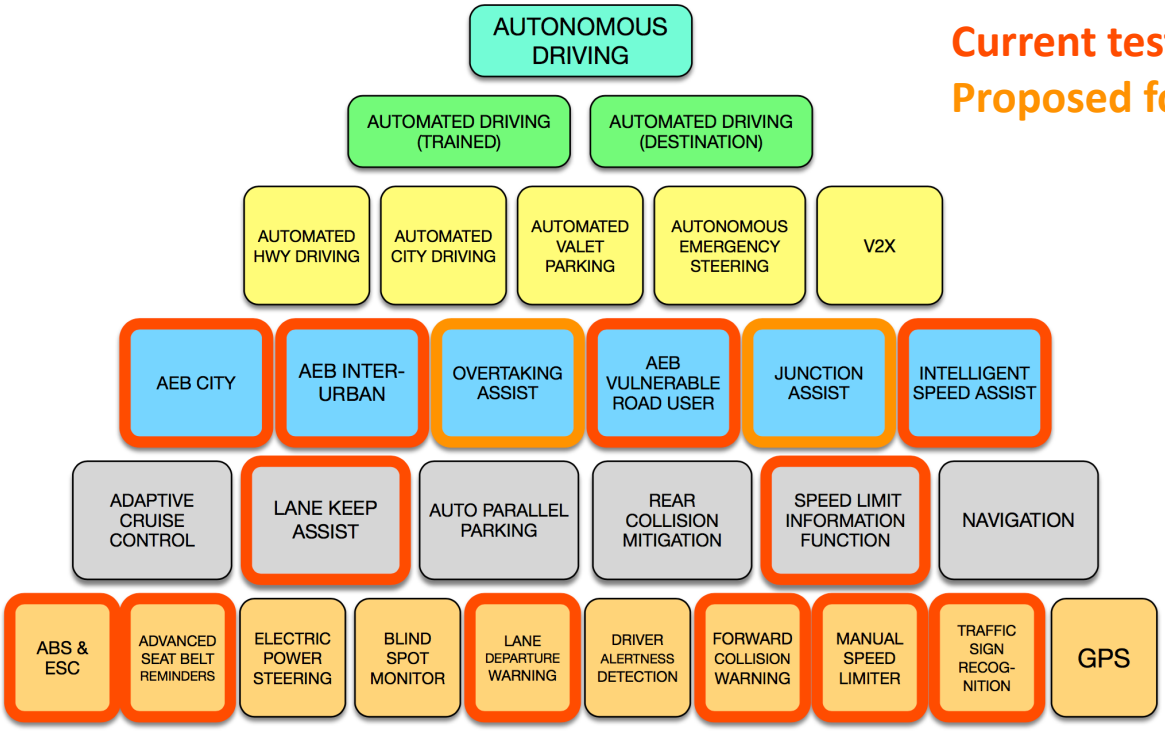
Example from shaded cells: 3 x 2 + 5 x 3 + 4 x 2 + 2 x 1 = 31 points

The steps to adoption of a new protocol by NCAPs

- Research into real world car crashes
- Identify where an NCAP test can lead to improvement
- Develop prototype tests and assessment criteria
- Conduct trials of draft protocol
- Circulate draft protocol to stakeholders
- Protocol goes through NCAP approval process
- If approved, the protocol is implemented
  (e.g. separate rating or incorporated into existing protocols)

NCAP tests are the building blocks to autonomous driving

ANCAP Safety ★★★★★

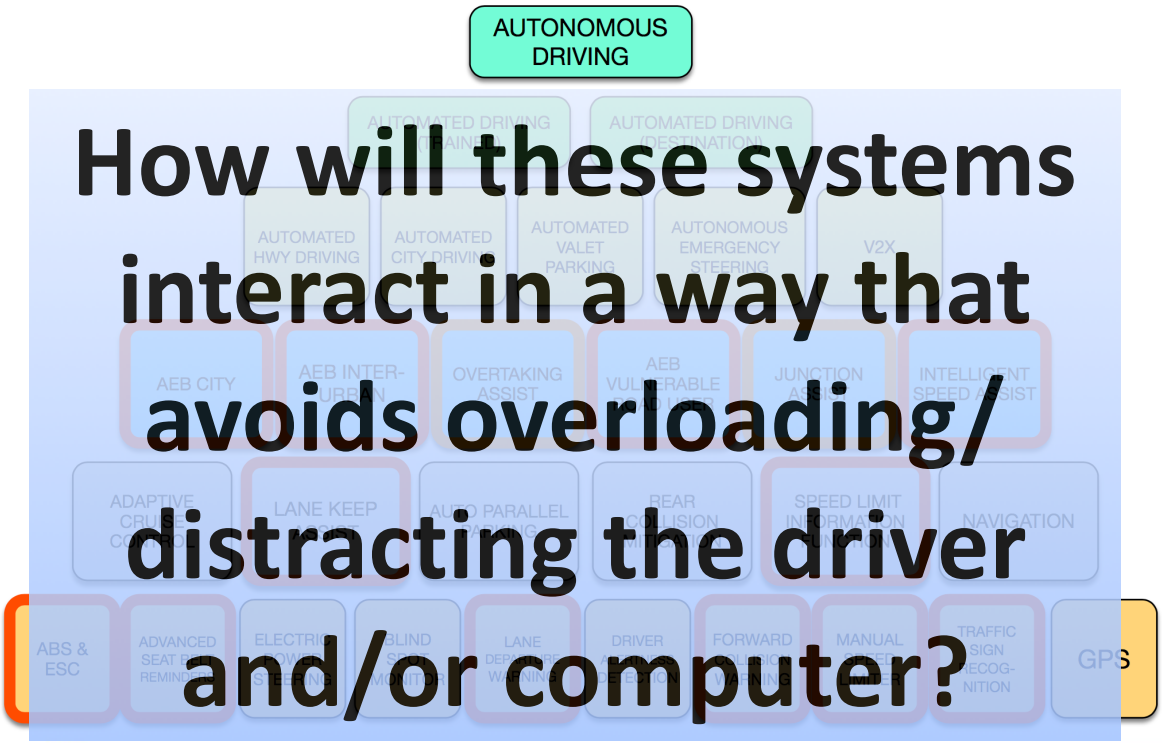


Current tests
Proposed for 2020

Source: Euro NCAP

NCAP tests are the building blocks to autonomous driving

ANCAP Safety ★★★★★



Source: Euro NCAP