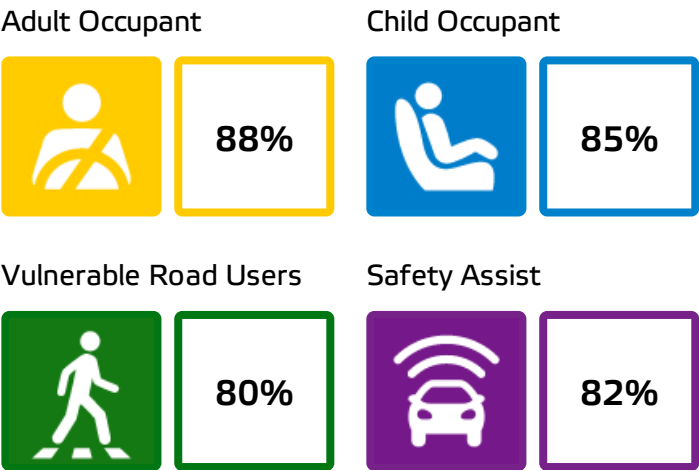




Toyota Mirai
Standard Safety Equipment

2021 ★★★★★



SPECIFICATION

Tested Model	Toyota Mirai, LHD
Body Type	- 4 door sedan
Year Of Publication	2021
Kerb Weight	1950kg
VIN From Which Rating Applies	- all Mirais
Class	Executive

SAFETY EQUIPMENT

	Driver	Passenger	Rear
FRONTAL CRASH PROTECTION			
Frontal airbag	●	●	✗
Belt pretensioner	●	●	●
Belt loadlimiter	●	●	●
Knee airbag	●	✗	✗
LATERAL CRASH PROTECTION			
Side head airbag	●	●	●
Side chest airbag	●	●	✗
Side pelvis airbag	●	●	✗
Centre Airbag	—	✗	—

Version 270821

SAFETY EQUIPMENT (NEXT)

	Driver	Passenger	Rear
CHILD PROTECTION			
Isofix	—	✗	●
Integrated CRS	—	✗	✗
Airbag cut-off switch	—	●	—
SAFETY ASSIST			
Seat Belt Reminder	●	●	●

OTHER SYSTEMS	
Active Bonnet	●
AEB Vulnerable Road Users	●
AEB Pedestrian - Reverse	✗
AEB Car-to-Car	●
Speed Assistance	●
Lane Assist System	●

Note: Other equipment may be available on the vehicle but was not considered in the test year.

- Fitted to the vehicle as standard ○ Fitted to the vehicle as part of the safety pack
 ○ Not fitted to the test vehicle but available as option or as part of the safety pack ✗ Not available — Not applicable



ADULT OCCUPANT

Total 33.8 Pts / 88%

GOOD ADEQUATE MARGINAL WEAK POOR

Frontal Impact

14.0 / 16 Pts



Mobile Progressive Deformable Barrier



Full Width Rigid Barrier

Lateral Impact

13.9 / 16 Pts



Side Mobile Barrier



Side Pole



Far-Side Excursion



Occupant Interaction

Rear Impact

3.9 / 4 Pts



Rear Seat



Front Seat



ADULT OCCUPANT

Total 33.8 Pts / 88%

 GOOD ADEQUATE MARGINAL WEAK POOR

Rescue and Extrication

2.0 / 2 Pts

Rescue Sheet Available, ISO compliant



Advanced eCall Available

Multi Collision Brake Available

Comments

The passenger compartment of the Mirai remained stable in the frontal offset test. Dummy numbers showed good protection of the knees and femurs of both the driver and passenger. Toyota showed that a similar level of protection would be provided to occupants of different sizes and to those sitting in different positions. Protection of the driver's chest was rated as marginal, based on dummy readings of compression. Analysis of the deceleration of the impact trolley during the test, and analysis of the deformable barrier after the test, revealed that the Mirai would be a moderately benign impact partner in a frontal collision. In the full-width rigid barrier test, good or adequate protection was provided to all critical body areas, for both the driver and rear passenger. In both the side barrier test and the more severe side pole impact, protection of all critical body areas was good and the car scored maximum points in this part of the assessment. Limitation of excursion (the extent to which a body is thrown to the other side of the car in the event of an impact from the far side) was rated as adequate. The Mirai does not have a counter-measure, such as a centre airbag, to mitigate occupant to occupant injuries in such impacts. Tests on the front seats and head restraints demonstrated good protection against whiplash injuries in the event of a rear-end collision. A geometric analysis of the rear seats also indicated good whiplash protection. The Mirai automatically applies the brakes immediately after a collision, to prevent secondary impacts, and is equipped with an advanced eCall system which alerts the emergency services in the event of a serious accident.

CHILD OCCUPANT

Total 42 Pts / 85%

■ GOOD
 ■ ADEQUATE
 ■ MARGINAL
 ■ WEAK
 ■ POOR

Crash Test Performance based on 6 & 10 year old children

24.0 / 24 Pts

Frontal Impact

16 Pts



Lateral Impact

8 Pts

Restraint for 6 year old child: *Toyota Kidfix IIS*Restraint for 10 year old child: *Toyota Maxi Plus*

Safety Features

6.0 / 13 Pts

	Front Passenger	2nd row outboard	2nd row center
Isofix	✗	●	✗
i-Size	✗	●	✗
Integrated CRS	✗	✗	✗

● Fitted to test car as standard
 ○ Not on test car but available as option
 ✗ Not available

CRS Installation Check

12.0 / 12 Pts

● Install without problem
 ● Install with care
 ● Safety critical problem
 ✗ Installation not allowed

■ i-Size CRS

Maxi Cosi 2way Pearl & 2wayFix (i-Size)



Maxi Cosi 2way Pearl & 2wayFix (i-Size)



BeSafe iZi Kid X2 i-Size (i-Size)



Britax Römer TriFix2 i-Size (i-Size)



BeSafe iZi Flex FIX i-Size (i-Size)



■ ISOFIX CRS

BeSafe iZi Combi X4 ISOfix (ISOFIX)



Cybex Solution Z i-Fix (ISOFIX)





CHILD OCCUPANT

Total 42 Pts / 85%

■ Universal Belted CRS

Maxi Cosi Cabriofix (Belt)



Maxi Cosi Cabriofix & EasyFix (Belt)



Britax Römer King II LS (Belt)



Cybex Solution Z i-Fix (Belt)





CHILD OCCUPANT

Total 42 Pts / 85%

	Seat Position			
	Front	2nd row		
	PASSENGER	LEFT	CENTER	RIGHT
Maxi Cosi 2way Pearl & 2wayFix (i-Size)	□	●	□	●
Maxi Cosi 2way Pearl & 2wayFix (i-Size)	□	●	□	●
BeSafe iZi Kid X2 i-Size (i-Size)	□	●	□	●
Britax Römer TriFix2 i-Size (i-Size)	□	●	□	●
BeSafe iZi Flex FIX i-Size (i-Size)	□	●	□	●
BeSafe iZi Combi X4 ISOfix (ISOFIX)	□	●	□	●
Cybex Solution Z i-Fix (ISOFIX)	□	●	□	●
Maxi Cosi Cabriofix (Belt)	●	●	●	●
Maxi Cosi Cabriofix & EasyFix (Belt)	●	●	✗	●
Britax Römer King II LS (Belt)	●	●	●	●
Cybex Solution Z i-Fix (Belt)	●	●	●	●

● Install without problem
 ● Install with care
 ● Safety critical problem
 ✗ Installation not allowed
 — Not available

Comments

In both the frontal offset and the side barrier tests, the Mirai provided good protection to all critical body regions, for both the 6 and 10 year dummies, and the car scored maximum points in this part of the assessment. The front passenger airbag can be disabled to allow a rearward-facing child restraint to be used in that seating position. Clear information is provided to the driver regarding the status of the airbag and the system was rewarded. All of the restraint types for which the Mirai is designed could be properly installed and accommodated in the car.



VULNERABLE ROAD USERS

Total 43.7 Pts / 80%



GOOD



ADEQUATE



MARGINAL



WEAK



POOR

Pedestrian

30.7 / 36 Pts



Head Impact	21.5 Pts
Pelvis Impact	3.2 Pts
Leg Impact	6.0 Pts

Vulnerable Road Users

12.9 / 18 Pts

System Name	Pre-Collision System as part of Toyota Safety Sense
Type	Auto-Brake with Forward Collision Warning
Operational From	10 km/h



VULNERABLE ROAD USERS

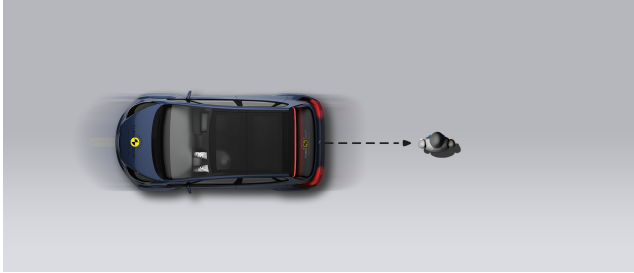
Total 43.7 Pts / 80%

AEB Pedestrian

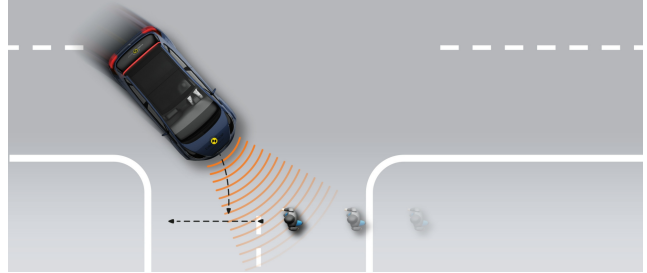
6.4 / 9 Pts

■ Day time

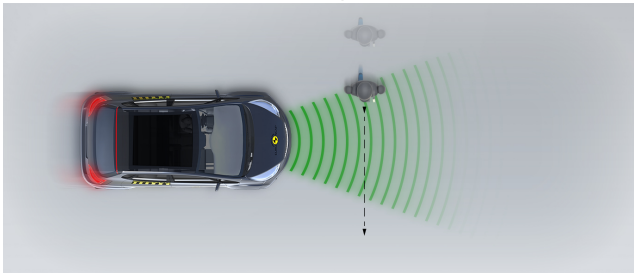
Vehicle reversing into standing pedestrian



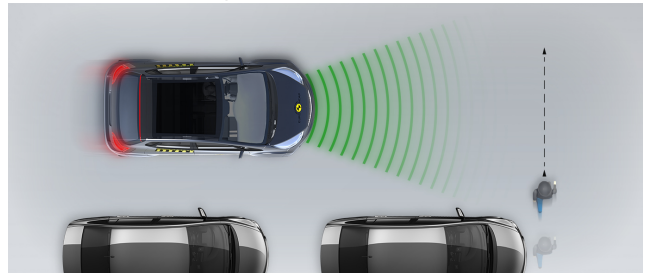
Pedestrian crossing a road into which a car is turning



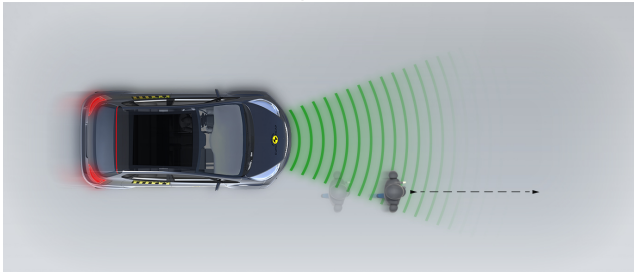
Adult crossing the road



Child running from behind parked vehicles



Adult along the roadside

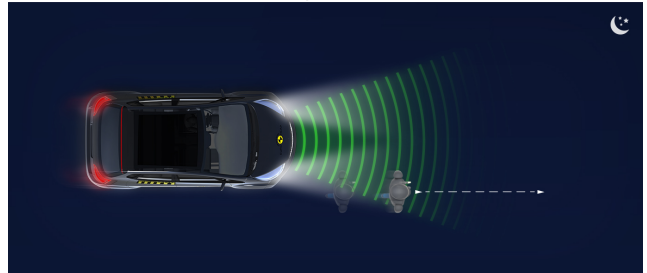


■ Night time

Adult crossing the road



Adult along the roadside





VULNERABLE ROAD USERS

Total 43.7 Pts / 80%

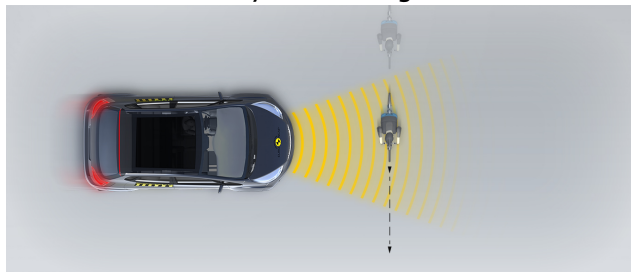
AEB Cyclist

6.5 / 9 Pts

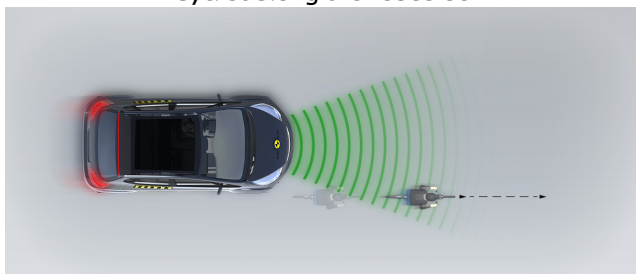
Cyclist from nearside, obstructed view



Cyclist crossing



Cyclist along the roadside



Comments

The Mirai has an 'active bonnet'. Sensors in the bumper detect when a pedestrian has been hit and actuators lift the bonnet to create more space between its surface and the hard components beneath. Toyota demonstrated that the system worked robustly for various pedestrian statures and over a wide range of speeds and, accordingly, the car was tested with the bonnet in the deployed, raised, condition. Protection of the head of a struck pedestrian was good, or at least adequate, over almost the entire area tested by Euro NCAP. Similarly, the bumper provided good protection to pedestrians' legs at all test points. However, pelvis protection was more mixed, some areas offering good protection and others poor. The autonomous emergency braking system of the Mirai can detect vulnerable road users such as pedestrians and cyclists, as well as other vehicles. The system performed adequately in these tests, with collisions avoided or mitigated in most cases.



SAFETY ASSIST

Total 13.2 Pts / 82%

 GOOD

 ADEQUATE

 MARGINAL

 WEAK

 POOR

Speed Assistance

 2.4 / 3 Pts

System Name	Dynamic Radar Cruise Control (DRCC)
Speed Limit Information Function	Camera based, subsigns supported
Speed Limitation Function	System advised (accurate to 5km/h)

Occupant Status Monitoring

 3.0 / 3 Pts

> Seatbelt Reminder

 2.0 / 2 Pts

Applies To	Front and rear seats		
Warning	Driver Seat	Front Passenger(s)	Rear Passenger(s)
Visual			
Audible			
Occupant Detection	—		

 Pass
  Fail
  Not available

> Driver Monitoring

 1.0 / 1 Pts

System Name	Sway Warning System
Type	Steering inputs
Operational From	50 km/h



SAFETY ASSIST

Total 13.2 Pts / 82%



Lane Support 3.5 / 4 Pts

System Name	Lane Tracking Assist (LTA)		
Type	LKA and ELK		
Operational From	30 km/h		
PERFORMANCE			
Emergency Lane Keeping		GOOD	
Lane Keep Assist		GOOD	
Human Machine Interface		GOOD	

AEB Car-to-Car 4.3 / 6 Pts

System Name	Pre-Collision System as part of Toyota Safety Sense	
Type	Autonomous emergency braking and forward collision warning	
Operational From	10 km/h	
Sensor Used	camera and radar	

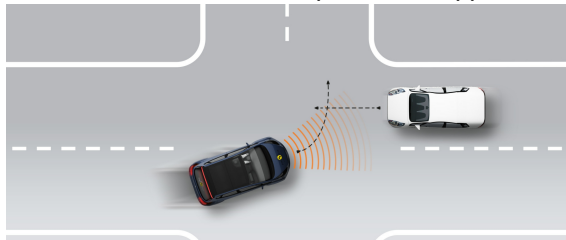


SAFETY ASSIST

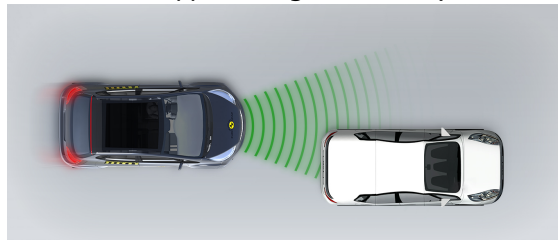
Total 13.2 Pts / 82%

■ Autobrake function only

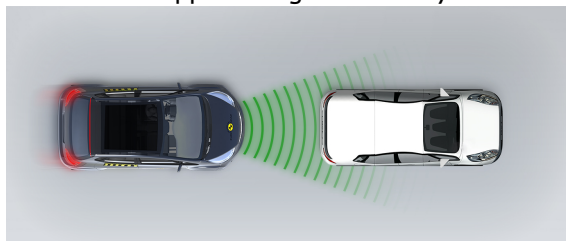
Test car turns across the path of an approaching car



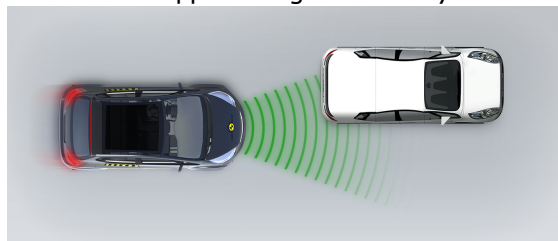
Approaching a stationary car



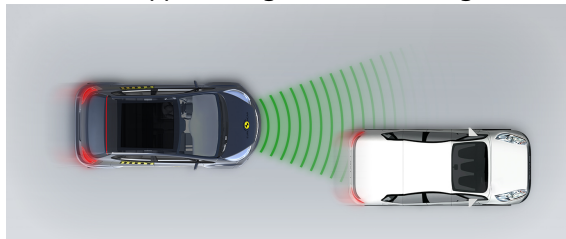
Approaching a stationary car



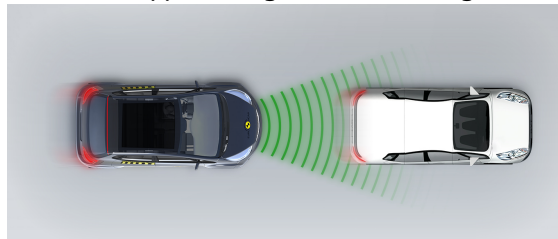
Approaching a stationary car



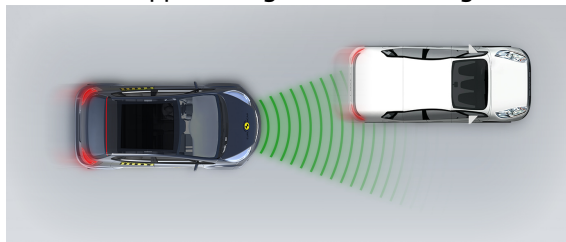
Approaching a slower moving car



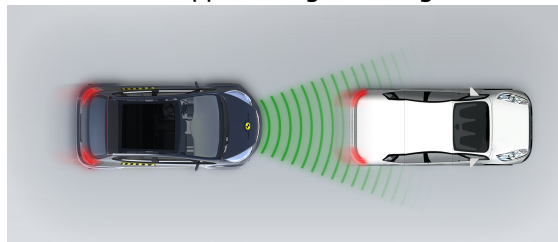
Approaching a slower moving car



Approaching a slower moving car



Approaching a braking car



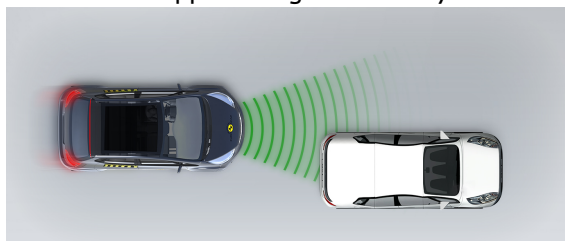


SAFETY ASSIST

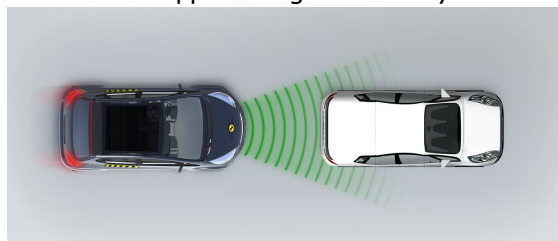
Total 13.2 Pts / 82%

■ Driver reacts to warning

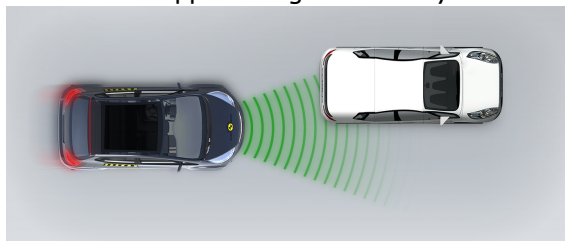
Approaching a stationary car



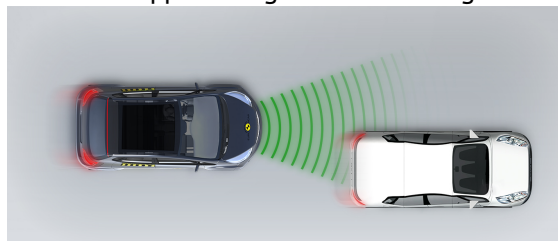
Approaching a stationary car



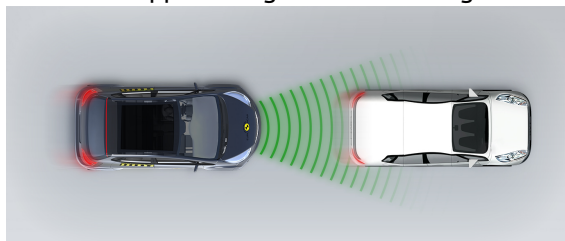
Approaching a stationary car



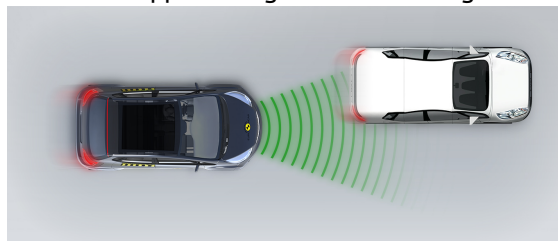
Approaching a slower moving car



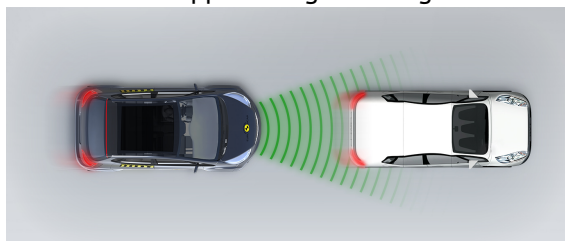
Approaching a slower moving car



Approaching a slower moving car



Approaching a braking car





SAFETY ASSIST

Total 13.2 Pts / 82%

Comments

The Mirai has a seatbelt reminder system, including occupant detection, for the front and rear seats. 'Sway Warning System' monitors steering inputs and detects behaviour characteristic of fatigued driving, to encourage the driver to rest when necessary. The lane support system gently corrects the vehicle's path when it is drifting out of lane and also intervenes in some more critical situations to stop the car from leaving the road, for example. A camera-based speed assistance system determines the local speed limit and provides the information to the driver, allowing the speed limiter to be set appropriately. The AEB system performed adequately in tests of its reaction to other cars.

RATING VALIDITY

Variants of Model Range

Body Type	Engine	Grade	Drivetrain	Rating Applies	
				LHD	RHD
4 door sedan	Hydrogen fuel cell electric	Mid grade, High* grade	4 x 2	✓	✓

* Tested variant

Annual Reviews and Facelifts

Date	Event	Outcome	
September 2021	Rating Published	2021 ★ ★ ★ ★ ★	✓