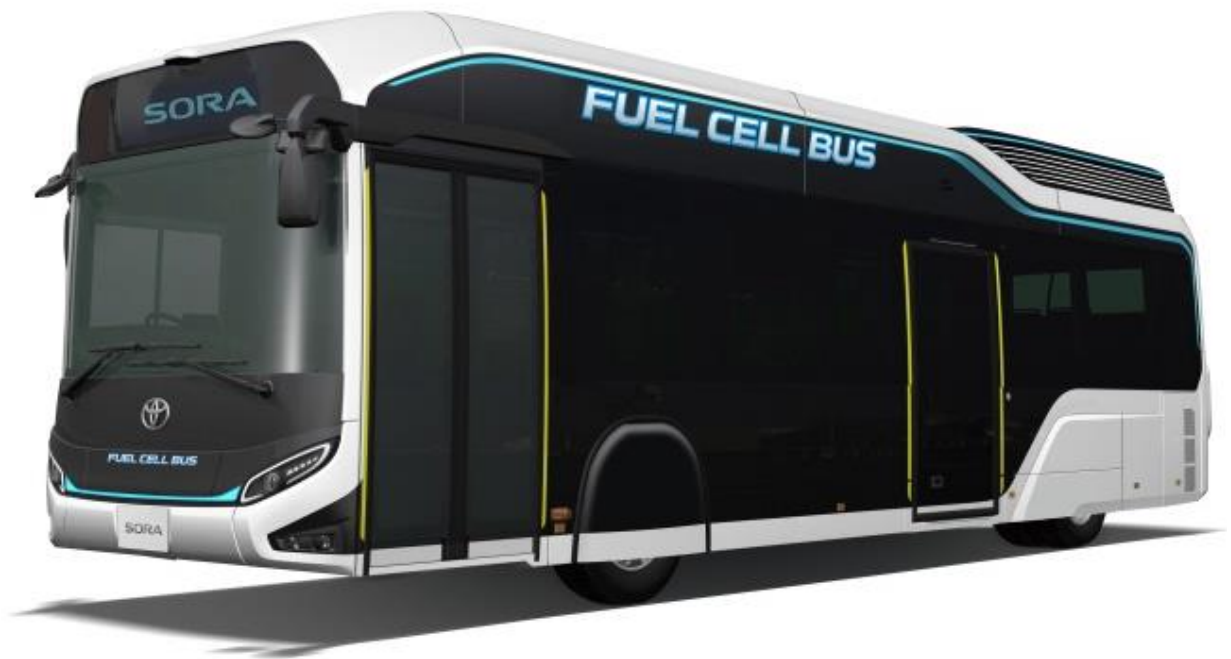


Toyota Unveils FC Bus Concept “Sora”

Toyota City, Japan, October 18, 2017—Toyota Motor Corporation (Toyota) announces the launch of the “Sora¹,” a Toyota fuel cell bus (FC bus) concept. Toyota plans to launch sales of a commercial model based on the concept vehicle in 2018 and expects to introduce over 100 Sora, mainly within the Tokyo metropolitan area, ahead of the Tokyo 2020 Olympic and Paralympic Games.



Sora (concept model)

Toyota developed the Sora (concept model) based on the vision of an “enduring town icon” guided by two ideas: to make best use of the characteristics of the FC unit; and to enhance the comfort of passengers traveling on bus routes.

Idea 1: Service vehicle for the entire community

Toyota aims to create a bus that works for the world and for people, is environmentally friendly, and can contribute to communities beyond its role as a mobility service.

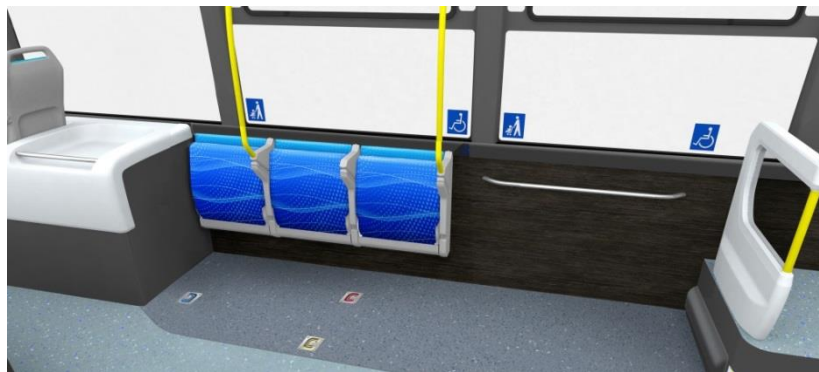
- The Toyota Fuel Cell System (TFCS), which was developed for the Mirai fuel cell vehicle (FCV), has been adopted to deliver superior environmental performance with no CO₂ emissions or Substances of Concern (SoC) emitted when in operation.
- The Sora is equipped with a high-capacity external power supply system, providing high output and a large capacity of electricity supply (9 kW maximum output, and electricity supply of 235 kWh²) and can be used as an emergency power source following disasters.

Idea 2: Universal design and function that is people-centered

Because the bus is envisioned to be used by large and varying numbers of passengers at any given time, Toyota paid close attention to convenience, safety, and peace of mind with the aim to give all passengers a pleasant riding experience, so that they would want to ride the buses regularly.

- **Horizontal seats with an automatic storage mechanism improves comfort (first in Japan³)**

The bus is equipped with horizontal seats with an automatic storage mechanism to provide space for strollers or wheelchairs. This provides extra seating for regular passengers when the space is not needed for strollers or wheelchairs.



Horizontal seats with an automatic storage mechanism

- **Improved safety from bus peripheral monitoring function (first in Japan³)**

Eight high-definition cameras fitted inside and outside the vehicle detect pedestrians and bicycles around the bus, providing a peripheral monitoring function that warns the driver with sound and images to improve safety.

- **Improved safety from acceleration control function (first in Japan³)**

The acceleration control function suppresses sudden acceleration and enables gentle acceleration from stops, in consideration of the safety of standing passengers. Also, there is no lurching due to the lack of a need for gear shifting.

- **Improved ease of boarding and exiting through automatic arrival control⁴ (first in Japan³)**

Adoption of automatic arrival control detects the guidance line on the road surface and uses automatic steering and deceleration to stop the bus with approximately 3 to 6 cm of clearance from the bus stop, and within a range of 10 cm ahead of or behind the bus stop position. This improves boarding and exiting for passengers using strollers or wheelchairs.

- **Improved convenience through ITS Connect**

Bus transportation capability, speed, punctuality, and convenience is boosted by ITS Connect, which utilizes vehicle-to-vehicle and vehicle-to-infrastructure communications to support safe driving, together with systems that support bus convoys and that provide priority at traffic signals (PTPS⁵).

Design

The design pursues stereoscopic shaping that significantly differs from the hexahedron (box shape) of conventional buses. It also uses LED for the front and rear lights. Such design features make the FC bus instantly recognizable.



Main specifications

Vehicle	Name	Sora
	Length/width/height	10,525/2,490/3,340 mm
	Capacity (seated, standing, and driver)	79 (22+56+1)
FC stack	Name (type)	Toyota FC Stack (Solid polymer electrolyte)
	Maximum output	114 kW × 2 units (155PS × 2 units)
Motor	Type	AC synchronous
	Maximum output	113 kW × 2 units (154 PS×2 units)
	Maximum torque	335 N·m × 2 (34.2 kgf·m × 2)
High-pressure hydrogen tank	Number of tanks (Nominal working pressure)	10 (70 MPa)
	Tank internal volume	600 liters
Drive battery	Type	Nickel-metal hydride
External power supply system ²	Maximum output/power supply amount	9 kW/235 kWh

Toyota plans to display the Sora (concept model) at Tokyo Big Sight during the 45th Tokyo Motor Show 2017. The theme for this year's show, which runs for 12 days from October 25 to November 5⁶, is "Beyond the Motor."

¹SORA: an acronym for **S**ky, **O**cean, **R**iver, **A**ir, representing the earth's water cycle.

²The power that can be supplied and the power amount may differ, depending on the performance of the power supply unit, amount of hydrogen remaining, and power consumption.

³As of October 18 (according to Toyota Motor Corporation).

⁴The bus stops without leaving a large gap between it and the bus stop.

⁵PTPS: **P**ublic **T**ransportation **P**riority **S**ystems

⁶The 45th Tokyo Motor Show 2017 is to be held at Tokyo Big Sight in Tokyo's waterfront area from October 25 through November 5, with press days on October 25 and 26, a special-invitation day on October 26, a preview day on October 27 and general-public days from October 28 to November 5.

To access the exclusive site for Tokyo Motor Show 2017, please visit

<http://newsroom.toyota.co.jp/en/tms2017/>