

H

HYDROGEN

Leading the Transition to a Hydrogen Society







September 18th, 2017

Tom Stricker

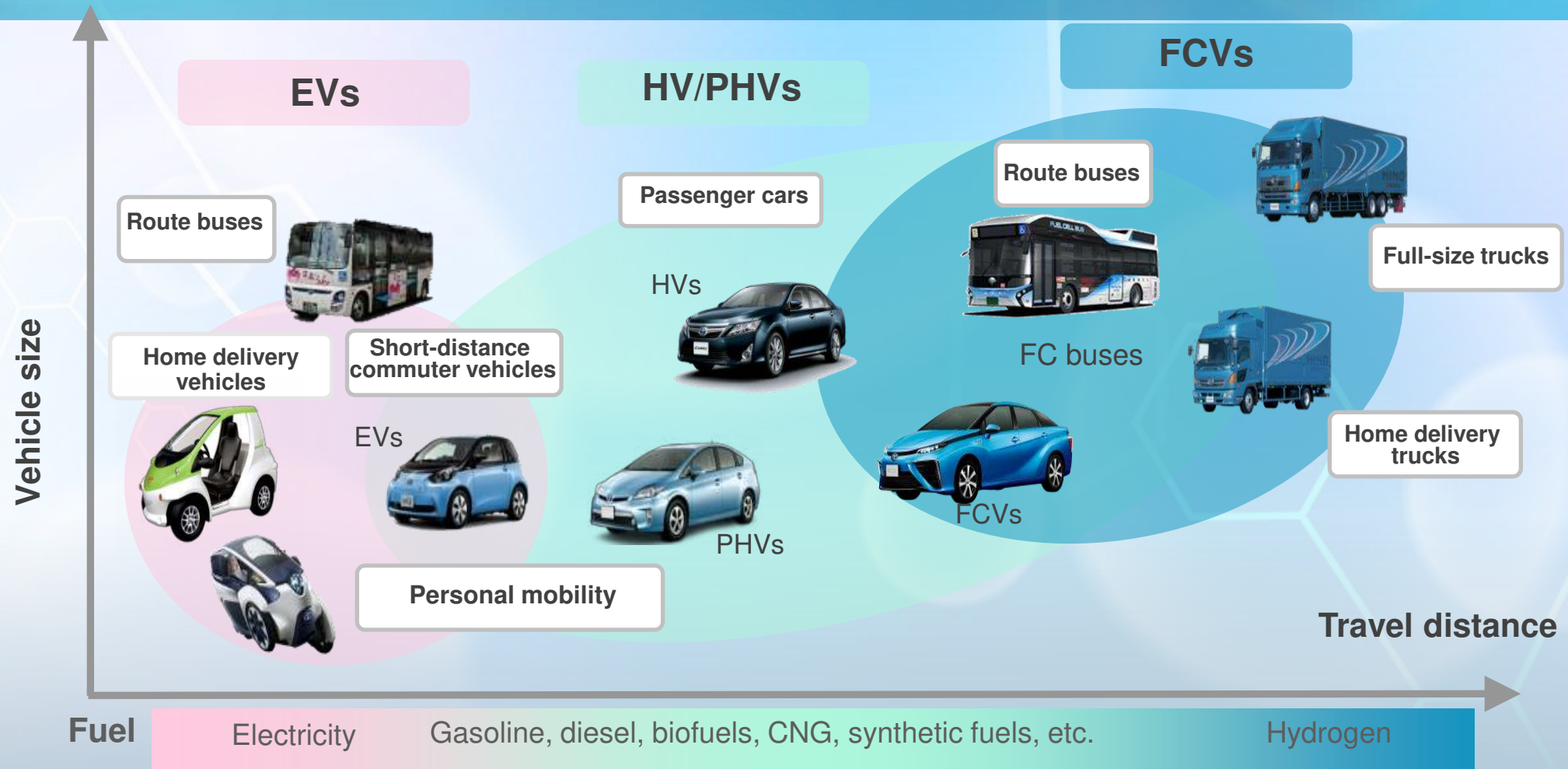
Toyota Motor North America

TOYOTA

The Toyota Environmental Challenge 2050 is our North Star

<p>TOYOTA     </p> <p>ENVIRONMENTAL CHALLENGE 2050</p>	<p>CO₂0</p> 	<p>CO₂0</p> 	<p>CO₂0</p> 
			

A Portfolio of Powertrains are required to achieve the CO₂ Reduction Challenge...with sales based on Customer Needs



The advantages of FCV are undeniable

Fun to drive with
powerful acceleration

3-5 min refueling
312 miles* range

Zero tailpipe CO₂
emissions

Smooth, quiet driving
(Electric motor)

*EPA Tested

TOYOTA

Toyota Mirai deployment Status

Global



United States

- ✓ Introduced in October of 2015
- ✓ Approaching 2000 unit sold or leased to date in California
- ✓ Will begin sales in Northeast U.S. in 2018

TOYOTA

Toyota ensures safety on board

Toyota FC stack

Steel frame and aircraft grade fibre-reinforced plastic used in protect the FC Stack

Hydrogen sensors

Provide warnings and can shut off tank main stop valves

Impact safety structure

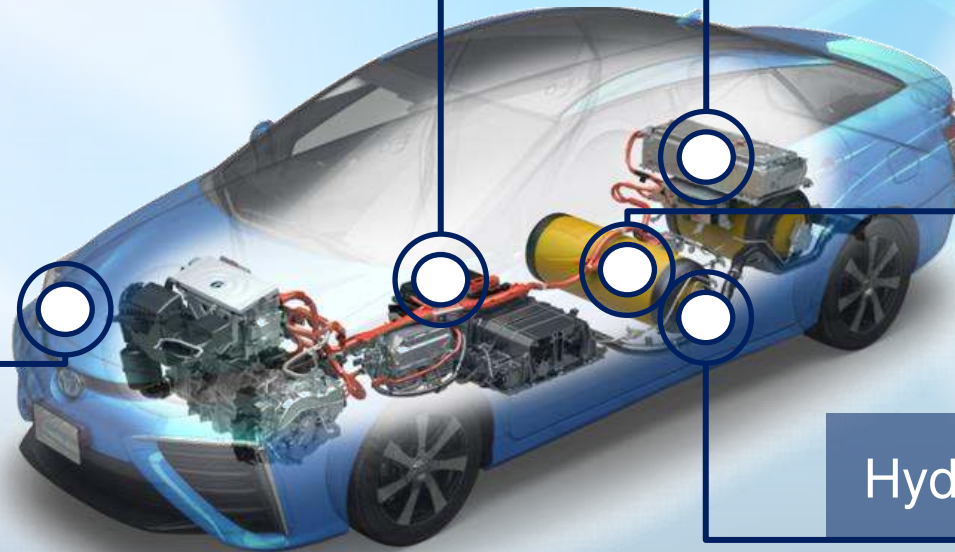
Protects the FC Stack and Hydrogen tanks in the event of an accident

High pressure Hydrogen tank

Made from reinforced carbon of the highest quality

Hydrogen related parts

Located outside the cabin.



H2 tanks pass extremely demanding testing

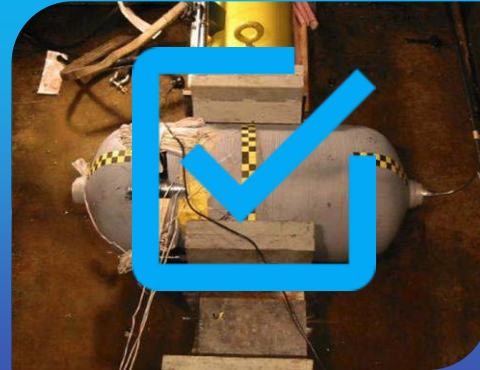
Tank designers and inspectors run a multitude of tests in laboratories to ensure safety



Burst test



Bonfire tests



Crush test
150 t force (Power-tech)



Gunshot test
(tested at Powertech¹)

¹ Armour-piercing 7mm test according to UN Technical Regulation

- Mirai complies with all U.S. and international vehicle safety standards

FC system costs have been reduced significantly and efforts are ongoing for further gains

Fuel cell system costs have been reduced significantly and cost reduction efforts are ongoing



Toyota is looking beyond just the Mirai...

FC Bus



FC Heavy-Duty Truck (dreyage)

FC
Fork
Lift



SOFC
Co-Gen



H2
Fueling



Cooperation to create a Hydrogen Society



Zero CO₂ Challenge only possible in cooperation with stakeholders



THANK YOU