



**TOYOTA MOTOR NORTH AMERICA, INC.**  
Sustainability and Regulatory Affairs  
1630 W. 186<sup>th</sup> Street, Gardena, CA 90248

Clerk of the Board  
California Air Resources Board  
1001 I Street  
Sacramento, CA 95812

July 28, 2022

**RE: Toyota Comment on the Advanced Clean Car 2 (ACC2) 15-Day Notice**

Toyota is pleased to submit these comments to the staff's proposed 15 Day Changes to the Advanced Clean Cars 2) regulatory proposals. In addition to these comments, we support and incorporate by reference the ZEV and LEV comments of the Alliance for Automotive Innovation submitted July 28, 2022.

13 CCR 1969 Motor Vehicle Service Information

In 13 CCR 1969, CARB will optionally allow Ethernet reprogramming for ZEV propulsion-related parts. Where an interface that connects between a standard personal computer and the vehicle is necessary to enable such reprogramming, SAE J2534 documents describe standardized interfaces with the goal of ensuring that reprogramming software from any vehicle manufacturer is compatible with interface supplied by any tool manufacturer. SAE J2534-1 was the original document and remains as an allowable reference in 13 CCR 1969.

The SAE J2534-2/X document set defines many extensions to the original specification, including those necessary for Ethernet implementation. CARB proposes to restrict the allowable Ethernet J2534-2/X documents to only those enabling 'NDIS' (Network Driver Interface Specification). In the J2534 workgroup that CARB participates in, Toyota helped develop documents for the Ethernet 'Socket Wrappers' method and already uses it now for reprogramming applications. Although most Toyota ZEV reprogramming now is done via J2534-1, Toyota will increasingly use Ethernet we planned to use our existing Socket Wrapper capability for that. But under CARB draft regulation, we would have to abandon that and restart with NDIS.

We understood CARB's concern to be additional development and validation cost for tool makers beyond NDIS capability, but in this instance the claimed cost savings for them would result insignificant expense to Toyota. Given our direction in J2534 workgroup was already long known to CARB, we request reconsideration to add the Socket Wrapper documents as optionally allowed:

- J2534-2/13\_0500\_202201 (Ethernet, the API for Socket Wrappers)
- J2534-2/15\_0500\_202201 (IPv6, the API for Socket Wrappers)
- J2534-2/16\_0500\_202201 (IPv4, the API for Socket Wrappers)
- J2534-2/17\_0500\_202201 (UDP, the API for Socket Wrappers)
- J2534-2/18\_0500\_202201 (TCP CLIENT, the API for Socket Wrappers)

If you have any questions or comments, please contact Michael Lord at (310)787-5644 or michael.lord@toyota.com.

Sincerely,

TOYOTA MOTOR NORTH AMERICA, INC.

A handwritten signature in black ink, appearing to read "Tom Stricker". The signature is written in a cursive, flowing style.

Tom Stricker  
Group Vice President  
Sustainability and Regulatory Affairs