

# **IEEE AV Decision Making Working Group: Overview of 2023 Projects**

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January 2023



# Working Group Overview

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ZOOX



Uber



DENSO



Aurora



RIVIAN



Qualcomm

**WG Name:** Formal Model for Safety Considerations in Automated Vehicle Decision Making

## WG Leadership

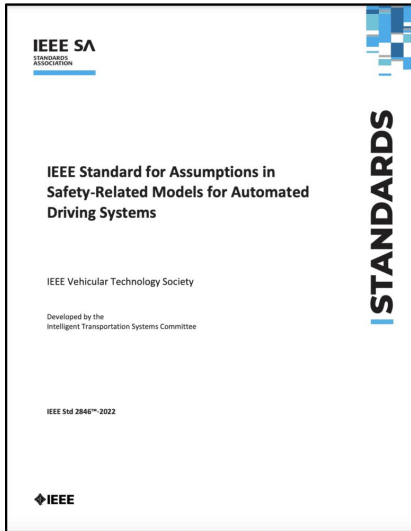
- Chair - Kevin Gay (Uber)
- Vice Chair - Francesca Favaro (Waymo)
- Secretary - Chris Becker (Zoox)

## Public Website

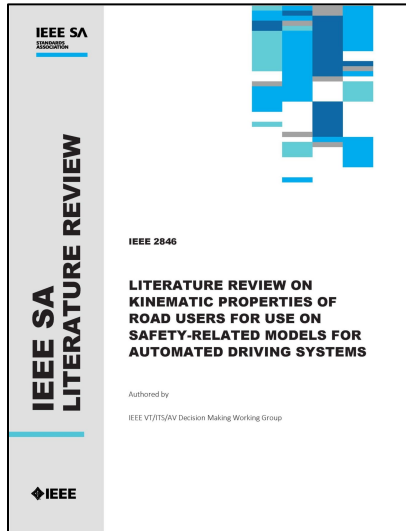
<https://sagroups.ieee.org/2846/>

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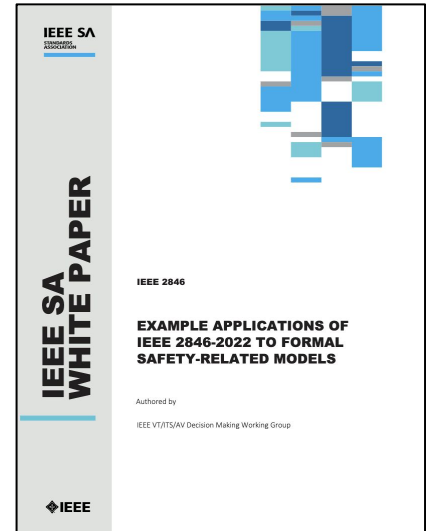
# 2022 WG Key Accomplishments



Published [\*IEEE Standard for Assumptions in Safety-Related Models for Automated Driving Systems\*](#)



Published [\*Literature Review On Kinematic Properties Of Road Users For Use On Safety-Related Models For Automated Driving Systems\*](#)



Submitted for Publication [\*Example Applications of IEEE 2846-2022 to Formal Safety-Related Models\*](#) (Public Release in Early 2023)

# 2023 New WG Projects

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**IEEE P2846a: Standard for Assumptions in Safety-Related Models for Automated Driving Systems Amendment: Additional scenarios and road users**

**Project Type:** Amendment to the Base 2846:2022 Standard

**Task Force Lead:** Qiming Zhao (Denso)

**Projected Completion:** Q1 2024

**IEEE 3321: Recommended Practice for the Application of Assumptions on Reasonably Foreseeable Behavior of Other Road Users**

**Project Type:** Recommended Practice Related to the Base 2846:2022 Standard

**Task Force Lead:** Scott Schnelle (Waymo)

**Project Completion:** Q1 2024

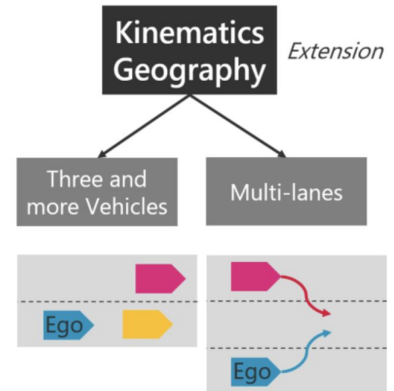
# P2846a: Additional Scenarios and Road Users

**Scope:** For the additional scenarios and road users, this standard defines a minimum set of assumptions regarding reasonably foreseeable behaviors of other road users to be considered in the development of safety-related models for an ADS.

The scenarios reflected in this standard include those related to road geometry changes (e.g., lanes merging), and specific behaviors of other road users (e.g., lane change).

This standard further provides guidelines for the composition of more complex scenarios and associated assumptions based on the identified initial set.

This standard does not prescribe any specific on-road behaviors expected of an ADS when encountering any of these additional scenarios or road users.



# IEEE 3321: Application of Assumptions on Reasonably Foreseeable Behavior of Other Road Users

**Scope:** This recommended practice provides guidelines for using the IEEE 2846-2022 standard during development and testing of Automated Driving Systems (ADS). Specifically, it covers:

- (1) Approaches to identify the applicable IEEE 2846-2022 scenario(s), associated scenes and ODDs of interest, and safety-relevant agents;
- (2) Approaches for determining the applicability of assumptions for the given scenario(s)/scene(s) and safety-related agents (from (i) above) and for updating these assumptions across the temporal evolution of a scenario; and
- (3) Approaches to qualify and validate assumptions (i.e., toward identifying values/ranges) from IEEE 2846-2022 considering different kinds of performance targets of interest.

# How to Get Involved in WG?



There are a couple ways to get involved in the development of these two new projects:

1. Attend one WG meeting as an observer or presenter of content
2. Join IEEE Standards Association as an Entity Member and become a member of WG
3. SAE ORAD Members will be able to provide feedback on draft materials shared through a liaison agreement

Questions? Email [kgay@uber.com](mailto:kgay@uber.com)

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<b>GAIN</b> Gain perspective from a unique focus on markets, technology, and policy.	<b>NAVIGATE</b> Get insight on new standards that can help you navigate the best course.	<b>IMPACT</b> Help open new markets, remove trade barriers & foster positive impacts.

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