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RESEARCH REPORT

**Unsettled Topics
Concerning the Field
Testing of Automated
Driving Systems**

Bob McQueen

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Bob McQueen

Editor

CEO, Bob McQueen and Associates

EDGE DEVELOPMENT TEAM

Randy Iwasaki, *Executive Director, Contra Costa Transportation*

Doug Jamison, *Intelligent Transportation Systems Manager, Lynx, Central Florida Transit Agency*

Vik Bhide, *Smart City Manager, City of Tampa*

Richard Bishop,
Automated Vehicle Consultant

Peter Thompson,
Automated Vehicle Manager, San Diego Association of Governments





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About the Editor

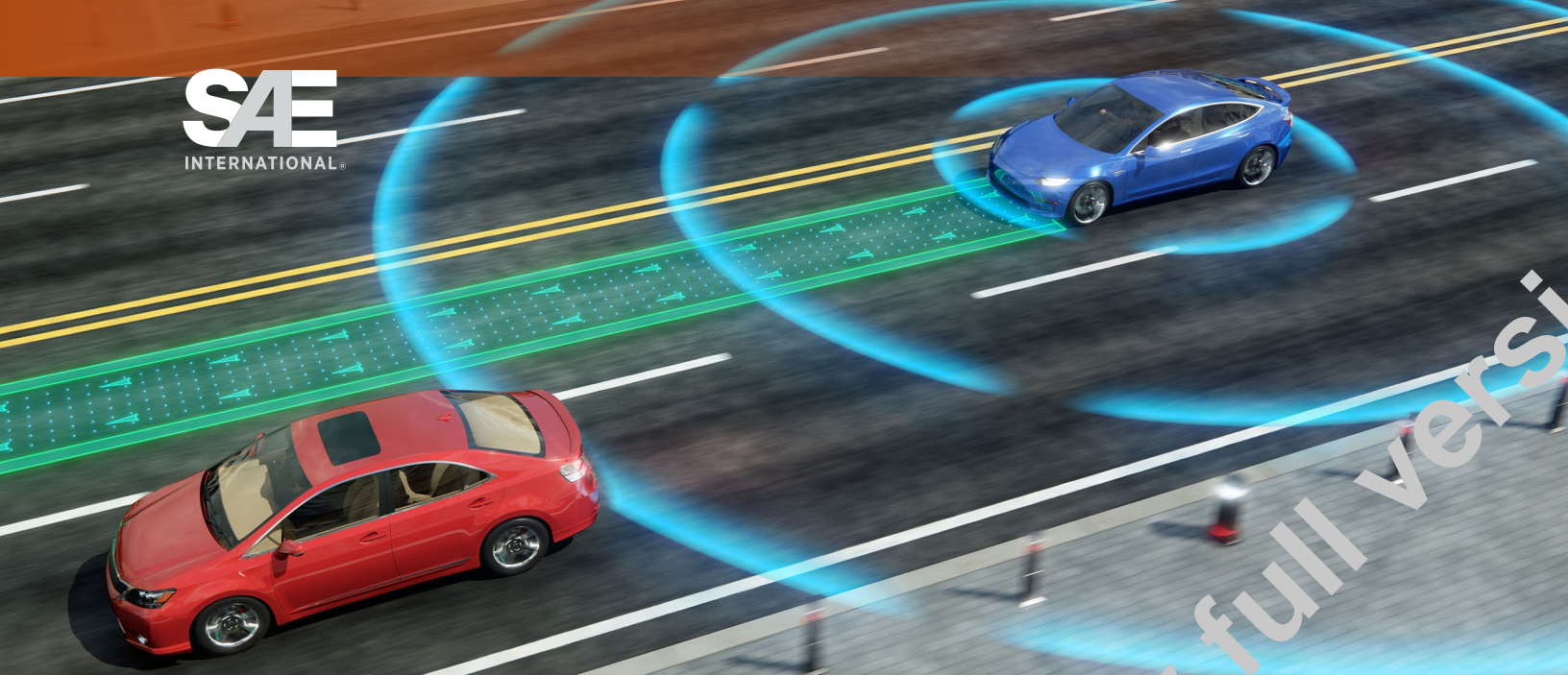


Bob McQueen is an internationally recognized expert in the application of advanced technology to transportation. He has provided expert-level consulting advice to central and local governments in the Middle East, Asia-Pacific, Europe, and North America. He has also advised global companies when entering or improving positioning in the market for advanced transportation solutions. McQueen specializes in the concise communication of complex technology concepts, matching user needs to technology capabilities and constraints. McQueen has had the privilege of gaining in-depth experience in technology planning, interactive requirements analysis, international standardization, and the application of big data and analytics. He is Chief Executive Officer for Bob McQueen and Associates, based in Orlando, Florida.

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contents

About the Editor		
Unsettled Topics Concerning the Field		
Testing of Automated Driving Systems	3	
Introduction	4	
<i>State of the Industry</i>	4	
Unsettled Domains Concerning the Field		
Testing of ADS	4	
<i>Vehicle Type</i>	4	
<i>Levels of Automation</i>	4	
Elements of an ADS	4	
Sensors	4	
Actuators	4	
Communications	4	
Processing	4	
<i>Private Cars</i>	5	
<i>Scalability</i>	5	
<i>Public Trust</i>	6	
<i>Maintenance</i>	6	
<i>Global Consistency</i>	6	
<i>Transition from Product Focus to Service Focus</i>	6	
<i>Safety</i>	7	
<i>Recommendations</i>	7	
Transit	7	
<i>Driver and Traveler Behavior</i>	7	
<i>Equity</i>	8	
<i>Bigger Picture Operations</i>	8	
<i>Unexpected Retail Impact</i>	8	
<i>Support Infrastructure</i>	8	
<i>Digital Infrastructure</i>	9	
<i>Concept of Operations</i>	9	
<i>Technology Adapts to People and Operations, Not the Other Way Around</i>	9	
<i>Workforce Development</i>	9	
<i>Technology's Ahead of Policy</i>	9	
<i>Recommendations</i>	9	
Freight	10	
<i>High-Ware Effect: The Likelihood of an Extreme Public Reaction to Accidents</i>	10	
<i>Recommendations</i>	11	
Challenges Identified across All Domains	11	
<i>The Lack of Appropriate Standards for AV Field Testing</i>	11	
<i>Too Difficult to Guarantee the Safety of the Public</i>	11	
<i>The Lack of Formal Regulations to Govern Field Testing and Operation on Open Roads</i>	11	
<i>Technology Readiness</i>	12	
<i>Communicating Simulation, Test Track, and Field Work</i>	12	
<i>Integrating AVs into the Smart City</i>	12	
<i>Big Data Management and Analytics</i>	12	
<i>Ineffective Risk Management</i>	13	
<i>Ambiguity in Operations Roles, and Responsibilities</i>	13	
<i>Identifying Ideal Field Test Facilities</i>	14	
<i>Maintenance Policy</i>	14	
<i>Ineffective Performance Measurement and Management</i>	14	
<i>Outcomes and Objectives</i>	14	
Combined System Road Tests	14	
Summary/Conclusions	15	
<i>Where Do We Go from Here?</i>	15	
<i>SAE EDGE™ Research Reports</i>	15	
<i>Next Steps for ADS Field Tests</i>	16	
<i>Recommendations</i>	16	
Data and Knowledge Sharing	16	
Knowledge Sharing	16	
Public Approach Support	16	
ADS Training Materials for Both Technical and Nontechnical Staff	16	
Collaborative Mechanisms	16	
Encouragement for Innovation	16	
Encouragement for Partnership	17	
<i>Abbreviations/Definitions</i>	17	
<i>Acknowledgments</i>	17	
<i>Works Cited</i>	18	
<i>Contact Information</i>	18	



Unsettled Topics Concerning the Field Testing of Automated Driving Systems

Abstract

Automated driving systems (ADS) have the potential to revolutionize transportation. Through the automation of driver functions in the application of advanced technology within the vehicle, significant improvements can be made to safety, efficiency, user experience, and the preservation of the environment. According to the US Department of Transportation [1], there are more than 10,000 cars, trucks, buses, and other vehicles being tested by more than 80 companies across the USA. Implementation of ADS technology is well advanced, with many states across the USA incorporating automated vehicles (AVs) into wider programs to apply advanced technology to transportation. Discussions with the public sector's implementing agencies suggest that one of the barriers to faster progress is the lack of consistent and standardized field-testing protocols. This report looks at the state of the art of field testing for ADS and identifies areas for improvement, consistency and standardization. It will define the problem to be addressed by ADS and the challenges associated with the introduction of such vehicles and operational situations. In particular, the report will look at the possibilities for big data and analytics to enable the sharing of lessons learned and convergence on standard field-testing approaches.

NOTE: SAE EDGE™ Research Reports are intended to identify and illuminate key issues in emerging, but still unsettled, technologies of interest to the mobility industry. The goal of SAE EDGE™ Research Reports is to stimulate discussion and work in the hope of promoting and speeding resolution of identified issues. SAE EDGE™ Research Reports are not intended to resolve the issues they identify or close any topic to further scrutiny.

BOB MCQUEEN

CEO, Bob McQueen and Associates

Edge Development Team

Randy Iwasaki, *Executive Director, Contra Costa Transportation*

Doug Jamison, *Intelligent Transportation Systems Manager, Lynx, Central Florida Transit Agency*

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