### Contents

**Introduction: The Automated Vehicles Symposium 2016** ........................................... 1  
Steven E. Shladover, Jane Lappin and Robert P. Denaro

**Part I  Public Sector Activities**

**Latest Development in SIP-Adus and Related Activities in Japan** ........ 15  
Hajime Amano and Takahiko Uchimura

**Connected and Automated Driving in The Netherlands—Challenge, Experience and Declaration** ...................................................... 25  
Tom Alkim

**Policymaking for Automated Vehicles: A Proactive Approach for Government** ................................................................. 33  
Baruch Feigenbaum, Ginger Goodin, Anita Kim, Shawn Kimmel, Richard Mudge and David Perlman

**Part II  Human Factors and Challenges**

**Impact Assessment** ................................................................. 45  
Satu Innamaa, Scott Smith, Isabel Wilmink and Nick Reed

**The Digital Driver of the Future—User Experience Research on Generation Z in Germany** ....................................................... 57  
Evin Bahar Guenes, Katharina Hottelart and Patrice Reilhac

**Reducing Conflict Between Vulnerable Road Users and Automated Vehicles** ................................................................. 69  
Justin M. Owens, Ryan Greene-Roesel, Azra Habibovic, Larry Head and Andrés Apricio
Part III Ethics, Legal, Energy and Technology Perspectives

Model Legislation for Automated Driving .......................... 79
Bryant Walker Smith

The Environmental Potential of Autonomous Vehicles .......... 89
Aaron Hula, Lisa Snapp, Jeff Alson and Karl Simon

Energy Impact of Connected Eco-driving on Electric Vehicles ... 97
Xuewei Qi, Matthew J. Barth, Guoyuan Wu, Kanok Boriboonsomsin
and Peng Wang

A First-Order Estimate of Automated Mobility District Fuel
Consumption and GHG Emission Impacts ......................... 113
Yuche Chen, Stanley Young, Xuewei Qi and Jeffrey Gonder

Shared Automated Mobility: Early Exploration
and Potential Impacts .................................................. 125
Adam Stocker and Susan Shaheen

Shared Automated Mobility and Public Transport .................. 141
Jessica Lazarus, Susan Shaheen, Stanley E. Young, Daniel Fagnant,
Tom Voege, Will Baumgardner, James Fishelson and J. Sam Lott

Part IV Vehicle Systems and Technologies Development

Safety Assurance for Automated Vehicles ....................... 165
Hermann Winner and Ching-Yao Chan

Enabling Technologies for Road Vehicle Automation ............. 177
Cristofer Englund, John Estrada, Juhani Jaaskelainen, Jim Misener,
Surya Satyavolu, Frank Serna and Sudharson Sundararajan

Infrastructure for Automated and Connected Driving: State of the Art
and Future Research Directions ...................................... 187
Haneen Farah, Sandra M.J.G. Erkens, Tom Alkim and Bart van Arem

Part V Transportation Infrastructure and Planning

Understanding the Effects of Autonomous Vehicles
on Urban Form ......................................................... 201
Sara Costa Maia and Annalisa Meyboom

“AV-Ready” Cities or “City-Ready” AVs? ........................ 223
Siegfried Rupprecht, Stephen Buckley, Philippe Crist and Jane Lappin
Traffic Flow of Connected and Automated Vehicles: Challenges and Opportunities ............................................ 235
Simeon Calvert, Hani Mahmassani, Jan-Niklas Meier, Pravin Varaiya, Samer Hamdar, Danjue Chen, Xiaopeng Li, Alireza Talebpour and Stephen P. Mattingly

Potential Fleet Size of Private Autonomous Vehicles in Germany and the US ............................................. 247
Stefan Trommer, Lars Kröger and Tobias Kuhnimhof

Simulation-Based Traffic Management System for Connected and Autonomous Vehicles ............................. 257
Paweł Gora