SHAPING SMART MOBILITY FUTURES

GOVERNANCE AND POLICY INSTRUMENTS IN TIMES OF SUSTAINABILITY TRANSITIONS

EDITED BY
ALEXANDER PAULSSON
CLAUS HEDEGAARD SØRENSEN

SHAPING SMART MOBILITY FUTURES

This page intentionally left blank

SHAPING SMART MOBILITY FUTURES: GOVERNANCE AND POLICY INSTRUMENTS IN TIMES OF SUSTAINABILITY TRANSITIONS

EDITED BY

ALEXANDER PAULSSON

Lund University, Sweden

and

CLAUS HEDEGAARD SØRENSEN

Swedish National Road and Transport Research Institute (VTI), Sweden

United Kingdom – North America – Japan – India – Malaysia – China

Emerald Publishing Limited
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2020

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN: 978-1-83982-651-1 (Print)
ISBN: 978-1-83982-650-4 (Online)
ISBN: 978-1-83982-652-8 (Epub)

ISOQAR certified
Management System,
awarded to Emerald
for adherence to
Environmental
standard
ISO 14001:2004.

Certificate Number 1985
ISO 14001

INVESTOR IN PEOPLE

Contents

List of Figures and Tables

Chapter 9

Chapter 10

List of Contributors

David Ashmore	Faculty of Architecture, Building & Planning, University of Melbourne, Australia
Carey Curtis	Curtin University, Australia
Iain Docherty	Institute for Advanced Studies, University of Stirling, UK
Albin Engholm	Integrated Transport Research Lab, KTH Royal Institute of Technology, Sweden
Nils Fearnley	Institute of Transport Economics, Norway
John Hultén	The Swedish Knowledge Centre for Public Transport, (K2) Sweden
Johanna Jussila Hammes	Swedish National Road and Transport Research Institute (VTI), Sweden
Jamil Khan	Lund University, Environmental and Energy Systems Studies, Sweden
Ida Kristoffersson	Swedish National Road and Transport Research Institute (VTI), Sweden
Annica Kronsell	School of Global Studies, University of Gothenburg, Sweden
Crystal Legacy	Faculty of Architecture, Building & Planning, University of Melbourne, Australia
Sam McLeod	Curtin University, Australia
Ioanna Moscholidou	Institute of Transport Studies, University of Leeds, UK
Dalia Mukhtar-Landgren	Department of Political Science, Lund University, Sweden
Alexander Paulsson	The Swedish Knowledge Centre for Public Transport, (K2) Sweden and Lund University School of Economics and Management, Sweden

Anna Pernestål	Integrated Transport Research Lab, KTH Royal Institute of Technology, Sweden
Fredrik Pettersson	Lund University, Transport & Roads, Sweden
Louise Reardon	INLOGOV, University of Birmingham, UK
Claus Hedegaard Sørensen	The Swedish Knowledge Centre for Public Transport (K2), Sweden and Swedish National Road and Transport Research Institute (VTI), Sweden
John Stone	Faculty of Architecture, Building & Planning, University of Melbourne, Australia
Anna Wallsten	Swedish National Road and Transport Research Institute (VTI), Sweden

About the Contributors

David Ashmore is a Researcher at the University of Melbourne. He recently completed his doctorate, which examines the symbolic aspects of transport choice across different cultures. His professional background is in transport regulation and procurement; he has worked for consulting firms, universities, and the civil service.

Carey Curtis is a Professor of City Planning and Transport at Curtin University, a Director of Urbanet Research Network, and a Guest Professor at the K2/University of Lund. Her research interests include city form and structure, transit-oriented development, personal travel behaviour, accessibility planning, institutional barriers to sustainable transport, governance, and transport policy.

Iain Docherty is the Dean of the Institute of Advanced Studies and a Professor of Public Policy and Governance at the University of Stirling, Scotland, UK. His research and teaching address the interconnecting issues of public administration, institutional change, and city and regional competitiveness, with particular emphasis on the structures and processes of local and regional governance, policies for delivering improved economic performance and environmental sustainability, and the development and implementation of strategic planning and transport policies. His recent books include *The Transport Debate* and *Transport Matters*, both with long-term research collaborator Professor Jon Shaw.

Albin Engholm is a PhD candidate at Integrated Transport Research Lab at KTH Royal Institute of Technology in Stockholm, Sweden. His research interests include the long-term impacts of driverless vehicles on the transport system and society by combining future studies methods with various modelling approaches. He is particularly interested in how driving automation creates opportunities and challenges for making freight transport systems more sustainable.

Nils Fearnley is a Transport Economist and a Senior Researcher in urban and passenger transport. He is currently a Chief Researcher for the Group Market and Governance at the Institute of Transport Economics. His research interests include governance, regulation, and financing of passenger transport; economic and social aspects of transport; market analysis; transport appraisal; transport policy; and transport statistics.

John Hultén is Director of K2 the Swedish Knowledge Centre for Public Transport. He has more than 15 years of experience from working with transportation and mobility in Sweden, for example, within the Swedish Road Administration, the Swedish Transport Administration, and the Ministry of Transportation. He holds a PhD in Political Science from Lund University and has conducted research on the politics of transportation planning, governance, and funding.

Johanna Jussila Hammes, has a PhD in Environmental Economics from the University of Gothenburg. She has been working at VTI since 2009, publishing analyses of the political economy of infrastructure investment planning, and policy instruments for biofuels, and infrastructure investment. She is currently working with local-level policies for sustainable transport in Sweden, the behaviour of civil servants in the decision-making process, electrification of roads for heavy transport, and the needs for changing present policies to facilitate a transition from the present, and fossil-based transport system towards a sustainable one.

Jamil Khan is an Associate Professor at Environmental and Energy Systems Studies at Lund University. He has researched on climate politics, low carbon transitions, and sustainable transport planning for 20 years. He has published widely in the field and has contributed to books such as *Rethinking the Green State* (2015) and *Sustainability and the Political Economy of Welfare* (2016).

Ida Kristoffersson has a PhD in Transport Science from KTH Royal Institute of Technology. She has been working as a Researcher at VTI since 2016 and in 2019 became a Senior Research Leader in the field modelling and analysis of passenger transport. Her main research area is in development of travel demand models to meet the needs for evaluation of new policies and innovations given the increased attention to sustainability and digitalisation of the transport sector. She has published book chapters and journal articles in fields such as modelling and effects of *congestion* charges, as well as future scenarios and long-term effects of self-driving vehicles.

Annica Kronsell is Professor of Political Science and Chair of Environmental Social Science at the School of Global Studies, Gothenburg University. She is interested in how public institutions can govern climate and sustainability issues. As part of various multidisciplinary consortia, she has studied different dimensions of climate governance in the Scandinavian context and published articles and books on the green public sector and environmental governance and on municipalities in experimental governance and they include: *Rethinking the Green State*. *Environmental Governance towards Environmental and Sustainability Transitions* (with Bäckstrand, Routledge, 2015) and 'The Green Decarbonised State and Industrial Governance' with Hildingsson and Khan in *Environmental Politics*. She also uses feminist theorising to study power relations in transport governance with publications such as 'Investigating the Link Between Transport Sustainability and the Representation of Women in Swedish Local Committees' (2019) with Winslott Hiselius, Dymén, and Smidfelt in *Sustainability*.

Crystal Legacy is a Senior Lecturer in Urban Planning at the University of Melbourne. Her research examines questions of urban conflict and citizen engagement with a current focus on the role of the citizen in contested transport processes in Australian and Canadian cities. She is the Co-editor of *Instruments of Planning: Tensions and Challenge for more Equitable and Sustainable Cities* (Routledge, 2016).

Sam McLeod is a Researcher at Curtin University, and a practicing Transport Planner at consultancy firm GHD. He has contributed to a range of academic and applied research, with particular focus on strategic metropolitan planning, transport planning and economics, planning for freight, managing uncertainty and change, and evidence-based planning. He holds qualifications in Urban and Regional Planning and Project Management.

Ioanna Moscholidou is a PhD student at the Institute for Transport Studies, University of Leeds. She is researching how cities govern smart mobility services and how public authorities can steer services towards achieving local sustainable transport goals.

Dalia Mukhtar-Landgren is a Senior Lecturer in Political Science at Lund University, Sweden. Her research interests are centred around relations of power and politics in urban planning and development, as well as in local development politics at large. Her recent publications include studies of public sector projectification, experimentation, and local innovation work. She is currently engaged in research projects on testbed planning, urban experimentation, smart mobility, and processes of local innovation and development practices.

Alexander Paulsson is a Lecturer at Lund University School of Economics and Management and a Researcher at the Swedish Knowledge Centre for Public Transport. He is currently doing research on the governance of new forms of mobility and the marketisation of public transport as well as political economies of post-growth societies. His research interests are broadly within the areas of organisation studies, science, and technology studies as well as ecological economics. He has recently edited (with S. Barca and E. Chertkovskaya) *Towards a Political Economy of Degrowth* (Rowman and Littlefield Publishers, 2019).

Anna Pernestål received her PhD in Systems Engineering in 2009. She has been active in transportation industry for more than 15 years, and has had managing positions within both road and rail sectors. Currently, she is the Director for the research centre Integrated Transport Research Lab, where the focus is building knowledge about how new technology such as digitalisation and automation can contribute to a sustainable transportation system. Her research interests are within system level analysis and design of the transportation system.

Fredrik Pettersson is Associate Senior Lecturer at Transport and Roads, Lund University, and also involved in K2 the Swedish Knowledge Centre for Public Transport. His research interest is in the dynamics between different levels of

decision-making and different organisations in the transition to a more sustainable transport system. In the last decade, he has published research on national level transport policy-making as well as planning and decision-making processes at local and regional levels.

Louise Reardon is a Lecturer in Governance and Public Policy at the Institute of Local Government Studies, University of Birmingham. Her research is at the forefront of knowledge at the interdisciplinary nexus of governance and public policy, transport, and wellbeing research. In particular, her research focusses on the role multi-level governance and institutional networks play in influencing policy agendas and shaping policy outcomes. She recently co-edited the book *Governance of the Smart Mobility Transition* (Emerald, 2018). The book presents an agenda for future research and policy action around the role and impact of governance in relation to smart mobility. She is the Co-editor of the journal *Local Government Studies* and Co-chair of the Governance and Decision Making Processes Special Interest Group of the World Conference on Transport Research Society.

Claus Hedegaard Sørensen is a Research Leader at the Swedish Knowledge Centre for Public Transport (K2) and a Senior Researcher at Swedish National Road and Transport Research Institute (VTI). He is conducting research on transport governance, and his research has mainly focussed on environmental policy integration in transport; national transport planning; organisation and collaboration within public transport; as well as the use and role of knowledge in transport policy-making. The last couple of years he has mostly researched and published on the governance of smart mobility.

John Stone is a Senior Lecturer in Transport Planning at the University of Melbourne. His research explores the political and institutional context for variation in international transport planning practice, with a focus on cities in Australia, Canada, and German-speaking Europe. He has also worked in local government and as a community advocate for sustainable transport.

Anna Wallsten is a Postdoctoral Researcher at the Swedish National Road and Transport Research Institute (VTI). With an interdisciplinary background, she addresses research within the field of sustainable transitions; citizen engagements; science and technology studies; and future studies. She holds a Doctoral degree in Technology and Social Change. Her previous work concerns visions of smart grids, and the tensions that occur when such prospects are translated into practice within demonstration projects. Her current research focusses on issues concerning the digitalisation of the transport system, emerging digitally supported transport solutions, and the institutional capacity of public actors to steer the development towards achieving long-term societal objectives.

Preface

By the beginning of 2018, we were leading a number of research projects affiliated to the Swedish Knowledge Centre for Public Transport (K2). All the projects in one way or another focussed on the governance of smart mobility. Being engaged in these projects, we saw a need for contemplating these issues in another way than allowed by academic journal papers or presentations at conferences, seminars, and workshops. Editing an anthology like this book was an attractive opportunity, as it provided a possibility for showing the complexity of the issue and the diversity of perspectives.

The result is this book. During the spring of 2019, we invited potential chapter authors to a seminar at K2 in Lund, Sweden to be held in September 2019. This seminar provided a valuable opportunity to discuss ideas, and drafts of all chapters were critically reviewed. Some of the chapters were authored by researchers involved directly in the above-mentioned research projects. Other chapters were penned by members of scientific advisory groups connected to these projects. And a third group of chapters were written by other colleagues involved in similar research projects.

We would like to express our gratitude to all chapter authors for their engagement in this project, as well as to colleagues at the K2 Centre, as this has formed an inspiring environment for the work. The research projects making this book possible were funded by the Swedish Energy Agency, The Swedish Innovation Agency (Vinnova), and The Swedish Knowledge Centre for Public Transport (K2).

Last but not least, we would like to thank our families for support and understanding throughout this process.

Lund, Sweden, January 2020
Alexander Paulsson and Claus Hedegaard Sørensen