PART V
Conclusions and Further Research

20 Summary of the Dissertation

The main goal of this dissertation has been to uncover the efficiency potentials with regard to automobility in the urban context. To establish a solid foundation for his further investigations along his research interests the author has shown in Part 1 that, given the available technology and innovative mobility concepts, the factor 10 of automobility is definitely possible. Motivated by this result the author has undertaken the challenge to develop a deep understanding about current inefficiencies in urban mobility in terms of car usage and possible scenarios for transitioning towards a paradigm that could effectively eliminate them. He has applied the framework of Transformative Literacy in order to structure his research and to acquire the knowledge about the business-techno-institutional co-evolution as well as transformative dynamics in the currently dominant mobility system. The framework encompasses following dimensions: technology, business models, politics and the socio-political interplay.

In Part II he has focused on developing the required body of knowledge about the current state of research and developments in mobility technologies, innovative mobility concepts, and diffusion strategies in the form of possible business models. The main research interest encompassed digital technologies and technological platforms for shared automobility services as well as organizational and managerial concepts that make it possible to commercialize and offer these services to end users. Furthermore, in Part II the researcher has also developed a general theoretical approach for evaluating, assessing and developing business models – the P4C Business Model Framework. By means of this approach he has analyzed two case studies of commercial endeavors that provide innovative mobility services to the society. He has also given further insights by analyzing potential innovations for future mobility services based on autonomous cars.

Following that in Part III the author has concentrated on the aspect of the required institutional shift. For that purpose, he synthetized the current state of knowledge about the range of possible policies for overcoming the car dependence in urban areas. Moreover, he has pointed out the necessity for policy integration and combination, and he has in-
troduced the concept of policy consistency. Finally, in Part IV the researcher has presented the case study of the City of Basel. The author has illustrated a possible transition path towards the paradigm of sustainable mobility based on a careful investigation of the past approach and the most recent innovations in the agglomeration’s transport policy. Based on a numerous expert interviews he has developed and elaborated on a mental map of possible technological, institutional, cultural and economic critical success factors and barriers to overcoming auto dependence in urban areas. The author has concluded with the framework of Integrated Sustainable Urban Mobility which features three main concepts: (technological) efficiency, (behavioral) sufficiency and (political) consistency. With that the author has developed a holistic and integrative body of knowledge for experts who seek to facilitate a transition towards a sustainable mobility paradigm in the future.

Applying the concept of Factor 10 to the context of automobility has offered a new perspective on the current shortcomings of urban mobility systems which still tend to operate in the increasingly outdated paradigm of car orientation. Most of all, it has helped to precisely diagnose the inefficiencies associated with privately owned cars and their ineffective usage patterns today. Furthermore, structuring the research along the main dimensions of the Transformative Literacy has proven valuable as it regards understanding complex transformation dynamics which are currently observable in the mobility sector. As such it has constituted a useful heuristic analysis instrument that has covered important aspects from the domains of: technology, economy, society and institutions. With that it has aimed at eliminating the disparity of the technology-bias, which has been often experienced in other discussions about important paradigm shifts. It has helped to derive recommendations and actions to support and promote desirable transition processes towards the paradigm of sustainable mobility in modern cities.

In the following section the author will critically review his work and will summarize the most important findings of his research efforts. To conclude the work, he will indicate areas for further research.