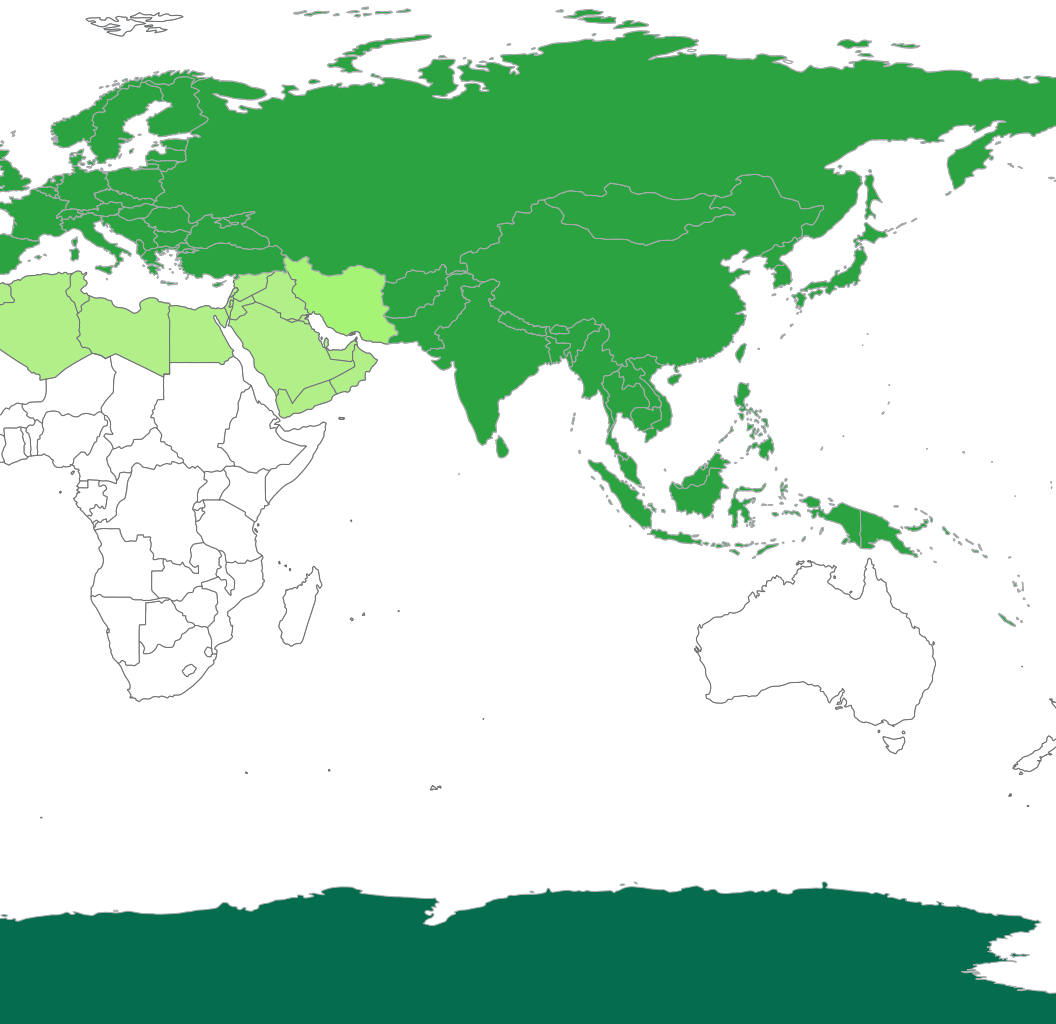


SUSTAINABLE TRANSPORTATION

AN INTERNATIONAL PERSPECTIVE



A NOTE OF THANKS Editorship is an adventurous journey. I learned a lot and enjoyed it – and it could not have been possible without my mentors and supporters. First, I would like to thank Larry Vale, my faculty advisor, for his support, his guidance and practical advice throughout the process of bringing this *Projections* volume to life. I am also grateful to Ezra Glenn for pushing forward this volume and the journal's future.

I would like to thank the authors, who contributed through their knowledge to this volume, iterated patiently through several revisions, and showed tremendous passion for their fields of expertise. I also would like to thank the editors for giving advice that improved this *Projections* volume significantly.

The former managing editors of *Projections* were very open in sharing advice - thank you Anna Brand, Isabelle Anguelovski and Rachel Healy. I hope you will enjoy the layout of this volume, and would like to thank Marissa for designing and improving the graphic design with her ideas.

- EVA KASSENS, 2009

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COVER IMAGE Map courtesy of Eva Kassens; data courtesy of World Resources Institute, 2005. This map shows CO₂ emissions by transport as a percentage of emissions. The more grey the continent, the higher the CO₂ transport emissions in relation to total emission of that continent; the more green the continent, the lower the CO₂ transport emissions in relation to total emission of that continent.

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Eva Kassens

EDITORIAL

**PLANNING FOR SUSTAINABLE
TRANSPORTATION : AN
INTERNATIONAL PERSPECTIVE**

The need to plan for sustainable transport is evident. Global warming poses significant challenges for cities. The transport sector alone, according to the World Resources Institute (2005), accounts for 24.1% of CO₂ emissions worldwide, yet its importance in local commuting, linking the global system of cities, and stimulating economic interactions is crucial. “The solution” for keeping up international, national, regional, and local interactions while fostering sustainable development has yet to be found; no strategy for sustainable transportation systems agreed to by all stakeholders across countries so far exists.

Sustainability and sustainable development have been the main theme of many international conferences, such the UN Rio de Janeiro 1992 Earth Summit, the 1995 European Conference of Ministers of Transport, and the 1997 Kyoto Convention on Climate Change. The origins of the concept of sustainability date back to the early seventies, but the most often cited definition of sustainable development was stated by the World Commission on Environment and Development in its so-called “Brundtland Report” (1987, p. 54). This report defines sustainable development as “*development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*” Given that this sustainability definition was fairly broad, governments across the world sought to refine it in terms more applicable to their own situations, yet closely aligned with the Brundtland definition. Most such definitions had in common the three dimensions of sustainability: economic, social, and environmental. Sustainable solutions should be economically viable, socially equitable and ethically responsible, and consistent with the long-term ecological balance of the natural environment.

While the urgency of planning for sustainability has increased over the years, concrete solutions accepted internationally have been slow to emerge. Each country is constrained by its individual setting and hence faces unique hurdles in moving towards sustainability. Despite these hurdles and other international challenges, moves towards sustainable development are evident, as this Projections volume highlights. Across the globe researchers are seeking to develop, and cities are trying to implement, sustainable policies. Planning for sustainable transportation systems is a complex task that involves multiple options and uncertainties. Government seeks an optimal package of policies that is willingly accepted by all affected groups. An ideal implementation strategy would allow for easy transition from the way people formerly travelled to the new system. Finally, the actual impact of the policy package and travelers’ responses need ongoing monitoring to insure that the policies’ implementation is meeting desired goals.

This volume of *Projections* presents five articles focusing on metropolitan regions making efforts to implement sustainable policies in India, the U.K., the U.S.A., and Australia.

An “Urban Sustainability Framework” for the strategic planning of metropolitan regions is proposed by Doust and Black in their article “A holistic assessment framework for urban

development and transportation with innovative triple bottom line sustainability metrics.” As a holistic and integrated approach incorporating the three pillars of sustainability (environmental stewardship, social equity, economic efficiency), the Urban Sustainability Framework promises to measure and track sustainability changes over time. Using Sydney, Australia, as a case study, the authors apply the Urban Sustainability Framework to measure the interactions between urban housing markets, labor markets, and transportation linkages over a 20-year period. They highlight the importance of assessing sustainable performance as a complementary rather than a competing outcome.

The necessity of linking the sustainable transport concept with land-use planning is evident in Aditjandra, Mulley, and Nelson’s comparison of neighborhood design and its impact on travel behavior between the U.K. and the U.S.A. In their article titled “Neighborhood design impact on travel behavior: a comparison of US and UK experience”, the authors find that neighborhood design in both countries offers opportunities for sustainable mobility practices. Showing that travel accessibility is sensitive to changes in active and public transport use, the paper suggests that residents of British neighborhoods are not only more aware of but also more likely to use sustainable modes of transport than their US counterparts.

Highlighting the importance of integrating measures of job accessibility into sustainable transportation planning, Thakuriah’s article “Transportation and employment accessibility in a changing context of metropolitan growth: the case of New Delhi, India” examines the factors that have encouraged personal transportation in the Delhi metropolitan area. Transport policies significantly fostered the purchase and usage of the private motor vehicle while failing to protect the urban poor and non-motorized travelers. The result of these policies impact was severe traffic congestion. Emphasizing the different needs of local populations for access to jobs, she calls for comprehensive transport policies that foster sustainable metropolitan travel ensuring equitable access to economic opportunity for all.

Acknowledging the negative impacts of private car usage, Rouhani’s paper “Road privatization and sustainability” reflects on pricing strategies for road usage, maintenance, and construction. Recognizing the political and societal hindrances to implementation, levying fees on car users nonetheless appears to have great potential in solving congestion problems, in providing funds for the transportation sector, and in accounting for the negative externalities of road transport. Rouhani concludes that privatization of road transport seems capable of improving economic and environmental conditions, but points out that this solution falls significantly short on the equity dimension in sustainability.

Evidence of how sustainability influences public policy is presented in Locantore, Montagu, Rudy, and Sabina’s research brief “Scenario analysis helps identify sustainable land use and

transportation policies.” Their analysis, exploring land use, transportation development, and the environmental planning outcomes of the Denver metropolitan region, yielded six scenarios varying in transport funding allotted for highways vs. transit and compact design vs. sprawling development. The outcomes presented to the Denver Regional Council of Governments resulted in the Council’s shrinking the original urban growth boundary by 70 miles.

David Banister identifies the overlapping general issues across the five papers and draws conclusions for this Projections volume. Finally, he provides a look into the future of sustainable transportation by emphasizing similarities and differences of sustainable transport when seen in its international context.

Each of these essays highlights the unique approach a specific city took to implement sustainable transport solutions. Together they provide evidence that individual efforts to move towards sustainable transport can show significant results.

Eva Kassens
Summer 2009

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