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Book review

Governance and Sustainable Urban Transport in the Americas, J. Mercier, F. Tremblay-Racicot, M. Carrier, F. Duarte. Palgrave Macmillan, Springer Nature, Cham, Switzerland (2019). (ISBN 978-3-319-99090-3 (hardback); ISBN 978-3-319-99091-0 (eBook))

More than half of the world's population now lives in cities, and that share is growing strongly, but cities already consume 75% of the world's resources and produce 75% of greenhouse gases. Transport is still overwhelmingly powered by fossil fuels and is making less progress than energy and industrial production in reducing greenhouse gas emissions.

This book focuses on the contribution of the public sector and public sector decision makers in making urban transport more sustainable in the Americas. It examines how some cities are more successful in increasing the use of public transport and non-motorized green modes (cycling and walking) and in containing the use of private cars. Seattle in the United States, Montreal in Canada and Curitiba in Brazil are chosen for detailed examination of transport policies and policy instruments with repeated research visits made by the authors between 2011 and 2018.

Globalization leads more countries and cities to adopt the western model of consumption and urbanisation with the pre-eminence of private car use, suburban sprawl and meat intensive diets. Metropolitan sprawl makes public transport less attractive as a transport mode that is not always practical or efficient with dispersed housing and activity sites. The authors claim that proximity of home to workplace is now 'quite exceptional' and may dislocate with changes of job. Different household members have their own mobility patterns. Activities are more segmented both as producers and consumers and time is critical in moving between activities. As individual consumption and activities increase, without regard to environmental consequences, private car use becomes embedded. Demand management in urban transport is a controversial and sensitive issue as it attempts to reduce mobility needs.

How realistic are policy measures to reduce urban transport's greenhouse gases whilst maintaining the dynamics of individual mobility? ICT can make individual trips more efficient, particularly with the adoption of Mobility-as-a-Service (MaaS). Powering cars, buses and lorries using electricity or hydrogen, rather than fossil fuels, eliminates on-street greenhouse gas emissions but not those produced in vehicle production or disposal, or in electricity generation from coal, oil and gas. However this does not tackle traffic congestion or urban sprawl and the resulting waste of resources and energy. Public policy measures and instruments and behavioural change are therefore necessary to reduce mobility needs and to make urban transport more sustainable. These include increasing population density, encouraging mixed land uses and demand management measures such as congestion charges and road tolls. Contemporary urban processes and policies include smart growth, new urbanism and transit-oriented development.

Increasing institutional fragmentation and diffused authority, especially in federal systems, increases the sustainable urban transport challenge. Secondly, there is now a wider variety of state and non-state actors, private firms, interest groups, voluntary associations and NGOs involved in urban society and policy processes. Multi-level governance is now the reality in contemporary urban and metropolitan areas in developed countries.

The authors identify important differences when comparing urban transport in cities. Geographical constraints include terrain, climate and island location. Population size is critical with intermediate cities with between 1 and 5 million experiencing the most growth, including the three cities of Seattle, Montreal and Curitiba chosen as case studies in this book. The degree of urban sprawl varies with the average space occupied by motorized transport varying from 30% in North America to 25% in Europe and 15% in Asia. Other factors include wealth and poverty amongst a city's population, the role of business leaders and civil organizations in urban transport policies, and the degree of globalization of the city's economy. Sustainable urban transport requires proactive policy and policy instruments. Public participation is stronger in Europe, populist mayors lead in some South American cities, whilst multi-level bargaining can be laborious but productive in United States cities.

The book's three case study cities have more sustainable urban transport systems than average for their countries with less use of single occupancy cars and more use of public transport, cycling and walking especially in their urban cores. Population growth is strongest in suburbs which are associated with wealthy citizens in Seattle and the United States generally, less so in Montreal and with poorer citizens in Curitiba and in South American cities generally.

Seattle is fourth on the North American Green City Index and high on environmental governance but there is a conflict in urban governance between the enthusiasm of the city's political leaders for sustainable urban transport policies and investment and resistance from some mayors in the wider conurbation. Metropolitan transit started in 1973, expressway and freeway projects were cancelled and a downtown transit tunnel opened in 1990. Three voter-backed investments in bus transit and light rail, supported by vehicle license fees and a share of sales tax, increased transit use over the last 20 years. Strong partnerships with employers, requiring large employers to invest in reducing car commuting, are acknowledged but the authors fail to identify specifically the huge impact of Amazon and Microsoft providing journey to work buses for most of their companies' workers. Governance however remains disjointed with tensions between the State of Washington, counties and the city of Seattle. Land use and transport policies need to be interlinked to transform urban villages into transit-oriented development. The authors focus in detail on transport data, but fail to acknowledge the disconnect between land use and the location of light rail lines and stations, for example on the Airport line (see for example McAslan, 2019). The authors ought to have referenced the theory of urban fabrics with different efficiencies in urban transport modes at three geographic scales: the walking city up to 5 km, transit city up to 40 km and the automobile city beyond where much of the population growth occurs (Newman et al., 2016). They also should have examined

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barriers to transit use including high travel time, accessibility, lack of interconnections between neighbourhoods, reliability and comfort. However, Seattle's bike sharing scheme, policies to reduce the number of car parking spaces near transit lines and investigation into a city centre congestion charging scheme will all help to deliver more sustainable urban transport.

Montreal is only 19th out of 27 on the North American Green City Index but with its compact island development ranks third behind New York and Toronto in use of public transport. Montreal's metro opened in 1966 for Expo 1967 and the 1976 Olympic Games also boosted the city's public transport investment but the following two decades saw little public transport development and much highway oriented urban sprawl. One reason was the near absence of regional government as Montreal's metropolitan public transit governance system only started as recently as 1996, its first metropolitan planning and development agency in 2001 and the city's first Transportation Plan in 2008. Montreal's regional transport governance has been chaotic with five competing institutions – regional government, Quebec province, regional transit agency, Montreal transit agency and Montreal City, which is just one of 82 municipalities in the conurbation. Reform in 2017 created instead ARTM responsible for planning and managing transit and contracting out services whilst RTM is the new commuter and bus operator. In 2018 a Sustainable Mobility Plan 2030 set targets to provide 70% of the population with access to at least four sustainable modes and reduce single occupancy cars by 20%. Land use development plans are now required at all levels of urban government to give eligibility for transport subsidies. Transit links are needed between secondary and tertiary hubs. However, the authors fail to acknowledge the limited extent of transit-oriented and transit adjacent development resulting from fragmentation of governance (see for example Barrieau, 2019).

Curitiba is a renowned pioneer in bus rapid transit (BRT), urban planning and transport-land use coordination. It is the top South American city in terms of green governance and environmental management. However the authors show that it has not kept up its policy innovations and investments and BRT ridership has fallen sharply in the last few years. Rising car ownership, economic recession, more unemployed low-income residents in BRT-served suburbs, fare increases and unrealised metro plans have all affected sustainability. Shared-mobility apps have become an alternative to public transport. Institutional challenges include fragmentation between Parana state, Curitiba city and small municipalities, overlapping responsibilities and inter-agency competition. Past successes depended on a long serving Mayor and specific institutions and interviewees claimed there were no real public consultations about public policies. Links between transport and land use planning have weakened including federal housing projects detached from infrastructure and services.

The authors conclude that although Seattle, Montreal and Curitiba are striving to make their cities more liveable and sustainable, they are exceptions to the continuing general trend in North and South America of car-dominated mobility and extreme suburbanization. Integration of transport and land use takes time and change is slow. Meanwhile, technology is changing urban transport use through ICT and in future driverless cars may reduce car ownership without limiting car use. The 'great car culture' remains dominant whilst there is a global imperative to reduce greenhouse gas emissions.

This is a must read book for anyone interested in transport and urban sustainability and governance, particularly planners and transport professionals and researchers and students of transport, urban land use, geography and planning. It provides original insights into transport and urban sustainability, governance and decision-making processes. The evidence from three contrasting cities is valuable and informative.

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Richard D. Knowles[a,b,*],
[a] *University of Salford, Manchester, UK*
[b] *University of Huddersfield, UK*
E-mail address: r.d.knowles@salford.ac.uk.

* Corresponding author at: University of Salford, Manchester, UK.