Book Review

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Cycling and Sustainability: Transport and Sustainability (Volume 1)
by: John Parkin
Published 2012
by Emerald Group Publishing Limited,
Howard House, Wagon Lane, Bingley BD16 IWA, UK, 335pp
ISSN: 978-1-78052-298-2

Many countries have been seeking to increase cycling to improve the overall sustainability of urban transport. Bicycle mode shares in Northern Europe, which range from a high of 27% in the Netherlands to 18% in Denmark and around 10% in Finland, Germany, Sweden, and Belgium (Pucher et al., 2011; Gustafsson and Archer, 2012). However, bicycling accounts for about 1% of daily trips in Australia, the UK, the USA, and Canada (Pucher and Buehler, 2008; Juul and Meibom, 2012).

Cycling and Sustainability, edited by John Parkin, belongs to *Transport and Sustainability* series book project. There are three parts and 12 chapters in this book. This book delves into cycling in all its variety and richness, and thinks through the link between cycling and the three pillars of sustainability: people, environment and economy. Three parts reflect these three themes of sustainability. Cycling, first developed in the 19th century probably in Europe and the Middle East at the same time, is a transportation mode that has a longer pedigree than most forms of transportation of people and goods. Cycling provides many benefits and advantages which make it a very wholesome and worthwhile activity. It is the most sustainable means of transportation besides walking.

Chapter one introduces the structure of the book and provides a table summarising indicative data about the population, economy, emissions, energy consumption and transport from the 17 countries which are discussed in the book. Baron Karl von Drais was the first inventor known for inventing a two wheel machine, which caught everyone's attention across Europe around 1818. In 1839, the treadle was added by Kirkpatrick Macmillan and then the Frenchman Paul Lallement, assisted by Pierre Michaux, added the cranks and pedals in 1863 to the front wheel and the mass production began right after that. We can know many detailed developments of the bicycle from a historical perspective and the current system.

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Part 1: people

Chapter two shows how different cultures around the world have different cycling cultures. Cycling started to become a major phenomenon in most European countries, especially in Denmark and the Netherlands, where both countries acquired a reputation for being the 'cycling nations'. Cycling started to emerge as a fashionable sport in the mid-1890s across Europe. Many newspapers around the world dubbed the movement as 'cyclomania' or the 'bicycle craze'. This craze started to decline around the turn of the century, but despite that, the number of cyclists continued to increase dramatically. The prices of the bicycles also started to trickle down because of the demand, which made it available to the lower class. Chapter two pays close attention to the people and groups who shaped cycling culture (male and female, rich and poor, young and old). The author explains how political, social and cultural aspects impact cycling cultures.

Chapter three describes a research reported by Jennifer Bonham and Anne Wilson focuses on the experiences of women who had decided to return to cycling in their adulthood. It is suggested that other women will follow suit and take up cycling as well as cycling lobbyists, policy makers and planners. This chapter is focused on mobility, both in the life course and in daily habits. It researches female cycling throughout the course of their lives. The research specifically targets women returning to cycling in the city of Adelaide, Australia. Forty-nine women participated in this study with an age range varying from early 20s to mid-'70s. It was conducted with in-depth interviews, helmet-mounted video cameras, diary entries and qualitative research methods. The women learned to cycle between the ages of 5 and 12 and most of them stopped in their early years of secondary school. Almost half of them returned to cycling several times through the course of their lives while another significant group was still cycling up to the point of the interview. Women in their 20s attributed their cycling to their relationship with others, women in their late 30s did it for health and wellness concerns, older women that do not cycle attribute it to becoming mothers and grandmothers which takes up most of their time.

Chapter four explains the role of advocacy and activism in affecting cycling policy and politics. This chapter focuses on the UK but draws on other example. It begins by starting to describe cycling advocacy and a brief history of cycling in the UK. It connects cycling in relation to social movements and social identities. This argument and research could be further strengthened by focusing on middle and lower income countries, because the demographic of cyclists will be different resulting to different politics of cycling. The chapter also noted some geographical context, pertaining to the Netherlands and the Republic of Ireland suggesting their key similarities and the reasons for these.

Part 2: environment

Chapter five illustrates the relation between the nature of cities and the propensity to cycle. It also identifies generally accepted principles and issues about cycling that remains to be known and new methods for further improvement. The research is based on information and cycling literature collected by the authors. Urban land infrastructure has a big impact on the cycling culture of a city. Depending on the way, the city invests in infrastructure for cycling will show greater levels of cycling. Cycling traffic could also positively impact motor traffic because there will be fewer cars on the road and it will have a positive environmental impact for cities.

Chapter six reviews the planning and designs for cycling traffic in order to promote future thinking towards the network design that will have a positive impact on the use of the environment for cycling. This chapter suggests the approach of adopting a hierarchy of solutions previously adopted by previous countries with low cycling usage. The bicycle is a vehicle and form of transport capable of speed, and as a result, links and junctions should be designed according to standards. A construction of these projects will attract other users and make it suitable and convenient for them for their benefits of cycling to be captured.

Chapter seven introduces China, once well-known as a 'Bicycle Kingdom', as a powerhouse in revolutionising the transportation policies of bicycles. Almost every citizen in China owns a bicycle. Due to the overwhelming population of China, bicycle transportation is heavily relied upon in Chinese urban cities. However, during the 1990s Chinese Government implemented restrictive policies on the innovation of bicycle transportation and the share of cycling have reduced dramatically. Chapter 7 suggests that China would have to create lenient conditions for bicycle transportation in urban areas with policy support, land use planning and creating an acceptable social and cultural atmosphere for cycling.

Chapter eight discusses the role of cycling in India, Latin America, Sub-Saharan Africa and Latin America and it also compares explanatory factors of cycling behaviour and provides three methods of spatial analysis that can feed into local transport policy. Non-motorised transport is rapidly gaining importance in policy discussions on sustainable transport. The need to make the world's transport systems more sustainable grows every day because it could reduce greenhouse emissions and other types of pollution in the environment. Three different methods were introduced: the planning of new bicycle infrastructure, the evaluation of existing cycling in terms of avoided carbon emission and the role of the physical environment in levels of cycling accessibility.

Part 3: economy

Chapter nine shows where and how transport planners could use insights acknowledged by psychological theory and research and use it to their advantage. A well-thought out theory of Ajzen's theory of planned behaviour is proposed which could be useful for analysing how environmental and physical factors can influence an individual's decision to cycle. Currently, research analyses how psychological processes mediate the relation between environmental features and individual cycling is rare.

Chapter ten provides an initiative for economic evaluation and policy for cycling. People normally get bicycles because they desire to improve their health conditions, congestions and the environment. The chapter also argues that since the bicycle is a part of the transport system, it should be evaluated as such. It also discusses the two conflicting trends in Stockholm: a sharp decrease in cycling in outer areas, and a sharp increase in the inner parts. It predicates a 'post-car status effect' which suggests that a person cycles for the positive reasons.

Chapter 11 discusses how public bicycle scheme implementation processes and impacts will help decision makers and stakeholders that consider such schemes. This chapter particularly focuses on the schemes in France and Spain where it is considered as a public service. It also changes the Van de Velde typology for assessing public and private interventions in public bicycle schemes implementation process. The social

implication is that public bicycle schemes allow easy and cheap access to sustainable modes of transport and they assist with the transport system in cities.

Finally, Dave Horton and John Parkin analyse all the aspects and themes reviewed in the previous chapters connected with cycling's current situation in Chapter 12. It also dwells in the research completed into the state of cycling across urban England. Although cycling has a minimum impact on transportation, but its current rise across some of the cities in the world creates optimism for its future contribution to sustainability objectives. The author of this chapter provides an analysis of the current constraints of cycling, whilst at the same time disassembling the current system that allows cars to predominate. The authors argue that we should commit to promoting the best that is possible from 'pedal power' to the point that cycling becomes the preferred mode of transport for most short distance trips.

This book discusses cycling and its influence on historic and today's culture. It also states methods and ways cycling could be more recognised as a form of transport. This book links cycling with people, society and the environment in a realistic context, it gives people the benefits to cycling and why it should be considered as a reliable form of transport.

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