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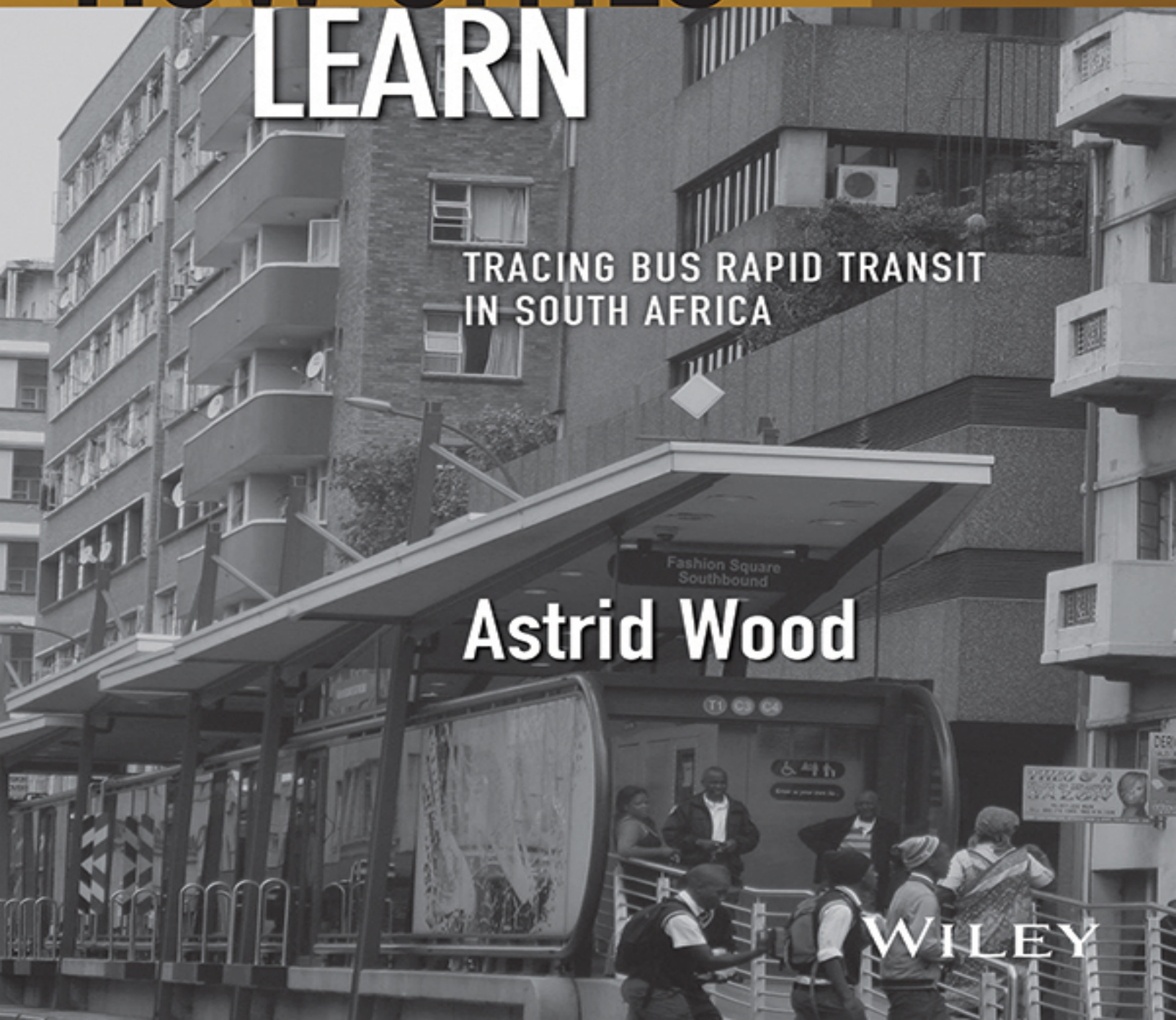

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How Cities Learn

Tracing Bus Rapid Transit in South Africa

Astrid Wood

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List of Abbreviations

ACET	African Centre of Excellence for Studies of Public and Non-motorized Transport/Centre for Transport Studies
ALC-BRT	Across Latitudes and Cultures – Bus Rapid Transit
ANC	African National Congress
BEN	Bicycle Empowerment Network
BIA/BID	business improvement area/business improvement district
BRT	bus rapid transit
CSIR	Council for Scientific and Industrial Research
DA	Democratic Alliance
ETA	eThekwini Transport Authority
FWC	football world cup
GCRO	Gauteng City Region Observatory
GIZ	German Society for International Cooperation
HSRC	Human Sciences Research Council
IDP	integrated development plans
IIEC	International Institute for Energy Conservation
IPPUC	Curitiba Research and Urban Planning Institute
IRT	integrated rapid transit
ITDP	Institute for Transportation and Development Policy
ITP	integrated transport plans
ITS	intelligent transportation systems
JDA	Johannesburg Development Authority

JIKE	Johannesburg Innovation and Knowledge Exchange
JRA	Johannesburg Roads Authority
LAMATA	Lagos Metropolitan Area Transport Authority
MIIF	Municipal Infrastructure Investment Framework
MILE	Municipal Institute of Learning
MMC	Member of Mayoral Committee
NLTA	National Land Transport Act (2009)
NLTTA	National Land Transport Transition Act (2000)
PRASA	Passenger Rail Agency of South Africa
PRT	personal rapid transit
PTISG	Public Transport Infrastructure and Systems Grant
PUTCO	Public Utility Transport Corporation
SABOA	South African Bus Operators Association
SACN	South African Cities Network
SALGA	South African Local Government Association
SANRAL	South African Roads Association Ltd.
SATC	Southern African Transport Conference
SPTN	Strategic Public Transport Network
TRP	Taxi Recapitalization Program
UCLG	United Cities and Local Governments
UCT	University of Cape Town
UK	United Kingdom

Series Editors' Preface

The RGS-IBG Book Series only publishes work of the highest international standing. Its emphasis is on distinctive new developments in human and physical geography, although it is also open to contributions from cognate disciplines whose interests overlap with those of geographers. The series places strong emphasis on theoretically informed and empirically strong texts. Reflecting the vibrant and diverse theoretical and empirical agendas that characterize the contemporary discipline, contributions are expected to inform, challenge and stimulate the reader. Overall, the RGS-IBG Book Series seeks to promote scholarly publications that leave an intellectual mark and change the way readers think about particular issues, methods or theories.

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University of Glasgow, UK
RGS-IBG Book Series Editor (2015–2019)

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This book is the outcome of more than a decade of research and it would be impossible to thank all those whose support has buoyed it.

To my interviewees in South Africa and those who gave me so many hours of their time, I hope this work provides support to continue improving urban life. This book captures and shares the story of BRT in South Africa, and provides a vital record of post-apartheid transformation. Many of the key figures named in this book have since left government, retired or otherwise moved on to new positions, taking their institutional memory with them. They risked their careers and their lives for a more equitable South Africa. Thank you for your bravery, dedication and candor.

I am indebted to my mentors at Newcastle University and UCL as well as Cardiff University, Royal Holloway University of London and London School of Economics for their feedback and encouragement. I am eternally grateful to Jenny Robinson and Andrew Harris whose insightful comments provided the roadmap throughout my learning process.

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I am lucky to have an encouraging husband whose love is my firmest support, children who brighten even the cloudiest of days, and a family that keeps me grounded throughout the many travels we take as academics and individuals.

This book captures and shares the story of BRT in South Africa, and provides a vital record of post-apartheid transformation. Many of the key figures named in this book have since left government, retired or otherwise moved on to new positions, taking their institutional memory with them. They risked their careers and their lives for a more equitable South Africa. Thank you for your bravery, dedication and candor.

I dedicate this work to my late father whose pursuit of social justice imbued me with a similar sense. His anti-apartheid activism, along with so many others, helped make the country of my birth a better place.

This book is for all those who believe.

Chapter One
Introduction

BRT Arrives in South Africa

From Curitiba and Bogotá to Ahmedabad and Beijing, bus rapid transit (BRT) has promised to be a quick, cost-effective and efficient method of urban transportation that combines the speed and quality of rail transportation with the flexibility of a bus system. BRT is a rubber-tired mode of urban public transportation that combines buses, busways and stations with intelligent transportation systems, operational and financial plans, integrated ticketing, and a branded identity. It has been a dominant feature of urban planning for decades in cities as diverse as Bogotá, Curitiba, Guangzhou, Lima, Los Angeles, Mumbai, and New York, among others. Whereas previous studies have considered the characteristics of BRT (Deng and Nelson 2011; Jarzab et al. 2002; Levinson et al. 2003) or its impact on transportation planning (Ferbrache 2019; Paget-Seekins and Munoz 2016), this book is the first attempt to understand the global proliferation of BRT.

Much of its current popularity is due to the vehement promotion undertaken by Enrique Penalosa, Bogotá's Mayor from 1998 to 2001 and again from 2016 to 2019, and his ties with the Institute for Transportation and Development Policy (ITDP) (Wood 2014b, 2019b). More than two decades since Bogotá's Transmilenio opened to global acclaim, BRT has become one of the most prominent policy solutions of the 21st century. Around the world, Transmilenio-style systems are commended by BRT advocates for improving mobility, by reducing travel time

and improving comfort and reliability; and its transformation into best practice is often attributed to its affordability, brief implementation phase and generous political payoffs. It is presented as a best practice appropriate within a variety of geographical and socio-political settings, and able to tackle problems related to economic exclusion and inequality, urban sprawl and sustainability, and transportation inaccessibility.

The Bogotá model of BRT first arrived in South Africa in July 2006 at a special session of the Southern African Transport Conference (SATC), the largest transportation convention in the region and a critical platform for dialogue on issues ranging from finance to public transportation. Lloyd Wright, a global expert on BRT, was invited by the National Department of Transport to host a day-long workshop on the principles, attributes and engineering specifications of BRT. This learning was reinforced in August 2006 when Lloyd Wright visited politicians and transportation planners in Cape Town, eThekwini, Johannesburg and Tshwane to present the attributes of BRT. Interested cities then took a select group of politicians, planners, operators and consultants to Bogotá to see how BRT operates and meet with transportation operators. Policymakers returned from these study tours eager to introduce BRT locally.

Since 2006, BRT has been adopted in six South African cities to improve transportation services, especially for the urban poor. Cape Town, eThekwini, Johannesburg, Nelson Mandela Bay, Rustenburg, and Tshwane are currently in various stages of planning and implementation: in August 2009, just three years after learning of the Bogotá model of BRT, Rea Vaya Phase 1A opened in Johannesburg as the first full-feature BRT system in an African context; in May 2011, Cape Town’s MyCiTi Phase 1A became operational; in May 2012, eThekwini Council approved plans to proceed

with the first three lines of Go Durban!; and in July 2012, the cascade continued with Rustenburg and Tshwane beginning construction on Yarona and A Re Yeng. Not all cities have had a simple, straightforward experience, however: since 2008, Nelson Mandela Bay's attempt to introduce BRT has been stalled by municipal politics and poor planning, and in spite of considerable efforts, the project remains in a state of postponement.

While the South African systems are unmistakably modeled after the achievements of those in Bogotá, the process through which South African officials learned of, and implemented BRT, remains unexplored. In mapping the learning process, this book considers how and why city leaders adopt circulated best practice.

Understanding the South African City

The adoption of BRT in South Africa reflects the historical spatial planning of apartheid (Christopher 1995; Parnell 1997; Parnell and Mabin 1995; Robinson 1996, 1997) and the challenges facing post-apartheid policies to remedy these dysfunctional schemes (Haferburg and Huchzermeyer 2014; Harrison et al. 2008, 2014; Parnell and Pieterse 2014). South African cities were shaped primarily by policies of strict racial segregation but also rigorous separation of economic and residential zones, which denied Black residents full access to the city and its economic base (Davies 1981; Home 1990; Lemon 1991; Western 1985); and had the secondary objective of increasing travel times considerably for non-White residents (Pirie 2013, 2014). Apartheid settlement strategies located townships on the periphery of cities and heavily subsidized public transportation to enable workers to travel long distances at low fares (Beall *et al.* 2002; Turok and Watson 2001). Under the old regime, only those

with passes were permitted to travel between the townships and the city, and thus movement was generally only permitted on weekdays between home and work. Because of the inheritance of these restrictions, to this day there is effectively no pattern of non-work travel between the suburban areas and the city center. The introduction of BRT is an attempt to unsettle these socio-spatial settlement patterns.

Today, South African cities are characterized by contrasts and dualisms: high-rise residential towers turned slums; Victorian houses surrounded by privatized greenery; endless stretches of banal suburban development punctured by low-cost government-sponsored housing; European cafés and upmarket shops with hawkers selling homemade wares and promising to guard the luxury cars. The one commonality across the fragmented post-apartheid landscape is the proliferation of the automobile – its presence dominates the physical landscape of the city as well as the cultural milieu. Obviously, the South African city is not unique in this feature, but the degree to which apartheid's forced segregation stretched the city amplifies this condition. Although this understanding of the spatial character of the South African city as uneven is generally applied ubiquitously, there are profound differences across South African cities reflecting their distinctive topography and resulting settlement patterns, as well as their sociocultural composition, economic vitality and historic planning and contemporary governance. My assessment of the spatial form and associated mobility dynamics sheds light on the complex and challenging advancement of inclusive South African cities.

South African history is riddled with transportation experiments: horse-drawn streetcars were introduced in the 1890s, electric trams operated until the Second World War and trolleybuses ran in the high-apartheid period until

Johannesburg, the last city to do so, terminated services in 1986. There are a number of detailed empirical accounts of the trams and trolleybus systems in Cape Town (Gill 1961; Joyce 1981), eThekwini (Jackson 2003), Johannesburg (Sey 2012; Spit and Patton 1976) and Nelson Mandela Bay (Shields 1979), as well as analyses of the development of the road system (e.g. Rosen 1962 in Johannesburg) and the emergence of the minibus taxi industry (Khosa 1991, 1995; McCaul 1990). Because South African city form and function makes it difficult to support a sunken subway – Johannesburg is built atop a maze of underground gold mining shafts and Cape Town rests largely on marsh and infill – transportation officials and engineers have struggled to modernize the commuter rail and municipal bus services. The commuter rail network is poorly maintained and its fixed lines prove inadequate in the expanding metropolises. Bus systems are similarly struggling to service the low-density urban form. The modernist aspiration of car ownership and its associations with independence and wealth is reinforced in practical terms through the dispersed city form, which separates people from economic and social opportunities.

For the most part, the urban populace relies on a politically powerful and largely under-regulated fleet of overcrowded, poorly maintained minibus taxis that operate irregular services. The minibus taxi industry has captured the majority of market share against subsidized modes, carrying about 60 percent of trips, nationally. The industry emerged in the 1980s in reaction to the failures of government to supply adequate bus and train services to the townships (Khosa 1991, 1995; McCaul 1990). In the sprawling landscape of contemporary urban South Africa, the minibus taxi is generally preferred to government-sponsored bus and rail services because it is considered more convenient in terms of routing and frequency (Clark

and Crous 2002). While there are certainly arguments in support of the minibus taxi industry with proponents describing it as a self-made, Black entrepreneurial venture, in general commuters are dissatisfied with the slow, capricious quality of the informal services (Salazar Ferro et al. 2013). The South African policymakers I interviewed described an almost doomsday scenario filled with uncertainty, labeling it a “commuter crisis” akin to the global financial crisis and calling for fundamental reform to the transportation network.[1]

As a result of these features, transportation planning has been understood as central to the transformation of South African cities. Transportation has historically been used to divide the spatial layout of cities. Planned roads have been used to separate planning typologies in both planned and unplanned settlements, and transportation systems have been used to control who can access the city and how they move. In South Africa, planners have been especially focused on building modernist highways to accommodate the White elite who could afford to drive. The fact that transportation is experienced by a range of people across incomes and experiences, means that it also serves as an arena for social mixing and these interactions have unbridled opportunities for change. Policymakers in South Africa have been attuned to these openings, and efforts to remedy the inequality of transportation have been at the forefront of urban planning and policymaking since 1994. Transportation has also been, and continues to be, a site of resistance. The success of the 1957 Alexandra bus boycotts in Johannesburg was a pivotal moment in the anti-apartheid movement; and in the post-apartheid era, transportation continues to be a point of contention in service delivery protests.

This book aims to explain how South African policymakers are trying to improve urban transportation, specifically

addressing the process by which best practice is drawn from elsewhere to inform local planning and policy change. In South Africa, BRT is seen as the solution that simultaneously provides transportation users with an affordable, reliable and safe transportation system, taxi operators with formalized and stable employment, and buses and rail operators with viable routes. Its larger purpose is to address the severe historical spatial divide along racial lines and post-apartheid splintered urbanism. The operational systems conjure up images of equality and dignity for all South Africans, moving freely and efficiently through urban space regardless of skin color or income, in a city free from the grip of informality, and instead managed by an efficient and capable municipal government. In this post-apartheid moment, transportation may be South Africa's best tool through which to bridge the divided city.

Transport Geography, Policy Mobilities and Learning in and from the South

City learning is hardly a new practice. Herodotus described information exchanges as early as 500 BCE; in the second century, Palmyra adapted Roman concepts of urbanity; and in the 1700s, Peter the Great employed Dutch architectural models in St. Petersburg (Healey 2013). In the early 20th century, cities shared their experiments with electricity, gas, sewerage and water services (Dogliani 2002; Gaspari 2002; Kozinska-Witt 2002; Saunier 2002; Vion 2002). These exchanges became a "precious resource" to subvert or strengthen local policy decisions (Saunier 2002: 519). These "transboundary connections" (Saunier 2002: 510) were often a method of "intergovernmental diplomacy" (Saunier 2002: 509), with scholars suggesting that these