



## Informal Public Transport

### Recommended Reading and Links

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## Preface

In many developing cities, informal public transport or paratransit or Intermediate Public Transport (IPT), is an important component of its overall transport services. In many Asian, African and Latin American cities it is perhaps even the most common and widely used form of urban public transport. Paratransit in different locations is known by various local names such as Matatu, Dalladalla, Marshrutka, Jeepney, Angkots, Bemos, Taxi, Minibus, Microbus etc.

Informal public transport have various, often ambivalent characteristics. Compared to formal public transport services, paratransit vehicles can be more accessible, faster, at times cheaper and reliable. On the other hand, they are often unregulated, in oversupply, environmentally unclean, unsafe and unaccountable and hence unpredictable. However, the strong presence of informal transport in the cities indicates that the transport needs are not being met sufficiently by city governments through formal public transport services. Therefore, the gap between demand and supply is met by the informal transport providers. Beyond that, informal transport is also an essential source of income for many people and in many cases, a part of larger economic interests.

The living standard in many developing cities is changing. While developing cities are experiencing economic growth, the aspiring middle class is not longer captive to particular transport services. Higher incomes are translated into higher car ownership and higher expectations in terms of better mobility and better quality of service. Furthermore, in a society based on services, the best companies are competing for the best human resources. The quality of life in and around their workplace is a crucial point for employees when choosing their employer, and transport access becomes a very integral aspect here. Given this, companies are certainly looking to invest and locate themselves in cities with a sound public transport system with integrated ticketing, multi-modal integration, high quality of service and safety, which is a prerequisite of a high quality of living standard.

In this context, the role of informal public transport becomes debatable as it faces increasing pressure/competition to upgrade its services and to integrate with the formal public transport system in a better way. There is a need to address this issue and ensure that a city's travel demand is met in a sustainable manner, with the most suitable combination of travel modes.

This reading list aims to provide an overview on relevant literature on the subject of informal public transport in order to facilitate an informed debate. We welcome any suggestions and inputs to the list.

The structure of the reading list is organized as follows:

- Global Status
- Case studies
- Regulatory approaches and formalization
- Integration in the existing local public transport system
- Incorporating informal bus services in BRT systems
- Barriers for change
- Annex: Case study of “Rea Vaya”-The Johannesburg BRT

For more information on our work, please see the last pages of this document and visit our webpage: [www.sutp.org](http://www.sutp.org)

## Global Status

The first section provides an overview of informal public transport. The studies discuss its background and development, analyse the mix of services offered and market characteristics of informal public transport systems.

Ayodele (2008): **Third World Mobility. Informal Public Transportation in the Developing World**

[http://povertyworlddevelopment.suite101.com/article.cfm/addressing\\_the\\_challenge\\_of\\_the\\_3rd\\_world](http://povertyworlddevelopment.suite101.com/article.cfm/addressing_the_challenge_of_the_3rd_world)

Access to public transport in the developing world is tenuous. Enterprising individuals have come up with their own solutions to the problem.

Cervero (2000): **Informal Transport in the Developing World**

<http://www.unhabitat.org/pmss/getElectronicVersion.aspx?nr=1534&alt=1>

The common view of the informal transport sector as anarchistic and chaotic is largely misplaced. This study reviews the rich mix of services and market characteristics of the informal transport sector in the developing world, addresses various organizational institutional and regulatory issues surrounding informal transport services and identifies promising enabling and remedial strategies.

Cervero et al. (2007): **Informal Transport: A Global Perspective**

in: Transport Policy, Volume 14, Issue 6, November 2007, P. 445-457 (full-text article with costs)

[http://www.sciencedirect.com/science?\\_ob=ArticleURL&\\_udi=B6VGG-4P9038H-1&\\_user=10&\\_coverDate=11%2F30%2F2007&\\_rdoc=1&\\_fmt=high&\\_orig=search&\\_sort=d&\\_docanchor=&\\_view=c&\\_searchStrId=1269142393&\\_rerunOrigin=google&\\_acct=C000050221&\\_version=1&\\_urlVersion=0&\\_userid=10&md5=a90d54cfc9c2c0d1b2b16948d94136c2](http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VGG-4P9038H-1&_user=10&_coverDate=11%2F30%2F2007&_rdoc=1&_fmt=high&_orig=search&_sort=d&_docanchor=&_view=c&_searchStrId=1269142393&_rerunOrigin=google&_acct=C000050221&_version=1&_urlVersion=0&_userid=10&md5=a90d54cfc9c2c0d1b2b16948d94136c2)

Informal transport services—paratransit-type services provided without official sanction—can often be difficult to rationalize from a public policy perspective. While these systems provide benefits including on-demand mobility for the transit-dependent, jobs for low-skilled workers, and service coverage in areas devoid of formal transit supply, they also have costs, such as increased traffic congestion, air and noise pollution, and traffic accidents. This article reviews the range of informal sector experiences worldwide, discusses the costs and benefits of the sector in general and uses several case studies to illustrate different policy approaches to regulating them.

Luthra (2006): **Para Transit System in Medium Sized Cities, Problem or Panacea**  
[http://www.google.de/url?sa=t&source=web&cd=1&ved=0CBsQFjAA&url=http%3A%2F%2Fitpi.org.in%2Fcontent%2Fpdfs%2F07\\_07.pdf&ei=EakPTKXfHY-NONmwmfwK&usq=AFQjCNFSN7vrhK-H3DJKngl8Efm2Y\\_bMTw](http://www.google.de/url?sa=t&source=web&cd=1&ved=0CBsQFjAA&url=http%3A%2F%2Fitpi.org.in%2Fcontent%2Fpdfs%2F07_07.pdf&ei=EakPTKXfHY-NONmwmfwK&usq=AFQjCNFSN7vrhK-H3DJKngl8Efm2Y_bMTw)

Para-transit system is indispensable transport system in medium sized cities of India due to various reasons. Size, pattern, structure, socio-economic conditions and network characteristics of these cities and service flexibility of PTS make it a vital transport system. The popularity of the system is evident from the fact that in some medium sized cities the PTS serves nearly 80 percent to 90 percent of the total passenger trips catered by public transport. It lacks infrastructure support for its operations and parking. Minimal check is being executed on the behavior of its drivers for their indiscipline, violations, disobedience to traffic rules and regulations. Poor maintenance of vehicles spreads pollution in these cities. Planning and administrative measures are suggested to improve the performance and operation of the PTS to serve the city safely, efficiently and in an environmentally sound manner.

## Case studies

Case studies at the local level provide a profound understanding of economic, social and cultural conditions in the development of the informal transport, as also the challenges faced. The status and interests of the government and actors in the informal transport sector are discussed with examples in these case studies.

Aworemi et al. (2008): **Impact of Socio-economic Characteristics on Formal and Informal Public Transport Demands in Kwara State, Nigeria**  
<http://www.academicjournals.org/ajbm/PDF/pdf2008/Apr/Aworemi%20et%20al.pdf>

This paper looks at the impact of socio-economic characteristics of formal and informal public transport demand in Kwara State, Nigeria. The study is based on a purposively selected set of 256 respondent commuters in the parks of the randomly selected transport enterprises. Evidence from the study shows that income and cost of the trips played prominent roles on the public transport demand in the study area. Further analysis revealed that the respondents who own private transport, also patronize public/private transport companies because their vehicle were not in good condition, and that many political, economic, social, and technological factors drove them off the road at the time of the survey. The paper suggests that government must totally support the informal and formal public transport sectors (private transport companies) by providing well-articulated policies to improve the performance of operations and services of both together with adequate integration.

Djifarova: **Minibus Operations Along Lomagundi Road, Harare**

[http://www.thredbo.itls.usyd.edu.au/downloads/thredbo6\\_papers/Thredbo6-theme5-Djifarova-Vassileva.pdf](http://www.thredbo.itls.usyd.edu.au/downloads/thredbo6_papers/Thredbo6-theme5-Djifarova-Vassileva.pdf)

A study of minibus transport operations on a selected section of a district distributor road in Harare was undertaken with the objectives to estimate journey speeds, minibus flows and other characteristics in mixed traffic streams during morning peak periods.

Febrina (2009): **Actors and Technology in the Shaping of Urban Transport Network in Jakarta, Indonesia.** Technical University Berlin

[http://habitat-unit.de/UrbanManagement/files/febrina\\_thesis\\_transport.pdf](http://habitat-unit.de/UrbanManagement/files/febrina_thesis_transport.pdf)

Public transport modernization is taking place in many cities in developing countries. Aside from the challenge of seeking the required investment to provide better accessibility and mobility for city inhabitants, municipalities in those cities are faced with a greater challenge of determining the best mix of modes from the available transport technologies and integrate the already existing network, actors and interests. Indonesia's capital, Jakarta, is one such city facing that challenge. This work also raises a strong analytical view of the function and structure of informal public transport.

Gerlach (2009): **How We Get Around: Tuk Tuks and Microbuses.**

in: Cairo's Informal Areas Between Urban Challenges and Hidden Potentials. GTZ Egypt (Ed.)

<http://www2.gtz.de/dokumente/bib/gtz2009-0424en-cairo-informal-areas.pdf>

This article is about the daily life of Tuk Tuk and microbus drivers in Cairo, and how they earn their livelihood in an informal system.

Kumar et al. (2008): **Stuck in Traffic: Urban Transport in Africa**

<http://siteresources.worldbank.org/EXTAFRSUBSAHTRA/Resources/Stuck-in-Traffic.pdf>

This note summarizes recent research on urban transport in 14 large African cities performed at the World Bank under aegis of the Africa Infrastructure Country Diagnostic project. It describes why some cities have abandoned large-bus service altogether and now rely exclusively on private, largely informal, minibus services. It also focuses on the impact of minibus services on urban transport.

Magubane et al. (2003): **Taxi-Owners Perceptions of the Government's Recapitalization Scheme: A Case Study of Taxi-owners in Pietermaritzburg**

[http://www.up.ac.za/dspace/bitstream/2263/7445/1/Magubane\\_Taxi-owners\(2003\).pdf](http://www.up.ac.za/dspace/bitstream/2263/7445/1/Magubane_Taxi-owners(2003).pdf)

The government realizes the social and economic contribution that the taxi industry provides South Africans. The majority of people of this country use minibus-taxis as a form of public transport, which is accessible and affordable. The taxi industry provides employment to millions of South African people and can also be regarded as a form of empowerment. It serves the needs of many families and in this sense, it qualifies with the objectives of Small, Medium and Micro Enterprises (SMMEs). This study investigates taxi-owners' perceptions of the Governments Recapitalisation Scheme for the taxi industry. More specifically, it assesses how this would impact the taxi industry.

McConville, Megan (2010): **The Role of Auto Rickshaws in Modern Indian Cities**  
<http://mumbai.thecityfix.com/the-role-of-auto-rickshaws-in-modern-indian-cities/>

In recent years, auto rickshaws have been a topic of endless controversy in India. Proponents maintain that they are a vital mode of transport in Indian cities, providing low-cost mobility and connecting travelers to mass transit and even directly to their destinations. The auto-rickshaw sector provides a livelihood for some of India's poorest citizens. On the other hand, the vehicles are responsible for high levels of CO2 emissions and can be unsafe. As cities like Delhi attempt to develop their transportation systems and simultaneously struggle with increasing car use and congestion, some have adopted caps on the number of auto rickshaws. However, the tide is turning against those regulations.

The Louis Berger Group Inc. + PT. Eskapindo Matra (2002): **Urban Public Transport Policies in Bandung (Chapters 3-8)**  
<http://www.sutp.org/dn.php?file=RPT-IPTBANDUNG-EN.pdf> (for registered SUTP users)

These are some extracts (6 chapters) on formal and informal urban transport modes in Bandung, Indonesia's third largest city, taken from the final report titled 'Urban Public Transport Policies in Bandung' dated 2002 prepared for the Ministry of Settlement and Regional Infrastructure, Indonesia. The chapters discuss in detail the organization of public transport modes in Bandung, their performance and regulatory aspects, and discuss at length the associated challenges and reform strategies for transport services in the region, with complete analytical examples.

Valenzuela et al. (2005): **Camionetas: Informal Travel Among Immigrants.**  
in: Transportation Research Part A: Policy and Practice, Volume 39, Issue 10, December 2005, P. 895-911 (full-text article with costs)  
[http://www.sciencedirect.com/science?\\_ob=ArticleURL&\\_udi=B6VG7-4GDSDTM-1&\\_user=10&\\_coverDate=12%2F31%2F2005&\\_rdoc=1&\\_fmt=high&\\_orig=search&\\_sort=d&\\_docanchor=&\\_view=c&\\_searchStrId=1269264298&\\_rerunOrigin](http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VG7-4GDSDTM-1&_user=10&_coverDate=12%2F31%2F2005&_rdoc=1&_fmt=high&_orig=search&_sort=d&_docanchor=&_view=c&_searchStrId=1269264298&_rerunOrigin)

[=google& acct=C000050221& version=1& urlVersion=0& userid=10&md5=a775727569ae470c4c5bce43dec1b780](https://www.google.com/acct=C000050221&version=1&urlVersion=0&userid=10&md5=a775727569ae470c4c5bce43dec1b780)

Camionetas are mini-vans privately operated as jitney services, run by immigrants for immigrants throughout cities in the US, Mexico, and Central America. Media accounts have portrayed camionetas as part of an unscrupulous industry that endangers and exploits riders, primarily farm workers and other undocumented laborers. Using interviews and ethnography, the paper analyzed who patronizes camionetas in Southern California, and why. Patrons discussed why they use this service, their attitudes about it, other transportation options, and access to employment. Finally, the authors conducted empirical tests to determine whether these services were as exploitative of their riders as portrayed.

## Regulatory approaches and formalization

To upgrade the service of informal public transport, some local governments have already attempted to regulate their operations or promote the formalization. This chapter presents some recent actions and experience in regulation and formalization of IPT.

Ahmed (1999): **Public Transport Microenterprises – Formalization Experiences in South Africa**. In: Africa Transport  
[http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2001/09/21/000094946\\_01090804014648/Rendered/PDF/multi0page.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2001/09/21/000094946_01090804014648/Rendered/PDF/multi0page.pdf)

This note outlines the progress achieved by the Western Cape Provincial Government to attain formalization of the minibus taxi industry envisaged in terms of the National Taxi Task Team (NTTT) recommendations released in September 1996. The Western Cape departed from the other eight Provinces of South Africa by deciding to commit key elements of the NTTT recommendations to legislation in the Western Cape Road Transportation Act Amendment Law. This action was prompted by the determination of the Provincial Minister of Transport to arrest the violent situation that had characterized the Minibus Taxi Industry up to then.

Ahmed: **Transformation of Public Transport Operations from Informal to Formal Services: An Examination of Initiatives by the Western Cape Provincial Department of Transport to Transform the Minibus-Taxi Industry**  
<http://www.taxi-library.org/transform-to-formal.pdf>

The paper explores initiatives by the South African Government to transform the minibus-taxi industry through formalisation, regulation and empowerment of operators. Examples of initiatives by the Western Cape Provincial Department of Transport and Public Works are explored, including registration of minibus-taxi associations, owners and their vehicles; formulation of a code of conduct for operators; training and empowerment of operators and drivers;

formation of democratically elected structures to represent approximately 8000 minibus-taxi owners in regional and provincial structures; Legislation to regulate minibustaxi operations; recapitalisation of ageing minibus-taxi vehicles. The example of inclusion of minibus-taxi operators in a public transport contract is examined.

Barrett (2003): **Organizing in the Informal Economy: A Case Study of the Minibus Taxi Industry in South Africa.** International Labour Organisation, SEED Working Paper No. 39  
[http://www.ilo.org/wcmsp5/groups/public/---ed\\_emp/---emp\\_ent/---ifp\\_seed/documents/publication/wcms\\_117698.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---ifp_seed/documents/publication/wcms_117698.pdf)

Lack of voice at work is marginalizing informal economic actors in the labour market and in society at large. This report examines representational processes in South Africa's minibus taxi industry.

Goh (2010): **Mums & Kombis**  
<http://www.changemakers.com/en-us/node/72629>

More than half of South Africans today rely on minibus taxis, or kombis, as their main mode of transportation. The kombi industry continues to grow and now, more than ever, with the 2010 World Cup right around the corner, the South African government struggles to formalize this sector. Access to and means to pay for transportation remain a large barrier in the provision of maternal healthcare worldwide, and South Africa is no exception.

**Memorandum of understanding** on the future of the minibus taxi industry between The National Minister of Transport and the Provincial MEC's for Transport (government) and Representatives of the minibus taxi industry organised in the South African Taxi Council (Sataco) (2001)  
<http://www.transport.gov.za/projects/taxi/docs/mou.html>

The National Government and Provincial Governments of South Africa and the representatives of the Minibus Taxi Industry engaged in consultation on the future of the industry to secure peace, unity, democratic organisation, legalisation, regulation and economic empowerment of the industry.

Gwilliam: **Bus Transport; Is There a Regulatory Cycle?**  
[http://www.thredbo.itls.usyd.edu.au/downloads/thredbo10\\_papers/thredbo10-themeC-Gwilliam.pdf](http://www.thredbo.itls.usyd.edu.au/downloads/thredbo10_papers/thredbo10-themeC-Gwilliam.pdf)

The outcomes of regulation were not always well aligned with the original intentions. In some phases the regulators sought and acquired more and more powers as they saw the regulated companies taking actions to thwart the original regulatory intentions. In other phases the effects of excessive regulation might be perceived as sufficiently damaging to justify a shift to an alternative, more liberal market regime. This paper discussed the experience



of regulatory reform in the field of public passenger transport with a view of the informal sector.

Gwilliam (2005): **Regulation of Taxi Markets in Developing Countries: Issues and Options**

[http://www.siteresources.worldbank.org/INTTRANSPORT/214578-1099488338138/20522187/TRN-3\\_Taxi\\_Reg.pdf](http://www.siteresources.worldbank.org/INTTRANSPORT/214578-1099488338138/20522187/TRN-3_Taxi_Reg.pdf)

Taxis perform an important function in urban transport markets in both developed and developing countries. Because of the perceived vulnerability of passengers to exploitation by operators, entry to the market and fares have been tightly regulated in many industrialized countries. This has typically produced high premium values for licenses, implying some monopoly profit for operators at the expense of users. Curiously, however, total deregulation has often increased fares. This note considers the reasons for increased fares despite deregulation, the regulatory options available, and the relevant considerations in applying this experience to developing countries.

Golub, Aaron (2003): **Welfare Analysis of Informal Transit Services in Brazil and the Effects of Regulation**

<http://www.uctc.net/research/diss108.pdf>

In Brazil, the recent explosion of informal transport activity is having profound effects on formal, regulated transport systems and is the source of great controversy in the urban passenger transportation arena. A variety of policies are being proposed to manage what has been an uncontrolled growth of the sector. This study seeks to understand the advantages these systems have for users who choose them, and how proposed policies will impact these benefits.

Golub, Aaron et al. (2009): **Regulation of the Informal Transport Sector in Rio de Janeiro, Brazil: Welfare Impacts and Policy Analysis.**

In: *Transportation*, Volume 36, Number 5 / September 2009, P. 601-616 (**full-text article with costs**)

<http://www.springerlink.com/content/e462k64h44824383/>

In Brazil, the explosion of informal transport activity during the past decade has had profound effects on formal public transport systems and is a source of great controversy in the urban transportation sector. A variety of policies have been proposed to manage the growth of the sector. This study seeks to understand how proposed policies will impact the users of these systems. A corridor in Rio de Janeiro with substantial informal activity was used as a case study. Measures of welfare changes in a discrete choice framework were used to estimate proposed policies' impacts on users.

International Labour Organization (2003): **Organising in the Taxi Industry: The South African Experience**

<http://www.streetnet.org.za/English/taxiorgbooklet.pdf>

This booklet describes how workers and employers have started organising in South Africa's kombi taxi industry. The booklet is based on research done in South Africa in 2001 as part of a multi-country ILO project on organising in the informal economy.

**Kim: Instructions for the MBTA Negotiator.**

[http://mce2.org/sm\\_eng/Confidential for MBTA.pdf](http://mce2.org/sm_eng/Confidential%20for%20MBTA.pdf)

From the Executive Board of the MicroBus Transport Association (MBTA): The MicroBus Transport Association (MBTA) is a newly organized association of almost 3,000 independent microbus operators and 7 small microbus companies, based in Sandoa in the state of Mola.

**Minister's Speech (2005): Launch of the Sectoral Determination for Taxi Sector**

<http://www.labour.gov.za/media-desk/speeches/2005/minister2019s-speech-launch-of-the-sectoral-determination-for-taxi-sector-1/>

The Speech was given by The South African Minister of Labour at African Window Conference Centre – Launch of the taxi sectoral determination on 28 April 2005. The speech is about the government's quest in formalizing the minibus taxi industry.

**Parliamentary Monitoring Group (2000): Taxi Recapitalization and Bus Accidents: Briefing by Minister of Transport Dullah Omar**

<http://www.pmg.org.za/minutes/20000228-minister-taxi-recapitalisation-bus-accidents-briefing>

The Taxi Recapitalisation project was discussed. Issues such as the registration, specifications and safety of taxis were focused on. Taxi violence, the high percentage of taxi-related accidents and disobedience of the rules of the road were some of the main motivating factors for introducing the project which was part of a broader economic empowerment program. The issue of the recent spate of bus accidents and the measures taken to identify and combat this problem was also discussed.

**Pereira et al. (2007): Paratransit Regulation in Rio de Janeiro: A Comparison of Two Surveys**

[http://www.civil.ist.utl.pt/thredbo9/proceedings/proceedings/Tuesday/WSD/3rd\\_Session/1038.pdf](http://www.civil.ist.utl.pt/thredbo9/proceedings/proceedings/Tuesday/WSD/3rd_Session/1038.pdf)

In Brazilian cities as a consequence of the low level of services provided by conventional transport services one could see the expansion of paratransit operation in busy corridors. Paratransit options are available not only in Brazil but also in many cities of developed and developing countries. Although some legal services operation exists, most of them operate illegally. These illegal services develop on heavy urban routes where curbside conflicts may occur.

Bus systems are generally the main competitors with new paratransit operations. The main objective of this paper is to present and discuss two public transport users' surveys where the quality of services provided by paratransit operation (low capacity vehicles such as vans and Volkswagen type "kombis") are compared.

## Integration in the existing local public transport system

To be a functional and efficient component of the overall public transport, informal public transport should be integrated in the local system. This chapter discusses measures and strategies for the integration.

Balassiano et al. (1998): **Buses & Vans – Assessing Public Transport Competition in Rio de Janeiro – Brazil**

[http://www.thredbo.itls.usyd.edu.au/downloads/thredbo6\\_papers/thredbo6-theme1-Balassiano-Braga.pdf](http://www.thredbo.itls.usyd.edu.au/downloads/thredbo6_papers/thredbo6-theme1-Balassiano-Braga.pdf)

Paratransit options are available in many cities of developed and developing countries. Although some legal services exist, most of them operate illegally. These illegal services develop on heavy urban routes where curbside conflicts may occur. Bus systems are generally the main target of paratransit operations.

Barboza et al. (2005): **Competition or Complementarity: Regulatory Options for Urban Road Transit in Brazilian Cities**

<http://tris.trb.org/view.aspx?type=CO&id=759502>

This paper aims to analyse regulatory decisions made by Brazilian local transport authorities regarding the incorporation of previously illegal operations using vans and minibuses into regulated public transport systems. The key question in those decision processes has been related to the character that new absorbed services should have respect to regular bus services – a competitive character or a complementary one. A sample of regulatory documents was studied under the lights of a matrix of good practices. Previously built conclusions show that the absorption of informal vans and minibuses into regular networks was made in such a way that limits or repeals the potential of competitiveness inherent to them.

Ferriera et al. (2004): **The Big-bus Trap: What Formal Bus Operators Could Learn from the Informal Sector** (Available from UC Berkeley Transportation Library through interlibrary loan or document delivery)

<http://tris.trb.org/view.aspx?id=900165>

This article discusses what formal bus operators could learn from the informal sector.

Institute for Transportation & Development Policy (ITDP) (2009): **Best Practices on Regulation and Design for Motorized and Non-motorized Two and Three Wheelers in Urban Traffic**

[http://cleanairinitiative.org/portal/system/files/23\\_Wheeler\\_Best\\_Practices\\_DraftFinal\\_22Oct09.pdf](http://cleanairinitiative.org/portal/system/files/23_Wheeler_Best_Practices_DraftFinal_22Oct09.pdf)

In most developing countries in Asia, motorized 2 and 3 wheelers have initiated and led the process of mass-motorization as they are inexpensive to manufacture, sell, operate and repair when compared to cars, and they provide excellent mobility solutions in a range up to several dozen kilometers. Ideally, personal motor vehicle operators should be charged the full social cost of their use. This document is a first attempt to bring together in one volume the current information and best practices regarding how cities around the world have designed roads taking into consideration 2 and 3 wheelers.

Sekhonyane, Dugard (2004): **A Violent Legacy. The Taxi Industry and Government at Loggerheads**

<http://www.issafrica.org/pubs/CrimeQ/No.10/3Violent.pdf>

For over a decade the taxi industry has been heavily embroiled in conflicts that have claimed thousands of lives. At the heart of the problem is the persistent struggle over control of this multi-billion rand industry that carries over 60% of South Africa's commuters. Given its troubled and often violent history, and its substantial share of the commuter market, stronger government commitment is needed in the form of adequate investment and implementation of a comprehensive and participatory recapitalisation programme.

Smith, Adam (2005): **A Study of Institutional, Financial and Regulatory Frameworks of Urban Transport in Large Sub-Saharan Cities**. SSATP Working Paper No. 82

<http://www4.worldbank.org/afr/ssatp/Resources/SSATP-WorkingPapers/ssatpwp82.pdf>

The study objective was to review the institutional, financial and regulatory frameworks for the provision of urban transport in four selected cities, Dakar (Senegal), Douala (Cameroun), Kampala (Uganda) and Nairobi (Kenya). The specific focus was to examine: (a) the structure, process and performance of the existing institutions and financing arrangements; and (b) operational practices of public and private bus operators. It discussed the domination and problems of the informal sector with a large number of minibus, taxi and motorcycle operators. The study also provides efficiency measures and improvement strategies.

Van Zyl (2008): **Attractive Methods for Tracking Minibus Taxis for Public Transport Regulatory Purposes**

<http://hdl.handle.net/10204/2454>

This paper deals with the regulatory integration of minibuses in the overall public transport system, an issue of high importance in many African countries.

World Bank: **Public Road Passenger Transport**

<http://siteresources.worldbank.org/INTURBANTRANSPORT/Resources/chapter7.pdf>

Public road passenger transport is a key element of a strategy to contain congestion and environmental air pollution, and provide mobility and access to the underprivileged and poor. When it is appropriately regulated, competition best guarantees efficient supply, and through franchises and concessions, can mobilize low-cost operations to provide the best quality of service and price for any budget capability. Without adequate regulation, however, competition can have some very damaging effects. The informal sector can also contribute effectively to satisfy demand in competitive markets.

## Incorporating informal bus services in BRT systems

The documents of this chapter give a particular perspective, which is demonstrating the possibilities of incorporating the informal bus services into the Bus Rapid Transit (BRT) systems.

Comparative Urban Studies Project (CUSP) (2007): **Sustainable Transportation Services for the Urban Poor**

[http://www.wilsoncenter.org/index.cfm?event\\_id=215003&fuseaction=events.event\\_summary](http://www.wilsoncenter.org/index.cfm?event_id=215003&fuseaction=events.event_summary) and for Power Point Presentation download: <http://www.wilsoncenter.org/events/docs/ralph%20gakenheimer.pdf>

On February 20, 2007, the Comparative Urban Studies Project (CUSP) organized a seminar to discuss sustainable transportation services for the urban poor. Ralph Gakenheimer, professor of urban planning at MIT, highlighted that the coverage of transit systems to low-income neighborhoods in sprawling urban areas is a growing problem. Poor settlements, frequently located on undesirable, steep grades, can be isolated and difficult to reach. As a result, the poor depend upon informal transit vehicles that are usually unreliable.

White et al. (2002): **Africa's Public Transit Renaissance**

<http://www.itdp.org/ST/ST14/ST14.pdf>

Informal minibus paratransit vehicles have become the most common form of urban transport in many African cities. However, the paratransit vehicles are unregulated, environmentally harmful, unsafe and unpredictable. This article discusses efforts in Accra, Ghana, and Dakar, Senegal, to modernize their transit systems. Accra is planning to develop the first bus rapid transit (BRT) system in Africa and has recently established a new transport authority, but is facing opposition from private operators. Senegal also is considering a BRT

system. A partially privatized transit corporation has been formed in Dakar, and new full-size buses have been purchased. An effort is also being made to modernize the current paratransit vehicles using a World Bank loan and to regulate the allocation of routes. In order for any of these projects or related efforts to succeed, a strong leadership presence by the government is essential.

## Barriers for change

The news and documents in this chapter show barriers in informal transport sector. They also point out the causes for the origin of the barriers, which could be changed in the future.

Association for Safe International Road Travel (ASIRT) (2005): **Road Travel Report: South Africa**

[http://www.wpi.edu/Images/CMS/GPP/South\\_Africa\(1\).pdf](http://www.wpi.edu/Images/CMS/GPP/South_Africa(1).pdf)

This road travel report points out several problems of minibus taxis in some large cities. For example the minibus taxis in Cape Town are the fastest means of travel, but they often are dangerously overloaded or driven irresponsibly and many are not roadworthy. Fares are high, and drivers do not leave until the taxi is full.

Burke (2010): **Rickshaw Pullers Win Right to Work Delhi Streets**

<http://www.guardian.co.uk/world/2010/feb/11/rickshaw-ruling-delhi>

Delhi's high court ruled in Feb. 2010 that capping the numbers of cycle rickshaws was illegal, although the city has already tried to limit the number of them. Judge overturns ruling that numbers should be capped saying it would deny pullers of the right of free choice of work.

Burke (2010): **Delhi Plans Ban on Autorickshaws**

<http://www.guardian.co.uk/world/2010/mar/18/delhi-plans-ban-autorickshaws>

Indian capital looks to phase out famous green and yellow motorised three-wheelers, citing pollution and rude drivers. On the other hand defenders of the motorised versions point out that, as the vehicles run on compressed natural gas, their contribution to air pollution in the city is minimal compared with cars. Others argue that rickshaws fulfil an essential function in ferrying people short distances to metro stations or bus stops.

Harding (2010): **Auto-rickshaws in Delhi: Why Sheila Dikshit's Comments Are Misguided**

<http://kafila.org/2010/03/24/auto-rickshaws-in-delhi-why-sheila-dikshit%E2%80%99s-comments-are-misguided/>

Chief Minister, Sheila Dixshit recently announced plans to phase out the auto-rickshaw after five decades of service. Auto-rickshaws are “not a good option”, she complained, auto drivers “harass” passengers and up to half are plying the streets “illegally”. With the Commonwealth Games fast approaching, the eyes of the world will soon turn to Delhi. Auto-rickshaws do not fit with the CM’s desire to see visitors return home “with the impression that they have been to a truly civilised city”. This post discusses some questions: Why are Delhi’s auto-wallahs so greedy and grumpy? Why won’t they switch on the meter? Why do so many ply “illegally”?

Harding (2010): **The Truth Behind the Strike**

<http://kafila.org/2010/04/02/the-truth-behind-the-strike/>

This post is about the auto strike by Delhi’s auto drivers on April 1<sup>st</sup> and why a majority of the drivers were not in support of it. A key question is: who does the strike benefit?!

José et al. (2001): **The Public Urban Transport Crisis – Brazil**

<http://lodde.himolde.no/arrang/thredbo7/>

The urban public transport in Brazil is suffering from a continuing crisis since the Federal and the local Governments have not given any priority to the industry for years. Additionally, the private bus enterprises and their unions have succeeded in capture the regulatory framework, putting into practise a quick concentration process and oligopolistic strategy. Thus the increasing traffic congestion and the lack of competition and the heavy inefficiencies of the bus industry have risen the operational costs.

McConville, Megan (2010): **A Day Without Auto Rickshaws: Inconvenience, Intimidation and Corruption**

<http://thecityfix.com/a-day-without-auto-rickshaws-inconvenience-intimidation-and-corruption/>

An estimated 55,000 auto rickshaw drivers went on strike in Delhi on April 1<sup>st</sup> 2010, complicating commutes by putting extra pressure on other modes of public transit. The strike was led by auto rickshaw drivers’ unions, which demanded a fare increase and that Chief Minister Sheila Dikshit retract her statements supporting the phase-out of auto rickshaws.

Renasa Insurance (2008): **Taxi Insurance in 2008**

<http://www.cotswoldgroup.co.za/downloads/MHOCT.pdf>

Use of traditional (local) government solutions such as commuter rail and bus systems declined. Regulation of informal minibus-taxi drivers and operators is ineffective and recent land use development has led to urban sprawl, which in turn is associated with the increased use of private vehicles and consequently road congestion. Car sales and the subsequent use of private vehicles have

reached record levels in the last decade. Public transport is the mode of the less advantaged.



## Annex - Rea Vaya: The Johannesburg BRT

by

*German Technical Cooperation (GTZ)-Sustainable Urban Transport Project (SUTP)*



### Background

Most major cities worldwide have been characterized by the phenomenon of steadily increasing urbanization accompanied by exponentially increasing private motorized vehicles. This has led to congested roads and sprawling cities with commuters having to travel very long distances to and from work. Despite huge investments in road infrastructure, the problem has just been worsening. Johannesburg is no exception and the city experiences area-wide traffic chaos on a daily basis. Long distances and long transport times are not only extremely annoying for commuters; they also lead to higher economic costs for the entire city. In addition, social problems and costs imposed by the long travel times are huge. Education and health facilities become more difficult to access for many city dwellers. Trends indicate that the influx of people from the countryside into the city is unlikely to stop in the near future. Johannesburg will continue to grow. So, if it is not possible to decrease the distances in the short term, one has to look at decreasing the time spent on transportation. This means providing the poor residing in the townships at the outskirts of the city with a fast, convenient and safe way to access their jobs in the city center or in the neighborhoods of the wealthy, as also providing the car users a fast and attractive travel alternative to their personal vehicles.

### The Bus Rapid Transit system (BRT)

Experiences from some large cities in developing countries have demonstrated Bus Rapid Transit

Systems (BRT) to be a sustainable travel option and a good way to ease the traffic situation. The BRT buses run in exclusive, separated lanes in the center of existing roads making them as fast as light rail. Tickets are already purchased at the stations and priority traffic signal controls for buses further increase their speed. The mid-road based stations with their functional design allow for smooth process of boarding and alighting. In order to serve stations on both sides of the road, all buses are equipped with bilateral doors. Security and service personnel are permanently present at every station during the operating hours. Compared to other public transport modes such as metro or trams, the BRT can claim by far the best cost-benefit ratio. The time taken for construction and implementation as well as the operational costs, are lot less than a rail based mass transit system. In order to operate a BRT, usually one lane of motor traffic in each direction has to be removed. On the other hand, up to 17,000 passengers can travel by BRT per hour in one direction, whereas in mixed traffic conditions, it is only 2,200 passengers per hour per direction.

### Current Status and prospect for the World Cup 2010

Encouraged by the bid to host the 2010 Soccer World Cup, South Africa committed itself to improve its public transportation and started ambitious BRT projects at some of the venues of the World Cup. The biggest one with 78 stations and a total length of 120 km will be implemented in Johannesburg. Planning for this began 2006 and the plan envisions

430,000 daily passengers to use the system in 2013. This is somewhat comparable to the daily number of passengers of the mass transit system in the city of Frankfurt (500,000 passengers)<sup>1</sup> which had been planned and developed over a few decades. In August 2009, 40 buses started their maiden trip on the 25.5 kilometers long line Soweto - Johannesburg Inner City. Till May 2010 several feeder routes have been finished and by now there are 143 buses operating. They have been newly purchased and comply with the latest environmental and comfort standards. To reach the highest possible efficiency, the initial bus system, the Metrobus, was adapted to the BRT routes and 170 bus stops were built for feeder buses.



The first expansion of the bus system, phase 1B is currently under construction and is expected to be finalized by August 2011. During the World Cup, it is envisaged that the construction works should not cause delays or any kind of interference to traffic and city life. Phase 1C is still in the planning stages. Both stadiums of the City of Johannesburg are to be connected via BRT to public transport. According to the bus operating company Rea Vaya, nearly 20,000 soccer fans can travel to the stadiums by BRT.

### Benefits



Johannesburg will have an advanced public transport system that integrates the two historically disadvantaged townships of Soweto and Alexandra into the greater municipality of Johannesburg. Particularly poor inhabitants of Johannesburg will benefit from the BRT, in terms of both time and money. A ride on the BRT in Johannesburg is 50% cheaper than the ride in one of the many minibus taxis in the city. The BRT is not only a sustainable transport option for the poor but also for the car driving middle class. The city of Johannesburg hopes that about 15% of the residents living close to bus routes would shift from being users of private vehicles to users of public transport. This would contribute to a smooth traffic situation as well as to reducing air pollution in the city.

### Challenges

One of the major challenges that the BRT faces is the competition with the minibus taxi industry. On the routes of the BRT, the minibus taxis are no longer competitive in terms of speed, price, convenience and security, and therefore face the fear of losing their jobs and reduced income. The operating company Rea Vaya has attempted to prevent this by integrating affected taxi operators into the planning of the project right from the beginning. The latter have the possibility of joining the operating bus company as stakeholders. They

<sup>1</sup> traffiQ 2007 (<http://www.traffiq.de/>)

are also eligible for the newly emerging positions such as bus drivers or station staff. Nevertheless, repeated, and sometimes violent assaults against buses, passengers, drivers and stations have been reported in the past. The reason for this could also be the problem of the many non-licensed taxi drivers who could not or only to a limited extent take part in the negotiations.

#### The role of Germany and GTZ



Since the beginning of the project, the GTZ has been actively involved with the Johannesburg BRT. Kreditanstalt für Wiederaufbau (KfW) Bankengruppe supports the project with two million Euros by order of the German Federal Government. GTZ facilitates the implementation process and provides training and expertise to support the BRT system in the city.

## Implementing Projects for Sustainable Urban Transport

Bored of being stuck in traffic jams, breathing polluted air and facing the consequences of climate change? – GTZ is taking up the challenge of devising and implementing environmentally sound and economically livable mobility solutions in urban areas. By promoting the concept of “avoid, shift and improve”, our solutions contribute to make cities better places to work and live in.

Our capability in the transport sector stems from more than 25 years of experience in the implementation of relevant projects. In more than 40 countries, GTZ has provided advisory services to governments on issues of transport policy and transport planning and has helped numerous public and private transport enterprises to increase their efficiency. Priority areas include *inter alia*:

- Urban Mobility
- Transport Sector Policy
- Road Asset Management and Maintenance
- Railway Sector Services
- Sector Regulation and Management

As renowned advocate of sustainable urban transport, GTZ partners with international organisations such as UN-ESCAP, UITP and LTA Academy in order to advance the application of international best practices in urban transport and the development of appropriate knowledge tools in this field.

Presently, we are implementing *inter alia* the following projects:

- Climate Friendly Concepts for Urban Mobility in the Ukraine
- Emission Reduction in Urban Transport in Indonesia
- Bus Rapid Transit in South Africa
- Bridging the Gap – Transport and Climate Change
- SUMA – Sustainable Urban Mobility in Asia

More information are available on [www.sutp.org](http://www.sutp.org) – this web page offers a host of information on sustainable transport solutions, recent trends and provides access to our flagship publication “Sustainable Transport: Sourcebook for Policy-makers in Developing Cities”

This Sourcebook on Sustainable Urban Transport addresses the key areas of a sustainable transport policy framework for cities. The Sourcebook consists of more than 27 modules. It is also complemented by a series of training documents and other material available from [www.sutp.org](http://www.sutp.org). The Sourcebook is intended for policy-makers in cities, and their advisors. This target audience is reflected in the content, which provides policy tools appropriate for application in a range of cities. The academic sector (e.g., universities) has also benefited from this material.

Sourcebook thematic issues include:

- Institutional and Policy Orientation
- Land Use Planning and Demand Management
- Transit, Walking, Cycling
- Vehicles and Fuels
- Environment and Health
- Social Issues in Transport



**The Bus Rapid Transit Planning Guide is the most comprehensive resource for planning a bus rapid transit (BRT) system, beginning with project preparation all the way through to implementation.**



Bus Rapid Transit  
Planning Guide  
June 2007

It is the culmination of over five years of efforts to document and improve the state of the art in cost-effective public transport solutions for cities. This edition, expanded to over 800 pages, includes contributions from a wide range of professionals and practitioners with direct experience in designing and implementing BRT systems all over the world.

Beginning with an overview of BRT, the Planning Guide proceeds to give a step-by-step description of the planning process, including operational design, financial modeling, physical design, multi-modal and land use integration, business plan development, communications and marketing, contracting, vehicle and fare collection technology, evaluation, and implementation.

The BRT Planning Guide is intended as a guidance document mainly for planning and engineering professionals. However, others, such as non-governmental organizations, national and regional policymakers, and business groups, will find it a valuable resource as well, when advocating for their issues and finding solutions to the problems that they are addressing.

BRT systems have proven to be catalysts in transforming cities into more livable and human-friendly environments. The appeal of BRT is the ability to deliver a high-quality mass transit system within the budgets of most municipalities, even in low-income cities. Planning and implementing a good BRT system is not easy. This guide aims to make the task a little easier.

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The BRT Planning Guide is co-edited by Lloyd Wright, Executive Director of Viva; and Walter Hook, Executive Director of the Institute for Transportation and Development Policy (ITDP). It was developed through support from the William and Flora Hewlett Foundation, the Global Environment Facility/United Nations Environment Programme, and Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH.

Table of Contents:

- Part 1 - Project Preparation
- Part 2 - Operational Design
- Part 3 - Physical Design
- Part 4 - Integration
- Part 5 - Business Plan
- Part 6 - Evaluation and Implementation
- Resources, Annexes and References

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## **GTZ – Sustainable Urban Transport Project (SUTP)**

Based on more than 25 years of practical experiences, GTZ presents the “Sustainable Transport: A Sourcebook for Policy-Makers in Developing Cities” ([www.sutp.org](http://www.sutp.org)) with a wealth of information and knowledge on appropriate solutions, inter alia on tackling climate change in the transport sector. Through training and advisory services, decision makers in the transport sector are better informed about transport options, mode choices, mobility management and transport related emissions and their impact on our climate. This may lead to improved urban transport systems, less traffic and better alternatives to using cars or motorised two-wheelers.

This flagship publication compiles most international practices and provides access to numerous other resources. It is complemented by training courses targeted to policymakers, planners or engineers in cities, regional entities and federal governments.

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