

# ACET



African Centre of Excellence for Studies  
in Public and Non-motorised Transport

e-Newsletter [01.2009/2010]

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## ACET e-Newsletter launched

This is the first e-Newsletter of the African Centre of Excellence for Studies in Public and Non-motorised Transport (ACET). This newsletter will be published electronically on a bi-annual basis and will feature a selection of ACET's people, activities and ongoing research results in every issue.

ACET was established in 2008 under the Future Urban Transport programme of the Volvo Research and Educational Foundations (VREF). Out of a global network of eight Centres of Excellence in transport funded through this programme, ACET is the first to be based in Africa.

ACET is comprised of interacting academics and funded postgraduate research students from three main academic partners: the University of Cape Town; the University of Dar es Salaam; and the University of Nairobi. Each of these partners also have additional connections with researchers and students at an array of universities in and around their cities. Collectively the partners represent a multi-disciplinary team of engineers, planners and social scientists with a shared interest in urban passenger transport systems.

The Centre's objective is to produce and disseminate knowledge on the development and governance of public and non-motorised transport in African cities, and to serve as a hub of research and capacity building. The Centre aims to empower researchers in Africa to set their own research agendas and engage directly with the transport challenges they face.

For further information on any of the articles in this e-Newsletter, or to find out more about ACET, its publications and the various research projects that it funds across its partner universities, please write to [acet-info@uct.ac.za](mailto:acet-info@uct.ac.za) or visit our website at [www.acet.uct.ac.za](http://www.acet.uct.ac.za).

# ACET

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ACET is funded by the Volvo Research and Educational Foundations (VREF). For more on VREF please visit [www.vref.se](http://www.vref.se).

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Postgraduate studies

## Upcoming courses

Non-motorised Transportation (END5039Z): Lecture week 12–19 April 2010 (UCT)

Rail planning and operations management (END5067Z): Lecture week 17–24 May 2010 (UCT)

Transport modelling (END5048Z): Lecture week 26 July – 2 August 2010 (UCT)

Management of transport supply and demand (END5035Z): Lecture week 30 August – 6 September 2010 (UCT)

Bus planning and operations management (END5068Z): Lecture week 4–11 October 2010 (UCT)

Transport demand analysis and project assessment (END5047Z): Lecture week 15–22 November 2010 (UCT)

Report back – 10-11 November 2009

## UATP Seminar on Public Transport

The International and African Public Transport Associations (UITP and UATP), in collaboration with UN-Habitat, hosted a seminar in Nairobi that brought together top level speakers and international experts on public transport policy, practice and technology.

The seminar's focus was on the challenges of providing effective and attractive public transport in Africa. A range of African countries were represented, predominantly in the Sub-Saharan region, but some perspectives from Europe and the Americas were also put forward.

The presentations and discussions during the two days of the seminar reflected this diversity of contexts. From within Africa there was, for instance, Nairobi's proposed highway bypass scheme, a progress report on the Rea Vaya BRT system in Johannesburg, and a report-back on community involvement in public transport operations in Douala.

From further afield the chairman of the Toronto Transit Commission highlighted valuable lessons on bus fleet maintenance and renewal, while the

value of longitudinal travel data collection was demonstrated in the case of Sao Paulo's underground rail system.

The main concern at the event was that "the right decisions must be made on the most appropriate and affordable technologies." There seemed to be wide agreement that bus rapid transit would provide such a solution across Africa, and that the reliance of African citizens on informal public transport services, like Nairobi's matatus, was "regrettable".

The dominant impression was that the majority of delegates believed that complete formalisation in the African public transport sector was the way of the future. In the end the seminar illustrated that there is a great need for a more detailed understanding of the unique conditions found in each and every African city, and that public transport service improvement must respond not only to the technical, but also the social, realities inherent in each of these contexts.

ACET was represented at the seminar by Roger Behrens and Herrie Schalekamp from Cape Town and Preston Chitere from Nairobi.

Report back – 1-3 February 2010

## UCT hosts TEST Network inaugural meeting

Rural to urban migration has contributed to the rapid expansion of cities, increasing levels of poverty, the proliferation of slums and a widening of the gap between urban transport supply and demand in sub-Saharan Africa. High quality transport systems that respect the interests and aspirations of the poor, women, children undergoing education and those needing access to health care are therefore critical. Transport, however, has not generally been designed and managed in ways that are democratic and beneficial to everyone.

The Transport and Environment – Science Technology (TEST) Network was established with the aid of European Union funding to respond to these needs and challenges by facilitating co-operation and the transfer of expertise. The TEST Network focuses on scientific and technological research

in transport, stimulating debate, awareness, cooperation and problem solving, and contributing towards the Millennium Development Goals. Network partners include the Stockholm Environment Institute, the Institute for Transportation and Development Policy and academic institutions in Mozambique, South Africa, Tanzania, Uganda, Zimbabwe, and Zambia.

The South African partner in the TEST Network, the Centre for Transport Studies at the University of Cape Town, hosted the inaugural meeting of the Network in February 2010. Marianne Vanderschuren, who also heads up ACET research projects in non-motorised transport in Cape Town and in intelligent transport systems, served as the local contact for the meeting. More information on the TEST Network initiative is available from [info@itdp-europe.org](mailto:info@itdp-europe.org).

## ACET's research themes & projects

Public and non-motorised travel modes cumulatively account for a majority share of the passenger transport market in African cities. These modes are depended upon by large impoverished populations and offer favourable rates of per passenger energy consumption and emission relative to private cars.

However, private car ownership levels and congestion caused by private travel are increasing rapidly, albeit in many instances from a low base, while scheduled or formal public transport systems are in decline, or have disappeared altogether.

Our research efforts target these challenges to urban transport planning and provision in Africa. Our principal focus is on the case cities of Cape Town, Dar es Salaam and Nairobi, but through our research we aim to contribute to knowledge that is relevant to the broader regional, national and international contexts.

### Research update

## School travel planning survey results

The ACET research project on school travel planning, led by Hannibal Bwire, has been involved in two surveys on scholar travel behaviour and attitudes in Cape Town and Dar es Salaam. The survey in Cape Town was conducted amongst 1,494 respondents to assess the feasibility of school travel planning measures aimed at encouraging walking and cycling to and from school, and at reducing the number of private vehicles involved in school trip-making, amongst nine participating schools in the Rondebosch area.

The study area was initiated with the support of the local councillor following contact with resident's associations, schools and parent associations in the area, as well as representatives of the City of Cape Town municipality. The results of the survey showed sufficient willingness among learners and parents in at least some of the schools to change school trip-making behaviour and to consider non-motorised travel alternatives, to warrant a more detailed investigation of school travel behaviour and preferences in the area, and the

In pursuit of these aims ACET funds a number of projects arranged according to three broad themes -

### Cross-cutting issues

- Transport systems & travel behaviour
- Travel behaviour change
- Road safety
- School travel planning
- Intelligent Transport Systems
- City restructuring

### Public transport

- Public transport system assessment
- Paratransit operations & transformation in Cape Town
- Minibus public transport operations & regulation in Dar es Salaam
- Paratransit operations & regulation in Nairobi

### Non-motorised transport

- Non-motorised travel & infrastructure in Cape Town
- Non-motorised travel & infrastructure in Dar es Salaam
- Non-motorised travel & infrastructure in Nairobi

subsequent initiation of a 'school travel planning' demonstration project amongst interested schools. This will be initiated in 2010, and a postgraduate researcher (Patrick Muchaka) has been recruited in this regard.

The survey of 1,194 scholars and parents in Dar es Salaam collected data on current travel modes, trip distances, and modal preferences amongst 18 schools (see [www.eco-logica.co.uk/pdf/wtpp15.3.pdf](http://www.eco-logica.co.uk/pdf/wtpp15.3.pdf) for results). A further development in this project has been an invitation to participate in an international comparative survey of child independent mobility, co-ordinated by the Policy Studies Institute at the University of Westminster (UK), as well as collaboration in the submission of a funding application (led by Karen Malone of the University of Wollongong) to the Australian Research Council to facilitate comparative analysis of child independent mobility in Australia, India, Japan, New Zealand, South Africa and Tanzania.

### Postgraduate research

## Josephat Shilogile on travel behaviour



Josephat Shilogile is registered for a Master in Sciences degree in Highway Engineering at the Department of Transportation and Geotechnical Engineering, University of Dar es Salaam. He is working on a dissertation that will investigate the mechanisms that can trigger a modal

shift from private cars to public transport and non-motorised modes in Dar es Salaam, the economic hub of Tanzania. His research is being conducted under the supervision of Hannibal Bwire, and forms part of the ACET research project on travel behaviour change.

Since registering in October 2009 he has been delving into literature on retrospective recall aid techniques and on data reliability testing. With regards to recall techniques he has been focusing on the identification of personal and public landmarks and calendar instruments. In the year ahead he will be developing detailed mobility biographies and in 2011 he plans to conduct a retrospective survey in Dar es Salaam. Josephat ultimately aims to establish the primary factors and conditions that lead to people deciding to switch from public and non-motorised transport modes to using cars in this city, and to propose ways in which this unsustainable trend can be reversed.



Research update

## Paratransit reform in Cape Town

The Cape Town municipality introduced an Integrated Rapid Transport (IRT) plan to revitalise public transport in this city as part of a national public transport upgrade and restructuring programme. The mechanism to bring about reform was the phased introduction of BRT as a new mode, creating opportunities for all road-based services, including the informal public transport sector, or paratransit, to become part of a formal operating environment. The decision to employ BRT as the mode of choice was based on the apparent success, relative low cost and short timeframes that were commonly held to be characteristic of Latin American BRT systems such as Bogotá's Transmilenio.

The expectation of BRT as a silver bullet has, however, not been evident in the roll-out of the IRT, especially with respect to the reorganisation of road based services and the lack of enthusiasm from paratransit ranks. Engagement with operators, the construction of infrastructure and the extent of services has been on a much more limited scale than anticipated. This has raised serious concerns about the viability of the IRT plan, particularly around whether the decision to embark on new and extensive BRT systems is appropriate for paratransit, and public transport, reform.

In order to address this concern, this study is investigating the likely outcomes of the current reform process, possible alternatives to current regulatory and paratransit business structure reform, and the needs of paratransit operators and route associations. The research, which forms part of the ACET research project in paratransit regulation and public transport transformation, aims to develop and test a methodological approach that can be used to consult a highly diverse subject such as the paratransit sector, and more broadly to demonstrate that reform in the paratransit sector is a highly context-specific process requiring a targeted and detailed approach to operator consultation.



## What is 'paratransit'?

ACET uses the term 'paratransit' to describe unscheduled public transport services that typically utilise midibuses, minibuses and smaller vehicles. Examples include the South African minibus-taxis, Kenya's matatus, and the dala-dalas in Tanzania. These services are commonly run as unregistered, cash-based businesses, but some are nevertheless owned and operated as formal business concerns. The extent of public regulation varies considerably, though many operators belong to route or operators associations that provide a degree of internal regulation.

Research update

## Case study: Nairobi's Jogoo Road corridor

Jogoo Road is a vital multi-modal transport link in Nairobi, and is being used as a case study in the Nairobi-based ACET research project on non-motorised transport (NMT). The conditions experienced by NMT users on Jogoo Road has brought to the fore worsening levels of service experienced on this corridor, and the road environment is far from supportive for NMT. This could be attributed to inadequate funding or inadequate attention due to lack of awareness of the role NMT plays in widening transport accessibility for non-drivers. It also appears as if agencies involved in infrastructure development have not given NMT the necessary attention, and as such need to be sensitised by involvement in research initiatives like this through workshops and seminars.

The results of the tested alternative NMT survey methods were consistent with those of the attitudinal survey on a number of aspects. Pedestrian observation is a low-cost method for evaluating the severance imposed on pedestrians as a result of high speed roads in urban centres. It could also serve as a method for identifying hazardous locations along a road. However, some level of training is necessary even to an average city traffic engineer to ensure good results. The pedestrian count methods are still useful low-cost methods to use in evaluating pedestrian flows for assessing the required level of service. Current methods for evaluating the level of service do not take cognisance of all environmental factors that determine the overall walking experience as perceived by pedestrians.

A framework thus needs to be developed that determines indices for the total pedestrian corridor experience. This would assist practitioners in assessing the suitability of other existing transport corridors for retrofit construction to enhance equity in corridor designs. Inclusive roadway environments are fundamental to the creation of transport diversity and productive neighbourhoods.