

SUSTAINABLE PUBLIC TRANSPORT



OVERVIEW REPORT 2009

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Abbreviations

AIDS	Acquired Immuno Deficiency Syndrome
BRT	Bus Rapid Transit
CSIR	Council for Scientific and Industrial Research
CO ₂	Carbon Dioxide
DoT	Department of Transport
FIFA	Federation of International Football Associations
Gautrian	Gauteng Rapid Rail Link
HIV	Human Immunodeficiency Virus
IDP	Integrated Development Plan
ITP	Integrated Transport Plan
NMT	Non-motorised Transport
PDoT	Provincial Departments of Transport
RDP	Reconstruction and Development Program
Rea Vaya	City of Johannesburg public transport branding meaning “We are moving”
RSA	Republic of South Africa
SACO	South African Commuter Organisation
SACN	South African Cities Network
SANRAL	South African National Roads Agency Limited
SANTACO	South African National Taxi Council
SATAWU	South African Transport and Allied Workers Union
SEA	Sustainable Energy Africa
TA	Transport Authority
TOD	Transit Oriented Development
Tran:SIT	Transformation Towards Sustainable and Intergrated Transport for the Urban Environment
TOD	Transit Orientated Development

Foreword

In selecting priority learning topics for 2008/09, the 9 member cities of the SA Cities Network were unanimous in selecting public transport as a key challenge for local government. This is partly because public transport is a priority service commitment for the 2010 FIFA World Cup; partly because significantly more public funding resources are being directed towards public transport; and partly because municipalities around the world are still searching for more sustainable public transport solutions. We do not have all the answers yet.

Public transport is a key sector (along with human settlements and land use management) in the built environment suite of functions that should be clearly assigned to city administrations if we are to achieve the urban integration policy objectives.

In collaboration with the TransIT programme of Sustainable Energy Africa, the SACN put together a learning theme titled Sustainable Public Transport. The CSIR was contracted to provide technical inputs and co-ordination support with a view to convening a high-level group of transport managers and practitioners from the member cities, other spheres of government, civil society, labour and the private sector.

This learning focus took the form of a seminar that allowed public transport and environmental officials from the member cities to consider international leading practice in community-led transport solutions and public transport mega-projects.

This report provides a theoretical and practical overview that covers both these topics. It was prepared by a team of researchers and analysts from the CSIR: Built Environment Division; and was informed by the discussions at the seminar. Our grateful thanks go to:

- Councillor Rehana Moosajee for providing leadership during seminar preparations and for chairing the seminar.
- The seminar speakers: Enrique Penalosa, Dr Lloyd Wright, Stephen Sangweni, Jane Barrett, Tutu Molefe, Louis de Waal, Cllr John Badenhorst, Prof Philip Harrison, Kamini Pillay, Gershwin Fortune, Prof Peter Wilkinson, Ibrahim Seedat, Jeremy Wakeford, David Wetzal, Prof Romano del Mistro, Bob Stanway, Eric Motshwane, Babu Maharaj, Lize Jennings and Herrie Schalekamp.
- South African Cities Network Member Cities that participated in the seminar and provided inputs.

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Preface and Brief Summary of Each Speaker or Presenter



In 2008, the South African Cities Network (SACN) identified sustainable public transport as a priority theme for knowledge exchange between its member cities. This was achieved in partnership with the Transformation Towards Sustainable and Intergrated Transport for the Urban Environment (Tran:SIT) programme implemented by Sustainable Energy Africa (SEA), and with the support of the Danish Government through the South Africa-Denmark Urban Environmental Management Programme. This document is a culmination of a two-day SACN-hosted seminar themed sustainable public transport, held in the City of Cape Town in August 2008. The August seminar attracted various local and international stakeholders in the wider transport domain. The two-day event was the first of its kind in South Africa with representation from political leadership of cities, city officials, commuter organizations, labour unions, academia, research councils, public transport operators and non-governmental bodies.

The two days of the seminar were sub-themed “Commuter-led planning” and “Mega transport projects” respectively. Excerpts of papers and speeches are chronicled below:

DAY 1: COMMUTER-LED PLANNING

- **Mr Sithole Mbanga, Chief Executive Officer – South African Cities Network:** Mr Mbanga opened the proceedings with an emphasis on the importance of sustainable dedicated funding for public transport and further expressed the view that the expenditure of such funds should be the domain of local government. He argued that the State should allow local government to have greater autonomy in order to harness creativity with a view to improving service delivery. He reiterated the critical need for integrated planning and service delivery, especially with regard to the linkages between housing provision and transportation. He questioned the presence of large pockets of land that are both inefficiently utilised in the cities, and effectively pronounced the practice as creating lost opportunities.
- **Councillor Rehana Moosajee, City of Johannesburg Member of the Mayoral Committee – Transport:** Councillor Moosajee chaired the proceedings, and that way provided leadership and steered the seminar in order to address its objectives. Throughout the proceedings the Councillor emphasised that it is through recognising that we are human before else, and instilling proper values in society, that cities can begin to address seemingly insurmountable transport problems. She also underscored the importance of technical support for politicians. She passionately

implored cities to meaningfully and proactively incorporate the collective wisdom of communities when planning and implementing infrastructure projects and services. She acknowledged that while the change that cities are currently undergoing in respect of public transport transformation is painful, it has to take place for the sake of future generations.

- **Mr Enrique Penalosa, Economist and Former Mayor of Bogota:** Mr Penalosa (*Topic – “Mobility for happier and more sustainable cities”*) essentially defined a good city as one where people want to be outside buildings and mix with one another in a space that respects them as human beings irrespective of their social standing. In fact, he challenged cities to discard measures such as the Gini coefficient to measure societal inequalities and begin to use a measure that indicates the extent to which the poor and the rich mix in the urban space. In order to achieve spatial equity, politicians need to make decisions about the quality of life they need for their electorate, and such cannot be the role of traffic engineers. When shopping malls in a city replace public pedestrian space as the place to see and meet people, it is a symptom of the ills of the city. He demonstrated what political leadership, through making bold political decisions, was able to achieve in the City of Bogota, which is similar in many respects to South African cities. This included providing pedestrians and cyclists with sufficient space and a respectable environment as well as the much acclaimed Transmilenio Bus Rapid Transit system. He cautioned that the 20th century will go in history books as the worst in terms of urban quality of life and that cities have a choice to reverse this in the 21st century.
- **Dr Lloyd Wright, Executive Director of a non-governmental organisation Viva cities:** Dr Wright (*Topic – Sustainable public transport planning and community participation around the world*) reminded South African cities of the unique realm of radiating possibilities to make sustainable transport a reality, such as the 2010 FIFA Soccer World Cup, increased national funding, minibus taxi recapitalisation and reform, promulgation of the national land transport act, increased fuel prices and congestion to capture discretionary users of public transport. He commended progress that has been made in South African cities to implement bus rapid transit networks and emphasised that these should be designed around people and not the technology. He especially applauded the City of Johannesburg for taking the lead and becoming the first to go through the painful transformation process and setting the scene for other cities. With regard to community participation in transport planning and management he provided examples of successful community-led interventions. Example in this regard included (i) the actions of two individuals who intervened to save the City of Los Angeles from bankruptcy as a result of implementing a costly rail service, by promoting a bus service alternative, (ii) the proactive participation of residents of Melville in the City of Johannesburg to create a liveable urban space, (iii) Londoners renting on-street parking spaces as offices, and (iv) communities in Accra designing and implementing traffic calming measures to prevent cars from speeding in residential areas. It has also been shown that involving non-technical people in public transport service designs introduces important service elements often overlooked by engineers. Dr Wright conceded that often cities are unable to deal with community protest and it is “out of the box” thinking resulting in authority-led intimidations and subsequent arrest and prosecution of community members, thus leading to the loss of a valuable resource.
- **Mr Stephen Sangweni, President of the South African Commuter Organisation (SACO):** Through his speech Mr Sangweni (*Topic – “Commuter perspective in commuter-led planning”*) reminded delegates that the commuter is the primary stakeholder in the provision of public transport services. As a result, all the planning and implementation processes should always involve the commuter. He further reminded delegates that the state of public transport in South Africa is practically “in a mess” and provided an example where commuters leave their homes very early in the morning to compensate for unreliable public transport services, and in the process become susceptible to criminal activities, including robbery and rape, during the dark early morning hours. The increasing cost of public transport remains a burden to ordinary commuters, and the discriminate provision of public transport subsidies to buses and trains

against the popular minibus taxis is an unacceptable practice. He, however, emphasised that subsidies should target commuters as opposed to operators, and this is achievable through the use of appropriate smartcard technology. He ridiculed government interventions such as the Gautrain and Metrorail business express train as serving the interests of the rich at the expense of the poor and as “waste of money”. SACO has proactively mobilised some of its members to voluntarily act as safety patrollers in the early hours of the morning and at night to protect commuters (piloted in Soweto and the Vaal area). The continued location of affordable housing (“RDP houses”) in inaccessible and far-away areas from city centres is also exacerbating the problem of rising costs of public transport services. SACO is also lobbying government to review provincial transport legislation in order to facilitate improved transport service delivery.

- ***Ms Jane Barrett, representing the South African Transport and Allied Workers Union:*** Ms Barrett (*Topic – “Public Transport: The link between working conditions and service delivery”*) presented a quantified overview of the working conditions of transport workers across all transport modes in South Africa. She made a direct linkage between poor working conditions and poor public transport service delivery. The poor working conditions presented include: (i) long working hours (ii) low levels of remuneration (iii) job insecurity (iv) poor health and lack of health insurance benefits (v) exposure to corruption, and (vi) high stress levels. Transport workers make up 5% of the South African labour force and only a third are unionised, and as a result, a large majority remains vulnerable. Working hours of bus drivers are as long as 14 hours when on-duty off-peak breaks are taken into account. Minibus drivers earn just over R8 per hour despite working overtime. Poor diet often in the form of fast-foods, lack of exercise, little sleep, and reduced family contact all contribute to their deteriorating health and majority of these drivers are not covered by medical insurance. Conditions and illnesses such as diabetes, high blood pressure, eye conditions, muscular-skeletal problems and HIV/AIDS are common among the drivers. Efforts by government to implement sector determination standards have been undermined by lack of enforcement. Daily exposure to irate passengers and motorists, suicides on rail tracks, risks associated with carrying cash as well as corrupt road traffic law enforcement officials contribute to high levels of stress. Under such conditions it is near impossible to deliver a good service. Ms Barrett further cautioned against an “obsession” with the promotion of competition in the industry, implemented in the form of competitive tendering, which has had devastating consequences on job security of workers. A solution to the problem would include tighter regulations and more integrated law enforcement as well as explicit improved working conditions for transport workers.
- ***Mr Tutu Molefe, Deputy President of the South African National Taxi Council (SANTACO):*** In his speech (*Topic – “Operator perspective in commuter-led planning”*), Mr Molefe provided an overview of the history of minibus taxis. In essence, the industry was born out of frustration by black people with the poor public transport service provided by the apartheid government, which was manifested in the form of low frequencies, long walking distances and poor spatial coverage. He described the minibus taxi industry as a genuine form of black economic empowerment. As a result of historical battles with the government, there is very little trust between the minibus taxi industry and the government. This is exacerbated by the participation of government in the industry as an operator (municipal bus services and rail) which effectively implies that the government is in competition with the minibus industry. Recently the government has been “playing the roles of a player, referee and a coach”. The introduction of the Gautrain, Bus Rapid Transit networks and monorail in Soweto is seen as a strategy to destroy the minibus taxi industry. He acknowledged the taxi recapitalisation programme as an important and effective intervention to improve the conditions of the vehicles as well as enhance safety. The lack of subsidy to the minibus taxis, despite carrying 65% of the public transport trips, is seen as discriminatory. Other forms of discrimination are the dedicated bus lanes that exclude minibus taxis and enforced accordingly by the traffic police. While the concept of bus rapid transit network appears good, the minibus taxi industry remains sceptical because no one,

including the cities themselves, knows what the ultimate outcomes will be. There is no guarantee that an operator will retain an operating license after the expiry of the contracted period and this is seen as too risky. Cities should not see 2010 as a deadline for implementing transport interventions. Mr Molefe concluded that sustainable transformation in the minibus taxi industry will be led internally by the operators. Progress in this regard has seen the “T” in SANTACO converted to Transport as opposed to Taxi by the industry.

- **Mr Louis de Waal, Director of Bicycle Empowerment Network:** Mr de Waal (*Topic – “Cyclist perspective”*) stressed the importance of integrating the bicycle as a mode of transport in integrated public transport plans. This should include providing parking for bicycles at public transport facilities and within different land uses such as workplaces, schools and shops. Bicycle is an energy efficient transport mode, affordable and does not pollute. The versatility of bicycles has been demonstrated in many parts of the world such as India and Uganda, where bicycles are used for entrepreneurial activities and social activities such as wedding celebrations. The Bicycle Empowerment Network empowers unemployed people with skills to repair and maintain bicycles and impart basic business management skills to them. Similar to the City of Cape Town, other cities need to develop and implement bicycle network master plans.
- **Mr John Badenhorst, Member of the Mayoral Committee in Buffalo City:** Mr Badenhorst (*Topic – “Municipal response”*) provided a historical perspective of the changes in spatial management in Buffalo City and showed how the City is still influenced by the decisions made decades ago. In this way, he demonstrated that it takes time to change city spatial structures. Large tracts of land owned by Transnet in Buffalo city can be utilised for better purposes to serve the interest of the city’s inhabitants.
- **Prof Philip Harrison, City of Johannesburg Executive Director – Development Planning and Urban Management & Ms Kamini Pillay, Director – Development Planning and Facilitation:** Prof Harrison (*Topic – “Transit-led precinct planning in Johannesburg”*) presented a framework used by the City of Johannesburg to manage development planning and associated regulatory processes in the City in relation to the concept of Transit Oriented Development (TOD). The City of Johannesburg is in the process of implementing TODs, and this includes aspects such as maximum parking ratios, higher density mixed-use developments, designing areas around public transport facilities for improved access and ensuring that such areas also become destinations on their own. He stated that in the City of Johannesburg communities are actually responsive but government needs to provoke further responses from the communities. Ms Pillay continued the presentation by providing tools as well as pictorial examples of how the City of Johannesburg implements development planning principles. The City uses formal spatial management tools to aid decision making. However, many of the spatial management tools such as density bonus schemes still remain to be practically implemented. The City has especially experienced challenges with respect to consulting the “middle class” community members. Many of the objections from these members appear to seek to maintain the status quo and often the system benefits of development proposals such as increased densities and exclusive road space for public transport are largely overlooked.
- **Mr Gershwin Fortune, Head, Transport Planning and Policy Development – City of Cape Town:** Mr Fortune (*Topic: “Transit-led precinct planning in Cape Town”*) provided an overview of the Integrated Transport of the City of Cape Town and the approach used by the City leading to its adoption (a process that included community focus groups). The City acknowledges the much written-about viscous cycle that describes how car use continues to increase at the expense of public transport. The City has therefore framed its integrated transport plan around the concept of sustainable transport. The City uses specific quantifiable indicators to measure the state of transport that are founded on principles of sustainable transport. The City is currently implementing a pilot project aimed at making the concept of transport nodes and corridors work. The four major nodes that make up the project are, namely (i) the City of Cape Town central business district, (ii) Claremont and Wynberg, (iii) Phillipi and Mitchell’s Plain,

and (iv) Bellville. The nodes and corridors model will be used to implement priority public transport infrastructure along designated routes as well as accessible public transport stops and stations. The ultimate goal in the City is to have 80% of the population to be able to access public transport within a 500m radius. The City has also formulated a bicycle network master plan with formal design standards. The biggest drive in the City of Cape Town is to deliver a public transport system that is centred on people.

- ***Prof Peter Wilkinson, Associate Professor in the School of Architecture, Planning and Geomatics at the University of Cape Town:*** Prof Wilkinson (*Topic – “Commuter-led transit planning in South Africa”*) explained the history of South African transport legislation, including the proposed National Land Transport Act. Within this context he elaborated on the initiatives that are taking place in the cities such as the implementation of the bus rapid transit systems. He warned that such interventions do not come cheap and a full understanding of their requirements is needed in order to avoid negative unintended consequences. Further, he warned that using such interventions as a mechanism to transform the minibus taxi industry introduces risks that are not favourably reviewed by investors and bankers. Minibus taxi industry protests are sometimes justified and need to be properly addressed, for example, the issue of losing business rights in the form of routes developed over many years. He recommended that transport service delivery should focus on catering for routine everyday needs of cities as opposed to being 2010 FIFA Soccer World Cup focused. He also reminded participants that transport is not just about passenger transport and that freight transport has an important role and at least needs the same attention. He sees a truly collective change as a model that would work for the South African transport system.

DAY 2: MEGA PROJECTS

- ***Mr Ibrahim Seedat, Director: Public Transport Policy at the National Department of Transport:*** Referring to his relatively long stay in the Department of Transport, Mr Seedat (*Topic – “Urban public transport and projects in South Africa – a national perspective”*) testified to have seen different strategies turn out to be nothing more than a paper trail. He reassured delegates that the current bus rapid transit initiatives, which are supported by the national public transport strategy, will become a reality if cities “get their act together”. Further, he challenged public transport operators to be agents of change themselves, and that minibus taxi operators in particular will never get subsidised unless National Treasury is convinced of their transformation. He warned against despondency that often surfaces when discussions about mega projects take place, especially with regard to the 2010 milestone. He criticised the Gautrain rapid rail link project as an ill-thought project with very low projected travel demand relative to the implementation costs. He further emphasised that such projects, including the South African National Roads Agency freeway scheme, are being approved because no other ideas are forthcoming, and that cities need to develop stronger business cases for more viable public transport projects. He sees bus rapid transit schemes as more innovative and suitable for mass transit under local conditions. He defended the bus rapid transit concept and emphasised that the keyword is “rapid”, which includes aspects such as rapidity of boarding, average speed of travel, fare payments and transfers. The technological aspects (such as vehicles) are secondary to the rapid nature of the system. He warned that if cities miss the current opportunities to convince National Treasury of viable public transport mega projects, the money will soon be directed elsewhere, and that it can take as little as two cities to demonstrate the ability of public transport to create sustainable and attractive mega projects. Three key concepts to make public transport mega projects in South Africa work are: (i) integrated rapid public transport networks, (ii) authority control over integrated networks, and (iii) maximum stake for

existing operators. The Department of Transport will continue to provide frameworks and the cities need to act as implementation agents.

- **Mr Jeremy Wakeford, Research Director for the Association of the Study of Oil Peak South Africa:** Through his presentation (*Topic – “The global oil depletion case for large-scale investment in public transport”*), Mr Wakeford argued that global oil peak supply is a fact and that the only disagreement between experts is when this peak will take place. He corroborated the argument with graphical time series data depicting oil production rates, oil reserve discoveries and demand projections. He further argued that many of the alternative energy sources put forward, including renewables and local synthetic oil production, are themselves unsustainable. He warned against the business as usual mindset that assumed that car use can be sustained. He declared mass public transport solution as the only viable large scale alternative to address peak oil crisis.
- **Mr Brian Marrian, Manager in CSIR Built Environment:** Mr Marrian (*Topic – “What will our cities of the future look like?”*), unpacked a CSIR research agenda framework on cities of the future. He reminded delegates that although current challenges are important, it is equally important to start thinking about the coming challenges. He proposed a research agenda founded on an ecological paradigm in which cities are built to cooperate with nature to create what could be termed “ecological cities”. He pointed out that African cities should not repeat the same mistakes made by the currently developed cities.
- **Mr David Wetzel, Inclusive City Specialist and former Vice-Chair of Transport for London:** Mr Wetzel (*Topic – “Public transport mega-projects in London – the Transport for London experience”*) shared some of the innovative interventions that were introduced in London to address challenges associated with the operational requirements of mega public transport infrastructure such as funding, safety and security and continuous capacity enhancements. In order to create additional revenue streams for public transport, the City of London introduced property tax that recognised that property close to large public transport infrastructure benefits from public transport investments made by the City. In addition, the Mayor championed congestion charges in central London and its success led to plans to further extend its spatial coverage. The City of London was also able to negotiate deals with non-City entities such as national railways, in order to improve public transport services for Londoners. This included providing city-funded incentives to external stakeholders in order to induce them to deliver on win-win agreements. The city was able to by-pass restrictive red tape by taking advantage of system-wide loopholes. For example, when the police declared that they limited policing to formal public transport stops and stations, and could not provide general support for bus services, they introduced many formal public transport stops along routes. The close monitoring of the public transport system provided the city with sufficient intelligence to introduce changes that resulted in ever-increasing patronage. Many of these achievements would not have been realised if transport was not a serious item on the political agenda.
- **Prof Romano del Mistro, University of Cape Town Associate Professor in Urban Engineering:** Prof del Mistro (*Topic – “Gautrain rapid rail project in Gauteng”*) declared that he is opposed to the Gautrain project but conceded that the project is at an advanced stage and his presentation was focused on the valuable lessons that could be learnt from the process. He essentially pronounced Gautrain as an apartheid train that promotes long distance travel (when shorter distance commuting should be encouraged) and also promotes separation of class in society. He presented the results of his public transport cost modelling exercise that compared Gautrain with a number of alternative schemes that could deliver the same service as the Gautrain. He concluded that there are alternatives that cost much less and could deliver much more than what Gautrain is designed to deliver, including job creation. He commended the Gautrain project management team for good marketing and communication strategies, and urged other public transport projects to learn from it. He accepted that in many years to come Gautrain may be able to change the structure of Gauteng cities to an extent that such a structure

could be supportive of the train. Nonetheless, the numbers currently used do not make business sense. He concluded that the Gautrain project is a good example of what strong political will can achieve in delivering public transport infrastructure.

- **Mr Bob Stanway, Project Manager for the “Rea Vaya” Bus Rapid Transit project in the City of Johannesburg:** Mr Stanway (*Topic – “Joburg Rea Vaya - BRT in Johannesburg”*) presented the overall project management approach adopted by the City to implement the largest public transport project ever to be financed by the City. The initial primary aim of the project was to improve the quality of public transport service for the existing users of public transport. However, it emerged over time that the project could be used as a city restructuring catalyst. A number of business opportunities will be created for existing public transport operators, mainly minibus taxi operators. Extensive consultations have taken place with the minibus taxi industry to an extent that the City appointed a city-funded consultant to provide dedicated and independent technical support to the industry. The project is being implemented in phases, and the first major milestone is the delivery of a 40km section by March 2009, linked to the 2009 FIFA Confederations Cup. The management of the various work streams is a challenging task and this has required a number of innovations. For example, the stations will be prefabricated and delivered to the sites, contracts will be a combination of negotiated-gross-performance contracts over 10 years, and human resources have been funded by sources using a combination of different funding mechanisms. Given controversies that are often associated with mega projects, the city appointed a “probity advisor” to ensure that all the project activities are independently ratified to be above board. The City is also exploring ways to apply for Clean Development Mechanism revenue stream associated with improved air quality as a result of investing in a “clean and green” mega public transport project. Challenges include the ever increasing construction costs, the accommodation of traffic at construction sites and availability of skilled human resources for the project. The project team cuts across different departments and entities within the city administration. Mr Stanway acknowledged the political support that the project is receiving.
- **Mr Eric Motshwane, Chairman of the Greater Johannesburg Regional Taxi Association and Mr Babu Maharaj, Chief Executive Officer of the Top Six Taxi Management Ltd.:** Mr Motshwane (*Topic – “Joint response of two former rival taxi associations in the City of Johannesburg to the city’s bus rapid transit project”*) declared that it was time for the taxi industry to embrace change. He acknowledged that it is through constructive engagements that more progress will be made to implement the bus rapid transit project in the City of Johannesburg. He further acknowledged that their position as a taxi association was informed by a lengthy process that involved a Bogota study tour and the historic signing of a memorandum of understating between the two rival taxi associations. Following the signing of the memorandum of understanding the taxi associations committed to a process that led to (i) formation of a joint bus rapid transit steering committee, (ii) joint bus rapid transit technical committee, and (iii) the appointment of a technical support Consultant using the city’s funds. Mr Motshwane conceded that although the bus rapid transit model is complex, the taxi associations have gained a better understanding of the critical success factors. Challenges include the ever changing composition of the member taxi association representatives that are sent to liaison meetings. Mr Maharaj agreed with Mr Motshwane and further described the process that the two associations are following for preparing a business model to respond to the bus rapid transit project, including interrogation of numbers provided by the city through surveys. He also considered the state of corporatisation in the minibus taxi industry as a positive step that will facilitate formal business participation. Mr Maharaj mentioned some additional challenges that include rising cost of fuel and the fast pace of transformation and engagement of taxi associations that will be left out of the process in the short term. However, he expressed dissatisfaction with the national Department of Transport for not providing clear leadership with respect to the implementation of the taxi recapitalisation process. Taxi academies are also

needed to provide technical skills to the industry. Mr Maharaj asserted that as an association they have come to realise that the minibus taxi industry as it is will not be able to compete with an improved and efficient bus rapid transit model, and that has energised them to endorse the proposed new public transport system.

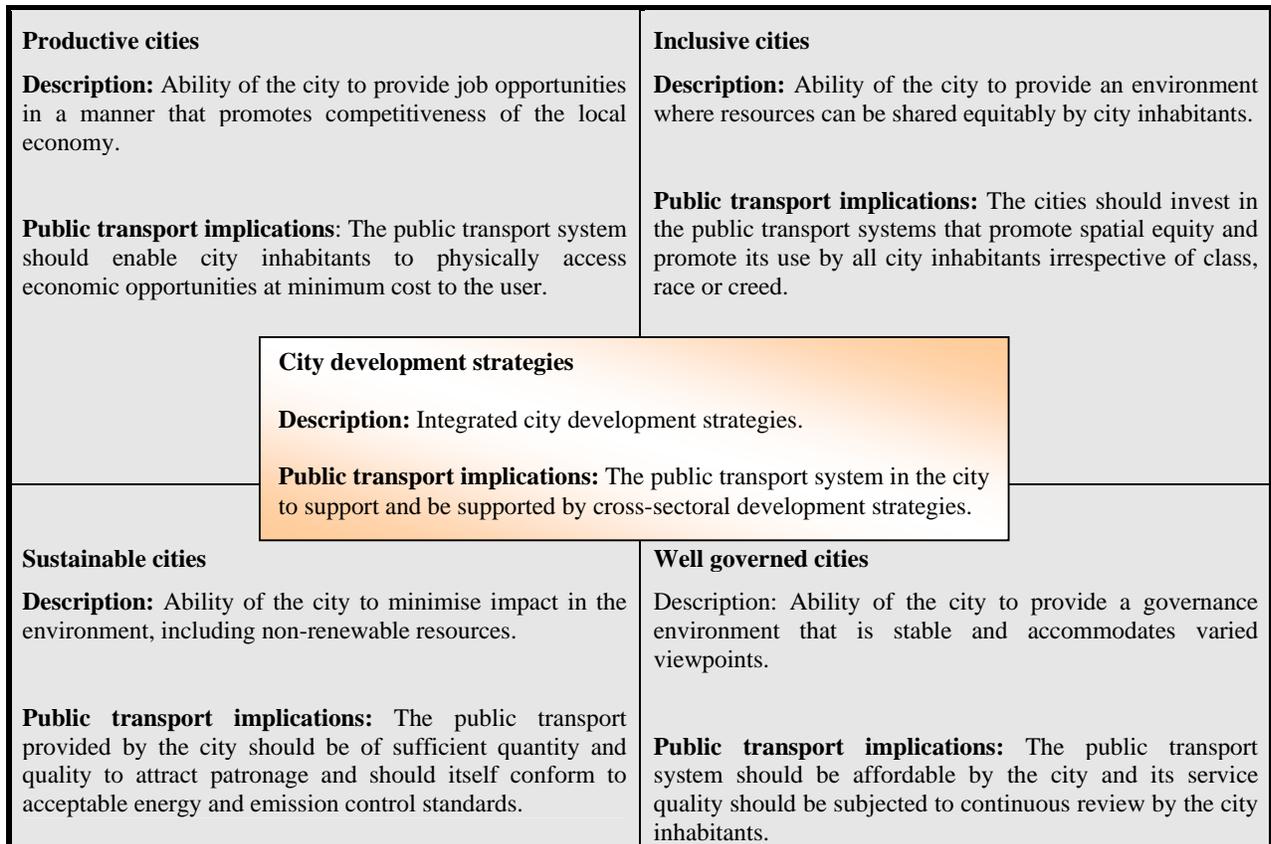
- **Ms Lize Jennings, Project Manager at Tran:SIT Programme:** Ms Jennings (*Topic – “Mega-transport projects sustainability and energy issues and implications”*) contextualised her presentation around the problems in the City of Cape Town associated with growing road traffic congestion, deteriorating air quality and worsening road safety for children. She reiterated through additional graphical data the problems associated with peaking oil supply. She also mentioned her involvement in the campaign aimed at greening 2010 FIFA Soccer World Cup related projects. She quantified environmental benefits associated with public transport improvements, including energy demand savings, minimisation of emissions and monetary savings. She urged cities to seriously consider issues related to energy and emissions when formulating and implementing transport plans.
- **Mr Herrie Schalekamp, Researcher and a doctoral degree candidate at the University of Cape Town:** Through his presentation (*Topic – “User-oriented approach in designing public transport infrastructure”*), Mr Schalekamp showed that using public transport in South African cities is difficult and often impossible. He emphasised that it is not just the large infrastructure elements that are important when delivering mega public transport projects, but also the small service design related elements that facilitate effective utilisation of the infrastructure. He limited the presentation largely to service design considerations of a public transport interchange. He discussed issues related to designing requirements for the first time user, children and different types of disabled users. He demonstrated the complexities associated with passenger transfers between different routes and modes of transport, and the design implications of the chain of passenger activities within interchanges. He recognised the role of functional institutional integration as a necessary condition to deliver on user-friendly facility designs.
- **Mr Seana Nkhahle, South African Cities Network National Programmes Coordinator:** On behalf of the South African Cities Network Mr Nkhahle delivered a vote of thanks. He acknowledged the level of abstraction and depth of discussion that characterized the two-day seminar. He concluded by pointing out that while there were different perspectives regarding sustainable public transport, the overall consensus was indeed to move forward with the implementation of a sustainable transport agenda.

The document is a synthesis of the contributions from the above speakers as well as inputs from the delegates who participated. As such the text is not provided in the order in which presentations and speeches were delivered at the seminar. It frames the contributions around specific technical issues and also identifies research questions and critical issues for further discussion within the context of South African cities.

1.0 INTRODUCTION

The state of public transport in a city, in terms of its accessibility, affordability, acceptability and availability, is a good indicator of the commitment of the city towards sustainable development. Indeed, public transport is a developmental signature of cities. In South African cities, however, public transport forms part of a broader basic service delivery agenda given the large proportion of households without a car, large proportion of the population without driving licenses and the need to minimise the ever increasing household expenditure on transport in the light of relatively high poverty levels. In addition, by attracting the patronage of car owners, effective public transport service has the potential to improve air quality and in that way reduce some cases of respiratory induced illnesses and reduce greenhouse emissions associated with impact on climate change. Future challenges in South African cities associated with population growth and its diverse needs demand that the innovative design and delivery of public transport services receive priority.

The South African Cities Network (SACN) has long supported the sustainable public transport agenda in cities. This was further demonstrated in 2008 by dedicating resources to learning events themed around sustainable public transport. This document is the outcome of a learning event, in the form of a two-day seminar, in which member cities as well as local and international transport industry stakeholders shared experiences in respect of planning, implementing and managing public transport projects and programmes. Using the SACN's analytical framework, the diagram below contextualises the concept of sustainable public transport. At its core, the framework suggests that sustainable public transport is an enabler and is delivered and managed in a manner that ensures that any inhabitant of the city can effortlessly access spatial opportunities.



The document is arranged as follows: The preface provides a summary of the contributions by speakers at the seminar. The concept of sustainable public transport is explained in broad terms immediately after the introduction. This is then followed by a description of the state of public transport in SACN member cities, followed by a consolidation of the seminar discussions.

2.0 SUSTAINABLE PUBLIC TRANSPORT

While there is no agreed scholarly definition of a sustainable public transport system, such a system is characterised by high levels of access, affordability, acceptability and availability. Accessibility levels are improved, for example, when the distance travelled between a journey origin and a public transport route is minimised, where a norm of a maximum of 500m (or 5 minutes) walking distances is usually promoted. From the public transport user perspective, the South African transport policy promotes a maximum of 10% of disposable household income on public transport (RSA, 1996). While this benchmark has received criticisms (Mitric and Carruthers, 2005) it remains a simple comparative measure. This also implies that authorities should invest in a basket of public transport infrastructure and service solutions that are affordable to the user. Equally, failure to have an administration system that ensures financial sustainability of the public transport system would



also be detrimental. An acceptable public transport system is compatible with the values held by society, for example, in terms of service quality and impact on the environment. Availability of a public transport service refers to its capacity in relation to travel demand, for example, headways, vehicle capacity and network capacity, the more successful public transport services attempt to functionally integrate with other modes of transport in order to maximise patronage. In order to achieve this, however, dedicated institutional planning and management of the system are required.

The more successful public transport services attempt to functionally integrate with other modes of transport in order to maximise patronage.

In South Africa, many of the public transport planning and management responsibilities are shared between all three spheres of government, namely national, provincial and local government. In line with legislation, the local government sphere is responsible for formulating and implementing the integrated transport plan. The plans are essentially supposed to provide an overall local government transport service delivery agenda. Cities, which form part of the local government sphere, are especially required to formulate comprehensive integrated transport plans. The shared responsibility of functions between the three spheres of government has often become the source of conflict, especially between cities and the other spheres. Whereas cities are directly accountable to their political constituencies and rate payers, this is less intense for provinces and the national government. Consequently, cities are sometimes held responsible for decisions taken by provinces and national governments within the city's area of jurisdiction, for example some subsidised public transport services, the provincial road network, national passenger rail and national roads. As a result, the ability of cities to deliver sustainable public transport is inherently limited. Although there have been legislative attempts to devolve full public transport responsibilities to the cities, successful implementation remains to be seen. In order for South African cities to deliver on their

sustainable public transport mandates they need to lobby for greater autonomy over the control of public transport.

Great autonomy over public transport service delivery has seen many cities around the world become innovative and effective agents. Cervero (1998) identifies examples of four city archetypes that, through proper and dedicated transport planning and management, have been able to deliver sustainable public transport:

- (i) **Adaptive cities:** These are public transport oriented cities that have invested in high capacity public transport systems i.e. rail, to guide urban growth. Examples are Copenhagen, Tokyo, and Stockholm.
- (ii) **Adaptive public transport cities:** These are cities that have managed to successfully adapt their public transport to serve somewhat dysfunctional urban sprawls. Examples are Karlsruhe, Adelaide and Mexico City.
- (iii) **Strong core cities:** These are cities that have successfully integrated public transport with the built environment within a more confined central city context. Examples are Zurich and Melbourne.
- (iv) **Hybrids combining adaptive cities and adaptive public transport archetypes:** These are cities that have managed to concentrate their development around main public transport corridors and at the same time adapting the public transport system to serve outlying areas. Examples are Curitiba, Ottawa and Munich.

Vasconcellos (2001) makes a strong argument that sustainable transport (including public transport), cannot be delivered within a traditional planning framework founded solely on technical treatise, and proposes a social and political approach to replace the former, and refers to it as “sociology of transport”. This proposed new approach, for example, would not take trips as a given but ask why and how trips are made. The approach also uses an analytical framework that incorporates societal economic and political contexts. The approach further ties with the notion that travel is in many respects a derived demand. This implies that when people travel, they do so in order to fulfil specific goals other than travel itself, and transport is used as a means to an end. This statement is very important for setting the scene for transport planning and management



Sustainable public transport is centred on the customer

in cities. In fact, it challenges some of the assumptions embedded in transport policies and implementation projects, and demands that practitioners understand the underlying reasons for travel in order to provide more sustainable developmental solutions. Ultimately public transport is a service, and in order to provide a sustainable public transport service, it is imperative that the consumer of the service (customer) is thoroughly understood for improved service delivery. Public transport solutions that are centred on the customer rather than technologies and vested commercial interests are characteristically sustainable.

Numerous approaches to public participation have found wide application in the design and operation of public transport systems. In many cities around the world, authorities enter into some form of contractual arrangements with operators for the provision of public transport services. Such contracts allow the authority to hold operator to account for the service quality delivered. In such cases, public inputs in the form of customer satisfaction surveys are used to assess the operator performance. Recently, performance based contracting regimes have been gaining popularity in contrast to mere tendered public transport service contracts. Survey techniques such as focus groups and in-depth one-on-one sample surveys are essential for gaining insights into the experiences of public transport customers. Contracts between authorities and operators are often concluded within the ambit of a regulated public transport system. However, in fully deregulated public transport systems, as is the case in many developing countries, authorities have no control over the service quality specifications. The service quality of fully deregulated services is improved if operators voluntarily make a collective effort to formulate service quality standards and through a self-regulation process enforce such standards. In fact, experience around the world shows that by organising themselves into route associations, these operators can lower their per-seat operating costs and become more competitive (Cervero and Golub, 2007).



Various forms of community participation techniques have been shown to improve public transport service delivery



São Paulo



Curitiba



Quito



Bogotá



Mexico City



León

Bus Rapid Transit (BRT) examples from around the World – these have provided sustainable public transport infrastructure and services in developing countries.

3.0 STATE OF PUBLIC TRANSPORT IN THE SACN MEMBER CITIES

The South African transport legislation and strategies introduced immediately post-1994, was intentionally formulated to address the transition of transport planning and management from a strong apartheid-led policy to a system aligned with the values of the new constitution. During the initial phases of the transition, the country made some bold policy targets, for example in respect of modal split between public and private transport and household expenditure on public transport. At the same time a number of policy blunders were made that have seen the country unable to transcend the state of transition to an extent that the transition itself produced its own problems:



Customer satisfaction with public transport quality was not on the agenda for poorer members of society

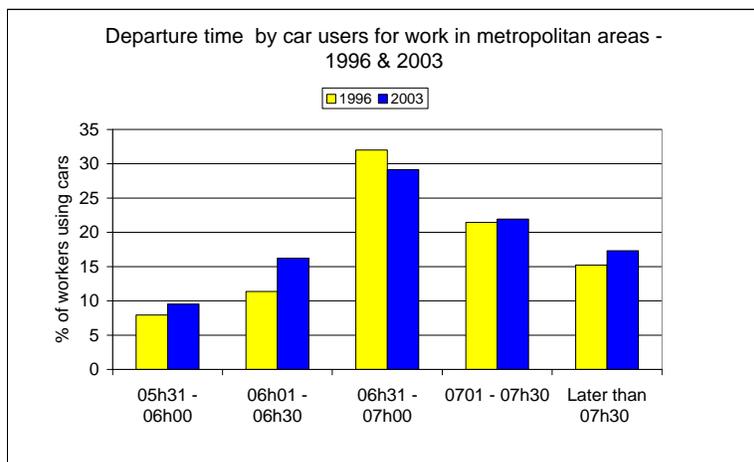
- Failure to anticipate the impact of increased energy costs on the travel patterns.
- That low cost public transport is more important to the poor and is almost mutually exclusive such that service quality is more important to the wealthier, the underlying assumption being that the poor do not deserve a good quality service. This is however being rectified by cities such as Johannesburg that have in the recent past formulated public transport plans to deliberately enable the delivery of premium services to the poorer members of society.
- Assumption of a surplus of skills in the country to address issues relating to transport service delivery. This has created enormous planning and implementation backlogs associated with the inability to spend allocated capital and operation budgets for improved public transport services.
- Inter-sphere government coordination would work seamlessly. This has proven to be especially critical in respect of public transport regulatory functions shared between the provinces and cities, as well as in the interface between housing provision and public transport services resulting, for example, in poorly located settlements.
- Underestimation of the role of the labour unions in the transformation of the public transport system. As a result little planning was made to accommodate the impact of public transport reforms on the labour force, to the chagrin and much resistance of the unions.
- Failure to anticipate and plan for the growth of the middle class with increased disposable incomes and subsequent ability to shift completely to private transport use.
- State ownership and operation of public transport infrastructure and services.
- The long trip lengths still experienced by the poorer members of society, including ex-homeland areas. This is also associated with the failure to create substantially increased employment opportunities in townships.



Failure to anticipate and plan for the growth of the middle class with increased disposable incomes has been a fatal flaw

- Land ownership reform.

As a result of many of the above failures, the generalised costs of transport, especially public transport, have been on the increase. In fact, the 2005/2006 income and expenditure survey



Commuter coping mechanism with road traffic congestion – shifting of departure time to work

(Statistics South Africa, 2008) found that transport is the single household expenditure item that increased substantially over the recent past. Even for 20% of households with the lowest income, transport expenditure as a proportion of total household expenditure increased from 4% in 1995 to 10.6% in 2005/2006. In terms of travel time, Lombard, Cameron, Mokonyama and Shaw (2007) show for example that as a result of roadway congestion, many commuters have changed their time of departure to work to either earlier or later than the traditional peak.

Whereas member cities of the South African Cities Network are all required by law to prepare comprehensive integrated transport plans some still have no such plans. Nonetheless, Table 1 below provides a summary of some of the transport related issues in each of the member cities sourced from their transport plans and other publicly available strategic documents. While the member city issues highlighted are diverse, the following serves as a summary of the common transport issues:

- The challenge of managing an integrated public transport network.
- Deteriorating road traffic safety.
- Poor infrastructure planning, provision and management for non-motorised transport modes.
- Deteriorated public transport service quality.
- Attempts to revitalise the public transport system through the introduction of bus rapid transit networks.
- The use of 2010 FIFA Soccer World Cup as a catalyst for improved public transport investments.

Table 1: Some of the issues faced by member cities of the South African Cities Network

City	Transport related issues
Buffalo City	<ul style="list-style-type: none"> ▪ Limited scheduled public transport operations, and that taxis are the dominant motorised public transport mode. ▪ Long walking distances as a result of high public transport costs relative to income. ▪ Half the road fatalities are pedestrians.
Cape Town	<ul style="list-style-type: none"> ▪ Road traffic congestion.

City	Transport related issues
	<ul style="list-style-type: none"> ▪ Increased commuter travel distance ▪ Safety and security at public transport facilities. ▪ Poor non-motorised transport network. ▪ Target of 57:43 public:private transport modal split by 2020. ▪ Implementation of an airport to City high capacity road based public transport link. ▪ Klipfontein bus rapid transit service. ▪ Overtraded minibus taxi routes. ▪ Adoption of travel demand management measures. ▪ A host City for 2010 FIFA soccer world cup.
Ekurhuleni	<ul style="list-style-type: none"> ▪ Multiple satellite land use nodes within the municipality. ▪ Integrated Transport Plan not finalised. ▪ Numerous informal settlements. ▪ Provincial wide rail network convergence in Germinston. ▪ Functional linkages with the OR Tambo international airport. ▪ Part of the Gauteng City region debate. ▪ Manufacturing sector and associated freight volumes with implications on the maintenance requirements of the road network. ▪ Corporitisation of municipal bus services. ▪ Accommodates part of the Gautrain network. ▪ Bus recapitalisation.
eThekweni	<ul style="list-style-type: none"> ▪ First and only Transport Authority in the country. ▪ Improvement of the freight network efficiency and safety. ▪ Inner City Distribution System. ▪ Supports clean energy objectives and sees opportunities for raising transport revenue from fuel surcharge. ▪ Will calibrate a traffic model for benchmarking and monitoring carbon emissions. ▪ Congestion generated by public transport vehicles. ▪ Warwick junction upgrade. ▪ Dedicated public transport lanes on freeway. ▪ Need for public transport connecting new international airport to CBD. ▪ Development of uShaka Marine World as a world class tourist attraction. ▪ A host City for 2010 FIFA soccer world cup.
Johannesburg	<ul style="list-style-type: none"> ▪ Currently in the process of implementing the first phase of Bus Rapid Transit (BRT). ▪ Linkages between Bus Rapid Transit, Gautrain, minibus taxis, metered taxis and current buses. ▪ Assisting the minibus operators to form consortiums to participate in the BRT operations. ▪ Large operating budget and limited human capital and skills. ▪ Implementing Inner City Distribution public transport system as part of BRT. ▪ Road traffic congestion. ▪ Poor non-motorised transport (NMT) network. ▪ Road network tolling by the South African National Roads Agency Limited (SANRAL). ▪ Part of the Gauteng City region debate. ▪ A host City for 2010 FIFA Soccer World Cup.
Mangaung	<ul style="list-style-type: none"> ▪ Spatial separation of major land use nodes. ▪ Farm transport. ▪ Poor non-motorised transport network. ▪ Elizabeth Street pedestrianisation. ▪ Increased illegal land occupation. ▪ A host City for 2010 FIFA Soccer World Cup.
Msunduzi	<ul style="list-style-type: none"> ▪ Road maintenance and management. ▪ Nodes and corridor development strategy. ▪ Parking standards.

City	Transport related issues
Nelson Mandela Bay	<ul style="list-style-type: none"> ▪ Would like to establish a transport authority. ▪ Inner City Distribution System ▪ Implement an integrated public transport system. ▪ Finalise Non-motorised transport network plan. ▪ A host City for 2010 FIFA Soccer World Cup.
Tshwane	<ul style="list-style-type: none"> ▪ Investigation BRT options to implement for priority corridors. ▪ BRT parallel to the main rail corridors. ▪ Road traffic congestion. ▪ Part of the Gautrain network. ▪ Inner City Distribution System. ▪ Part of the Gauteng City region debate. ▪ Corporatisation of municipal bus services. ▪ Poor NMT network. ▪ Municipal bus recapitalisation. ▪ Road network tolling. ▪ Would like to establish a transport authority. ▪ A host City for 2010 Soccer World Cup.

The state of transport in South African cities is currently not adequately monitored. Many of the sample surveys available are more representative at provincial rather than local government level. The design and implementation of appropriate survey instruments aimed at monitoring the state of transport in South African cities should receive priority. This is achievable through the use of technology interventions such as satellite technology, various forms of transactional data and the use of information and communications technology.

The contemporary SACN member states situation, which includes the forthcoming 2010 FIFA Soccer World Cup event, taxi industry reforms, oil depletion and rising fuel cost, rapid decline in the availability and supply of parking space and the increase in traffic congestion and its impact on the environment, all provide a perfect storm to tackle the headline issues involved in sustainable public transport in South Africa.

		
	<p>Quality Public Transport</p>	
	<p>NLTA</p>	

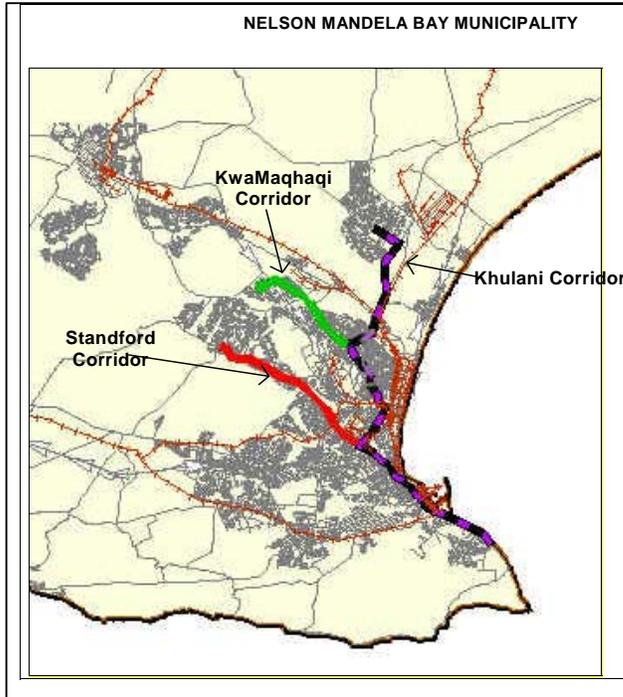
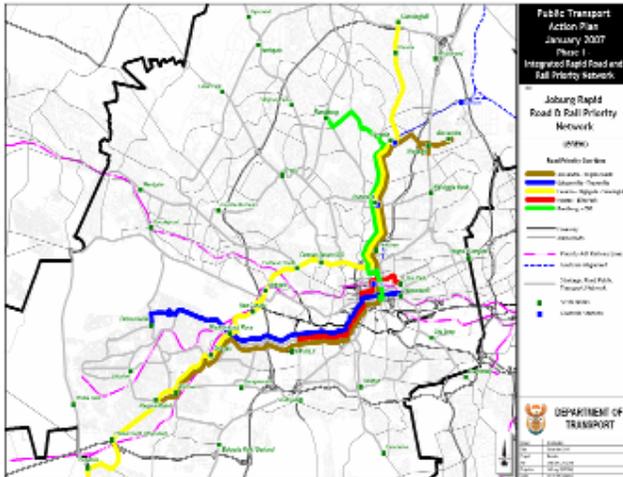
Currently in South Africa, indications are that the cities are increasingly becoming pressure points. For example, the average household size in a city is declining but the number of households is on the increase. This has particular challenges for the provision of public transport services in that the per capita household journeys are on the increase and in turn this has implications on the physical capacity of the

Public Transport in South AfricaThe Perfect Storm

transport system. Despite the concerted efforts seeking to invest in public transport infrastructure,

however, indications are that many of the public transport systems in large cities around the world receiving large investments have declining ridership levels, and public transport continues to lose to private transport. It is therefore important to find solutions that work for South African cities and this requires an intimate understanding of city system and environment. Notable public transport trends that specifically require responses to include the following:

- Public transport trip lengths are generally higher than world averages. For example, while in Tokyo the public transport commuter trip length is 8km, in the City of Tshwane it is over 25km and still on the increase.
- In the period 1995 to 2003 the Western Cape, fuelled mainly by the City of Cape Town, has seen the largest increase in the number of new household owned cars. Actually, the City of Cape Town has the highest proportion of car owning households (about 50%) compared to Johannesburg (estimated at 32%) Lombard, Cameron, Mokonyama and Shaw (2007).



The Rea Vaya BRT in Johannesburg and Nelson Mandela Bay BRT - BRT examples in South Africa

trains (Lerer and Matzopoulos, 1996).

- In the same period, the City of Johannesburg has the highest average development density (about 21 persons per hectare) of all South African cities, yet in world standards it is considered very low to sustain public transport. In terms of inner city densities, however, the Nelson Mandela metro has the largest density of all the Cities (about 56 persons per hectare) but the lowest in terms of whole metropolitan area (about 5 persons per hectare) (Van Den Berg, Krynauw and Cameron, 2005).
- The buses in the cities are losing their market share and it appears the minibus taxis are taking a large proportion of this demand. Given this trend, there is need to continuously seek to use the right mode for the right circumstances.
- The nature of trip making in cities is changing. Work trips used to be the main travel purpose but it has emerged that the importance of trip purpose, in descending order is: education, shopping, visiting and then work. On a typical day there are actually more people who do not travel than those who travel to work (DoT, 2003).
- The safety and security levels of the public transport system leave a lot to be desired. For example, an epidemiology study of railway injuries and deaths reveals a large number of incidents that result from falls from trains and being struck by

The preceding review paints a picture of a public transport system facing critical challenges. The two day seminar discussed some of the solutions that could be adopted to address the challenges.

4.0 PROCEEDINGS OF THE SACN SUSTAINABLE TRANSPORT SEMINAR

This section of the report is a consolidation of the discussions that took place during the two-day sustainable transport seminar held in Cape Town. The discussions are conveniently summarised in terms of the major discussion points.

4.1 Prioritising users of space

There was widespread agreement that the design of space to properly accommodate pedestrian activity should be prioritised. Mr Penalosa pointed out that this is purely a political decision. The



size of walking space is not a technical decision but related to the amount of respect authorities want to afford to the public. A good example was the City of Cape Town’s bicycle network master plan with stringent design standards. Nonetheless, while the design for non-motorised transport was seen as important, there was no clear indication in the seminar of the direction in which the cities would like to adopt for the way forward. The active involvement of local communities in the urban design framework in the suburb of Melville (City of Johannesburg) was seen as one of the good examples in which change begins to take place when communities are involved.

A sentiment was expressed that the reason Bogota was able to achieve major urban renewal reform was due to the somewhat dictatorial leadership and that it would be difficult to replicate such an approach in South Africa, which is fraught with fragmentation of institutions and society. To this Mr Penalosa reminded delegates that South African cities have actually managed to overcome one of the biggest challenges in the form of amalgamating local municipalities that used to operate as separate entities and that conditions are ripe for far reaching interventions.

Mr Seedat mentioned that South African cities have inherited the culture of prioritising the private car from the influence many transport professionals received from studying in the United States in the 1970’s. As a result there is still a strong roads lobby group that is influencing the transport agenda in the country.

To the question of why cities and the communities should disregard the versatility and usefulness of cars, Dr Wright responded that it should not be the only question we should be asking. Further supported by Mr Penalosa who said the right question to ask would be to find out from communities if they would like to have

The size of pedestrian and cycling space is purely a political decision related to the amount of respect afforded to citizens

safer and healthy communities.

4.2 Commuter led planning

Vibrant civil society makes government more accountable. In fact, some of the most revolutionary changes in cities around the world are as a result of communities claiming their right to ownership



An organised protest against poor authority interventions in public transport



Example of a community in Accra (Ghana) taking over a street riddled with road traffic accidents involving children

of their cities and challenging authorities in this regard. Councillor Moosajee shared her views in respect of involvement of communities in transport planning and management. She emphasised that the inherent intelligence of communities is undermined by lack of proper consultation. Prof Wilkinson attributed some of the ineffective engagements with communities to the lack of a collective voice of the users of public transport, despite the existence of organisations such as the South African Commuter Organisation (SACO). To this Mr Sangweni provided a short history of the involvement of SACO in fighting for the rights of commuters, and invited delegates to sites where member of SACO volunteer as patrollers to ensure the safety of commuter during the dark hours of the day.

Often authorities are unable to handle creativity expressed by communities and end up either ignoring community inputs or arresting community members.

When preparing integrated transport plans, cities are required to consult with communities. However, the turnouts at such meetings are usually poor. A sentiment expressed was that such poor turnouts are as a result of city officials resorting to technical jargon when engaging members of the public. In the City of Cape Town, before such plans were drawn the city conducted focus group survey to get to

understand the needs of the communities better. This is seen as a way of getting input rather than telling the public what the city had already decided upon.



Space hijackers: A group of youth in London using parking space to protest against the prioritisation of cars over people in the light of expensive office rentals



User led planning of public spaces. 1968 – Residents in delft (Netherlands) build the first woonerf (traffic calmed street) – Picture above. Picture Below 1972 – Municipality of Delft constructs first official woonerf

Commuter led planning in local government is fundamentally supported by Section 152 of the Constitution of the Republic of South Africa. The constitution identifies one of the objects of local government as that of encouraging the involvement of communities and community organisations in the matters of local government. This is further reflected in the 1996 White Paper on National Transport Policy which states that “The needs of the community and customers will be determined and provided for by a transparent, consultative, coordinated and accountable process, based on comprehensive information. Public participation in decision making on important transport issues, including the formulation of policy and the planning of major projects, will be encouraged.” The National Land Transport Transition Act and the soon to be enacted National Land Transport Bill both state that planning authorities must “encourage, promote and facilitate public consultation, participation or involvement through hearings, seminars and workshops and any other means that are appropriate to ensure effective communication with customers, communities, organised labour and transport operators.” It is therefore imperative that cities find improved ways of ensuring that this legislative mandate is

achieved.

What matters to the public transport customer – is the provision of a customer-centred transport system. It is therefore imperative that in the planning, provision, maintenance and sustainability of

Rapid travel time		Safe vehicle operation
Few transfers		Secure environment
Frequent service		Comfortable and clean system
Short walk to station from home / office		Friendly and helpful staff
	Full network of destinations	Low fare cost

The values and principles of public transport customer needs

public transport systems the voice of the customer is taken into account. This was supported by Dr. Wright who summed it as “public transport must be designed around people”. People and the community (i.e. existing and potential users) have demonstrated an amazing capacity and ability to structure and restructure urban transport systems and spaces to meet their needs and expectations. It has been illustrated in various parts of the world that communities can transform city road space to be compatible with its use by the community. For

example, the community reaction in Accra (Ghana) when children were killed by cars was to erect “road humps” with locally available soils and rubble contributed by members. A classical case of community urban transport planning in action occurred in the Delft in Netherlands in 1968. The community mobilised itself and redesigned their own to construct the first *woonerf* (traffic calmed

street) before the municipality later replicated this initiative throughout the municipal boundary. If road space planning does not provide for leisure and space for community expression and values, community disenchantment will happen. One form of community protest practice elsewhere in the world is space hi-jacking. For example, in cities such as London and San Francisco community members group together and decide to take parking space and turn it into family space and leisure space.



Space hijackers: people and families reclaim streets by dancing, acting as animals around sports utility cars and throwing street picnics in London & San Francisco

One key lesson that sustainable urban transport city World review presents is that in tackling commuter-led transport planning the “out of box thinking can do much to solve our problems for sociable public spaces”. It also reminds transportation practitioners and stakeholders of the enormous resource represented by an involved citizenry. Perhaps what is important in resolving commuter led planning struggles – is staying ahead of the dialogue and sentiment. Certainly, the best response is not to wait for commuter public transport challenges to explode before remedial actions and plans can be tabled. A proactive and inclusive sustainable public transport agenda will do much in halting undesirable results. The world is full of examples where transport problems faced by communities unsettled presiding governments. For example, in Santiago, Chile – four ministers lost their jobs, the President popularity dropped by 40% when public transport fares were unilaterally hiked by government with little regard for the public transport community users.

4.3 Mega Projects

Mega-transport projects as discussed at the seminar refer to large scale and multi-part transportation projects that are often characterised by the following attributes:

- Multi-billion Rand capital expenditures
- Long life time of 20 years and more
- Consumption of large area or tracts of land (size, shape and volume)
- Massive infrastructure components
- Considerable uncertainty with respect to demand forecasts and cost estimations.

Examples in South Africa are Gautrain, Bus Rapid Transit networks and railway networks.

Mega-projects were noted as presenting a number of challenges to cities. For example, South African cities are investing in large capital projects and this implies that in the near future the demand for maintenance funding will be on the increase. The current funds are stretched as it is, and therefore, finding ways of generating extra funds for such maintenance programmes will become important in future.



The Gauteng Project

Route

- *Pretoria – Johannesburg*
 - *62 km*
 - *7 stations*
 - *11 km of tunnel*
 - *7,5 km of bridges*
 - *R7 billion at 2001 values*
 - *160 km/hour (40 minutes Pretoria – Johannesburg)*
- *Marlboro – Oliver Tambo International Airport*
 - *13 km*
 - *3 stations*

Funding for transport in cities was viewed as becoming a major constraint. This creates the need to identify and exploit innovative revenue streams for transport in the cities. The Land Transport Bill empowers municipalities to raise funds through various mechanisms and should be exploited fully. Parking revenue, for example remains largely untapped as well as developer contributions. However, much of these sources of funding once secured they become committed to other pressing needs. This implies that the need to generate completely new and innovative transport-led revenue is critical. Involvement of the private sector in transport infrastructure operations and investment is



Artist impression of completed and functional Rea Vaya BRT showing modern state of art terminal facilities which will provide access for people with disabilities



an opportunity that should continue being explored and exploited. Furthermore, cities need to engage with the National Department of Transport on the newly proposed national transport fund to find how to tap and access the funds for use in sustainable public transport endeavours. Such a fund if properly managed could prove to be useful. The City of Johannesburg has experimented with the issuing of bonds as a low cost infrastructure financing strategy. But for instruments such as bonds to be effective there is a need to thoroughly inform communities about such opportunities.

4.4 The voice of the user is silent



- ✓ Routing design
- ✓ Station design
- ✓ Signage and maps
- ✓ Customer service amenities
- ✓ Security needs
- ✓ Service frequency

In engaging in sustainable public transport infrastructure and service provision (including mega transport projects), city officials need to place emphasis on capturing the voice of the user and genuinely endeavouring to plan, implement, maintain and evaluate the projects in partnership with the users. Adopting innovative approaches that mainstream and place the users' voice at the centre of the whole process is critical. The

Public transport users can be useful as an expert group in conceiving, planning, provision and maintenance of public transport infrastructure and services

perceptions of public transport users as experts – who can contribute to routing design, station design and so forth need to be fore-grounded more strongly than has happened before. This entails the need to plan with the people. It is important that public transport infrastructure and services should be demystified from being a technocratic activity that is planned by people (experts and professionals) who do not really use the very same public transport.

4.5 Transport workers are an important factor in the improvement of public transport services



Transport is a money spinner and vested interests are almost unavoidable

Ms Barrett posited the view that public transport service quality would not improve unless the welfare of transport industry workers was prioritised. To the question of “reckless” behaviour of minibus taxi drivers Ms Barrett, supported by Mr Molefe, argued that driver behaviour in South Africa was generally poor. In fact, it has been shown that road traffic accidents involving minibus taxis are proportionally low compared to those of private cars. The working conditions of the public transport vehicle drivers include enforcement of minimum working condition standards, working hours, poor diet and poor job security. Ms Barrett warned against the “obsession” with competitive tendering as a means to improve service quality and illustrated how this has resulted in job losses. She further contrasted the Bogota public transport business model with the

South African situation, and concluded that due to the absence of organised labour representation in Bogota, the direct adoption of a Bogota model could be problematic. The daily exposure to corrupt practices by road traffic law enforcement officials is also a major problem. Mr Molefe further indicated that minibus taxi drivers handled large amounts of unguarded cash which could entice them to corrupt practices.

4.6 Technocrats have a role but political decisions need to be made

Councillor Moosajee emphasised that a partnership between politicians and technical experts is essential for improved service delivery. To this, Mr Penalosa cautioned against too much reliance on technical experts for decisions that need to be taken by politicians. He said politicians need to decide what quality of life they want for their citizens and guide the technical experts to implement the visions. A sentiment was expressed that cities in South Africa do not have a common vision of what is meant by sustainability. Often very elaborate terms and expressions are used but these are essentially hollow – devoid of any meaning. Furthermore, government appears to be confused in terms of a strategic way forward. For example, low-cost housing continues to be built in poorly located land, most of the major public transport capital investments are still directed at the interest of the wealthier members of society at the expense of the poor, and that despite all the plans and projects, public transport continues to be in a “mess”.

The validity of some of the political decisions was challenged, such as the decision to move ahead with Gautrain construction despite evidence on its non-viability. A question was asked whether the bus rapid transit interventions are another big mistake. To this an answer emerged that the analysis of large capital projects is in many respects a retrospective science and that forecasts are often misleading.

4.7 Vested interests in mega transport projects

Councillor Moosajee conceded that transport is a money spinner and therefore there are bound to be vested interests in any large transport project. Apart from the potential for corruption, vested interest in the form of manipulation of the system to indirectly serve the business interests of some groupings is a problem. Often statistics showing the potential for job creation and the potential for economic growth are used to manipulate decision makers. The solution is to ensure that transparency is maintained in all the transactions for maximum public input. In fact, in the City of Johannesburg, a decision was made to appoint a probity advisor to provide an independent audit of all the transaction entered into with contractors to ensure minimal corruption.

4.8 Thinking beyond mere infrastructure in mega transport projects

Engineers are often given the responsibility to design both the public transport infrastructure and its operations. However, because public transport is a service, infrastructure design and operations are



only a part of the design process. Complete service design should be incorporated and this often emerges from continuous interdisciplinary discussions including marketing experts, sociologists and psychologists. The design of infrastructure to incorporate the needs of people with disabilities, first time users and children is of critical importance.



Dr. Wright argued that perhaps a sustainable public transport system and city is one in which the importance of a smile and security in any city is adequately provided for and well projected and articulated in policy documents and implemented in real life transport projects. Such a city will yield to the principles and values of universal access. This takes into account the perspective of the most vulnerable – is planned, designed and maintained on the premise of revolving around the happiness of a child, an aged person and a wheel chaired person.

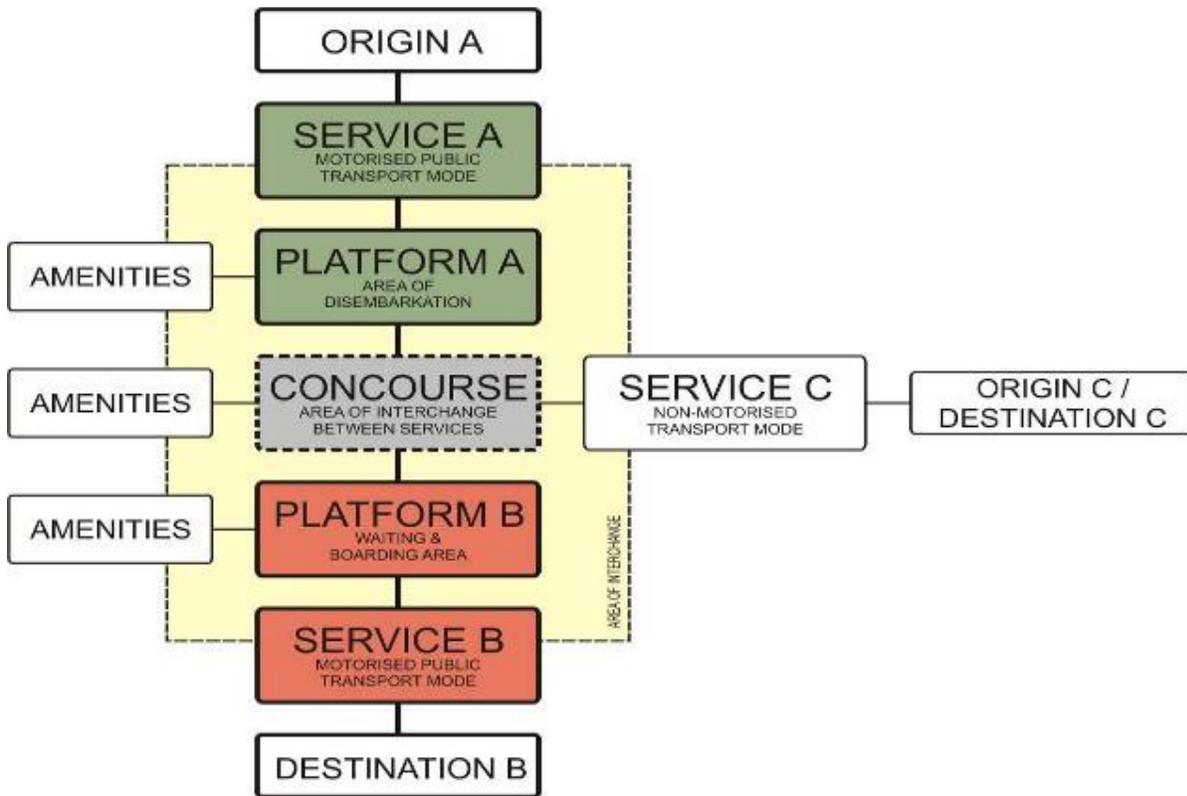


It is important that a life-course perspective approach be used in providing sustainable public transport infrastructure and services

Following up on Dr Wright's contribution, Mr. Herrie Schalekamp indicated that in designing and providing public transport interchange infrastructure and services, it is important to realise that a number of factors may limit potential users, access to such facilities. These factors may range from physical conditions such as a person who uses a wheelchair, or children cannot simply reach out for the access door lever into a public transport vehicle, or financial ability (that is earning too much or too little), first time users such as tourists who have never been to South Africa and so forth (refer, for example to extensive work undertaken by Venter et al, 2004 and Mashiri et al, 2006). It is therefore important that a user – centric public transport approach be ingrained in public transport infrastructure and service planning, provision and maintenance. Interchanges should be accessible, convenient, efficient and

Universal access is the guiding principle of sustainable public transport

effective from the perspective of any mode – be it a sideway, sidewalk from one mode to another and between motorised transport and non-motorised transport. Interchanges should be designed to accommodate commuters and users much more than vehicles as has happened to date. In Curitiba, for example it was noted that buses are colour-coded for easy identification and these colour codes relate to the different destination zones in the city.

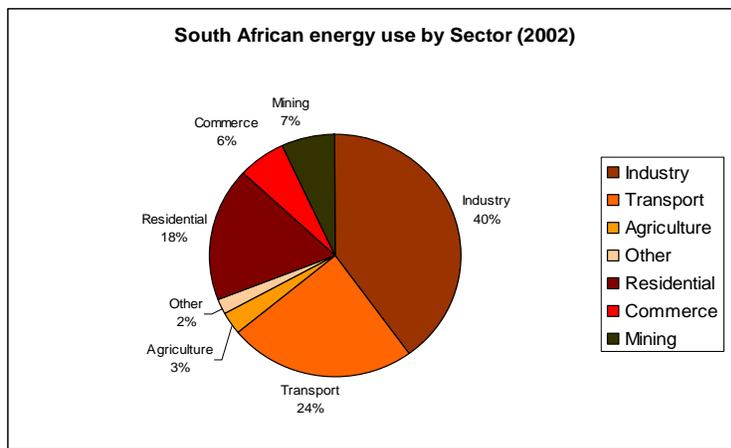


Components of a public transport interchange for enhanced public transport facility and service delivery

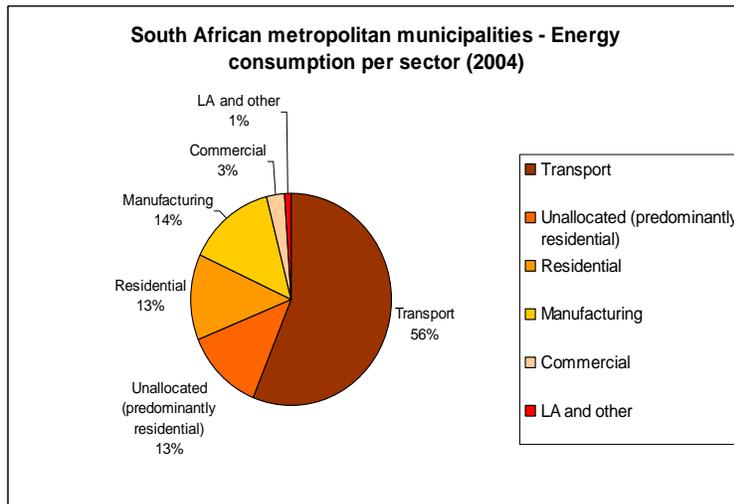
4.9 Avoid wasteful expenditure

Government expenditure is often used as an instrument to stimulate the economy. In the transport sector, historical government expenditure on road network, bridges and airports has managed to grow industries such as engineering, construction materials and ancillary services industries were sustained and in the process create jobs and alleviate poverty.

Expenditure on infrastructure associated with Gautrain, South African National Road Agency freeway scheme and 2010 public transport infrastructure fund is also seen as part of a strategy to stimulate economic growth. Some of the delegates thought that government was ready to spend on any form of infrastructure as long as a plan has been prepared. Mr. Seedat of the Department of Transport warned that cities should prepare business plans for proper public transport infrastructure otherwise in the future all the money would be redirected to places that are ready for implementation.



In discussing, delegates further noted that in terms of the South African energy use by sector (2002) study, transport is the second energy user (at 24%), with industry being the major user at 40%. The bulk of the energy is consumed by the automobiles. Statistics on traffic volume in the 9 major cities of South Africa, indicate that the private vehicle car ownership levels are rising indicating an ever increase in energy and road space demand.



The South African metropolitan municipalities' energy consumption per sector (2004) study depicts the transport sector being the major consumer of energy in cities. Ms Jennings pointed out that measures that will encourage and promote the use of public transport over private transport will go a long way in reducing energy inefficiency use and road space availability in the transport sector.

Some delegates considered capital expenditure such as Gautrain and BRT interventions as wasteful expenditure. They expressed the sentiment that more can be done with existing infrastructure if managed properly.

4.10 Cities need to have a shared vision

In order to provide and measure up to the standards of sustainable public transport, South African cities need to have a shared vision. Such a shared vision can be generated and developed through a strategic transport approach which entrenches long term transport thinking.

A city must provide public transport infrastructure and services that performs better from an ecological perspective. This public transport infrastructure and services includes energy systems that dramatically reduce city greenhouse gas emissions, conserve and reuse water and other resources, and offer abundant space for natural habitat and food production. It is important that people and communities are integrated much better into the larger natural habitat, and live in a built form with appropriate densities so that space for recreation, nature, and food growing is provided and made available.



Happiness in the city

If people and communities need and desire to live in a denser city, it is fundamental that the city, neighbourhood and street lifestyle is made much more attractive. Streets, buildings and neighbourhoods must be designed to provide comfortable, pleasurable living environments, and combine that with childcare centres, libraries, community centres, and businesses for day-to-day goods and services (embracing the full set of principles and values enshrined by precinct-led planning). This challenge demands perhaps that people, communities and experts break from the traditional notion that a house on a big stand is the pinnacle of living.

Finding better, innovative and alternative ways to help people, communities and public transport stakeholders to participate, dialogue and contribute to the sustainable public transport city transformation agenda remains a continuing process challenge.

The summation of the on-going seminar discussion pointed in the direction that a city shared vision should clearly and fully embrace a sustainable public transport vision which strategically positions the city to deliver effectively and efficiently on its mandate. This may entail undertaking the following activities;



Examples of contrasting waterfront environments

- **Assessing the state of the city transport system and its region.** Each city needs to identify and analyse its own public transport opportunities and problems; the sustainable public transport values and preferences of its residents; sustainable public transport change drivers, including its relationship to its region and the national and global economy; and its assets and resources.

- **Develop a city transport system long-term vision.** A shared sustainable public transport strategic understanding among all stakeholders is essential to align energies to work cohesively for the good of the city. Thinking citywide provides a mechanism for local stakeholders to assess the linkages between their respective priorities for health, security, jobs, housing, education, transport, and the environment and to develop a shared vision.
- **Engage networks of cities.** Learning from peers through city-to-city public transport knowledge-sharing networks has proven the most effective and sustainable way to transfer knowledge. The involvement of organised civil society bodies and other non-governmental bodies is crucial for the institutionalisation and replication of a city sustainable transport development strategy.
- **Adoption of standards.** Cities need to use common language and the same metrics to communicate their vision. For this cities can borrow from established principles taught in schools of management.

Part of city vision making, requires shared transport values, which are discussed in the section that follows.

4.11 Values and transport

Transport just like any other sector and activity is not absolved from the value issue. Values in transport may refer to principles, standards or qualities considered worthwhile or desirable by the public transport stakeholders, users and experts such as comfort levels, service levels, and operational frequency. The key public transport customer values are summarised in the diagram to left of this text section. Councillor Moosajee defined core values that should govern the administration of public transport governance as follows:



Councillor Moosajee emphasising the importance of core values in public transport

- **Accountability:** people in decision making positions should be accountable.
- **Respect:** everyone who is part of the public transport domain must afford respect to everybody else.

- **Honesty:** individuals and institutions need to be honest.
- **Ubuntu:** the spirit of ubuntu must be inculcated in our institutions.
- **Cooperation:** all the parties involved in the management and operations of public transport systems must seek to cooperate with each other.

4.12 South African cities have already overcome what many cities battle with

Delegates in accepting the reality of the sustainable public transport in South Africa also drew inspiration that the country and the cities in particular have proved before that they are capable of executing projects and holding events even when people doubt them. This resolve it was noted should anchor initiatives meant to address the challenge of managing a multiplicity of urban public transport stakeholders' struggles and challenges. It was also acknowledged that generating and balancing the diverse public transport stakeholders will indeed be a balancing act. Whereas for example, operators are but one key stakeholder in the matrix, private car groups can also lobby from

another perspective, in the meantime the environmentalists will also be singing their own tune and so forth.

The real challenge facing South African cities is tackling head-on genuine public transport challenges. The first step may involve realising and accepting that the sustainable public transport challenge is indeed a shared and collective city's challenge. This raises the underlying public transport governance question of staying ahead of public transport community and stakeholders needs through appropriate use of dialogue and transparency techniques to enhance collectively change and make commitments and reassurance to the city constituency that the cities are indeed committed to improve public transport. Central in this whole debate is improving public transport commuter service delivery. The government's response to improving commuter needs, governance issues for the commuter should be clear. Questions such as how do cities improve from a public transport governance quality of life perspective through encouraging a shift from private to public transport system, will need to be clearly thought through and addressed. Similarly, how to restructure public transport, the public transport planning tapestry and so forth need very clear ways of tackling them.

4.13 The age of cheap oil is over, brace yourself for tough times ahead

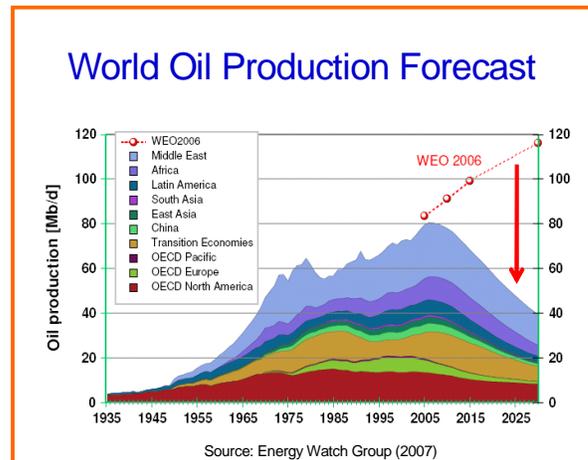
Oil Dependence in SA

- Petroleum = 97% of transport fuels
 - ± 63% imported
 - ± 30% Sasol (coal-to-liquids)
 - ± 7% PetroSA (crude & gas-to-liquids)
- Transport heavily dependent on roads
 - 80% of freight
 - 95% of motorised passengers

Delegates harped on and sought to explore the use for and feasibility of alternative fuels in urban public transport. In this regard, the use of biofuels and ethanol to blend the imported oil was also bandied as alternatives. Research and development in hydrogen cars, electric cars and buses can also play a role.

The use of mass transit systems and bus rapid systems may be favoured by the oil depletion challenge responded Mr. Wakeford. The graph below shows that world oil production is declining

and the energy crisis entails changing lifestyles, production patterns, transportation and movement systems. The need for compact cities that locate and mix land uses such that trip distances to work places, schools, health facilities, socio-economic opportunities are minimised could not be over-emphasized. This represents *transport-orientated development*.



4.14 The community member is the missing link

The urban poor have demonstrated enormous resilience and ingenuity in mobilising and organising themselves when formal institutions have failed to serve them. A city sustainable transport development strategy process capitalises on the enormous potential of the urban poor as development agents by supporting their participation in decision-making processes that affect their livelihood. Professor Peter Wilkinson highlighted key transformational sustainable public transport governance issues that require close consideration if the comprehensive public and sustainable public transport agenda is to be achieved.



The commuters, taxi and minibus industry are key stakeholders in generating a sustainable public transport plan and provision

- Complex technical operational design and management issues that needed to be resolved in planning and installing fully intergrated system to enable “seamless” passage by users (routing, scheduling, vehicle selection, ticketing et cetera)
- Financial – establishing appropriate funding/contractual arrangements in terms of provision /maintenance of necessary infrastructure (possibly addition /replacement of vehicle fleets or rolling stock) and possible operational subsidies (to supplement appropriate and sustainable tariff/fare structure)
- Institutional – developing appropriate framework for system governance (where governance = direction/management achieved through self-organising inter-organisational or stakeholder networks)

It was also pointed out that resolving governance issues is probably most problematic, given disparate , currently disordered array of “stakeholders” involved such as;

- Formal (private and parastatal sector) operators
- Partially “formalised” /regulated minibus-taxi operators – significantly disaffected , prone to wildcat interventions
- Agencies in all three spheres of government (DoT, PDoT, municipality/TA)
- (Various) public transport user groups – at present largely “voiceless” occasionally venting frustration in violent protests

This is in addition to the need to interact with other stakeholders in a broader urban transport system, including freight transport operators, private transport users (motorists and motorcyclists), the NMT constituency (pedestrians and cyclists) and land use/spatial development planning agencies with their own constituencies of stakeholders.

It was also discussed that various transport users groups at present remain largely voiceless and occasionally venting frustration in violent protests. Ultimately a sustainable intervention should be able to facilitate the creation and establishment of an appropriate institutional framework premised on a collaborative interactive approach. It was also suggested that representation on local land transport advisory boards should be broadened beyond government and private sector. Meaningful involvement of the minibus taxi industry – is likely to continue to be a sticking point. This is because the programme is perceived as an imposed “top-down” without adequate consultation and recognition of the needs and specifications of the minibus taxi industry. In addition regulating the

minibus taxi industry operating practices through a business model for members who have been used to adopting survivalist strategies may prove to be an uphill task. Such sectors could play a serious spoiling role. In addressing the issues it is important that the focus not only be on targeting public transport 2010 World Cup interventions, but also that the long-term sustainable public transport agenda should be addressed.

4.15 Are we inadvertently entrenching apartheid policies?

The present South African cities are characterised by sprawl, which made participants comment that the present central and local government is entrenching policies either deliberately or by default that perpetuate apartheid. However, attempts have been made to compact South African cities through various densification initiatives and projects. A contradicting city development feature is that many South African cities have seen the growth of gated communities on the edges of cities. This trend represents both greater densifications, because the housing occupies less land, but provided in a manner that also increases urban sprawl. Existing transport infrastructure has not served the economy well, with the result that private sector operators and the informal, private taxi industry provided the only meaningful alternative. Strategic spatial planning has been seen as a tool to transform apartheid-based spatial relations that still characterise urban South Africa, operationalised through spatial development frameworks, integrated development plans and integrated transport plans.

In particular the following examples were provided to illustrate the view that apartheid policies are inadvertently being entrenched:

- The provision of low-cost housing far from economic opportunities
- Public transport subsidies that promote long distance travel
- Projects such as Gautrain that promote long distance travel and segregation of people in accordance with class
- Public transport subsidies that still target buses and trains used by relatively few people compared to minibus taxis.

4.16 We should not import solutions without scrutiny

The reality of sustainable public transport is that it is not a new invention, creation or discovery of the South African cities. Indeed other cities worldwide have experienced and experimented with a variety of public transport intervention measures with mixed results. Delegates noted that while there is no crown in reinventing the wheel, caution also had to be exercised in avoiding recycling



No city in the World has solved permanently traffic problems by constructing more highways, freeways and expanding existing roads

public transport treatment measures that did nothing to relieve the public transport pain points. It is therefore important that while South African cities have so much to learn from counterpart cities in South Africa and elsewhere, solutions from elsewhere should be adapted and modified to the local context. The need to adopt, adapt and customise public transport models, prototypes and intervention measures is therefore critical. Such an approach understands the diversity of spaces, places, people and culture which impact and are impacted by

public transport.

Some delegates were concerned that the BRT concept was conceived as a “foreign import” by city authorities, without any thorough technical interrogation. It was argued that it was imported from other countries and little initiatives and options for meaningful accommodation of the minibus taxi industry were explored. Consequently questions seeking clarity in terms of where commuters fit in the whole BRT programme were raised. Clarity on who would bankroll the BRT was also raised. It was also highlighted that there is a perception of mistrust between government and the minibus taxi industry with regard to mega transport projects such as the Gautrain and the Rea Vaya BRT. The minibus taxi industry especially expressed dissatisfaction with lack of clarity on government’s position on commercial interests in respect of public transport operations. This is seen in many cities, where government has commercial interest in the operation of the buses. Mr. Molefe summed it up by saying “Honestly, how can one trust his competitor?”

4.17 Are we making a big mistake

A question was raised as to whether South African cities are making a “big mistake” in relation to mega transport projects such as the BRT in particular, seeing similar mistakes with Gautrain and taxi recapitalisation. To this, Mr Seedat responded that the growth of South African cities and associated growth in road traffic congestion call for alternative higher capacity public transport modes. It was also pointed out that greener public transport modes need to be promoted in line with environmental management goals as agreed at the Kyoto declaration in The Gambia.

Ms Lize Jennings responded that the 2010 greening urban projects in host cities is one way of responding to the energy and environment concerns of public transport systems in South Africa. These projects are making a strong case for public transport – as demonstrated by the Cape Town Case Study (the BRT projects). So far the project has witnessed huge environmental savings such as reduction in CO₂ emissions and access to opportunities.

4.18 Are we wasting too much time debating with very little implementation

Delegates expressed the sentiment that there is sufficient knowledge to implement public transport projects rather than to engage in endless debates. Some felt that the amount of time and enthusiasm demonstrated in debating if re-directed to implementing, urban transport pilot and demonstration projects would go a long way in alleviating the plight of urban commuters in South African cities.

4.19 Transport not just about travelling it is a business making opportunity

Sustainable public transport can be used as an instrument in encouraging local business growth. This can be attained from many fronts. In the minibus taxi industry it has supported the growth of small to medium enterprises such as car wash ventures, home garages and so forth. However, it was also conceded that the “bush mechanics” needed to be upgraded and a more established and better



organised spare and service system for the minibus taxi industry model promoted and provided. This will entail that key stakeholders and collaborative leadership and responsibility is used as an effective way of creating a public transport business-enabling environment.

As an example, transport can be about tapping business opportunities from a more critical understanding and review of business opportunities in supporting the whole public transport value chain as well as covering the whole breadth of the public transport modes/sectors.



Illustrated from another perspective, the public transport interchanges (in terms of performance and service gaps as perceived by current and potential public users) can open business opportunities for local enterprises. In fact, in India bicycles and tricycles with carriers are used in carrying small freight and cargo providing employment and income for small and medium enterprises. This kind of development is also replicated and used by small farmers and cooperatives in Uganda.

Bicycles as job creation in India and Uganda (bicycles being used for ferrying small cargo and freight, passengers and as bicycle and tricycle ambulance

5.0 WAY FORWARD

While a wealth of pointers and guidelines for sustainable public transport in South Africa were highlighted during the seminar, presented here are some of the key **building blocks of a sustainable urban transport** public policy agenda. This list is however not exhaustive:

- Public transport systems should be built around the **happiness of children** as well as **access by disabled people and first time users**. The concept of **universal access and universal design** should form the core of public transport plans
- Transit orientated development philosophy should be incorporated in **city-wide plans**.
- Communities should be used as an **invaluable planning resource** and further empowered to take ownership of public transport infrastructure.
- As much as cities have roads master plans, the time is opportune for **cities to develop and implement non-motorised transport master plans**.
- Given the confluence of opportunities such as increased energy costs and road traffic congestion, stubborn car users are increasingly becoming vulnerable and **cities have an opportunity to attract such users to public transport**.
- The **age of cheap oil is permanently over** and mass public transport solutions are the only viable option. Major international events such as the **FIFA Soccer World Cup** should be exploited as rallying points to generate momentum and **a critical mass of public transport projects** to carry us into the foreseeable future. However, such events should not be used as a deadline for implementing sustainable public transport projects but rather seen as a significant milestone.
- While there is a need for mass public transport capital projects, **cities need to invest in appropriate technologies**. Such technologies need to adequately cater for transport workers, public transport customers and also improve authority accountability.
- **Increased autonomy** in the local government sphere is crucial for enhanced public transport service delivery and operations of mega public transport projects. Increased autonomy also is likely to improve the innovative capacity of local government to transcend bureaucracy and technological challenges.
- The **levels of trust between public transport operators and city authorities** need to be improved. Nonetheless, operators themselves need to embrace change and become change agents.
- **Cities should not be despondent about the challenges** brought about by the implementation of mega public transport projects.
- Cities should have **specific measurable standards for monitoring public transport performance** within the context of sustainable development.
- Cities must **invest in generating public transport datasets** to facilitate service delivery, improve decision-making and enhance accountability.
- The **capacity to implement and manage mega public transport projects in local government is currently in very short supply**. Under these circumstances cities should seek to use the available resources in the network of South African and world cities more optimally. The long-term solution is continuous capacity building.
- The sustainable public transport reference group should be further **strengthened to be comprehensive in a manner that addresses fully the entirety of public transport issues**.
- The report should be used by cities as **a reference for framing future learning events**.

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