INFRASTRUCTURE Dialogues

Towards Sustainable African Cities

30 July 2015

1. Introduction

Cities the world over are each unavoidably on a sustainability journey. African leaders are increasingly envisioning the future of their cities. There is, on this front, a distinctive move towards collective engagement and knowledge sharing, and South Africa is well represented in the dialogue, related policy and municipal action plans, which are being put in place. Emerging compliance frameworks and best practice frames of reference focus on facilitating sustainable cityscapes, which enable a green development trajectory and unlock greater levels of functional efficiency.

The quest at hand centres on the creation of sustainable African cities that promote integration, inclusion and economic growth, and the drive is towards a sustainable urban future while emphasising the importance of developing truly original African solutions. This is illustrated in the statement made by **Sello Mphaga**, Director for Mitigation Programmes, City of Tshwane Sustainability Unit, Office of the Executive Mayor at the recent Infrastructure Dialogue: 'Our focus is on a city that strives to deliver a low carbon resource efficient and climate resilient future. With the objective to create liveable, safe and economically thriving cities for African citizens, numerous initiatives such as The Agenda 2063 as well as country-specific initiatives such as the City of Tshwane Vision 2055, are underway.'

At this, the 34th Infrastructure Dialogue, *Towards Sustainable African Cities*, the discussion opened up the conversation around the creation of the 'Africa that we want', simultaneously interrogating critical issues and formidable trends such as urbanisation, integrated city planning and management, as well as infrastructure development and maintenance. Findings of a Geometrics 3D Mobile Mapping Pilot Project conducted in Mamelodi by the City of Tshwane were shared while key issues, opportunities and requirements were deliberated by panel members from the private and financing sectors, as well as the audience through roundtable discussions.

An introduction and word of welcome was given by **Zwelakhe Tshandu**, Manager for Knowledge Management and Innovation in the Strategy Division at the Development Bank of Southern Africa (DBSA). **Sithole Mbanga,** Chief Executive of the South African Cities Network (SACN) facilitated the Dialogue, after introducing the following panel members:

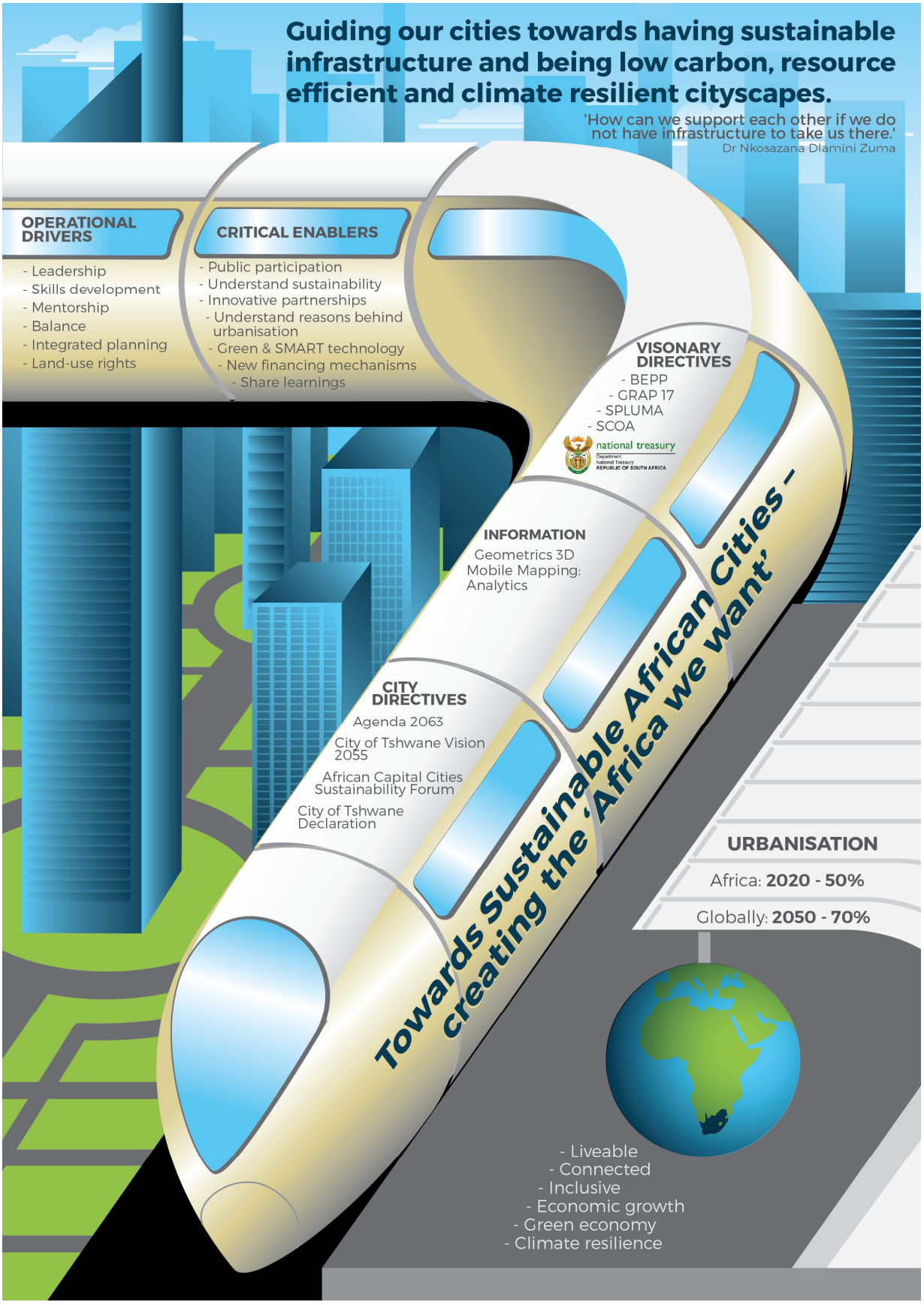
Mr Sello Mphaga	Director for Mitigation Programmes, City of Tshwane Sustainability Unit, Office of the Executive Mayor
Ms Modiehi Molebatsi	Director Geomatics, Department of City Planning and Development, City of Tshwane

Mr Jochen Luckscheiter	Programme Manager, Heinrich Böll Foundation, South Africa (affiliated to the German Green Party)
Mr Ashley Maistry	Senior Manager dealing with Smart Grid Services, Accenture
Ms Michelle Layte	Green Fund Secretariat and Policy Advisory Manager, DBSA

Picture: 34th Infrastructure Dialogue Facilitator and Speakers
From left to right: Ashley Maistry, Sello Mphaga, Modiehi Molebatsi, Michelle Layte, Jochen Luckscheiter and Sithole Mbanga

The Infrastructure Dialogues are hosted jointly by the Development Bank of Southern Africa, the South African Cities Network, the National Business Initiative, the Performance Monitoring and Evaluation Department in the Presidency, and the Department of Economic Development, with the Engineering News as Media Sponsor.

2. Overview


Guiding our cities towards having sustainable infrastructure and being low carbon, resource efficient and climate resilient cityscapes.
'How can we support each other if we do not have infrastructure to take us there.'
Dr Nkosazana Dlamini Zuma
OPERATIONAL DRIVERS
- Leadership
- Skills development
- Mentorship
- Balance
- Integrated planning
- Land-use rights
CRITICAL ENABLERS
- Public participation
- Understand sustainability
- Innovative partnerships
- Understand reasons behind urbanisation
- Green & SMART technology
- New financing mechanisms
- Share learnings
VISONARY DIRECTIVES
- BEPP
- GRAP 17
- SPLUMA
- SCOA
national treasury
INFORMATION
Geometrics 3D
Mobile Mapping:
Analytics
CITY DIRECTIVES
Agenda 2063
City of Tshwane Vision 2055
African Capital Cities Sustainability Forum
City of Tshwane Declaration
Towards Sustainable African Cities - creating the 'Africa we want'
URBANISATION
Africa: 2020 - 50%
Globally: 2050 - 70%
- Liveable
- Connected
- Inclusive
- Economic growth
- Green economy
- Climate resilience

3. The African Capital Cities Sustainability Forum

In June 2015 the City of Tshwane hosted the African Capital Cities Sustainability Forum (ACCSF). In doing this, the capital city of South Africa took on the mantle to play a leading role in this ambitious and future focused journey.

The ACCSF comprised 15 African Capital Cities that participated in discussions to identify and deliberate on commonalities and challenges faced by major cities in Africa while showcasing and sharing successful initiatives towards the emergence of truly African, original and appropriate solutions in addressing the sustainability imperative on an urban scale. In addition to the Mayoral delegations, the audience consisted of more than 300 delegates from the public and private sectors, professional practice, civil society and academia.

Adding to the mission critical focus of the city as it relates directly to the initiative, the Executive Mayor of the City of Tshwane is the South African Local Government Association's Local Government Green City Champion Leader, and has managed a number of sustainability initiatives. The initiative too follows Vision 2055 and the Green Economy Strategy of the city, which seek to guide the city towards having sustainable infrastructure and being a low carbon, resource efficient and climate resilient city. Furthermore the municipality was the first to develop and implement by-laws for green cities based on carbon footprint calculations.

The major outcome of the inaugural forum was the signing of the 2015 Tshwane African Capital Cities Declaration, which confirms the role of African capital cities and city leaders' commitment to advancing urban sustainability in respective countries and contexts. The Tshwane declaration reflects the expression of the collective will and determination to address sustainable development challenges.

4. The Scope for Sustainable African Cities

The World Resource Institute estimates that the world is currently 50% urbanised and expects that urbanisation levels could reach 70% by 2050. Comparatively, Africa stands at a ratio of 40% in terms of urbanisation and it is expected that the continent will reach the level of 50% in urbanisation by 2020. In addition, there is a strong correlation between urbanisation, economic growth, prosperity and the sustainability of cities. However, prior to unpacking the links between these concepts it is important to define what sustainability entails within the context of cities.

The indicators for sustainable cities comprise, amongst others, access to water, energy and other resources, effective waste management, efficient transport and urban mobility, connectivity, spatial planning and the reduction of urban sprawl, safety and secure communities, climate change and green economy management as well as reduced carbon footprint. Not only does this call for leadership and the development of appropriate policies, strategies and robust implementation mechanisms. It requires adequate infrastructural investment to ensure that future cities will be modelled around efficient leveraging of resources and resilience in terms of the future climate change effects.

For African cities to attain and maintain improved quality of urban life, the focus needs to be two-fold. First, they need to be modelled on appropriate infrastructure. This is needed for the enablement of effective service delivery. Second, the focus should also be on continuously improving a city's environmental footprint in order to nurture its green economy. This is enabled by appropriate and effective infrastructure that lies at the heart of sustainability.

Against the backdrop of continental urbanisation levels of 40%, the sustainability challenge in Africa is far-reaching. Apart from limited access to natural resources and little or no service delivery in some areas, it is, across the continent, commonplace for citizens to struggle to make a living. In certain countries, excessive poverty continues to be exacerbated by political conflict, poor infrastructure and weak governance institutions. With the expected 10% increase in urbanisation in the next five years, the big question confronting African cities is whether they are ready to accommodate additional people and how to meet the needs of residents through the built environment infrastructure.

Municipalities and Local Governments need to ensure appropriate infrastructure along with the delivery of quality services underpinned by revenue generation. Without sustainable revenue generation, city sustainability will not be possible. Implementation calls for leadership and effective management over time. This calls for cities taking stock of where they are and what they have as a starting point.

"We cannot manage what we do not know. This is the first step in ensuring sustainability." Modiehi Molebatsi, Director Geomatics, Department of City Planning and Development, City of Tshwane.

5. Assessing the infrastructural landscape

5.1 The role of geometrics as sustainable city catalyst

In bedding down accurate knowledge of what infrastructure a city has and the state thereof, geometrics plays a pivotal role. As part of its Capital Investment System and Development Intervention Programme, the City of Tshwane developed a Geometrics model for infrastructure asset mapping. A 3D Mobile Mapping Project was piloted in Mamelodi to evaluate the use of geometrics in assessing and measuring the infrastructure of the area and to ensure that the model not only works but can be replicated in other areas requiring spatial transformation.

What came to the fore is that the information obtained from such a Geometrics 3D Mobile Mapping project brings valuable data to the table, which in turn assists municipal leadership to prepare an Integrated Infrastructure Master Plan and establish a firm foundation for sustainability based infrastructure maintenance.

Through Geometrics, land surveyors map and verify infrastructural, fixed assets. Being able to measure assets within the jurisdiction of a municipality, i.e. being able to classify and gain information

of the exact location and condition of assets enables municipalities to put an effective infrastructural strategy in place that includes maintenance over time, replacement and the development of new infrastructure. This in turn allows municipalities to deliver effective services, which generate revenue for reinvesting into maintenance of existing and building new infrastructure. If municipalities do not have the right information, they cannot effectively maintain what they have and infrastructure becomes dilapidated, which leads to poor service delivery and a lack of revenue.

The bottom line is that if there is no revenue there will be no sustainability.

5.2 Why Mamelodi?

Situated in the City of Tshwane, Mamelodi was chosen as the location for the pilot Geometrics 3D Mobile Mapping project as it is a convenient and cost-effective area for citizens to live and locate to. It is relatively close to job opportunities while transportation cost remains affordable. It is also a growing area that requires increased service delivery and simultaneously provides interesting demographics. While the old township has approximately 60 000 stands with houses, an aerial view of the suburb shows that almost all stands have a shack located within stand perimeters. These shacks serve as accommodation for additional households, which increase the number of households to 120 000. In some areas up to three families are accommodated for, to the extent that Mamelodi's footprint encompasses two to three townships instead of one. This too does not take informal settlement statistics into account. Overall, the urban living dynamics within Mamelodi are unsustainable and require innovative solutions to establish an environment for sustainable living.

5.3 Pilot project findings

New data obtained through the pilot project field testing was compared to data that was in the Integrated Quality Management System (IQMS). In some instances minor discrepancies were found while in other areas, existing information was lacking. The findings showed that while a cleaning of the asset register was imperative, it was also useful to ensure that all infrastructural asset data is captured and registered in city geomatics systems.

Whether the discrepancy is minor, for example where water purification system data exists but the exact positioning of such infrastructural assets is captured inaccurately, it poses a problem for effective monitoring and maintenance. Where the actual position of a fixed asset is a couple of meters off from its registered position, the problem is relatively minor however where the position of a fixed asset is registered on a specific side of a road, while it is actually on the other side, the negative consequences on maintenance are far reaching. Where the position of an underground asset is not registered properly in terms of the exact location, hours spent on maintenance could be fruitless or worse, building works could damage unknown assets located nearby and incur unnecessary costs. Therefore, in undertaking such an exercise, showing the exact location of underground fixed assets is critical.

It was also found that different systems were being used to manage the same assets which caused further discrepancies in data. Duplications in existing system data were also found. In light of such

findings, it is critical not only to register but also geo-reference fixed assets. For monitoring and maintenance to be effective, it is important to know what you have and where you have it. This information is, after all, pertinent for budgeting planning purposes, which impacts planning for maintenance.

The Geographic Information System (GIS) employed also allows data from multiple assets located in one site to be featured properly. In other words it allows for the creation of complex drawings with layers on top of each other, ensuring that no data is lost. Every fixed asset needs to be featured, item by item and layer by layer, whether traffic lights, stop signs, lampposts, manholes, water or sewerage pipes. Assets cannot be categorised or shown as a group of assets. Each individual asset needs to be registered.

Through this pilot project it was proven that geometrics play a critical role in cleaning up and expanding data for provision of an accurate picture of the requirements. The technology that is available allows land surveyors to obtain precise information and close the gap between the technical and financial worlds of fixed asset infrastructure.

A further impact of the project extended to knowledge sharing of learnings and findings. Based on the Geometrics study and the outcomes thereof, the City of Tshwane participated in the C40 Cities Climate that was held in Addis Ababa, presenting on "transit orientated development". At this forum the city was recognised as an innovative city and there was a deep interest in the way in which South Africa is conceptualising infrastructure development.

"How can we support each other if we do not have infrastructure to take us there. As we develop, we need to get away from the boundaries." Modiehi Molebatsi, Director Geomatics, Department of City Planning and Development, City of Tshwane at the Dialogue, requoting Dr. Nkosazana Dlamini Zuma on the importance of enhancing infrastructure connectivity. In her own words, "if we develop the City of Tshwane let it also be done in Ekurhuleni. People should not feel that the grass is greener on the other side."

6. Compliance driven infrastructure development and maintenance

With the objective to foster more productive, liveable and sustainable cities, National Treasury has introduced a number of outcomes-based programmes that will require that municipalities comply with policies and plans. Ensuring improved and integrated planning, effective service delivery and maintenance, these programmes are compulsory while being qualifiers for grants and funds from Treasury. Municipalities no longer have a choice, they have to comply in order for funding to be allocated to them.

The compliance driven frameworks highlighted through the Dialogue were the Built Environment Performance Plan (BEPP), Generally Recognised Accounting Practices (GRAP 17), Spatial Planning

and Land Use Management Act (SPLUMA), and Standard Charts of Accounts (SCOA). Salient points for each of these are covered below but what is important to note is the viewpoint expressed that in demonstrating compliance, municipalities will be more driven to apply clean and standardised data, which will improve planning and budgeting. This in turn will enhance planning, budgeting, maintenance, infrastructure development and service delivery. A note of caution, however, was consistently voiced throughout the Dialogue, as it was emphasised that to ensure progress and continuous improvement, it is important to understand that the task is difficult and cumbersome, and it is one that will take time and be costly.

6.1 The Built Environment Performance Plan (BEPP)

National Treasury introduced the City Support Programme (CSP) to assist municipalities in its built environment challenges. Municipalities participating in the programme are required to confirm their participation via a council resolution and are also allocated the Integrated City Development Grant (ICDG). They need to adopt BEPP, compile and update their BEPPs on an annual basis. The City of Tshwane has been allocated an amount of R8 million for the 2014/15 financial year.

As part of its Capital Investment System, Tshwane is currently mapping and costing all municipal infrastructure informing the city's spatial planning and budgeting. This level of detail will allow for improved decision-making. It will, for example, become clear what type of housing will be needed and will be workable in specific areas depending on land availability.

It is imperative that infrastructure planning is vertically and horizontally aligned, combining the what, where and how relating to all types of infrastructure including the mix of housing, business and industrial built environment, roads and services. Tshwane is also currently in the process of generating a model for the entire city, demonstrating integrated development and how all infrastructure will be interlinked.

What is made clear within the BEPP is that when planning is integrated and based on the right information, infrastructure built decisions are no longer made in isolation and/or only to the liking of engineers or property developers. Instead, it forms part of a broader strategic city plan where decisions are made based on proper spatial planning and future sustainability.

6.2 Generally Recognised Accounting Practices for Public Sector Fixed Assets (GRAP 17)

GRAP 17 deals with property land and equipment. Ensuring that land, buildings and all associated fixed assets, segmented into equipment components where needed, are managed and maintained properly.

The Auditor General requires that municipalities are GRAP 17 compliant. In future, municipalities will have to ensure that they source the right information as without proper asset registers that are in line with reality, together with integrated maintenance planning and budgeting, municipalities will not obtain clean audits.

Within the Dialogue is was also noted that municipal budgets need to be based on the correct facts and figures as well as demonstrate maintenance plans, i.e. what is to be done, where and by when. Not only will municipalities have to provide the information but auditors will be tasked with the verification of information in the field.

6.3 The Spatial Planning and Land Use Management Act (SPLUMA) Act no 16 of 2013

SPLUMA provides direction for strategic development and infrastructure investment, with the view towards ensuring efficient and sustainable infrastructure. The Act, which governs municipalities in terms of the requirement to follow specific guidelines in the development of infrastructure, came into effect in 2015.

6.4 Standard Charts of Accounts (SCOA)

National and provincial departments currently comply with the Standard Charts of Accounts while Local Governments and municipalities are required to comply by 2017 in order to obtain National Treasury funding. The SCOA stipulates the manner in which assets are to be classified and details how maintenance is recorded. It also endeavours to standardise definitions and classifications of what is required, while improving accountability. In addition, SCOA are considered to have the potential to accelerate the collection of geospatial information, as this framework deals primarily with fixed asset data.

7. Enabling spatial transformation in cities

The conversations throughout the presentations, panel and roundtable discussions at the Dialogue extended to assessing other initiatives with similar objectives to those covered at a policy and city management level. Lessons learnt over time came to the fore, which present us with a number of enablers of spatial transformation in African cities needing to be noted.

7.1 Public participation

The Programme for Infrastructure Development Africa (PIDA) was initiated by the African Development Bank, NEPAD and the African Union Commission in 2012. The primary goal of the programme is to strengthen consensus and ownership of issues within energy, water, transport and ICT projects that cross borders including infrastructure development such as transport corridors and dams. The initiative covers 51 projects with an estimated budget of USD 360 billion up to 2040.

A major challenge facing PIDA is one of low participation levels, not only from private-sector but also the public at large. This holds particular relevance to city infrastructure development and the creation of sustainable cities in Africa. The observation made at the Dialogue was that successes and challenges related to infrastructure projects are global. These projects are successful to the extent to which ordinary people are integrated into the developmental process.

In a public survey conducted on PIDA, it was found that there were very low levels of knowledge about the initiative and its projects. This could be ascribed to limited access to information as well as a lack of engagement mechanisms. In South Africa looking at examples such as the e-Toll System and the provision of toilets in communities, it is clear that the public and even stakeholders are not properly informed at the onset of such infrastructural initiatives.

When information is made available there are often no formal channels of communication and limited access to information. The public most often become aware of initiatives through the media and that in a fragmented way. Participation is often used as a buzz word but in reality civil society and other constituencies are in most cases not incorporated into the process but at the completion of projects only asked to agree to terms. In many cases, where the public do not agree with such decisions, authorities brush objections to the side and just expect the public to participate. This is often the cause for failure.

Participation means active citizenry. It means that there is an investment in relationship building with all constituencies, including civil society. It is important to involve the public and communities in the development process and to give them a voice while creating understanding around choices and decision-making. Involving the public in this way will foster acceptance and greater buy-in. Knowing what will be provided and by when while ensuring understanding of the process will bring about patience and acceptance.

It is critical that new engagement mechanisms are developed. Current ways of involving civil society and communities are not adequate enough to ensure widespread participation. It might be uncomfortable and time-consuming at the onset, but in the longer term building healthy relationships, sharing knowledge and establishing understanding could be the enabler that accelerates the concept of creating sustainable cities. At the end sustainability is a collective effort.

"This Dialogue demonstrates the importance of information, data and getting the foundation right for enabling sustainability. But it's easier said than done. Not only is the science of Geometrics a difficult discipline to implement and manage successfully, so also is the task of organising and establishing the groundwork for enablers such as public participation and innovative partnerships in a productive way. Again, it's easier said than done." Sithole Mbanga, Chief Executive of the South African Cities Network (SACN).

7.2 Defining the sustainability concept

Sustainability extends across the spectrum of infrastructure development, from policy development to implementation at a grassroots level. In order to set projects up for success, it is imperative to define what exactly sustainability means and what it needs on an implementation level. The Dialogue discussions emphasised that together with sustainability, infrastructure as an enabler of the sustainability framework must be interpreted. An interesting observation made was that such concepts

and how they are realised in the South African context need to be incorporated within the educational system.

7.3 Unlocking innovation through partnership

Time and again, the discussion highlighted the importance of integrated infrastructure planning. This calls for a holistic view to be taken, from both a governmental and private sector perspective. Both realms need Government to identify opportunities to establish workable partnerships that will foster the development of business centres and job opportunities in areas where it is cost-effective and convenient. An example cited within the Dialogue was that of Midrand, which offers sustainability in terms of business due to its potentially efficient transport system. Many businesses are based in the area as it provides easy access to other areas of business. However, it was also noted that residential developments in Midrand do not offer the same benefits because they appear to have expanded without attention social infrastructure.

7.4 Grasping the real reasons for urban migration

In the South African context it is important to understand why people are moving to cities. An example put forward was that of a family in Venda, who may have a decent house and good living conditions in that area. Yet they migrate to the city to provide their children with better education in the city while they are willing to live in a shack. For this family, one of the potential scenarios that could play out is that government decides to provide them with RDP housing, but as their need lies in access to funding for education, they may decide to sell the house. This rather simplistic, yet realistic example emphasises the importance of engaging with people in order to first determine their real social needs and reasons behind their choices. Infrastructure development should be informed by social issues and the dynamics of communities and family economic strategies.

7.5 Understanding green and SMART technologies

Within the majority of infrastructure equipment and development, SMART and green technology is deployed in some form or other. It was noted that it is easy to deploy solutions such as LED lights but in looking at the monitoring and measuring of municipal infrastructure, the mammoth task can be fast tracked by SMART technology. Having a light bulb replaced with a LED light is no longer good enough. We also need to obtain information with regard to whether it is working or not. In this sense, green and SMART technologies become enablers for sustainable cities. By applying geometrics too, which are based on SMART technology, we need to incorporate the available technology to ensure the effective mapping, verification and assessment of infrastructure.

Yet when it comes to green and SMART technology, cost plays a determining role. Interestingly, it was pointed out that highly expensive technology can be secured through packaging services for public use, based on a pay per use principle.

"Today, almost all new infrastructure projects involve some form of SMART technology. However, to make it cost-effective and easier to deploy, we need to look at new ways of implementing and using it." Ashley Maistry, Senior Manager, Accenture.

In Rotterdam, for example additional infrastructure to streetlights has been added and together with this Wifi hotspots have been created. The investment was funded by Telecommunications companies while it is offered to citizens as a pay as you use service. This was so successful that the public is now receiving more bandwidth at no additional cost. But what is worth noting in the local context is that with additional bandwidth, security surveillance cameras could be installed.

A further example where SMART technology can play a significant role is with regard to the wastage and related loss of water. At present, 40% of all municipal water is lost. Not only is this not sustainable but translates into billions of Rands wasted. Employing SMART technology, it was noted, could provide valuable information that can help us better save this essential resource.

In the same sense, we should consider opportunities to share infrastructure and services across cities. With a strong capital management programme and an OPEX (operating expenditure) model while analytics are applied to obtain information and manage networks, South African cities can become more sustainable and effective in service delivery.

7.6 New financing mechanisms

It is pertinent that new financing mechanisms are developed. While the DBSA has the capability to evaluate projects, including green financing projects and has access to money, the programming of money remains problematic and requires innovative solutions.

7.7 Sharing plans and lessons learnt

Through the Dialogue, participants emphasised that we must learn from one another. The inauguration of the ACCSF, it was noted, is a good start. Barriers between cities and countries need to be broken down and an environment should be established where plans and lessons alike are shared. Certainly, in some instances parts of infrastructural plans are confidential for security reasons. Yet without access to development plans for infrastructural developments such as harbours and airports, integrated infrastructural planning around these strategic developments is hampered and sustainability, negatively impacted. It is critical that South Africa finds a way around this issue to ensure the proper integration of planning and development.

8. Operational Drivers

The Dialogue highlighted a number of factors needing to be addressed to ensure that a sound operational foundation is in place to enable sustainability from a Local Government and Municipal perspective. These are as follows:

- **Leadership**

Working towards sustainability, a green economy and climate resilience, leadership is required at all levels - from planning to implementation, from monitoring to maintenance.

- **Skills Development**

Local Government and municipalities need to ensure that they are equipped with the necessary project management skills. It is critical that the required technical skills, capabilities and proficiencies are available.

- **Mentorship**

National Treasury has made funding available for mentorship and municipalities can employ graduates for up to two years provided that graduates are registrable. Municipalities should make use of this opportunity, tapping into the SIPs Programme for support and influence.

- **Prioritisation and Balance**

When it comes to project prioritisation, it is pertinent to find the right balance in terms of what is needed and what is achievable.

- **Integrated Planning**

Integrated planning includes new infrastructure development and maintenance across the full spectrum of disciplines, and service delivery requirements is key to achieving sustainability.

- **Land Use Rights**

Local Governments and municipalities are land use regulators and should clarify land use rights prior to the planning of infrastructure. If uncertain, municipalities should engage with communities to resolve any issues before development starts.

9. Conclusion

Never before has the groundwork being delivered to ensure that African cities exhibit sound sustainable fundamentals been more important, and potentially held such critical long-term impact. What we plan and how we implement this today matters, as it will dictate the speed of the change made in how cities provide for, protect and nurture citizens.

What was clearly articulated through this session was that there is willpower and increasing focus on both the governmental and private sector side. The City of Tshwane in particular has a proactive and

progressive stance in this sphere of government. Yet one of the challenges and opportunities lies in the unique urban landscapes of each city. For this reason, green and SMART technology holds one of the keys to unlocking the change in approach and impact.

What is also called for is establishment of accurate data, from which to plan, build and maintain infrastructure. Sustainable city indicators such as access to water, a reduction in unplanned transportation time, a reduced carbon footprint, and increased recycling of waste will play a major role in the context of our emerging African markets. A collective mindset that activates through consistent sharing of information will continue to be important in order to transform the city spatial landscape.

Of utmost importance is that this spatial transformation needs to be delivered in a manner that creates productive, liveable, inclusive and sustainable African cities of the future.

Towards Sustainable African Cities

Speaker Biographies

Ms Modiehi Molebatsi is the Director: Geomatics at the Department of City Planning and Development, City of Tshwane. She is a professional land surveyor and was the first black woman to obtain a degree in BSc Land Surveying, Faculty of Engineering, at the University of Cape Town in 1994. She has extensive experience as a land surveyor at both a practical and policy level particularly within the public sector, fulfilling critical roles in a number of public institutions including the Development Bank of South Africa and the Department of Land Affairs. She is currently the President of Institute of Professional Geometicians and Spatial Planners of South Africa.

Mr Sello Mphaga is currently the Director for Mitigation Programmes in the City of Tshwane Sustainability Unit, which is located in the Office of the Executive Mayor, a role he assumed in March 2013. He has been actively engaged in the development of the City of Tshwane Green Economy Strategy, which seeks to guide the City of Tshwane towards a low carbon, resource efficient and climate resilient city. He is currently part of the Team responsible for profiling the City's Climate Change Action, Green Economy projects as well as the general Sustainability initiatives of the City on numerous national and international platforms.

Mr Jochen Luckscheiter is a programme manager with the South Africa office of the Heinrich Boell Foundation - affiliated to the German Green Party. His work focuses on questions of resource governance with a focus on the extractive sector and development finance on the African continent. He also is the managing editor of the foundation's publication series Perspectives. Jochen holds Master degrees in Political Science and Development Finance.

Mr Ashley Maistry is a Senior Manager at Accenture. Starting as a financial and performance management systems implementer worked in Financial Services (SA and UK), Non-Profit (UK) and Government Research (UK), Ashley graduated with an MSc. in Financial Applications in Accounting in the UK. Since joining Accenture, Ashley has been working in Utilities and Municipalities, specifically in Accenture's Smart Grid Services practice responsible for Smart Metering/Grid projects over the last seven years. Ashley has contributed towards Smart Metering and other ICT related projects in Nigeria since the deregulation of their market.

Ms Michelle Layte is the Green Fund Secretariat and Policy Advisory Manager at the Development Bank of Southern Africa (DBSA). Michelle has a BSc. in Town and Regional Planning, and Postgraduate Diploma in Environmental Science, both from the University of the Witwatersrand. She provides oversight for the governance, policy work and administration of the Green Fund. Prior to this portfolio she was the Senior Governance Advisor at RTI International SA, an implementing agent for USAID Southern Africa, providing technical advice on intergovernmental and regional strategies for project implementation.

Mr Sithole Mbanga is Chief Executive of SA Cities Network and has been with the organisation since 2002. He was previously the Local Government Coordinator at the National Business Initiative (NBI), was involved with conducting capacity building training in Municipal Service Partnerships (MSP), and participated in the development and improvisation of DPLG's national policy on Integrated Development Planning (IDP).

Towards Sustainable African Cities

Dialogue in Pictures

Picture Above: 34th Infrastructure Dialogue Facilitator and Speakers
From left to right: Ashley Maistry, Sello Mphaga, Modiehi Molebatsi, Michelle Layte, Jochen Luckscheiter and Sithole Mbanga

Picture Above: 34th Infrastructure Dialogue Speakers
From left to right: Ashley Maistry, Jochen Luckscheiter, Michelle Layte, Modiehi Molebatsi and Sello Mphaga