Editorial

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I was not a little taken aback when I was requested by the Editorial Advisory Panel to ‘champion’ a themed issue of *Management, Procurement and Law* (MPL) with its focus on South Africa; my prior exposure to the world of journalism having been, to say the least, somewhat limited. However, with the expert guidance of the editorial staff on how to set about the task, the considerable assistance given by the South African Institution of Civil Engineers and Consulting Engineers South Africa by circulating the call for papers through their respective networks and the help of my fellow panel members John Anderson and Richard Patterson, the assignment was appreciably less daunting than it first appeared. The enthusiastic response to the call for papers was such that the number of accepted papers exceeded, by no small margin, the capacity of this extended themed issue. However, those papers that cannot be accommodated in this issue will be published in later editions of MPL, or in other appropriate ICE publications.

It therefore gives me great pleasure to introduce this themed issue of MPL which includes papers upon a wide range of subjects which are reflective of the social, economic, technical and commercial development that has taken place and continues to take place in South Africa following the change to the country’s constitution and government in 1994.

The first paper, by Ravi Ronny and Jonah Ptak, explains how the community development implementation model, created by the South African National Roads Agency Limited (Sanral), was successfully implemented for the design and construction of a pedestrian bridge and walkway across the National Route 2 (N2) in KwaZulu-Natal (Ronny and Ptak, 2012). The model addresses the nation’s socio-economic challenges using government’s requirements such as broad-based black economic empowerment (BBBEE) and labour-intensive construction methods that might be deemed unsuitable in a developed nation. Involvement of the local community was initiated at the pre-design stage and the concepts that emerged were utilised in the determination of the location, type and structural form of the structure finally decided upon. The design challenges, relating not only to structural issues but also to those associated with crime and vandalism, are described. The method by which participation in the construction process by emergent small and medium-sized enterprises and the local residents, and the problems associated therewith, is likewise explained. In addition to providing local labour opportunities, Sanral, the engineer and the contractor worked

together to create community ownership of the project on an individual level by initiating a number of outreach events. Some results of these initiatives are illustrated in the splendid photographs which accompany this paper.

South Africa’s pressing development challenges include an ageing road network and a rapid growth in road traffic. The construction of adequate transport infrastructure and the capital investment required to fund it sustainably are pre-requisites for social and economic development. The second paper, by Nazir Alli, Stewart Wilson and Alex Van Niekerk of Sanral, deals with the procurement policies introduced and applied for the first two phases of the Gauteng Freeway Improvement Project (GFIP) which was launched in 2008 and involved the upgrading and rehabilitation of some 185 km of freeway (Alli *et al.*, 2012). The total project involves the treatment of 560 km of freeway which will ultimately be converted into toll roads. There is, in South Africa, both a legal and moral obligation to spread the economic benefits of such investment to smaller firms and historically disadvantaged South Africans. The initial phases of the project included the construction of additional lanes, reconfiguring interchanges and the introduction of a multi-lane, free-flow electronic toll-collection system, all of which must be financed through capital borrowings and toll income. The paper discusses innovations in the procurement of the civil engineering works that enabled the involvement of firms owned by black South Africans and the prevention of the consolidation of large firms in joint ventures.

The third paper, by William Valentin and Friedrich Vorster, discusses the results of an analysis of the records of a number of construction projects in southern Africa which were maintained by a major provider of insurances in the region. The analysis was performed in order to identify the causes of failure for those which were terminated. Valentin and Vorster (2012) define a ‘failed construction project’ as a contract that was terminated or cancelled by either of the two parties to the contract and ‘southern Africa’ as South Africa, Lesotho, Swaziland, Botswana, Namibia, Angola, Zambia, Malawi and Mozambique. The records of approximately 13 000 contracts executed in this region during the period from 2004 to 2009 were considered. The number of failures within the sample was small compared to worldwide norms and, in consequence, obtaining reliable default probability data was a challenge. Although statistically reliable conclusions could not be formulated, the research highlights significant facts which either

confirm or question historical assumptions regarding the topic.

The next paper, by Fidelis Emuze and John Smallwood, considers health and safety in construction and design. Emuze and Smallwood (2012) explain that, although construction contributes a disproportionate number of injuries and fatalities across geographical boundaries, developing countries such as South Africa perform worse than developed countries. Consequently, a range of interventions, through legislation and industry initiatives, has been introduced to improve health and safety performance in the construction industry in the country. For example, in recognising the responsibility of the client and the designer for health and safety, the Construction Regulations (Republic of South Africa, 2003) provide that clients are required to provide the principal contractors with health and safety specifications and to ensure that contractors have made adequate allowance for them in their pricing. Also, designers are required to provide the clients with all relevant information about the design and to inform the contractors of any known, or anticipated, dangers or hazards. The authors express the view that research findings indicate that the Construction Regulations are perceived to have had an impact. In particular, amongst project managers and contractors, construction health and safety performance is influenced by the health and safety specification, and anecdotal evidence suggests that the medium to large principal contractors and sub-contractors tend to address health and safety to a greater degree than small contractors. The authors conclude, however, that, in spite of the contributions of industry stakeholders, overall construction health and safety is not improving commensurately and the need for continued improvement in South Africa remains a priority.

In the fifth paper, Patrick Lane (2012) considers the questions posed, as a result of the emergence of adjudication both in South Africa and in numerous other countries, as to whether arbitration, as presently practised, remains an effective and efficient mechanism for the resolution of construction disputes. This paper looks at the practice of arbitration in South Africa against the backdrop of outdated legislation and examines whether there are lessons to be learnt from adjudication.

Christopher Andrew and Ian Thoms deal, in a most interesting paper, with the design and construction of the Gautrain Rapid Rail Link that was constructed between Pretoria and Johannesburg and from Sandton to O R Tambo (Johannesburg) International Airport (Ortia). In this paper Andrew and Thoms (2012) explain that the first phase of the 77 km long project was opened on 8 June 2010 and the second phase during August 2011. In September 2006, the Gauteng provincial government awarded the contract for the ZAR25 billion (£2.25 billion) project to the Bombela Concession Company on a public-private-partnership basis, in terms of which the

concessionaire was obliged to design, build, commission, partly finance, operate and maintain the Gautrain system for 15 years following delivery of the full system. The new railway is intended to relieve traffic congestion on the N3 expressway linking Johannesburg and Pretoria, to act as a catalyst for social regeneration of decaying urban areas, to stimulate economic development and job creation along the Gautrain corridor, and encourage the use of public transport. The system provides a dedicated premium airport service between Sandton and Ortia, as well as feeder and distribution bus services to stations. This paper describes the scope of the project, the participants and how they interacted, the engineering solutions and methodologies adopted during the design and construction processes together with the main challenges to the execution of this landmark project and how these were overcome.

In the seventh paper, Alicia Keyser (2012) explains the funding model used for the development of bulk raw water infrastructure in South Africa, which is expanding its bulk water infrastructure on a large scale to meet increasing household and industrial water demands. The funding mechanisms used depend upon each project's financial viability. Government utilises limited fiscal funding to target social water requirements, whereas commercially viable projects are funded off-budget from government. For the latter projects, Trans-Caledon Tunnel Authority (TCTA), the responsible authority, negotiates long-term off-take agreements with users against which to raise the required funding. This two-pronged approach ensures innovative and sustainable water infrastructure development. TCTA is a state-owned entity created under the National Water Act, 1998 (Republic of South Africa, 1998) as a special-purpose vehicle to implement and fund such off-budget projects on behalf of the government. Projects implemented to date include Lesotho Highlands water project, Berg water project and the Vaal pipeline project. Financial and contractual arrangements are designed to achieve optimal credit ratings for the projects. Currently TCTA manages ZAR23 billion (£2.1 billion) worth of debt on the projects implemented to date and has received directives from government for four more projects to be implemented – with a value of ZAR15 billion (£1.3 billion). This paper explains the methodology applied by TCTA to implement and fund infrastructure with regard to institutional arrangements, risk allocation, tariff setting, governance framework and the raising of finance without explicit government guarantees.

The challenges associated with the design and construction of the new Moses Mabhida football stadium in Durban are described in the following paper by Tim ter Haar (2012). The author explains that the stadium is a world-class, multi-purpose sporting facility and an innovative and sustainable landmark in Durban which hosted seven Fifa World Cup 2010 matches. The

iconic arch, inspired by the Y-shape of the South African flag, has become a significant tourist attraction and features a 'high-tech' cable car designed to transport visitors to its highest point where they can disembark to enjoy panoramic views of the city and the stadium. The two southern legs of the arch incorporate a guided adventure walk which involves climbing some 550 stairs to reach the top. Since opening to the public on 30 November 2009, 200 000 people have visited the stadium and 20 major events have attracted 350,000 spectators. The author is of the opinion that current indications for the future sustainability of the stadium are extremely encouraging.

Finally, Edwin Kruger and Nazir Alli explain how the growth in vehicle volumes is a major challenge facing South Africa which has created a pressing need to expand road infrastructure to cater for the needs of commuters and the movement of goods. With the change in land use patterns and the proximity of pedestrians to the freeway system, any proposed solutions have to cater for the needs of both motorists and pedestrians and, at the same time, regard must also be given to the consideration that the overall aesthetic quality of the infrastructure impacts both consciously and subconsciously on individuals. The paper deals with Sanral's approach to provide both aesthetic and functional structures and explains that, by doing so, Sanral has contributed to the appreciation of good engineering design as reflected in the accompanying photographs. Specific designs and details adopted for structures affected by the Gauteng freeway improvement project are addressed.

I hope that you enjoy reading the papers in this themed issue as much as I have and I am sure that, whether or not the reader is directly acquainted with South Africa, there will be, within its pages, something of interest for every reader. The editorial advisory panel very much welcomes your comments, both constructive and otherwise, as, through this valuable input, we can judge the readership interest in the various themes and topics and steer the direction of future issues of the journal. We look forward to hearing from you.

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