

CURRICULUM VITAE OF MEGAN MELISSA BRUWER

June 2015

PERSONAL INFORMATION

Date of birth: 7 June 1986
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KEY QUALIFICATIONS

Megan Bruwer joined the civil engineering department of Stellenbosch University as a lecturer in transportation engineering and Project Coordinator of the Stellenbosch Smart Mobility Laboratory (SSML) in January 2015. Megan qualified with a B.Eng degree in civil engineering in 2008 and an M.Eng degree in transportation engineering in 2010. Her fields of study during her Master's degree included transportation planning, traffic engineering and Intelligent Transport Systems (ITS). Her research dissertation dealt with applications of transport economics for freeways in South Africa.

Prior to joining Stellenbosch University, Megan was employed with Royal HaskoningDHV from January 2011. She was involved in the implementation and operational design of the Nelson Mandela Bay Integrated Public Transport System (IPTS), assisted with the 2009/10 update of the Nelson Mandela Bay Municipality Comprehensive Integrated Transport Plan and was involved in the data collection and consultation process for the Provincial Integrated Public Transport Master Plan for the Eastern Cape. Additionally, she prepared a number of Traffic Impact Assessments (TIAs) for mixed use residential, commercial and industrial developments in Port Elizabeth, East London and Bloemfontein. Megan was also involved in the structural design of concrete and steel structures and monitored the construction of structural engineering projects.

EDUCATIONAL HISTORY

2009 – 2010: **Master of Engineering (M.Eng Transportation) – *Cum Laude***
Tertiary institution: Stellenbosch University: Faculty of Engineering
Dissertation: Average Vehicular Speeds Adjusted for AADT on South African Freeways

2005 – 2008: **Bachelor of Engineering (B.Eng Civil) – *Cum Laude***
Tertiary institution: Stellenbosch University: Faculty of Engineering
Final Year Dissertation: Trip Generation Rates for South African Golf Clubs and Estates

EMPLOYMENT HISTORY

June 2013 – December 2014: Structural Engineer: Buildings Business Unit

Royal HaskoningDHV

- Structural design of reinforced concrete, steel and masonry structures according to South African National Standards and using structural analysis software package Prokon
- Preparation of engineering drawings for tender and construction
- Site inspection of construction works, including earthworks, reinforced concrete structures, structural steel and civil works
- Project and financial management of multidisciplinary projects, with coordination of consultant teams that included Engineers, Technologists and Quantity Surveyors
- Liaison with clients, contractors, architects and other professionals in the built environment

Jan 2011 – June 2013: Transport Engineer: Transport, Aviation and Planning Business Unit

Royal HaskoningDHV (previously trading as SSI)

- Planning of public transport systems for metropolitan and rural areas, entailing data collection and needs assessment of passengers, estimation of passenger volumes and preparation of Operational Plans. I was fortunate to be an integral part of the planning team for the Nelson Mandela Bay Integrated Public Transport System (IPTS) and the *Eastern Cape Provincial Integrated Public Transport Master Plan*
- Implementation of Intelligent Transport Systems (ITS) for the Nelson Mandela Bay IPTS, including ITS functionality in the Transport Operations Centre, bus timetable scheduling using *Rhebus*, initialisation of bus on-board ITS and Automatic Fare Collection
- Preparation of Traffic Impact Assessments for various developments; including residential, commercial and industrial sites; which entailed traffic data collection, estimation of future traffic using the four step method, and recommendation of measures to enable the existing road network to accommodate the traffic generated by the new development
- Design of intersections, parking areas and public transport termini, using software packages including SIDRA and AutoTURN, and preparation of engineering drawings of these facilities
- Participated in and coordinated meetings with clients, such as developers and municipal officials, as well as stakeholders including bus and taxi operators and affected communities

MEMBERSHIPS

Engineering Council of South Africa: ECSA Candidate Engineer (2009 – present)

South African Institution of Civil Engineering : Member of SAICE (2010 – present)

LANGUAGES

English: Speak, Read and Write: Excellent

Afrikaans: Speak, Read and Write: Excellent

RELEVANT PROJECT EXPERIENCE

- 2011** **Preparation of the Traffic Impact Assessment for the GM Headquarters Office Development, Port Elizabeth, South Africa**
Position: Transportation Engineer (Royal HaskoningDHV)
Client: Sigma Consultants
Brief Description: Preparation of TIA for the proposed industrial and headquarters office development in Struandale, Port Elizabeth
Assigned tasks: Conduct traffic counts, analyse intersection capacity, prepare preliminary geometric design for access road, prepare document
Duration: 2 months (2011)
Project Value: R60 000 (fees)
- 2011** **Preparation of Comprehensive Integrated Transport Plan Update, Port Elizabeth, South Africa**
Position: Transportation Engineer (Royal HaskoningDHV)
Client: Nelson Mandela Bay Municipality
Description: Preparation of Comprehensive Integrated Transport Plan Update in terms of national legislation and technical guidelines, including evaluation of long term road network proposals
Assigned tasks: preparation and compilation of technical reports
Duration: 1 month (2011)
Project Value: R300 000 (fees)
- 2011-2013** **NMBM Public Transport System Conceptual Design and Implementation Plan, Port Elizabeth, South Africa**
Position: Transportation Engineer (Royal HaskoningDHV)
Client: Nelson Mandela Bay Municipality
Description: Conceptual design and implementation planning for a Bus Rapid Transit (BRT) system for the city, with dedicated lanes and modal interchanges for passengers to transfer between trunk buses and feeder minibuses. Design of an intermodal automated fare collection system with smart card technology.
Assigned tasks: Data collection, including screen line counts, origin-destination surveys of public transport vehicles, on-board public transport vehicle surveys and training of data collection and service monitoring personnel. Survey of universal accessibility, Preparation of the operational plan for the IPTS.
Duration: (2010 – Ongoing)
Project Value: R5 000 000 (in JV with Khuthele Projects)
- 2011-2013** **Preparation of a Provincial Integrated Public Transport Master Plan**
Position: Transportation Engineer (Royal HaskoningDHV)
Client: Eastern Cape Department of Transport
Description: Prepare an Integrated Public Transport Master Plan that, when implemented over several years will improve the mobility of the people of the Eastern Cape. The Master Plan must guide the development and implementation of integrated public transport services throughout the Province to achieve this aim.
Assigned tasks: Data collection and analysis of existing public transport situation in the Eastern Cape, including minibus taxi and bus surveys and rank surveys, interview surveys, infrastructure assessment. Coordination of stakeholder consultation.
Duration: (2012 – 2013)
Project Value: R2 530 000 (Fees)

2013

Preparation of the Traffic Impact Assessment for the Manguang Airport Development Node South, Bloemfontein, South Africa

Position: Transportation Engineer (Royal HaskoningDHV)

Client: Proplan

Brief Description: Preparation of TIA for the proposed mixed use development of the area south of the Bram Fischer Airport, planning of internal and external transportation network, Bloemfontien

Assigned tasks: Conduct traffic counts, input to transport demand modeling process of development, analysis of intersection capacity, prepare preliminary road reserve requirements for internal road network, prepare document

Duration: 8 months (2012-2013)

Project Value: R120 000 (fees)

2013-2014

Sunshine Special School Construction

Position: Project Manager, Structural_Engineer (Royal HaskoningDHV)

Client: Eastern Cape Department of Public Works

Brief Description: Structural and civil design of school buildings and infrastructure, structural and civil control during construction

Assigned tasks: Strucural design of steel and concrete structures, site inspection and structural control during construction, attending site meetings, project management of the civil and structural consulting team

Duration: 2 years (2013-2014)

Project Value: R2,1million (fees)