

Stads- en Streekbeplanning

Town and Regional Planning

Meralo ya Ditoropo le Mabatowa

Inhoudsopgawe • Contents

Redakteursbrief • Editorial • Lengolo la phatlalatso		i
Wetenskaplike artikels • Research articles		
Spatial policy, planning and infrastructure investment: Lessons from urban simulations in three South African cities	Maria Coetzee Louis Waldeck Alize le Roux Cathy Meiklejohn Willemien van Niekerk Tsepang Leuta	1
A living laboratory approach in the design of the user requirements of a spatial information platform	Maria Coetzee Helga Goss Cathy Meiklejohn Patrick Mlangeni	10
Backyard housing in Gauteng: An analysis of spatial dynamics	Yasmin Shapurjee Alize le Roux Maria Coetzee	19
Using election registration data to measure migration trends in South Africa	Johan Maritz Pieter Kok	31
Access envelopes: A new accessibility mapping technique for transport and settlement planning	Christo Venter Catherine Cross	43
Planning for emergency services using GIS-based geographic accessibility analysis	Chéri Green Gerbrand Mans Peter Schmitz David McKelly Mark te Water	53
Assessment of spatial data infrastructures	Antony K. Cooper Elsona van Huyssteen Sonali Das Maria Coetzee Gerbrand Mans	65

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Ena e khethehileng khatiso ne a coordinated le hatisitsoeng ke CSIR Built Tikoloho le ditshwaelo go tswa kwa ea HSRC, Univesithing ea Pretoria le bagakolodi. Patlisiso ne a tšehetsoa ke Lefapha la Saense le Technology ka Integrated Planning le Ntshetsopele Modelling Project (IPDM), 'me hamorao Spatial Temporal Bopaki bo bakeng sa Planning Afrika Borwa (stepSA) morero.

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Van die redakteur

Verandering van ruimtelike verskynsels in Suid-Afrika – ondekkings en innovasies

Deur Willemien van Niekerk, Elsona van Huyssteen en Jo-Anne Chauvet, CSIR Bouwgewing

Ons wil graag hierdie spesiale uitgawe aan ons geliefde kollega en vriendin Maria Joe Coetzee wy, wat op 2 November 2014 oorlede is. Die werk wat in hierdie spesiale uitgawe tentoongestel word is 'n getuigenis van haar visionêre leierskap, insiggewende bydraes en toewyding tot die beplanningspraktyk, beleidontwikkeling, en navorsing en ontwikkeling in die velde van geïntegreerde ontwikkelingsbeplanning en inter-owerheidsamewerking. Maria se vermoë om te konseptualiseer, te rasionaliseer en nuwe idees en uitdagings te laat realiseer, blyk uit die passievolle wyse waarop sy innovasies in beplanningstelsels, instrumente, tegnologieë en beleid ondersteun het. Haar begeerte om 'n verskil in die beplanningsveld te maak en haar geloof in die potensiaal van mense om dit uit te rig was en is duidelik uit die belang wat sy aan samewerkende praktyke, kapasiteitbou en kennisoordrag gegee het – om daardeur 'n platform en geleentheid tot die versterking van beplanning in Suid-Afrika te voorsien.

Hierdie spesiale uitgawe was een van haar visies en bestaan uit 'n uittreksel van uitkomst uit die stepSA inisiatief (*spatial temporal evidence for planning South Africa*). Gegewe die agtergrond waarin dorpe en stede volgehoue uitdagings soos verstedeliking in die gesig staar, die toenemende ruimtelike vloeibaarheid van mense en ekonomiese aktiwiteite regoor stedelike en landelike streke in suidelike Afrika, en die druk van gekoördineerde hoë impak en volhoubare dienslewering en investering, word dit al hoe belangriker om die dinamika van ruimtelike verandering in, en tussen dorpe, stede en landelike streke te verstaan, asook die implikasies daarvan vir huishoudings, beleggings en owerheidsbesluite. Die stepSA inisiatief [oorspronklik bekend as die Integrated Planning and Development Modelling Project (IPDM)], wat deur die Departement van Wetenskap en Tegnologie gedryf word en aangestuurd word deur insette van verskeie rolspelers; fasiliteer kwantitatiewe en kwalitatiewe navorsing en ontwikkeling van 'n reeks van ruimtelik-eksplisiete indikatiewe datastelle, indikatore en innoverende tegnologieë. Die doel van die navorsing en ontwikkeling is om by te dra tot 'n groeiende verstaan van ruimtelike en temporele dinamika in Suid-Afrika en die moontlike ontwikkelingsimplikasies daarvan vir

From the editor

Spatial change phenomena in SA – explorations and innovations

By Willemien van Niekerk, Elsona van Huyssteen and Jo-Anne Chauvet, CSIR Built Environment

We would like to dedicate this special edition to our beloved colleague and friend, Maria Joe Coetzee who passed away on 2 November 2014. The work depicted in this special edition is testimony of her visionary leadership, insightful contributions and dedication to planning practice, policy development and research and development in the fields of integrated development planning and intergovernmental collaboration. Maria's ability to conceptualise, rationalise and then to realise new ideas and challenges was evident in the passionate way she supported innovations in planning systems, tools, technologies and policies. Her desire for making a difference in the planning field and her belief in the potential of people to achieve this was and is evident in the importance given to collaborative practices, capacity building, and knowledge transfers – providing a platform and opportunity to strengthen planning in South Africa.

This special edition was one of her visions and comprises a selection of outcomes from the stepSA initiative (spatial temporal evidence for planning South Africa). Given the backdrop of continued challenges of urbanisation faced by cities and towns, the increased spatial fluidity of people and economic activity across urban and rural regions in Southern Africa, and the pressures for coordinated high impact and sustainable service delivery and investment, it becomes increasingly important to understand spatial change dynamics in, and between towns, cities and rural regions and the implications thereof for households, investments and governance decisions. The stepSA initiative [originally known as the Integrated Planning and Development Modelling Project (IPDM)], spearheaded by the Department of Science and Technology and guided by inputs from a range of role players, facilitates quantitative and qualitative research and development of a range of spatially explicit indicative datasets, indicators and innovative technologies. The aim of the research and development is to contribute towards an increased understanding of spatial and temporal dynamics in South Africa, and the possible development implications thereof for spatial and sectoral policies, targets, plans and investment priorities (i.e. service delivery priorities and large scale infrastructure projects, and governance).

Ho tswa ho Mohlophisi

Merero ya libaka naheng ya Afrika Borwa- chebisisong ya ona le mekhoe e mecha ya ona

Willemien van Niekerk, Elsona van Huyssteen le Jo-Anne Chauvet, ba karolo ya CSIR Built Environment

Re lakatsa ho lebisa mosebetsi ona ho mosebetsi mmoho le motswalle oa rona, Maria Joe Coetzee a hlokahetseng ka la 2 November 2014. Mosebetsi o tswang bookeng ena e ncha ke bopaki ba bookameli ba hae bo ne bon a le chebelo pele, boitelo ba hae mererong ya libaka, ho etsa meano le lipatlisiso mabapi le ditshebedisano mmoho methehong ea merero ka hare ho 'muso. Bokgoni ba Maria ba ho aha, ho nahanisa le ho tla ka maqheka e mecha e ne e le bopaki ba tsela eo a neng a rata mekhoe e mecha ya ditshepetso tsa merero, dithulusi, thekenoloji le ditsamaiso. Ho rata hoa hae hoa ho etsa phapang lekaleng la merero ea dibaka le ho dumela hoa hae bathing, hore ba khona ho phethahetsa merero ee, ke bopaki mosebetsing oa hae moo a buang haholo holo ka tshebedisano mmoho, ho aha ka ho tla le ho arolelana hoa tsebo- tsena kaofela di fana polatefomo le menyetla ea ho tiisa ho rera hoa dibaka Afrika Borwa.

Mosebetsi ona o ikhethileng bookeng ee e ncha, e ne e le e ngoe ea dipono tsa hae tsa chebelo pele mme o ahlola litla morao tse ngata tse tsoang mesebetsing ea stepSA e leng (*spatial temporal evidence for planning South Africa*) ka ho tla. Ho se ho ntse ho na le ditoko tse se ntse di le teng mme tse ntseng di tsoela pele. Ditoko tseo e leng twelopele ya teropo tse kholo le teropo tse nyane, ho eketseha ha batho ka hara teropong le meruo ya teropo le mahaeng naheng tsa Borwa ba Afrika, ka kekeletso, ho na le dikhatelo tse teng tsa tshebeletso tse fuang batho, mabapi le ho di twedisa pele dilemong tse tlang, ka mabaka ana, ho eba bohlokoa hore kutloisiso ya dibaka le petoho tsa teng ka hara teropo tse nyane, teropo tse kholo le naheng tse phatlalatseng, hammoho le merero ya matlo, dichelete le puso ea dibaka tseo tsohle e tlameha ho ba teng. E tsamaisoa ke Lefapha la Saense le Thekenoloji e bile e tsamaellana le basebedisano mmoho ba bang ba bohlokoa, stepSA, [e tsebelong pele e le Intergrated Planning and Development Modelling Project (IPDM)], e phetha dipatlisiso ka ho tla le tswelopele ya ho bokelletse tsebo ea merero ea dibaka ha mmoho le thekenoloji e ncha. Thahasello ya dipatlisiso le twelopele ena ke ho kenyeletsa tsebo kutloisisong ya dibaka naheng ya Afrika Borwa, le ditlamorao tse ka etsahalang mabapi le maano a fapaneng a merero ya dibaka yeo e leng maano a kang ditsebeletso tsa

ruimtelike- en soktorbeleid, teikens, planne en beleggingsprioriteite (soos diensleweringsprioriteite, grootskaalse infrastruktuurprojekte en owerheids-bestuur).

Die stepSA inisiatief is sedert sy ontstaan in 2009 gegrond op 'n benadering van samewerking wat dit moontlik gemaak het om hoë kwaliteit innovasie en tegnologie, wat 'n werklike impak het, te prioriteer. Dit het beteken om met nasionale so wel as munisipale belanghebbendes te werk om die leemtes in ruimtelik-eksplisiete data en kontekstuele begrip te identifiseer en te prioriteer, om indikatore en instrumente met die insette van belanghebbendes binne 'n munisipale konteks te ontwikkel en toe te pas, om tot professionele en akademiese kapasiteitsbou in Suid-Afrika by te dra, en om die sleutel bevindinge te versprei en bewustheid daarvan te verhoog. Die artikels in hierdie spesiale uitgawe het ten doel om, in lyn met hierdie benadering, sommige van hierdie kennis en bevindinge te deel, met 'n spesifieke fokus op indikatiewe datastelle en instrumente wat ruimtelike veranderinge analiseer en hulle implikasies vir beplanning simuleer.

Die eerste artikel in hierdie versameling reflekteer op die ontwikkeling en toepassing van 'n innoverende stedelike simulatieplatform binne drie metropolitaanse gebiede in Suid-Afrika (eThekweni, Johannesburg and Nelson Mandela Baai). Maria Coetzee en kollegas reflekteer op die uitkoms en kennis wat opgedoen is deur UrbanSim as 'n instrument aan te wend om ruimtelike implikasies van verskillende groei-scenarios vir elke stad te simuleer. Die bevindinge belig die waarde van die bewyse wat deur so 'n simulatieplatform genereer word vir geïntegreerde beplanning en infrastruktuurinvesteringe. Dit bevraagteken egter ook die maniere waarop konvensionele beplanninginsig toegepas word om die gewenste stedelike vorm te bewerkstellig, in besonder vir die investering in publieke vervoerinfrastruktuur. Die belangrikheid van samewerkende en in-praktyk ontwikkelende beplanningsondersteunende tegnologieë, soos UrbanSim, word in die eerste artikel uitgelig. Die tweede artikel deur Maria Coetzee *et al.* ondersoek hierdie benadering verder soos toegepas in stepSA deur die konsep van 'werklikheidslaboratoriums' ('living laboratories'), en reflekteer op die bruikbaarheid van hierdie konsep vir toekomstige toepassing. Die artikel steun op die toepassing van werklikheidslaboratoriums as 'n vorm van aksienavorsing wat in vier munisipaliteite toegepas is (die Cape Winelands, Ugu and Amatole distrikte in Mangaung plaaslike munisipaliteit) om die gebruikersbehoefes van 'n ruimtelike inligtingsplatform ondersteunend tot geïntegreerde en ruimtelike beplanningprosesse te ontwerp. Daar was verskeie voordele verwant aan die

The stepSA initiative has since inception in 2009 been grounded in a collaborative approach that enables high quality innovation and technology to be prioritised and have real impact. This meant working with national as well as municipal stakeholders to identify and prioritise gaps in spatially explicit data and contextual understandings, to develop and apply indicators and tools with stakeholder inputs within municipal contexts, to contribute towards professional and academic capacity building in South Africa, and to disseminate and raise awareness on key findings. In line with this approach, the collection of articles in this special edition is aimed at sharing some of the learning and findings with a specific focus on indicative datasets and tools to analyse spatial change and simulate the implications for planning.

The first article in this collection reflects on the development and application of an innovative urban simulation platform within three metropolitan cities in South Africa (eThekweni, Johannesburg and Nelson Mandela Bay). Maria Coetzee and colleagues reflect on the outcome and learning of employing UrbanSim as a tool to simulate and explore spatial implications of different growth scenarios for each city. The findings highlight the value of evidence offered through such simulation platforms for integrated planning and infrastructure investment decision processes. It however, also raises questions about the ways in which conventional planning wisdom is applied to bring about the desired urban form, particularly for investing in public transport infrastructure. The importance of collaborative and in-practice development of planning support technologies, such as UrbanSim, is highlighted in the first article. The second article by Maria Coetzee *et al.* explores this approach as applied in stepSA through the concept of 'living laboratories', and reflects on its usefulness for future application. The article draws on the application of living labs as a form of action research applied in four municipalities (the Cape Winelands, Ugu and Amatole districts and Mangaung local municipality) to design the user requirements of a spatial information platform in support of integrated and spatial planning processes. There were several benefits to the co-design of the content and user requirements, as highlighted in the article. The article concludes with a number of recommendations for using living laboratory approaches in research and development to support planning decision making.

The third and fourth articles are aimed at sharing some of the initial findings from the development of spatially explicit datasets to address current gaps in understanding the impact of population dynamics in cities and

batho, le tswedisio pele ya teropo, hammoho le puso.

Ho tloha ka 2009 ha stepSA e qala ha e sale e sebetse ka mokhoa oa tshebelisano mmoho ho beha mekhoha e mecha ya tekenoloji ka pele pele. Ho phethahatsa sena ho ile ha hloka hloka ho ba le tshebedisano mmoho mahareng a mmuso oa naha le masepala, ho batlisisa le ho beha ka pele pele tse sieo hara tsebo ea merero ya dibaka le kutloiso ya teng, hape le ho tswedisio pele hammoho le ho sebedisa dithulusi tse eleditsoeng ke masepala ho thusa aka ho eketsa tsebo mesebetsing le dithutong tsa ho aha ka ho tloha naheng ya Afrika Borwa. Hammoho le mothati ona o mocha, dipokello tsa lirapa tse ka hara mosebetsi ona o ikhethileng di tobane le ho arolelana tsebo ya ho fumana mme re be re ahlole diphelelo tsa merero ya dibaka.

Serapa sa pele ka hara mosebetsi ona se bua ka twswelopele le maano ka hara teropo tse tse tharo tse kholo tsa Afrika Borwa e leng (eThekweni, Johannesburg le Nelson Mandela Bay). Maria Coetzee le basebetsi mmoho ba hae ba shaba ditla morao tsa ho hira UrbanSim e le dithulusi tsa ho sheba ditsela tse fapaneng tsa maano a merero a dibaka hara teropo tsena tse tharo tse boletsoeng. Sephele sa se bontsha bohlokoa ba bopaki bo hlahang dipatlomong merero eo ho sebetsonang mmoho ho e etsa le diqeto tse etsang mabapi le dichelete tsa ho aha le ho lokisa diteropo. Le ha ho le joalo, sephetho sena se hlaisa dipotso tsa hore na tsebo ya merero ya dibaka le diteropo e sebelisoang ho etsa teropo e phethahetseng, haholo holo karolong ea makoloi le mekhoha e meng ya ho tsamaea ka hara teropo. Bohlokoa ba tswelopele ya dithekenoloji tsa merero joalo ka UrbanSim, di hlaha hona serapeng sena sa pele. Serapa sa bobedi sa Maria Coetzee le basebetsi mmoho ba hae se sheba ditaba tse ntseng di tshoana le tsa serapa sa pele, empa fela se di sheba ka lehlakore la stepSA. Se sheba katamelo ya stepSA ya 'laboratori tseo ho pheloang ka hara tsona', ho bile ho shejoa thuso ya teng matsatsing a ho fihla. Serapa sena se sheba laboratory tseo ho pheloang ka hara tsona e le mokhoa oa dipatlisiso tse entsoeng ke bo bo masepala ba mane ka palo (e leng Cape Winelands, Ugu, Amatole districts le Mangaung local municipality) ho theha tse hokahalang ho ba le polatefomo ya tsebo e tla tshehetsa mekhoha ya tshebelisano mmoho le merero. Serapa sena se bontsha hore ho bile le ditla morao tse hantle ka mabapi le ditaba tsena. Serapa sena se felella ka ho fan aka dikeletso tse ngata tse amang ho sebedisa laborotori tse ho pheloang ka hara tsona ntleng ya dipatlisiso le thuto ka merero.

mede-ontwerp van die inhoud en gebruikersvereistes, soos wat uitgelig is in die artikel. Die artikel sluit af deur 'n aantal aanbevelings te maak vir die gebruik van 'n werklikheidslaboratoriumbenadering in navorsing en ontwikkeling om beplanningsbesluitneming te ondersteun.

Die derde en vierde artikels het ten doel om sommige van die aanvanklike bevindinge van die ontwikkeling van ruimtelik-eksplisiete datastelle te deel, wat poog om die huidige leemtes in die verstaan van die impak van bevolkingsdinamiek in stede en streke te vul. Die innoverende ruimtelike analises is gebaseer op geo-verwysde databronne wat verkry is as deel van die IPDM projek om sodoende twee verskynsels wat ruimtelike verandering in Suid-Afrika dryf te ondersoek, naamlik agterplaas-akkomodasie en migrasie. Agterplaas-akkomodasie maak ongeveer 8.7% uit van alle huishoudelike behuising in Suid-Afrika, waarvan die meerderheid in Gauteng geleë is. Yasmin Shapurjee, Alize le Roux and Maria Coetzee dokumenteer die ruimtelike omvang van agterplaasbehuising in Gauteng en klassifiseer die sosio-ekonomiese eienskappe van die mees voorkomende hotspots. Hulle kom tot die gevolgtrekking dat beleid oor huurakkomodasie opgedateer behoort te word om agterplaasbehuising te akkomodeer, byvoorbeeld die voorsiening van infrastruktuur in hierdie gebiede. In die vierde artikel meet Johan Maritz en Pieter Kok die migrasietendense in Suid-Afrika, wat sedertdien baie waardevol blyk te wees vir beleidverandering en reaksies in diens- en infrastruktuur voorsiening. Hulle identifiseer die hoofmigrasiestrome in die land en evalueer die bruikbaarheid van IEC kieserregistrasiedata as 'n lewensvatbare indikator en aanvullende databron tot die verstaan van migrasietendense.

Toeganklikheid (eerder as mobiliteit) as 'n aanduider van regverdigheid en sosiale geregtigheid, en as 'n instrument om optimale liggings van fasiliteite te simuleer, ontvang al hoe meer belangstelling onder akademici en praktisyns ter ondersteuning van verbeterde en meer effektiewe dienslewering. Artikels vyf en ses spreek aspekte van toeganklikheid aan vanuit onderskeidelik 'n akademiese en praktisynsoogpunt. Die artikel deur Christo Venter en Catherine Cross beskryf 'n nuwe toeganklikheid karteringstechniek vir vervoer en nedersettingbeplanning. Hulle evalueer die waarde van die GIS-gebaseerde "access envelope" tegniek om die impak van beide publieke vervoer en die lewering van behuising te meet ten opsigte van die ligging-spesifieke bekostigbaarheid van werks-toeganklikheid vir arm huishoudings. Die bruikbaarheid van die toepassing vir strategiese beplanning en ontwikkeling word geïllustreer deur verskeie gevalle-

regions. The innovative spatial analyses are based on geo-referenced data sources that were obtained as part of the IPDM project to examine two drivers of spatial change in South Africa, namely backyard housing and migration. Backyard housing accounts for about 8.7% of all household accommodation in South Africa, of which the majority is located in Gauteng. This has huge implications for the rental housing sector as well as infrastructure planning. Yasmin Shapurjee, Alize le Roux and Maria Coetzee document the spatial magnitude of backyard housing in Gauteng and classify the socio-economic characteristics of the most prevalent hotspots. They conclude that policy on rental accommodation be updated to accommodate backyard housing, for example the provision of infrastructure in these areas. In the fourth article, Johan Maritz and Pieter Kok measure migration trends in South Africa, which has since been proven very useful for policy responses and adjustments to service and infrastructure provision. They identify the major migration streams in the country and evaluate the usefulness of using the IEC voter registration data as a viable indicator and complementary data source to understand migration trends.

Accessibility (rather than mobility) as an indication of equity and social justice and as a tool to simulate optimal location of facilities, is receiving more interest among scholars and practitioners in support of improved and more effective service provision. Articles five and six address aspects of accessibility from a scholarly and practitioner's view respectively. The article by Christo Venter and Catherine Cross describes a new accessibility mapping technique for transport and settlement planning. They assess the value of the GIS-based access envelope technique to measure the impact of both public transport and housing delivery on the location-specific affordability of job access for poor households. The usefulness of the application for strategic planning and development is illustrated by several case studies from the emerging bus rapid transport system in the City of Tshwane. The article by Chéri Green and others describes the application of accessibility analysis as a technology to model the access of fire stations to respond efficiently to hazards such as fire and other disasters in the eThekweni metro. It identifies the populations at risk of being un- or underserved and identifies the number and location of additional fire stations that need to be built in the metro. The article illustrates the value of applying such a technology to provide useful evidence in assisting municipalities to prioritise investment in service delivery.

Serapa sa boraro le sa bone, di shebana le ho arolenana tsebo e tsoang dipatlisisong tse tsoang tswelopeleng ya merero ho toba diphahla tse teng kutloisisong ya ditaba tsa baahi ka hara diteropo le dibaka tse ding. Ditlamorao tsa merero ya dibaka di etsoa ka tsebo e tsoang ho geo-reference, e batlueng e le lekana la projeke e bitsoang IPDM e shebanang le mekhoha e mmedi ya diphetoho tsa dibaka tse kholo Afrika Borwa, haholoholo matlo a manyane ka mora jarete le ho falla. Matlo a manyane a ka mora jarete a etsa 8.7% ea budulo Afrika Borwa, haholo holo Gauteng. Sena se na le dikotsi tse kholo tse shebaneng le karolo ya matlo a hirisong le dithususi tse lokisang teropo. Yasim Shapurjee, Alize le Roux le Maria Coetzee ba boledisa keketso ea matlo a manyane a ka mora jarete Gauteng ebile ba bontsha mekhoha ya dikopano tsa batho le moruo dibaka tse tsebahalang ka matlo a na a manyane ka mora jarete. Ba akaretsa hore maano a naha a rente a ntlafatsoe hore a tsebe ho kenyeletsa le matlo a manyane a kamora jarete, mohlala e leng ho fan aka dithulusi tsa ho ntlafatsa dibaka tsena. Serapa sa bone, Johan Maritz le Pieter Kok ba sheba ho falla ha batho Afrika Borwa, ebile dichebiso tsena tsa bona di tsebahala di thusa ka ntlafatso ya maano a naha le phano ya dithulusi tsa ntlafatso tsa teropo. Ba hlaisa dibaka tseo ho falla ho etsahalang hangata. Ba fumana hore na ke dibaka di feng tseo batho ba fallang haholo ho tsona, ba ba sebedise mengodiso ya IEC ho utloisisa mefallo ya batho.

Ho fihla ha bobobo, e le sesupisi sa tekano le toka ya phedisano hape e le dithulusi tsa hlohlelsa dibaka tsa ditshebeletso, se fumana batho ba bangata ba sekolo le ba sebedisanang le sona ba batla ho ithuta ka sona hore ba tsebe ho ntlafatsa ditshebeletso.

Serapa sa bohloko se shebana le ho fihla ha bobobo ka leihlo la thuto ya sekolo, ha serapa sa bo ts'elela sona se shebana le ho fihla ha bobobe ka leihlo la batho ba sebetsanang le hona. Serapa se ngotsoeng ke Christo Venter le Catherine Cross se bontsha thekeniki e ncha ya ho beha mmapeng mekhoha e bobobo ya transpoto le merero ya bululo. Ba ahlola bohlokoa ba GIS-besed access envelope technique ho metha kamano ya transpoto ya sechaba le tsamaiso ya matlo mo batho bas a kholeng chelete e ngata. Thuso ya ho rera le ho tswedisa pele e hlaha dipatlisisong tse mmaloa tsa Bus Rapid Transit (BRT) teropong ya Tswane. Serapa se ngotsoeng ke Chéri Green le ba bang sona se shebana le tsebediso ya Flowmap e le thekenologi ya ho fihlela ha bobobo ba matlo a ditima mollo tse khonang ho fihlela dikotsi tse kang moll le mesi a mangata ka batla la pula ka nako, ka hara teropo ya eThekweni. Serapa sena se bontsha dinomoro tsa bao ba ke keng ba khona

studies van die opkomende snelbusstelsel in die Stad Tshwane. Die artikel deur Chéri Green en ander beskryf die toepassing van toeganklikheidsanalise as 'n tegnologie om die toegang van brandweerstasies te modelleer om doeltreffend op gevare soos vure en ander rampe in die eThekweni metro te reageer. Dit identifiseer die bevolkings wat die risiko loop om geen diens te hê of onderbediend te wees en identifiseer die hoeveelheid en ligging van addisionele brandweerstasies wat in die metro behoort gebou te word. Die artikel illustreer die waarde wat die toepassing van so 'n tegnologie inhou om bewyse te lewer wat bruikbaar is om munisipaliteite te ondersteun om diensleweringinvestering te prioritiseer.

Die laaste artikel belig die hoogs-debateerde behoefte aan ruimtelike data samewerking wat onderliggend is aan alle pogings om beter kwaliteit bewyse en toegang daartoe te ondersteun, om sodoende beplanningsbesluite in te lig. Die artikel deur Antony Cooper en kollegas het ten doel om bewustheid te verhoog oor die belangrikheid van ruimtelike data infrastruktuur (SDIs) wat die uitwisseling en deel van 'n versameling van ruimtelike data fasiliteer en koördineer ter ondersteuning van geïntegreerde beplanning en die implimentering van SPLUMA in Suid-Afrika. Dit refeeekteer op 'n reeks van inisiatiewe in Suid-Afrika en ander lande en belig kortliks sommige van die bruikbaarhede en uitdagings wat met die inbedding van SDI praktyke in Suid-Afrika gepaard gaan.

'n Subtema regdeur al die artikels is die waarde wat gegeneer word deur die 'kreatiewe spanning' van transdisiplinêre samewerking deur 'n wye verskeidenheid van rolspelers, instellings en individue (nie net tussen die wetenskap en praktyk, tussen sfere, of tussen praktisyns en politici nie, maar ook tussen dissiplines en sektore binne instellings en tussen verskeie kennisvelde). Die verbintenis tot samewerking en innovasie is een van die sleuteldinge waarvoor praktisyns, akademië en beleidmakers in die beplanningsberoep in Suid-Afrika Maria Coetzee voor sal onthou.

Ons vertrou dat hierdie spesiale uitgawe nie net sal bydrae tot die diskoers rondom verskynsels van ruimtelike verandering en die agenda vir toekomstige en meer in-diepte navorsing op baie onderwerpe nie, maar dat dit ook die fondasie vir toekomstige impak-gedrewe wetenskap en praktyk samewerking sal erken, vier en lym.

Meer inligting omtrent die stepSA inisiatief kan gevind word op die webwerf by www.stepsa.org.

The last article highlights the much debated need for spatial data collaboration that underlies all attempts to support better quality evidence and access thereof, so as to inform planning decisions. The article by Antony Cooper and colleagues is aimed at raising awareness on the importance of spatial data infrastructures (SDIs) to facilitate and coordinate the exchange and sharing of a collection of geospatial data in support of integrated planning and SPLUMA implementation in South Africa. It reflects on a range of initiatives in South Africa and other countries and briefly highlights some of the value and challenges associated with embedding the SDI practice in South Africa.

A subtheme through all the articles is the value generated by the 'creative tension' of transdisciplinary collaboration by a wide range of role players, institutions and individuals (not only between science and practice, across spheres, or between practitioners and politicians, but also between disciplines and sectors within institutions and across various knowledge fields). This commitment to collaboration and innovation is one of the key things for which practitioners, academics and policy makers in the planning fraternity in South Africa will remember Maria Coetzee.

We trust that this special edition will thus not only contribute to the discourse about spatial change phenomena and set the agenda for further and more in-depth research on many of the topics, but also acknowledge, celebrate and cement the foundation for future impact driven science and practice collaboration.

More information about the stepSA initiative can be found on its website at www.stepsa.org.

ho fumana thuso ka nako ha ho kaba le kotsi, hape se bontsa ho hlokalaha ha ho aha matlo a mang a di tima mollo ho fihlela batho ban aka hara teropo. Serapa sena se bontsha bohlokoa ba ho sebedisa thekenoloji ho fan aka bopaki bo ka thusang bo masepala ho beha tshebeletso ya batho kapele.

Serapa sa ho qetela se shebana le spatial data collaboration. Serapa sena se ngotsoe ke Antony Cooper le basebetsi ba hai ba bang se shebane le ho bontsha bohlokoa ba Spatial Planning Infrastructure (SDIs) ba ho tsamaisa karolelano ya tseba ya dibaka hore ho tsebe ho ba le tshebediso mmoho ya merero le ho sebedisa SPLUMA naheng ya Afrika Borwa. serapa sena se sheba dipapiso tse ngata tsa Afrika Borwa le naha tse ding ho shepa di SDI tsa Afrika Borwa e bapisitsoe ken aha tsena tse ding.

Se bontshang e le nthoe tsoanang hara dirapa tsena kaofela ke ho bua ka tshebedisano mmoho hara makala ohle. Ho sebedisano mmoho ona ke eona nthoe basebetsi, baihuti le bareri ba maano bat la hoopla Maria Coetzee ka ona.

Re tshepa hore mosebetsi ona o ikhethileng ha o na kenyelletsa phetoho menahanong ya merero ya teropo hape o susumetse hore dipatlisiso tse ding tse tebileng ho feta tsena di etsoe.

Ho fumana ditaba tse tebileng ho feta moo, ka stepSA re kopa u shebe website ya rona www.stepsa.org