

# 10 | REFERENCES

## LIST OF REFERENCES

**Anderson, JE., Jenkins, P. 2011.** Developing Cities in between the Formal and Informal. ECAS 2011 – 4th European Conference on African Studies African Engagements: On Whose Terms? Sweden/

**Aziz Tayob Partnership, 2002.** Integrated spatial urban development plan for Marabastad, Urban Framework, City of Tshwane Council, Tshwane

**Brand, S. 1994.** How Buildings Learn: What happens after they are built? Penguin Books. USA

**Brandt, O. 2001.** Marabastad's Informal Traders: A struggle for survival. Honours Research Project. University of Pretoria: Department of Geography.

**Bremmer, L. 2010.** Writing the City into Being, Essays on Johannesburg: 1998-2008. Fourthwall Books, Johannesburg.

**Caples, S & Jefferson, E. 2005.** Mixology. Architectural Design: The New Mix. Culturally Dynamic Architecture, Septemeber/October 2005, vol. 75, no. 5, p. 5-7.

**Capra, F. 2002.** The hidden Connections: A science for sustainable living. New York: Anchor Books.

**Cardosi, G. 2011.** Habitat between norms, impulse and utopia toward the integration of informal settlements. Department of Urban Planning. McGill University, Montreal, Canada

City Planning, Development and Regional Services Department, City of Tshwane, 2008. Urban Framework for Mabopane Region. Pp. 181-195 [online] [http://www.urbanlandmark.org.za/downloads/retail\\_in\\_townships\\_2011\\_07.pdf](http://www.urbanlandmark.org.za/downloads/retail_in_townships_2011_07.pdf) [Accessed 6 March 2015]

**Davies, RJ. 1981.** The spatial formation of the South African city, GeoJournal 2: 59-72

**Deckler, T; Graupner, A, Rasmuss, H. 2008.** Contemporary South African Architecture in a Landscape of Transition. Cape Town: Double Storey Books.

**Dewar, D. 2004.** Urban Integration and Transformation: future Imperative Facing the Education of Spatial Design Professionals. Architecture South Africa. Integration and Transformation in Education: A 10 Year Profile of Architecture and Planning, UCT. November/December 2004, Special Issue, pp. 39-43.

**Dewar, D., and Watson, V. 1990.** 'Urban Markets: Developing Informal Retailing', London and New York: Routledge.

**Dobson, R. 2001.** Warwick Junction Urban Renewal Project. In Journal of the Kwazulu-Natal Institute for Architects, 2001, vo. 26, no 3, p 6-13

**Du Plessis, C. 2011.** "Chaos and Resilience: The Johannesburg Experience" in EcoEdge: Urgent Design Challenges in Building Sustainable Cities, Editors E. Charlesworth & R Adam, 1st edition, Routledge, London, pp 55-59

**Forty, A. 1995.** Common Sense and the Picturesque. In Architecture and the Sites of History: Interpretations of Buildings and Cities. Edited by Borden, I & Dunster, D. Oxford: Butterworth Architecture

**Foucault, M. 1986.** "Of Other Spaces," *Diacritics* 16.1, pp22-27.

**Friedman, M. 1994.** A History of Africans in Pretoria with Special Reference to Marabastad, 1902-23. Pretoria: UNISA

**Hamdi, N. 2004.** Small Change. 3rd edition. London: Earthscan Ltd.

**Hamdi, N. 2010.** Placemaker's Guide to Building a community. Routledge.

**Harber, R. 2000.** Is there an African City? African CBD Workshop, Durban 2000. Report. Edited by WALL, R. Rotterdam: W.A.L.L., pp. 149

**Ganter, G. 2009.** 'The Urban Market: Social Configurations in the African City', in *African Perspectives: The African Inner City*: [Re] sourced.

**Gehl, J. 2010.** Cities for people. Island Press, Washington

**Gehl, J. 2011.** Life Between Buildings. Island Press, Washington

**Koolhaas, R. 2002.** (Editor). The Lagos Project. Draft. Unpublished

**Kostof, S. 1999.** The City Shade: Urban Patterns and Meanings through History. Thames & Hudson, New York.

**Lefebvre, H. 1991.** The Production of Space. Translated by D. Nicholson-Smith. Oxford: Blackwell.

**Massey, D. 2005.** For Space. London: Sage Publications.

**Maromo, J. 2012.** Move to appease Tshwane hawkers [Homepage of South African Press Association], [Online]. Available at: <http://www.iol.co.za/news/south-africa/gauteng/move-to-appease-tshwane-hawkers-1.1387690#.UVQrAhnNfC5> [Accessed: 2 April 2015]

**Mehrotra, R. 2013.** Mumbai: Planning Challenges for the Compact City. Holcim Foundation. [Online]. Available at: [http://src.holcimfoudation.org/dnl/238630ef-399c-4479-9fa7-5d6sbe54c6cb/F13\\_Green\\_03\\_Mumbai\\_planning\\_Challenges\\_for\\_the\\_Compact\\_City.pdf](http://src.holcimfoudation.org/dnl/238630ef-399c-4479-9fa7-5d6sbe54c6cb/F13_Green_03_Mumbai_planning_Challenges_for_the_Compact_City.pdf) [Accessed: 27 February 2015]

**Meadows, D.H. 2008.** Thinking in Systems, 1st edition, Chelsea Green Publishing Company, United States of America

**Meyers, G. 2011.** African Cities: Alternative Visions of Urban Theory and Practice. Zed Books, London

- Mills, G. 2012.** Informal Settlements could be our cities of the future. [Online] [www.urbanlandmark.org.za](http://www.urbanlandmark.org.za)
- Newman, O. 1973.** Defensible Space: Crime prevention through urban planning. Macmillan Publishing Co.
- Nordberg-Schultz, N. 1971.** Existence, Space and Architecture. New York: Prager
- Phaidon, 2004. Phaidon Atlas of contemporary world architecture: Khayelitsha services centres. Sithandata avenue public space. Phaidon, London
- Piet Louw Architects. 2014.** Sithandata avenue public space [online] <http://www.nmassociates.co.za/about-us/partner/piet-louw-architects> [Accessed 18 April 2015]
- Relph, E. 1976.** Place and Placelessness. London: Pion Limited.
- Rudofsky, B. 1964.** Architecture without Architects. University of New Mexico Press. Albuquerque.
- Schmidt, R., Eguchi, T., Austin, S. and Gibb, A. 2009.** Adaptable futures: A 21st century challenge, In proceedings of the CIB Changing Roles: New Roles; New Challenges conference, Noordwijk, The Netherlands [online] <http://adatablefutures.comwp-content/uploads/2011/11/Schmidt-et-al.-2009b.pdf> [Accessed 30 April 2015]
- Shephard, G. & Comoroff, J. 2000.** Case studies in the African Informal. In the Mutations: Harvard Project on the City. Multiplicity. Edited by R. Koolhaas, S. Boeri, S. Kwinter, N. Tazi, & H.U. Obrist. Barcelona: Actar.

**Simone, A. 2012.** Reclaiming Black Urbanism: Inventive methods for engaging urban fields in Africa and beyond. African Perspectives – [South] Africa. City Society, Space, Literature and Architecture. Edited by Bruyns, G & Graafland, A. Rotterdam: 010 Publishers: pp. 31-47.

**Skinner, C. and Valodia, I. 2003.** ‘Local Government Support for Women in the Informal Economy in Durban, South Africa’, International Journal of Politics, Culture and Society, vol. 16, no. 3, Spring, pp. 431 – 444.

**Therakomen, P. 2011.** The Experiments for Exploring Dynamic Behaviour in Urban Places.

**Tovivich, S. 2009.** Learning from informal practice: the new professionalism architectural practice. CEBE Transactions, Vol 6, Issue 1, April 2009 pp 62-85

**Vycinas, V. 1961.** Earth and Gods. The Hague: Martinus Nijhoff

**Wolch, J & Dear, M. 1989.** Introduction and Overview: How Territory shapes social Life. In The Power of Geography: how Territory Shapes Social Life. Edited by J. Wolch J. & M. Dear, M.

Unknown (s.a) CBD Durban with special emphasis on Warwick Junction. Accessed via Google Scholar. 1 June 2015.

Book named – not author  
Challenging city imaginaries: Street traders’ struggles in Warwick Junction, 2009

# LIST OF FIGURES

## CHAPTER 1

Figure 1.1. Forced removals - 1945 & 1957 (Author 2015) . . . . .	11
Figure 1.2. Belle Ombre Metro Station (Author 2015) . . . . .	11
Figure 1.3. Informal sector as viable job creation and economic solution (Author 2015). . . . .	13
Figure 1.4. The conflict of the 'right to the city' (Author 2015) . . . . .	14
Figure 1.5. We won't move (Jurgen Shadeberg) . . . . .	15
Figure 1.6. Dominant transport & trade networks (Author, Degenaar, Oberholzer 2015) . . . . .	17
Figure 1.7. Dominating transport network (Author 2015) . . . . .	17
Figure 1.8. Dominating trade network (Author 2015) . . . . .	17
Figure 1.9. Urban & environmental decay (Author 2015) . . . . .	17
Figure 1.10. Dominant transport and retail networks are vulnerable as they rely on eachother for survival . . . . .	18
Figure 1.11. Introducing new programmes increases diversity and strengthens existing and new networks (Author 2015) . . . . .	18
Figure 1.12. Urban segretation defined by core & periphery (Author 2015) . . . . .	19
Figure 1.13. Marabastad's dependence on external energies between the city & informal settlements (Author 2015) . . . . .	19
Figure 1.14. Growing independence of informal settlements threatens Marabastad's role within the City (Author 2015) . . . . .	20
Figure 1.15. Marabastad as destination within the city (Author, 2015) . . . . .	20
Figure 1.16. Urban issue: Transiency & temporality (Author, 2015) . . . . .	21
Figure 1.17. Urban intention: Permanence & interdependency (Author, 2015) . . . . .	21
Figure 1.18. Urban issue summary (Author, 2105) . . . . .	21
Figure 1.19. Marabastad as destination within the City (Author 2015) . . . . .	22
Figure 1.20. Successful informal distribution networks (Author 2015). . . . .	23
Figure 1.21. Elimination of informal networks by formality (Author 2015) . . . . .	23
Figure 1.22. Threat to relevance of informal networks (Author, 2015). . . . .	23
Figure 1.23. Provision of catalytic platforms which strengthen informal networks (Author 2015) . . . . .	23
Figure 1.24. Adaptive cycle (Loughborough University) . . . . .	24
Figure 1.25. Informality attaches to & reappropriates the formal, 'hindering' development (Author, 2015) . . . . .	25
Figure 1.28. Adaptability and self-organisation of informality (Author, 2015) . . . . .	25
Figure 1.29. Interdependency between formal & informal networks (Author, 2015) . . . . .	25
Figure 1.26. Provide platforms that allow the co-existence of formal & informal (Author, 2015) . . . . .	25
Figure 1.27. Establishment & growth of informal networks (Author, 2015) . . . . .	25
Figure 1.30. General, urban & architectural issue (Author 2015) . . . . .	26

Figure 1.31. Table of issues & intentions (Author 2015) . . . . .	27
Figure 1.32. General intention . . . . .	27
Figure 1.33. Urban intention . . . . .	27
Figure 1.34. Architectural intention . . . . .	27

## CHAPTER 2

Figure 2.1. Marabastad street life (Good Shepherd, Eersterus) . . . . .	31
Figure 2.2. Establishment of Marabastad North-west of Pretoria (Aziz Tayob Partners 2002) . . . . .	32
Figure 2.3. Establishment of Pretoria (Author 2015) . . . . .	32
Figure 2.4. Proclaimed outskirts of Pretoria (Author 2015) . . . . .	32
Figure 2.5. Forced removals from Marabastad to outskirts of Pretoria (Author 2015) .	32
Figure 2.6. Collage of spatial exploration (Author 2015), Images (Aziz Tayob Partnership) . . . . .	33
Figure 2.7. Collage of development of Marabastad (Author, Degenaar, Oberholzer. 2015), Images (Aziz Tayob Partnership) . . . . .	35
Figure 2.8. Resultant Marabastad (Author 2015) . . . . .	37
Figure 2.9. Physical boundaires of isolation (Author, Degenaar, Oberholzer. 2015) .	38
Figure 2.10. Waste burning (Cronje, 2014) . . . . .	39
Figure 2.11. Motor repairs on vacant land (Cronje ,2014) . . . . .	39
Figure 2.12. Natural environment & urban decay (Author, Degenaar, Oberholzer. 2015) . . . . .	39
Figure 2.13. Resultant heritage fabric (Author, Degenaar, Oberholzer. 2015) . . . . .	40
Figure 2.14. Steenhovenspruit's submergence underground (Author 2015) . . . . .	41
Figure 2.15. Steenhovenspruit channel (Author 2015) . . . . .	41
Figure 2.16. - 2.18. Fine grain (Author 2015) . . . . .	42
Figure 2.19. - 2.21. Large grain (Author 2015) . . . . .	42
Figure 2.22. Fruit & vegetable distribution (Author 2015) . . . . .	43
Figure 2.23. Distribution of people through Marabastad (Author 2015) . . . . .	43
Figure 2.24. Transport nodes . . . . .	44
Figure 2.26. - 2.30. Indian traders (Aziz Tayob Partners) . . . . .	45
Figure 2.31. - 2.34. Formal stores (Aziz Tayob Partners) . . . . .	45
Figure 2.34. Trade & retail network (Author, Degenaar, Oberholzer. 2015) . . . . .	46
Figure 2.35. - 2.37. Informal traders (Author 2015) . . . . .	47
Figure 2.38. - 2.41. Informal stalls (Author 2015) . . . . .	47
Figure 2.46. Mariamman Hindu Temple (Author 2015) . . . . .	48
Figure 2.45. Ms Maniben Sita . . . . .	48
Figure 2.47. Oriental Plaza (Author 2015) . . . . .	48
Figure 2.44. Mr Omarjee Suliman . . . . .	48
Figure 2.43. Ms Gertrude Holworthy . . . . .	48
Figure 2.48. Marabastad Mosque (Author 2015) . . . . .	48

Figure 2.42. Mrs Elizabeth Leyds . . . . .	48	Figure 4.9. Frame cycle (Adaptable futures, 2008). . . . .	76
Figure 2.49. Marabastad Mosque (Aziz Tayob Partnerships) . . . . .	49	Figure 4.10. Relationship between formal & informal (Author 2015) . . . . .	78
Figure 2.50. Commuting (David Goldblatt) . . . . .	49	Figure 4.11. Two urban conditions: Informal informs formal development (Author 2015) . . . . .	78
Figure 2.51. Belle Ombre (Author 2015) . . . . .	49	Figure 4.13. Conceptual sketch of the informal (Author, 2015) . . . . .	79
Figure 2.52. Main route to & from Belle Ombre (Author 2015) . . . . .	49	Figure 4.12. Conceptual sketch illustrating how the formal is informed by the informal (Author, 2015) . . . . .	79
Figure 2.53. Lack of public space (Author, Degenaar, Oberholzer. 2015) . . . . .	50	Figure 4.14. - 4.17. Limited social interaction (Aziz Tayob Partners) . . . . .	80
Figure 2.54. Deserted at night (Author, Degenaar, Oberholzer. 2015) . . . . .	50	Figure 4.18. - 4.22. Social interaction (Aziz Tayob Partners) . . . . .	80
Figure 2.55. Reappropriated bus stop . . . . .	51	Figure 4.23. Social public space. . . . .	82
Figure 2.56. Infill store in Belle Ombre . . . . .	51	Figure 4.24. Defining place (Author 2015) . . . . .	83
Figure 2.57. Vendor occupying side walk . . . . .	51	Figure 4.25. Finite vs. flexible buildings (Author 2015) . . . . .	83
Figure 2.58. Taxi rank occupies vacant land . . . . .	51	Figure 4.26. The connectivity between people and networks in Marabastad (Author 2015) . . . . .	84
Figure 2.59. Waste burning on vacant land . . . . .	51	Figure 4.27. Informality as a means of creating space as a temporal condition where space & time co-exist (Author 2015) . . . . .	85
Figure 2.60. Figure 2.56 - 2.59. Reappropriation of space . . . . .	51	Figure 4.28. Architecture as object (Author 2015) . . . . .	86
Figure 2.61. Resultant spatial condition ((Author, Degenaar, Oberholzer. 2015). . . . .	52	Figure 4.29. Architecture that enables human to be the subject and the object of space (Author 2015) . . . . .	86

## CHAPTER 3

Figure 3.1. Urban Vision of interdependency & connection (Author 2015) . . . . .	53
Figure 3.2. Connection between Marabastad & the City (Author 2015) . . . . .	54
Figure 3.3. Urban Resilience Thinking (Author 2015) . . . . .	55
Figure 3.4. Connectors & Isolators (Author 2015) . . . . .	56
Figure 3.5. Resilience lens (Author, Degenaar, Oberholzer. 2015) . . . . .	57
Figure 3.6. Site choices (Author, Degenaar, Oberholzer 2015) . . . . .	58
Figure 3.7. Individual resilience intentions (Author, Degenaar, Oberholzer) . . . . .	59
Figure 3.8. Programmatic Analysis (Author, Degenaar, Oberholzer) . . . . .	60
Figure 3.9. Programmatic Vision (Author, Degenaar, Oberholzer) . . . . .	61
Figure 3.10. Spatial Analysis (Author, Degenaar, Oberholzer) . . . . .	63
Figure 3.11. Spatial vision (Author, Degenaar, Oberholzer) . . . . .	64
Figure 3.12. Street analysis & vision (Author, Degenaar, Oberholzer) . . . . .	65
Figure 3.13. Catalytic site interventions (Author, Degenaar, Oberholzer) . . . . .	66
Figure 3.14. Urban Vision (Author, Degenaar, Oberholzer) . . . . .	67
Figure 3.15. Development of Urban vision . . . . .	68

## CHAPTER 4

Figure 4.1. Overcrowded conduits of passage. . . . .	71
Figure 4.2. Urban renewal & decay (Author 2015) . . . . .	71
Figure 4.3. Development of African cities through political, social, economic & environmental pressures (Author 2015) . . . . .	72
Figure 4.4. PEAS (Author 2015) adapted from Hamdi (2010) . . . . .	73
Figure 4.5. Brand's Building layers (Adaptable futures, 2008) . . . . .	74
Figure 4.6. Adaptive futures' building layers (Adaptable futures, 2008) . . . . .	74
Figure 4.7. Adaptability blackbox (Adaptable futures, 2008) . . . . .	74
Figure 4.8. Building agency (Adaptable futures, 2008) . . . . .	75

Figure 4.9. Frame cycle (Adaptable futures, 2008). . . . .	76
Figure 4.10. Relationship between formal & informal (Author 2015) . . . . .	78
Figure 4.11. Two urban conditions: Informal informs formal development (Author 2015) . . . . .	78
Figure 4.13. Conceptual sketch of the informal (Author, 2015) . . . . .	79
Figure 4.12. Conceptual sketch illustrating how the formal is informed by the informal (Author, 2015) . . . . .	79
Figure 4.14. - 4.17. Limited social interaction (Aziz Tayob Partners) . . . . .	80
Figure 4.18. - 4.22. Social interaction (Aziz Tayob Partners) . . . . .	80
Figure 4.23. Social public space. . . . .	82
Figure 4.24. Defining place (Author 2015) . . . . .	83
Figure 4.25. Finite vs. flexible buildings (Author 2015) . . . . .	83
Figure 4.26. The connectivity between people and networks in Marabastad (Author 2015) . . . . .	84
Figure 4.27. Informality as a means of creating space as a temporal condition where space & time co-exist (Author 2015) . . . . .	85
Figure 4.28. Architecture as object (Author 2015) . . . . .	86
Figure 4.29. Architecture that enables human to be the subject and the object of space (Author 2015) . . . . .	86
Figure 4.30. Public space as a catalyst for social interaction (Author 2015) . . . . .	87

## CHAPTER 5

Figure 5.1. Reliance on external energies for survival (Author, 2015) . . . . .	90
Figure 5.2. Intention of interdependency (Author, 2015) . . . . .	90
Figure 5.3. Site in macro-context . . . . .	93
Figure 5.4. Site in micro-context. . . . .	93
Figure 5.5. Significant buidlings & sites adjacent site . . . . .	93
Figure 5.6. Informal bovine butcher (Author 2015) . . . . .	94
Figure 5.7. Informal meat market (Author 2015) . . . . .	94
Figure 5.8. Formal shops (Author 2015) . . . . .	94
Figure 5.9. Fruit & vegetable distribution (Author 2015) . . . . .	94
Figure 5.10. Fruit & vegetable market (Author 2015) . . . . .	95
Figure 5.12. Informal restaurant (Author 2015) . . . . .	95
Figure 5.11. Craft market (Author 2015) . . . . .	95
Figure 5.13. Steenhovenspruit goes underground (Author 2015) . . . . .	95
Figure 5.14. Steenhovenspruit goes underground (Author 2015) . . . . .	96
Figure 5.15. Site as gateway to city (Author 2015) . . . . .	96
Figure 5.16. Connection between Marabastad & city (Author 2015) . . . . .	96
Figure 5.17. High pedestrian movemnt between modes of public transport (Author 2015) . . . . .	97
Figure 5.18. Proposed pedestrian walkway & extension of 11th street (Author 2015) .	97
Figure 5.19. Site orientation (Author 2015) . . . . .	98
Figure 5.20. Site contours (Author 2015) . . . . .	99

Figure 5.21. Vehicular & pedestrian movement conflict (Author 2015) . . . . .	99	Figure 6.11. Covered market space . . . . .	119
Figure 5.24. Belle Ombre Metro Station (Author 2015) . . . . .	100	Figure 6.13. Market on the pedestrian bridge . . . . .	119
Figure 5.25. Sub-Station (Author 2015) . . . . .	100	Figure 6.14. Market scenario 1 (Dewar & Watson, 1990:49) . . . . .	120
Figure 5.22. Fence as barrier (Author 2015) . . . . .	100	Figure 6.15. Market scenario 2 (Dewar & Watson, 1990:49) . . . . .	121
Figure 5.23. Scale difference (Author 2015) . . . . .	100	Figure 6.17. Market scenario 4 (Dewar & Watson, 1990:49) . . . . .	121
Figure 5.26. Figure ground of existing structures (Author 2015) . . . . .	101	Figure 6.20. Market scenario 7 (Dewar & Watson, 1990:49) . . . . .	121
Figure 5.28. Make-shift meat storage (Author 2015) . . . . .	101	Figure 6.16. Market scenario 3 (Dewar & Watson, 1990:49) . . . . .	121
Figure 5.29. Unhygienic meat preparation (Author 2015) . . . . .	101	Figure 6.18. Market scenario 5 (Dewar & Watson, 1990:49) . . . . .	121
Figure 5.27. Location of extisting structures (Author 2015) . . . . .	101	Figure 6.21. Market scenario 8 (Dewar & Watson, 1990:49) . . . . .	121
Figure 5.30. Lack of shelter from elements (Author 2015) . . . . .	101	Figure 6.19. Market scenario 6 (Dewar & Watson, 1990:49) . . . . .	121
Figure 5.31. Drainage not considered for site slope (Author 2015) . . . . .	101	Figure 6.22. Market scenario 9 (Dewar & Watson, 1990:49) . . . . .	121
Figure 5.32. Location within the City (Author 2015) . . . . .	102	Figure 6.24. Layout plan of bovine butchery . . . . .	123
Figure 5.34. Existing structure (Author 2015) . . . . .	102	Figure 6.23. Bovine butchery layout . . . . .	123
Figure 5.33. Natural elements (Author 2015) . . . . .	102	Figure 6.25. Skinning of bovine head . . . . .	124
Figure 5.35. Fine grain adaptability (Author 2015) . . . . .	103	Figure 6.28. Food preparation . . . . .	124
Figure 5.38. Co-existence of formal & informal activities and networks (Author 2015) . . . . .	103	Figure 6.26. Butchering of bovine head . . . . .	124
Figure 5.36. Self-organisation of informal elements (Author 2015) . . . . .	103	Figure 6.29. Informal restaurant serving bovine meat . . . . .	124
Figure 5.39. Formal activity (Author 2015) . . . . .	103	Figure 6.30. Serving & eating of bovine meat . . . . .	124
Figure 5.37. Temporality allows adaptability (Author 2015) . . . . .	103	Figure 6.27. Bovine head chopping . . . . .	124
Figure 5.40. Informal activity (Author 2015) . . . . .	103	Figure 6.37. Central Meat Market ground floor plan . . . . .	126
Figure 5.41. Informal butchery (Author 2015) . . . . .	106	Figure 6.31. Interior of meat market . . . . .	126
Figure 5.42. Informal meat market (Author 2015) . . . . .	107	Figure 6.33. Pedestrian arcade . . . . .	126
Figure 5.43. Fruit & vegetable market (Author 2015) . . . . .	108	Figure 6.35. Roof resembles a giant wave . . . . .	126
Figure 5.44. Fruit & vegetable distribution (Author 2015) . . . . .	109	Figure 6.34. Informal f & v markets . . . . .	126
Figure 5.45. Informal restaurant (Author 2015) . . . . .	110	Figure 6.38. Central Meat Market sections . . . . .	126
Figure 5.46. Programmatic services & infrastructure (Author 2015) . . . . .	111	Figure 6.36. Central Meat market truss structure . . . . .	126
Figure 5.47. Programmatic spatial requirements (Author 2015) . . . . .	111	Figure 6.32. Braai area . . . . .	126
Figure 5.48. Programmatic flow (Author 2015) . . . . .	112	Figure 6.39. Traders' Market . . . . .	128
		Figure 6.41. Public seating . . . . .	128
		Figure 6.44. Space defining concrete elements . . . . .	128
		Figure 6.46. Figure 6.25 - 6.31. (Contemporary South African Architecture in a Landscape of Transition) . . . . .	128
		Figure 6.42. Landmark . . . . .	128
		Figure 6.45. Taxi terminal . . . . .	128
		Figure 6.40. Robust walkway . . . . .	128
		Figure 6.43. Predominant entrance . . . . .	128

## CHAPTER 6

Figure 6.1. Lagos urban fabric (Udoma, 2015) . . . . .	114
Figure 6.2. Innovative development (Udoma, 2015) . . . . .	114
Figure 6.3. Urban vision: infrastructural nodes illustrated in red and blue (Udoma, 2015) . . . . .	114
Figure 6.4. Meaningful public space (Phaidon 2004:640) . . . . .	116
Figure 6.7. Paypoints . . . . .	116
Figure 6.5. Landmark in the landscape (Joubert 2009) . . . . .	116
Figure 6.8. Layered facades & public interfaces . . . . .	116
Figure 6.6. Response to surrounding context (Joubert 2009) . . . . .	116
Figure 6.9. External spaces framed elegantly . . . . .	116
Figure 6.10. Provision of infrastructure: covered market & walkway . . . . .	119
Figure 6.12. Muthi Market . . . . .	119

## CHAPTER 7

Figure 7.1. Informality attaches onto existing formality (Author, 2015) . . . . .	130
Figure 7.2. Formal development that facilitates informality (Author, 2015) . . . . .	130
Figure 7.3. Structural shell allows for informal self-organisation (Author, 2015) . . . . .	130
Figure 7.5. Existing simple roof structure allowing self-organisation (Author, 2015) . . . . .	131

Figure 7.4. Loose fit, fine grain allows for self-organisation (Author 2015) . . . . .	131	Figure 8.25. Formal & informal . . . . .	149
Figure 7.6. Re-appropriation of existing structures through self-organisation (Author 2015) . . . . .	131	Figure 8.30. Pedestrian movement informs form . . . . .	150
Figure 7.7. Reveal and conceal concept (Author 2015) . . . . .	132	Figure 8.26. Pedestrian movement . . . . .	150
Figure 7.8. Enclosure & exposure (Author 2015) . . . . .	133	Figure 8.27. Orientation to north . . . . .	150
Figure 7.9. Bovine butchery (Author 2015) . . . . .	134	Figure 8.28. Aligned along pedestrian routes . . . . .	150
Figure 7.10. Service & infrastructural needs (Author 2015) . . . . .	134	Figure 8.31. Building's orientation . . . . .	150
Figure 7.11. Spatial requirements (Author 2015) . . . . .	134	Figure 8.29. Formal & informal . . . . .	150
Figure 7.12. Programmatic flow (Author 2015) . . . . .	134	Figure 8.32. Form exploration 1 . . . . .	151
Figure 7.13. Small grain & large grain (Author 2015) . . . . .	135	Figure 8.33. Form exploration 2 . . . . .	151
Figure 7.14. Stereotomic & tectonic (Author 2015) . . . . .	135	Figure 8.34. Form exploration 3 . . . . .	151
Figure 7.15. Transition from stereotomic to tectonic (Author 2015) . . . . .	135	Figure 8.39. Braai chimneys & restauruant . . . . .	152
Figure 7.16. Small scale & large scale (Author 2015) . . . . .	135	Figure 8.35. - 3.38. Conceptual exploration of plan (Author 2015) . . . . .	152
Figure 7.17. Northern orientation (Author 2015) . . . . .	136	Figure 8.40. View from Belle Ombre towards Boom Street . . . . .	152
Figure 7.18. Site slope (Author 2015) . . . . .	136	Figure 8.41. Aerial view from Boom Street . . . . .	152
Figure 7.19. Fast (blue) & slow (yellow) pedestrian movemnet (Author 2015) . . . . .	137	Figure 8.42. Section through fruit & vegetable market . . . . .	153
Figure 7.20. Accessibility: private vs. public programmes (Author 2015) . . . . .	137	Figure 8.43. Section through offices and bitchery . . . . .	153

## CHAPTER 8

Figure 8.1. Aerial of roof exploraton . . . . .	141	Figure 8.46. Braai place as central public space . . . . .	154
Figure 8.4. Scale response to Belle Ombre by roof . . . . .	141	Figure 8.47. Cylindrical braai informs surrounding public area . . . . .	154
Figure 8.2. Roof exploration responding to varying buidling scales . . . . .	141	Figure 8.48. Tectonic structural exploration . . . . .	155
Figure 8.3. Buildings define central public space . . . . .	141	Figure 8.49. Exploration plan . . . . .	156
Figure 8.6. Roof plan of first design iteration . . . . .	142	Figure 8.50. Ground plane definition . . . . .	157
Figure 8.5. Plan of first design iteration . . . . .	142	Figure 8.51. Fast & slow moving spaces . . . . .	157
Figure 8.7. Level difference . . . . .	143	Figure 8.52. Floor Plan: level 1-4 . . . . .	158
Figure 8.9. Site slope defines slope . . . . .	143	Figure 8.53. Floor Plan: level 4-7 . . . . .	158
Figure 8.8. Change in level defines space . . . . .	143	Figure 8.54. Roof structure plan . . . . .	159
Figure 8.10. Creating designated public space . . . . .	144	Figure 8.55. Pergola plan . . . . .	159
Figure 8.13. Fast & slow movement . . . . .	144	Figure 8.56. Roof Plan . . . . .	160
Figure 8.11. Pedestrian movement through the site . . . . .	144	Figure 8.57. Site Plan . . . . .	160
Figure 8.12. Paths of accessibility . . . . .	144	Figure 8.58. Investigation into Exploration 8 Plan _1 . . . . .	161
Figure 8.15. Degrees of accessibility . . . . .	145	Figure 8.59. Northern light . . . . .	162
Figure 8.16. Public & private programmes . . . . .	145	Figure 8.60. Investigation of Exploration 8 Plan _2 . . . . .	163
Figure 8.14. Ground floor plan of first design iteration . . . . .	145	Figure 8.61. Exploration 8 Plan _3 . . . . .	164
Figure 8.17. Roof transition . . . . .	146	Figure 8.62. Stair iterations . . . . .	164
Figure 8.18. Landmarks . . . . .	146	Figure 8.63. Exploration 8 Plan _4 . . . . .	165
Figure 8.19. Furnace chimeny . . . . .	147	Figure 8.64. View from Boom Street (south) . . . . .	166
Figure 8.21. Stereotomic & tectonic . . . . .	147	Figure 8.66. Walkway through fruit & veg market . . . . .	166
Figure 8.20. Section exploration . . . . .	147	Figure 8.65. View from sub-station (east) . . . . .	166
Figure 8.22. Designated public space . . . . .	148	Figure 8.67. Accommodation . . . . .	166
Figure 8.23. Edges & thresholds . . . . .	148	Figure 8.69. Food preparation & restaurant . . . . .	167
Figure 8.24. Fine grain, large grain . . . . .	149	Figure 8.68. Aerial view of model . . . . .	167
		Figure 8.70. Meat market . . . . .	167

Figure 8.71. Aerial view of site . . . . .	168	Figure 9.26. Furnce: Iteration_3. . . . .	190
Figure 8.73. Walkway from Belle Ombre Metro Station . . . . .	168	Figure 9.27. Furnce: Iteration_4 . . . . .	191
Figure 8.72. View from informal market to fruit & veg market . . . . .	168	Figure 9.28. Furnce: Iteration_5. . . . .	192
Figure 8.74. Informal market . . . . .	169	Figure 9.29. Furnce: Iteration_6 & 7 . . . . .	193
Figure 8.76. Walkway from meat market, past butchery (on the left) towards fruit & veg distribution . . . . .	169	Figure 9.30. Furnce: Iteration_8. . . . .	194
Figure 8.77. View of informal market and walkway. . . . .	169	Figure 9.31. Furnce: Iteration_Chimney . . . . .	195
Figure 8.75. View from informal market to fruit & veg market . . . . .	169	Figure 9.32. Furnce iterations . . . . .	195
Figure 8.78. Ramp from meat market to braai area and restaurant. . . . .	170	Figure 9.33. Furnce elevation . . . . .	195
Figure 8.79. Northern taxi stop off looking towards site: meat market (left) and informal market (right) . . . . .	170	Figure 9.34. Section: furnace, butchery, meat market . . . . .	197
Figure 8.80. Informal vendors at northern taxi stop . . . . .	170	Figure 9.35. Section: taxi stop, offices, informal market . . . . .	199
Figure 8.81. Fruit & vegetable market. . . . .	171		
Figure 8.83. Walkway through fruit & vegetable market. . . . .	171		
Figure 8.82. View from fruit & vegetable market towards formal stores . . . . .	171		
Figure 8.84. Natural light enters fruit & vegetable market. . . . .	171		

## CHAPTER 9

Figure 9.1. Table illustrating urban & architectural concept (Author, 2015). . . . .	174
Figure 9.2. Primary & secondary structure (Author, 2015) . . . . .	175
Figure 9.3. Water catchment (Author, 2015) . . . . .	176
Figure 9.4. Water heating (Author, 2015) . . . . .	177
Figure 9.5. Thermal heating (Author, 2015) . . . . .	177
Figure 9.6. Natural ventilation (Author, 2015) . . . . .	178
Figure 9.7. Natural ventilation & natural light (Author, 2015). . . . .	178
Figure 9.8. Table illustrating materiality (Author, 2015). . . . .	179
Figure 9.9. Figure name . . . . .	180
Figure 9.10. Conceptual & technical approach (Author, 2015) . . . . .	180
Figure 9.11. Concealed construction joinery (Author, 2015) . . . . .	181
Figure 9.15. Revealed construction joinery (Author, 2015) . . . . .	181
Figure 9.12. Concealed construction footing detail (Author, 2015) . . . . .	181
Figure 9.16. Revealed construction footing detail (Author, 2015) . . . . .	181
Figure 9.13. Concealed construction column detail (Author, 2015) . . . . .	181
Figure 9.17. Revealed construction column detail (Author, 2015) . . . . .	181
Figure 9.14. Concealed construction beam detail (Author, 2015) . . . . .	181
Figure 9.18. Revealed construction beam detail (Author, 2015) . . . . .	181
Figure 9.19. Meat market, offices & butchery: Iteration_1 . . . . .	183
Figure 9.20. Meat market & offices: Iteration_2. . . . .	184
Figure 9.21. Meat market & offices: Iteration_3 . . . . .	185
Figure 9.22. Meat market & offices: Iteration_4. . . . .	186
Figure 9.23. Furnace & accommodation: Iteration_1 . . . . .	187
Figure 9.24. Furnce: Iteration_1 . . . . .	188
Figure 9.25. Furnce: Iteration_2. . . . .	189