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Masters of Philosophy in Public Law

Masters by Dissertation

LM011

**Taming the green bull in the regulatory china shop:
How insufficient understanding of governance and power resulted in
the Solar Water Heater Bylaw in the City of Cape Town not being
implemented**

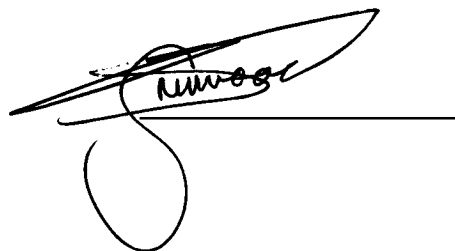
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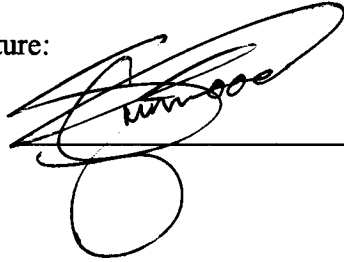
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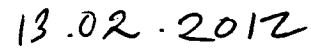
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ABSTRACT

This thesis grapples with the one particular case: the unsuccessful draft Solar Water Heater By-law in the City of Cape Town. The case is framed by the question why the by-law initiative did not take off. The choice behind this initiative was informed by the hope that the answer would help in understanding climate change governance in the municipal setting in particular. Essentially, the desire is to gain an appreciation of how such initiatives should be undertaken in settings such as these. Networked governance literatures of Rhodes *et al*, literatures on power in the Foucauldian and Weberian traditions, implementation theories and literatures on municipal climate change governance all aided in reaching findings to the question posed. Through the engagement with the literature in combination with the analysis of the empirical data, a hypothesis in answer to this question was generated. In the context of the City of Cape Town, the complexities of both power and governance were confirmed. There is a tapestry of networks and nodes interacting with each other in this context. Each network and node has its own peculiarities, which in combination create a delicate regulatory environment. Such policy environment requires strategic action. Ultimately, in line with the hypothesis, it has been found that if one wants to drive a policy initiative, one needs to understand both the complexities of governance and power, and the context of the policy regime within which one works. This, however, though necessary, is not sufficient. In addition, one must formulate a strategy of implementation that fits this context, if one wishes to be successful in seeing the policy through to implementation.

LIST OF ACRONYMS AND ABBREVIATIONS

ANC	African National Congress
CCT	City of Cape Town Metropolitan Municipality
Centre	Centre of Criminology, University of Cape Town
DA	Democratic Alliance
DANIDA	Danish Donor Agency
DTI	Department of Trade and Industry
ERMD	Environmental Resource Management Department
Forum	Western Cape Property Development Forum
IDP	Integrated Development Plan
IMEP	Integrated Metropolitan Environmental Policy
NBR	National Building Regulations
NGO	Non-governmental organisation
PBDMD	Planning and Building Development Management Department
PETT	Policy Evaluation Task Team
PEPCO	Planning and Environment Portfolio Committee
Report	State of Energy Report
SABS	South African Bureau of Standards
SEA	Sustainable Energy Africa
SEED	Sustainable Energy, Environment and Development
SPD	Strategy and Planning Directorate
Strategy	Energy and Climate Change Strategy
SWH(s)	Solar-Water Heater(s)
SWHB	Draft Solar-Water Heater By-law

INTRODUCTION

I MUNICIPALITIES AND CLIMATE CHANGE GOVERNANCE

Climate change is a growing concern globally. Municipalities often suffer the effects of this phenomenon. Many municipalities are seen undertaking climate change initiatives in an attempt to mitigate and adapt to these effects. The draft Solar Water Heater By-law (SWHB) is a mitigation initiative undertaken by the City of Cape Town Metropolitan Municipality (CCT). An over-arching aim of this initiative was to reduce energy demand within the city and thus the reliance on the mainly fossil fuel based energy supply.¹ This draft by-law was subsequently renamed the Energy Efficient Water Heating By-law.² It was one initiative forming part of the Energy and Climate Change Strategy of the CCT.³

The fact that this initiative was undertaken without much involvement from the national government sphere, hints at an alternative configuration of governing structures. Governance thus, as evidenced through this phenomenon as through others, can no longer be said to fit dominant Westphalian understandings. Power thus cannot be understood in the same vein either. Essentially therefore, plurality in governance is hinted at by the mere fact that a sphere other than the national one has undertaken this initiative separately of the central one. To further place this draft by-law, I shall now turn briefly to explore the legal framework applicable to local governments in South Africa and an account of the story of the CCT.

Prior to the passing of the Interim and Final Constitutions, local governments in South Africa operated so as to provide services along racial lines.⁴ Now, in the new constitutional dispensation, local governments must provide services to those communities previously neglected.⁵ In addition, new statutes were passed including the Local Government: Municipal Demarcation Act,⁶ the Local Government:

¹ This includes a mix between coal-based (95%), nuclear (5%) and small amounts from hydro. The only nuclear plant, Koeberg, is based north of Cape Town and it feeds into the national grid and does not supply Cape Town alone. It could technically supply most of Cape Town's demand. Mainly, like with the rest of South Africa, the primary source of electricity is from coal-fuelled power stations. (See CCT (2006) *Energy and Climate Change Strategy* hereinafter the *Strategy*).

² The *Strategy* 33.

³ *Ibid.*

⁴ J Van Wyk 'Local government' 15 (1) *Law of South Africa* para 1.

⁵ *Ibid.*

⁶ Act 27 of 1998.

Municipal Systems Act,⁷ the Local Government: Municipal Structures Act,⁸ and the Local Government: Municipal Finance Management Act.⁹ All of which have changed the legal framework of municipalities right down to the geographic boundaries.

Within the Constitution itself, Schedules 4B and 5B set out those legal responsibilities, which municipalities have. The local government sphere in South Africa is primarily responsible for service delivery as per these Schedules.¹⁰ In metropolitan municipalities, therefore, such as Cape Town, developmental and poverty issues are of particular concern.¹¹ Responsibilities such as electricity reticulation,¹² and municipal planning,¹³ as well, are relevant to climate change action and are the two mandates relevant in the context of the SWHB. The Constitution provides that municipalities need to ensure that all services for which it is responsible are provided in a sustainable manner.¹⁴

The CCT like all other municipalities has undergone many changes. Often the responsibility of providing services to previously disadvantaged persons takes priority over sustainability concerns.¹⁵ Since the CCT in particular has been characterised by much political instability over the past decade, sustainability in particular has been neglected and development emphasised as will be explained *infra*.¹⁶ Although, ideally, the development should happen in a sustainable manner, in reality it is often not the case. However, climate change is a growing concern. As a result, it is now more than ever necessary to merge the two concerns as the Constitution necessitates that the municipalities do. The SWHB was an attempt to do exactly that. In attempting to understand why this initiative was unsuccessful, it is necessary understand the complexities of governance arrangements.

This draft by-law was the subject of research undertaken by the Centre of Criminology (Centre) of the University of Cape Town. The Environmental Resource

⁷ Act 32 of 2000.

⁸ Act 117 of 1998.

⁹ Act 56 of 2003.

¹⁰ B Bekink (2006) *Principles of South African local government law* 23-24.

¹¹ CCT (2011) *Integrated Development Plan*.

¹² The Constitution of the Republic of South Africa 1996 Schedule 4B.

¹³ *Ibid* at Schedule 5B.

¹⁴ *Ibid* at s 156(1)(b).

¹⁵ Interviewees 1, 2, 3, 4, 5, 9.

¹⁶ *Ibid*.

Management Department (ERMD) commissioned this team. I was a part of the research team commissioned to write a report named '*The barriers to the municipal sustainability initiatives report*'. The case used to discover such barriers was the SWHB. The fieldwork, undertaken for this commissioned report, ended in April 2011. All developments following this date are not considered in this dissertation.

II A PROBLEM STATEMENT

I want to find out what went wrong with the attempt to pass the SWHB. This would entail nodally analysing the nodes responsible for the failed attempt to pass this draft by-law. In addition, it would require exploring the bigger context through understanding the networks involved and their characteristics. In attempting to do this, governance, power and implementation theories will be used. The context of understanding this particular process is to get a deeper look at one climate change mitigation strategy undertaken in the CCT in order to understand why a popular initiative could not reach fruition.¹⁷ In addition, an attempt is made to understand municipal initiatives in particular.

III RESEARCH QUESTIONS

There is one main question that this paper sets out to answer. This is namely: Why did the SWHB not take off? In order to answer this question, there are several sub-questions that follow. Firstly, the question concerns finding out the defining characteristics of the relevant nodes involved in the SWHB process. Secondly, questions regarding the constraints that cities have in implementing initiatives of this kind are explored. Therefore, the sub-questions posed in order to aid in answering the main questions are as follows:

1. What are the defining characteristics of the nodes involved?
2. What are the defining characteristics of the networks that these nodes constitute if any?
3. What constraints relevant to the SWHB do these networks face?

¹⁷ M Gosling 'Building by-law to be drafted: Compulsory solar heating mooted for Cape Town' *Cape Times* (dated 6 March 2006).

IV RESEARCH OBJECTIVE

The objective of the research project in the form of the commissioned report, *supra*, that lead to this thesis was:

‘...[T]o identify and analyze many of [the] barriers facing municipalities, by looking at the challenges faced by the City when it comes to promoting sustainable projects. Through the body of work, it is hoped that the City will start to identify its weaknesses and adapt to better meet the current and future needs of Cape Town’s’ population.’¹⁸

This thesis, however, is distinct in that it does not seek to identify barriers. Instead, I focus on understanding the governing structures used and the power dynamics between relevant nodes and networks in the SWHB narrative to understand why it failed to be passed. Essentially, the aim is to identify the relevant complexities, which inform the context of the draft by-law.

V DELINEATION AND LIMITATIONS

This paper is limited to exploring one particular process: the SWHB, which the CCT attempted to pass. The Centre undertook this study. I was part of the team. The ERMD of the CCT commissioned the Centre to do so. This constitutes both the limitation and delineation of the thesis. It is restricted to one case study and the scope for making generalisations from this example is limited, though possible.¹⁹ In addition, I was both privileged and limited in receiving data to undertake the study. Fortunately, though, I was limited in the theories I used and the approach I took in analysing the data.

VI DEFINITIONS OF TERMS AND CONCEPTS

As will be explained later, there are many definitions for governance. In this context, the definition used by Burris *et al* will be used as stated, *infra*, in the literature review. Municipalities and local government are terms used interchangeably to refer to the same sphere of government in the South African context. Otherwise, there are no other relevant terms that need defining beyond its ordinary meaning.

¹⁸ ERMD ‘Terms of reference expressed as a report architecture: achieving a climate resilient and low carbon city: a governance framework for the City of Cape Town’ *Organizational arrangements as institutional facilitators and blockers* (April 2010).

¹⁹ RK Yin (2003) *Case study research: design and methods* 3 ed. 7.

VII BACKGROUND

(a) Introduction

Since the new constitutional dispensation, an overhaul of municipal structures countrywide has taken place. Municipalities in South Africa have been given greater scope than before to create laws.²⁰ In addition, the CCT has undergone several changes in political leadership. Both factors have shaped the fate of many policy initiatives. Cape Town also faces an energy crisis and grapples with climate change concerns. To understand the SWHB these stories will be told.

(b) Municipal level changes

The CCT has undergone many changes over the last decade. In 2000, several municipalities in the greater Cape Town area formed a 'unicipity' called the City of Cape Town Metropolitan Municipality (CCT).²¹ This unification coincided with the first local government elections.²² The Democratic Alliance (DA) won these elections.²³ In 2002, some DA members broke away and joined the African National Congress (ANC) causing control of the CCT to shift to the ANC. In 2006, the second local government elections were held. A coalition government led by the DA was formed.²⁴ Political leadership changed three times in six years. Although the CCT was formed politically in 2000, it was not until 2006 that administration amalgamated.²⁵

(c) Energy efficiency initiatives

During this turbulent decade, energy efficiency was placed on the map. The story starts with the collaboration between the ERMD and the non-governmental organisation (NGO), Sustainable Energy Africa (SEA).²⁶ In 1999, the two partnered

²⁰ See R Cameron 'Metropolitan restructuring (and more restructuring) in South Africa' (2005) 25 *Public administration and development* 329; B Bekink (note 10) 23-24.

²¹ CCT (2001) *Integrated Municipal Environmental Policy* hereinafter IMEP. On the bureaucratic level, this overhaul occurred in 2006; PN 479 of 2000 'Establishment of the City of Cape Town' (PG 5588 of 22 September 2000) s 3.

²² *Ibid.*

²³ <http://mg.co.za/article/2006-11-02-can-cape-town-survive-another-change-of-guard> (accessed on 25 July 2011).

²⁴ *Ibid.*

²⁵ *Ibid.*

²⁶ O Asmal 'City of Cape Town: energy and climate change strategy' Presentation delivered at the ICLEI World Congress 2006 for cities and local governments (2006) 4 available at <http://worldcongress2006.iclei.org/index.php?id=2863#c6258> (accessed on 21 July 2007).

on a collaborative programme called the Sustainable Energy, Environment and Development Programme (SEED).²⁷ The SWHB was one initiative undertaken through SEED.²⁸ In 2001, the CCT formally adopted the Integrated Metropolitan Environmental Policy (IMEP), which is a commitment to promote sustainable development in the City.²⁹ Energy efficiency is identified as one means to achieve this.³⁰

As a part of SEED, the CCT hosted the International City Energy Strategies Conference held in 2003, involving officials from cities worldwide.³¹ The State of Energy Report (the Report) was presented at this conference detailing the use and sources of energy in the CCT.³² It demonstrated the need for energy efficiency measures.³³ Consistent with the recommendations put forth in the IMEP and the Report, the Energy and Climate Change Strategy in 2005 (the Strategy)³⁴ of the CCT was adopted.³⁵ The Strategy sets a Solar Water Heater (SWH(s)) implementation target of 10% of houses by 2010.³⁶ This target encapsulates part of a commitment made at the International Action Programme at the International Renewable Energy Conference in Bonn, Germany in 2004.³⁷ The other part was to have 50% of houses in the city fitted with SWHs.

In 2008, the CCT made a formal commitment to energy efficiency in the Integrated Development Plan (IDP) called 'Energy for a Sustainable Future'.³⁸ Also the Energy Committee (Committee) was established in terms of the Local Government: Municipal Structures Act,³⁹ to advise the mayor on the new focus area.

²⁷ *Ibid.*

²⁸ *Ibid.*

²⁹ IMEP.

³⁰ *Ibid* at 12.

³¹ <http://www.sustainable.org.za/CESConference/Programme.htm> (accessed on 21 July 2011).

³² CCT (2003) *State of Energy Report* 1.

³³ *Ibid.*

³⁴ *The Strategy*.

³⁵ SEA (note 7).

³⁶ CCT (note 15) 47.

³⁷ *Ibid* at 39. See the website where the commitments by each city is detailed:

<http://www.ren21.net/REN21Activities/RenewablesIAP/PledgeDatabase/tabid/5879/Default.aspx?fldyear=2004> (accessed on 24 July 2011). See also Asmal (note 22) 4. It must be noted that included in the commitment was a target of 50% of all households making use of solar water heaters by 2020.

³⁸ ERMD 'Enviroworks: bi-annual environmental newsletter in the City of Cape Town' Volume 01/08 (dated 01 May 2008) 2 accessed at <http://www.dlist-benguela.org/document-library/city-cape-town-enviroworks-newsletter-may-2008> (accessed on 17 August 2011).

³⁹ Act 117 of 1998 s 80; ERMD 'Report on Council mandates and structures for SFA 3 Energy for a sustainable future' (2008).

The Committee is a political body tasked with advancing energy efficiency and consequently, the SWHB.⁴⁰

(d) The solar water heater by-law

The SWHB was chosen as one means to reach target set out in the Strategy.⁴¹ The stated aims of the draft by-law as iterated in various reports are: to reduce the future demand for electricity; improve energy security and energy supply risk management; to reduce energy related environmental impacts and create jobs in the local SWH industry.⁴² The Danish Donor Agency (DANIDA) gave funds to SEA for the SEED and for this initiative.⁴³ Danish experts worked alongside ERMD officials, to draft the draft by-law in August 2006.⁴⁴ The Barcelona Solar Thermal Ordinance 2001, which was the first SWHB in the world,⁴⁵ inspired the SWHB drafted in the CCT.⁴⁶ After the first draft was submitted to relevant committees and directorates in 2006, the Mayoral Council formally approved the process.⁴⁷

SEA conducted the initial stakeholder participation process in March 2007.⁴⁸ A leading SWH company, Sunpower (Pty) Ltd, objected to the SHWB.⁴⁹ Even though Sunpower's position never changed, there was supposedly widespread support for the SWHB initiative from other stakeholders.⁵⁰ In May 2007, the legal advisors to the Speaker's Office raised issue with the legal mandate. The argument was that the

⁴⁰ ERMD 'Report to Executive Management Team' (dated 18 July 2008).

⁴¹ ERMD 'Solar Water Heater Report to Energy Committee' submitted to the Energy Committee (October 2008) 3.

⁴² ERMD 'Report to City Manager' (dated 2008); SEA 'Draft Report on Cape Town's Solar Water Heater By-law: Stakeholder Awareness and Participation Process' (15 June 2007) 2; ERMD 'Terms of Reference: Feasibility study outlining the impact of the proposed amendments to the building regulations (i.e. SWH By-law by-law (sic) and regulation on efficient building construction) on the Planning and Building Development Department ito (sic) operational and resource requirements' Invitation to submit a proposal (dated 6 February 2008).

⁴³ CCT 'Report to the Director Supply Chain Management' (7 February 2008) 1.

⁴⁴ *Ibid.*

⁴⁵ SEA 'Draft Report on Cape Town's Solar Water Heater By-law: Stakeholder Awareness and Participation Process' (15 June 2007) .

⁴⁶ G Prasad 'Cultural influences on renewable energy acceptance and tools for the development of communication strategies to promote acceptance: Case 19: solar water heaters' Energy Research Centre University of Cape Town (July 2007) 3.

⁴⁷ CCT (note 25) 1.

⁴⁸ *Ibid*; See also SEA (note 42).

⁴⁹ Correspondence from Sunpower to SEA (17 February 2007).

⁵⁰ SEA (note 42) 6.

by-law was 'environmental' and therefore fell outside the municipality's mandates.⁵¹ The process was therefore halted.

The ERMD commissioned Prof. de Visser, through SEA, to write a legal opinion on whether the CCT had the mandate to implement a by-law of this kind. He submitted there was a mandate if the SWHB was deemed a building regulation.⁵² The Legal Services Department (LSD) of the CCT endorsed this opinion designating the draft by-law a 'building regulation'.⁵³

De Visser pointed out that the National Building Regulations and Building Standards Act (NBR),⁵⁴ required approval from the Minister of Trade and Industry.⁵⁵ This requirement, he contended, could be challenged constitutionally.⁵⁶ The approval process would be rigorous entailing the technical support of the South African Bureau of Standards (SABS).⁵⁷ Compulsory SABS standards for SWHBs would therefore have to be passed.⁵⁸ Existing standards then were and still are voluntary and the draft by-law prescribed their use.⁵⁹ Compulsory standards are in the pipeline, but will only be passed in 2013 at earliest.⁶⁰ Given de Visser's opinion, SEA sought advice from the SABS on the way forward.⁶¹ SABS recommended that despite constitutional issues espoused by the Professor, applying for ministerial approval would be best.⁶²

(d) The battle begins

Discussions between the ERMD and Planning and Building Development Management Department (PBDMD) on the SWHB began in August 2007. Interestingly, these two departments form part of one directorate, the Strategy and

⁵¹ The Constitution of the Republic of South Africa, 1996 Schedule 4B.

⁵² J De Visser 'In re: City of Cape Town's Proposed Solar Water Heating By-law' (June 2007).

⁵³ Endorsement Letter from LSD addressed to ERMD presented as Annexure B Energy Committee Agenda Volume 2 (2008) 16.

⁵⁴ Act 103 of 1977.

⁵⁵ De Visser (note 32) para 32.

⁵⁶ *Ibid* para 37-43.

⁵⁷ Correspondence from SABS to SEA (7 May 2007).

⁵⁸ Interviewee 12; Correspondence with SABS representative (dated 29 June 2011).

⁵⁹ Correspondence (note 39); Draft 13 of Energy Efficient Water Heating By-law (dated 16 April 2009); Draft 12 of Solar Water Heater By-law (dated 18 December 2008).

⁶⁰ Correspondence (note 39).

⁶¹ Correspondence from SEA to SABS (3 May 2007).

⁶² Correspondence (note 38).

Planning (SPD), led by an executive director.⁶³ This directorate is one of eleven administrative directorates.⁶⁴ A councillor heads the corresponding political portfolio, the Planning and Environment Portfolio. The Planning and Environment Portfolio Committee (PEPCO) falls under this portfolio.⁶⁵ The PBDMD was designated the implementing department since the draft by-law became a building regulation.⁶⁶ The PBDMD. It claimed that it did not have resources necessary for implementation.⁶⁷ A capacity assessment was undertaken to deal with this concern.⁶⁸ The PBDMD levelled many criticisms toward the SWHB including that it is restrictive.⁶⁹ The SWHB then became known as the Energy Efficient Water Heating by-law as it attempted to allow consumer choice: either SWHs or heat pumps.⁷⁰ Their disagreement, however, remained unresolved in early 2011.

(e) A parallel process

In 2010, the DTI published proposed amendments to the NBR. These amendments would introduce environmental sustainability standards into the Act, prescribing *inter alia* energy efficient water heating in new buildings.⁷¹ The PBDMD would therefore be enforcers of what is substantially the same as the draft by-law in its current form.⁷² Both the ERMD and the PBDMD have been contributing to this process giving comments and suggestions on the proposed amendments to the NBR.⁷³

(e) Conclusion

Despite further attempts to communicate, no agreement has been reached between the ERMD and the PBDMD resulting in a stalemate. As seen from the facts presented, the SWHB story is complex. In light of what has been observed in this

⁶³ See 'City Management Organogram' accessed at www.capetown.gov.za/management/cct_management_structure_feb_2010.pdf (accessed on 15 October 2010).

⁶⁴ *Ibid.*

⁶⁵ *Ibid.*

⁶⁶ ERMD (note 23).

⁶⁷ *Ibid.*

⁶⁸ SEA (note 24) 13.

⁶⁹ Interviewee 6.

⁷⁰ Draft 13 (note 40); Interviewee 4.

⁷¹ Proposed Regulations for Environmental Sustainability of Buildings: Part XA: Energy Efficiency of Buildings in National Building Regulations and Building Standards Act 103 of 1977 in GNR 504 GG 33265 of 11 June 2010.

⁷² Interviewees 3, 4, 6, 7.

⁷³ *Ibid.*

background account, it becomes apparent that the terrain within which the SWHB had to navigate was fragile. Much like a shop full of fine bone china or porcelain, yet in the regulatory sense. The ERMD as the story will reveal, *infra*, are these passionate drivers of initiatives that can be likened to bulls, in a sense. Indeed, the green is symbolic of their sustainability focus. The combination that is arguably observed in the SWHB process is that of a green bull in this fragile terrain. However, the validity of the analogy would have to be revealed in this dissertation. In order to ensure that the facts appear clear, I have included a diagram, *infra*, demonstrating the various actors involved.

VIII OUTLINE OF PAPER

The remainder of the dissertation is divided into six chapters. Firstly, in the chapter that follows, relevant engagement with various literatures is undertaken. The literatures include those concerning 'new' governance theories, and related theories on power in line with that of Foucault and Latour. In addition, governance theories specifically regarding network theories or polycentric theories of governance. Nodal governance, a congruent theory, will be explored. This nascent theory forms the framework for the analysis of the findings made. Literature regarding municipal climate change action is considered too. Before any of these are explored, however, policy implementation theory is touched on and the link between this and governance theories is discussed as well.

Once the literature is exhausted for the purpose stated above, the methods are explored. Essentially, it is a background look at the full process behind accessing the data, reaching the findings and more. I have then divided exploration of the two nodes and the various networks into three chapters. These chapters include: the ERMD's perspective, the PBDMD's perspective and then stories of various networks relevant to the SWHB are explored. In each of these chapters, I deal with the findings and analyse the relevant node or network at hand. This leaves us with the last chapter: the conclusion. In this chapter, the findings, conclusions and contributions are listed. I shall now turn to dealing with the literature relevant to the research questions, *infra*, stated in the methodology chapter, concerned.

I shall now turn to explore literatures on networked governance, power and implementation in the literature review that follows.

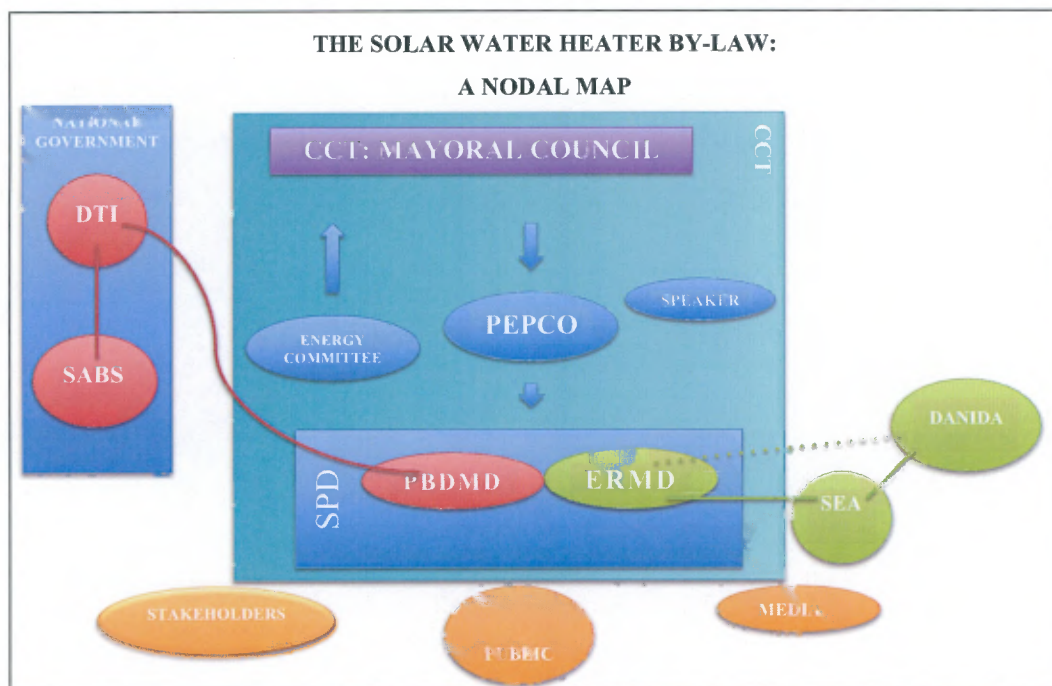
Figure:

Figure: This diagram depicts the nodes relevant to the SWHB process. The green nodes are the environmentalists and the red, the planners. The solid lines, like those between red nodes depict a network, with the dotted line simply showing a relationship that is not as close within the same network. The blue arrows show a formal 'top-down' relationship. The boxes show the networks within which the nodes fall. The orange nodes depict those other nodes that were involved in the process.

THE GOVERNANCE NARRATIVE: FINDING THREADS

I INTRODUCTION

Governance is complex. In addition, state initiatives often do not reach fruition. A multiplicity of reasons can be surmised. Perhaps one is that state nodes do not sufficiently understand governance, often configuring it solely in the out-dated Westphalian and top-down models of governing. Several theories will be scrutinised. I shall map the governance theories and conceptualisations. Since I shall be using nodal governance as the conceptual framework, I shall explore this theory and those that inform it. Giving clarity to concepts of power and governance is necessary in placing this nascent theory of nodal governance. In addition, I shall discuss two schools of thought in policy implementation theories: the top-down and bottom-up approaches. It must be highlighted that governance is far more complex than classical understandings would lead one to believe and the word itself ‘means too many things to be useful’.¹

II POLICY IMPLEMENTATION: A THREAD

(a) Introduction

In answering the questions, regarding the relevant officials’ perspectives on governance it would be apt to place their understandings of the policy implementation as well. After all, the implementation of policy is the product of governance in one form or the other. It will thus be important to explore whether there are insights to be gained from policy implementation theories

s. Policy implementation theories thrived in the 1970s and 1980s in the United States and Europe. It was the black sheep of policy analysis before this, as it was not deemed to be worthy of study. The assumption prior to this boom was that once the policy was passed implementation would run smoothly.² This classic conception saw implementation as simple and successful implementation as the inevitable result of rational and scientific administrative processes, which rested on constitutional

¹ RAW Rhodes (1997) *Understanding governance: policy networks, governance, reflexivity and accountability* 52; RAW Rhodes ‘New governance: governing without government’ (1996) XLIV *Political studies* 652.

² TB Smith ‘The policy implementation process’ (1973) 4 (2) *Policy sciences* 197 at 197; DS Van Meter and CE Van Horn ‘The policy implementation process: a conceptual framework’ (1975) 6 (4) *Administration and society* 445 at 450.

configurations of the state.³ Disappointments experienced with various government policies and programmes in the US during the 1960s and 1970s, indicated otherwise.⁴ Pressman and Wildavsky in the (disputed) seminal work on the topic,⁵ brought to the fore the complexities of the implementation thereby refuting the classic view. Part of the complexity of implementation (and another insight made by the pair) was the fact that there often is a multiplicity of actors involved in the implementation of a policy.⁶ In their view, each decision at a point in implementation constituted a veto point. At such point, at least one actor could contest and despite the existence of a high probability of success at any one point, the overall probability of success of a policy was still below half.⁷

The boom that followed this work consisted of an array of cases studies on various policies.⁸ More theoretical approaches developed after this, consisting mainly of top-down and later bottom-up approaches to the study of implementation. Unfortunately, there has been much disappointment with this field. Despite the wide array of studies in the US and elsewhere, many have noted the failure to develop conceptual clarity.⁹ Ironically, agreement on what implementation itself cannot be found when surveying the literature, as each theorist defines it differently.¹⁰ O'Toole's expression, in 1986, of his sentiment on the field summarises the feeling quite aptly:

'The field is complex, without much cumulation or convergence. Few well-developed recommendations have been put forward by researchers, and a number of proposals are contradictory. Almost no evidence or analysis of utilization in this field has been produced.'¹¹

³ P Brynard 'Policy implementation: lessons for service delivery' (2005) 40 (4) 1 *Journal of public administration* 649 at 651-652.

⁴ LJ O'Toole 'Research on policy implementation: assessment and prospects' (2000) 10 (2) *Journal of public administration and research theory* 263 at 264.

⁵ JL Pressman and A Wildavsky (1973) *Implementation* xxi.

⁶ *Ibid.*

⁷ *Ibid* 107-108.

⁸ O'Toole (note 4) 269.

⁹ P de Leon and L de Leon 'What ever happened to policy implementation? An alternative approach' (2002) 12 (4) *Journal of public administration research and theory* 467; LJ O'Toole 'Policy recommendations for multi-actor implementation: an assessment of the field' (1986) 6 (2) *Journal of public policy* 181; P Berman 'Designing implementation to match policy situation: a contingency analysis of programmed and adaptive implementation' (1978) Paper for delivery at the 1978 annual meeting of the American political science association; ER Alexander 'From idea to action: notes for a contingency theory of the policy implementation process' (1985) 16 (4) *Administration & Society* 403; P Brynard (note 3).

¹⁰ O'Toole (note 9) 183.

¹¹ *Ibid* 181.

Nonetheless, it will be useful to explore the field so that the various understandings of policy implementation can be framed, especially in relation to governance mentalities. Contrary to the belief Pressman *et al* hold that implementation is doomed never to be realised,¹² Alexander makes the apt point that many routine functions do work as expected and are only noticed when absent.¹³ The question of the perceptions regarding the steps necessary to ensure that a policy is ultimately successfully implemented then comes to the fore. This leads us to take a closer look at what the theory has to say. Perspectives on the topic will be divided up into to the two most dominant perspectives: top-down and bottom-up. Even though there is a generation of theories that follows these,¹⁴ it will not be necessary to explore this as these perspectives still dominate.¹⁵

(b) Top-down programmers

Although presented as a more or less coherent theory here, the summary is based primarily on Sabatier and Mazmanian's model. They are the foremost-cited 'top-down' theorists.¹⁶ A perspective is top-down because the policy decision is considered at the outset.¹⁷ Then the extent to which the outcomes match the objectives set out in that policy decision is assessed.¹⁸ In ensuring successful implementation, the focus is primarily on two broad categories: one, the formulation of the policy and two, non-statutory factors influencing outcomes.¹⁹ These interpretations of policy implementation can be classified as what Berman calls 'programmed implementation' approaches.²⁰ It is programmed or formulaic because

¹² Pressman (note 5).

¹³ ER Alexander 'Improbable Implementation: The Pressman-Wildavsky Paradox Revisited' (1989) 9 (4) *Journal of public policy* 451 at 452.

¹⁴ O'Toole (note 9); De Leon (note 9); Brynard (note 3).

¹⁵ Several theorists, *supra*, agree that there are three generations of policy implementation research. Pressman and Wildavsky among others fall into the first generation. The second is characterised by the top-down and bottom-up debate and to a small extent by the contingency theories. In more recent years, more complex third generation approaches have emerged led by Lester, Goggin and O'Toole. However, convergence among and within the various generations is absent.

¹⁶ P Sabatier 'Top-down and bottom-up approaches to implementation research: a critical analysis and suggested synthesis' (1986) 6 (1) *Journal of public policy* 21 at 22.

¹⁷ *Ibid.*

¹⁸ *Ibid.*

¹⁹ P Sabatier and D Mazmanian 'The implementation of public policy: a framework of analysis' (1980) 8 (4) *Policy studies journal* 539; Van Meter (note 2). It should be noted that the Sabatier-Mazmanian model has four categories of variables: tractability of the problem, ability of structure to structure implementation and non-statutory variables. Each consists of several variables that should be considered to ensure success of implementation.

²⁰ Berman P (1978) 'The study of macro and micro implementation of social policy' *The rand paper series* 4.

a priori how-to in ensuring success with implementation is given. There are several assumptions concerning the first category. These include, *inter alia*, that clearly formulated objectives are a must,²¹ that the policy should be structured for effective implementation,²² and that an adequate causal theory must underlie the policy or, in other words, legal mechanisms must be included in the policy to enable the implementers' to discharge rights and duties against target groups.²³

In addition, Van Meter and van Horn assert, and Sabatier and Mazmanian follow,²⁴ that the smaller the change in behaviour mandated by the policy, the greater the chance of successful implementation.²⁵ In later years, Sabatier *et al* disagreed with what they then saw as a linear depiction of change.²⁶ Berman too finds no merit in this assertion.²⁷ Instead, the degree of change determines the kind of intervention required and does not determine the difficulty of the implementation, according to him.²⁸ If the incorrect type of policy process is used, the results will be failure of the policy.²⁹ This ties in with contingency theories, which need not be further explored.

Furthermore, these perspectives are steeped in hierarchical understandings of interactions between the various organisations involved in the policy implementation process.³⁰ Sabatier and Mazmanian, in particular, emphasise the importance of top-down support for initiatives and highlight the potential conflict that may arise when inter-organisational initiatives are taken where there are several sovereigns.³¹ Van Meter and van Horn likewise note that intra-organisational efforts are often easier to enforce because of the availability of top-down mechanisms.³² This is one of the key non-statutory factors. Furthermore, the non-statutory factors include environmental considerations such as economic, social and political factors, and the assignment of the policy to committed implementers.³³ As can be surmised from the aforementioned factors, followers set out a clear formula or step-by-step programme

²¹ Van Meter (note 2); Sabatier (note 19).

²² Pressman (note 5) 98-100; Sabatier (note 19) 544; Van Meter (note 2) 472.

²³ Pressman (note 5); Sabatier (note 19) 545.

²⁴ Sabatier (note 19) 544.

²⁵ Van Meter (note 2) 458.

²⁶ Sabatier (note 16) 29.

²⁷ Berman (note 9) 16.

²⁸ *Ibid* 17.

²⁹ *Ibid*.

³⁰ Van Meter (note 2); Sabatier (note 19).

³¹ Sabatier (note 19) 551-552.

³² Van Meter (note 2) 466-467.

³³ Sabatier (note 19); Van Meter (note 2).

beginning with the policy design at the top that works its way down. Lipsky, cited by de Leon and de Leon, aptly criticises top-down perspectives for making the assumption of an authoritative and hierarchical leader fit for Hobbesian or Weber-like constructions of power and the state.³⁴

(c) Bottom-up adapters

Wildavsky and Majone criticise the top-down approach for making the objectives of implementation its preconditions. In addition, they criticise proponents of top-down approaches for failing to acknowledge the difficulties that arise during the ‘evolutionary’ process of implementation.³⁵ These are two theorists who fit into the alternative bottom-up approach, which raged a decade after the top-down approach did.³⁶ Hjern and Hull are the lead theorists in this group and much of their research was conducted in Europe.³⁷ Hjern points out that the top-down approach rests on legalistic understandings of the relationship between politicians and the administration in that they fail to see an interrelationship or leadership from the bottom.³⁸ Elmore, referring to top-down perspectives as ‘forward-mapping’, states thus:

‘The most serious problem with forward-mapping is its implicit and unquestioned assumption that *policymakers control the organizational, political, and technological process that affect implementation*’³⁹ (Emphasis in the original).

Bottom-up proponents do not deny the interest that policymakers have in affecting the implementation process and the outcomes of a policy.⁴⁰ Nonetheless, they disagree with the notion that, both normatively and empirically; policymakers exercise deciding influence over the implementation process.⁴¹ Bottom-uppers thus

³⁴ De Leon (note 9) 476; Van Meter, (note 2) 466–467, state that Weber’s understanding of power is too static and that those not traditionally in authoritative roles can hold power. However, their model still prizes top-down mechanisms over others.

³⁵ G Majone and A Wildavsky ‘Implementation as evolution’ in JL Pressman and A Wildavsky (1983) *Implementation* 3ed. 163 at 168; A Wildavsky and A Browne ‘Implementation as mutual adaptation’ in JL Pressman and A Wildavsky (1983) *Implementation* 3ed. 206 at 229–230.

³⁶ Sabatier (note 16) 22.

³⁷ *Ibid.* See C Hull and B Hjern (1987) *Helping small firms grow: an implementation approach*.

³⁸ B Hjern ‘Implementation research –the link gone missing’ (1982) 2 (3) *Journal of public policy* 301 at 303.

³⁹ RF Elmore ‘Backward mapping: implementation research and policy decisions’ (1979–1980) 94 (4) *Political science quarterly* 601 at 603.

⁴⁰ *Ibid* 604.

⁴¹ *Ibid.*

start with the 'street-level' bureaucrats,⁴² where the implementation happens and 'work up' to other actors in both public and private sectors of a network.⁴³ Emphasis rests largely on this idea of a network in Hull and Hjern's work and on a decentralised approach in understanding interactions between actors,⁴⁴ a concept to which we will return later in the context of governance theories. Berman refers to this in his framework as a 'policy sector' consisting of a variety of 'many diverse governments, bureaucracies, courts, public and private interest groups, local delivery systems, clients and individual actors'. The methodology used by bottom-uppers is to start with the implementers and plot the various other actors involved in a policy area.⁴⁵ This allows for the exploration of a variety of state programmes against external market factors, unlike the top-down inflation of the importance of government initiatives.⁴⁶ Thus bottom-uppers did not identify specific initiatives to explore at the outset. Instead various initiatives were revealed when starting to explore what street level bureaucrats did.

Berman, referring to this as the adaptive approach to policy implementation,⁴⁷ describes this form of implementation as involving the 'mutual adaptation' of both the policy itself and the organisation.⁴⁸ He perceives this form of implementation requiring bargaining and compromise throughout the implementation process. Although Berman attempted tentatively to synthesise this perspective into theoretical framework,⁴⁹ the dominant bottom-uppers greatest weakness was the absence of theoretical grounding in their work.⁵⁰ Unlike the top-downers, few variables were identified to demonstrate constituent parts of the implementation process.⁵¹ Sabatier describes this approach thus:

'Bottom-uppers...are far less preoccupied with the extent to which a formally enacted policy decision is carried out and much more concerned with accurately mapping the

⁴² Idem; M Lipsky 'Street-level bureaucracy and the analysis of urban reform' (1971) 6 *Urban affairs review* 391; B Hjern and C Hull 'Implementation research as empirical constitutionalism' (1982) 10 *European journal of political research* 105 at 110.

⁴³ Hjern (note 38) 110; K Hanf and LJ O'Toole 'Revisitig old friends: networks, implementation structures and the management of inter-organizational relations' (1992) 21 *European journal of political research* 163.

⁴⁴ Hjern (note 38) 110.

⁴⁵ Sabatier (note 16) 34.

⁴⁶ Sabatier (note 16) 34.

⁴⁷ Berman (note 9).

⁴⁸ *Ibid* 9.

⁴⁹ *Ibid*.

⁵⁰ Sabatier (note 16) 35.

⁵¹ *Ibid*.

strategies of actors concerned with a policy problem. They are not primarily concerned with the implementation (carrying out) of a policy per se but rather with understanding actor interaction in a specific policy sector.⁵²

(e) Conclusion

Despite the problematic aspects of the theory, there are insights that can be gained from these theories. Each perspective has something to contribute. Interestingly, Sabatier himself made an attempt at synthesising the two approaches.⁵³ Contingency theorists attempt to show the validity of both of these approaches arguing that the characteristics of the policy determine the application of either one; and thus neither one holds primacy.⁵⁴ Berman in particular warns that choosing the incorrect approach in a particular context will seal the policy's fate for doom. To many, explicit study of implementation theory in the Western world seems to be all but dead. O'Toole cautions against this assertion.⁵⁵ The key hides in less obvious theories than that of implementation,⁵⁶ lying beyond the 'rather sterile top-down/bottom-up dispute'.⁵⁷ O'Toole identifies among other theories networked governance theories as those further contributing to substantive issues around implementation even though not necessarily directly dealing with the issue. To understand the various governance understandings, the classic conception of the state will be dealt with briefly.

III STATE AS LEVIATHAN

A state-centric conception of governance dominates the mainstream normative understandings of governance, much like it does top-down conceptions of policy implementation theories. The foundations of such a view lie in the Hobbesian or Westphalian conception that the state should hold sole power over common pool resources,⁵⁸ including the use of force.⁵⁹ To Hobbes failure to be united under one

⁵² *Ibid* 36.

⁵³ Sabatier (note 16).

⁵⁴ See Berman (note 9); Berman (note 20); Alexander (note 9); H Ingram (1990) 'Implementation: a review and suggested framework' in NB Lynn and A Wildavsky (eds) *Public administration: the state of the art* 462; RE Matland 'Synthesizing the implementation literature: the ambiguity-conflict model of policy implementation' (1995) 5 (2) *Journal of public administration research and theory* 145.

⁵⁵ O'Toole (note 4) 273.

⁵⁶ *Ibid*.

⁵⁷ *Ibid* 267.

⁵⁸ T Hobbes *Leviathan* (1985: 1651) 1.

⁵⁹ *Ibid* 77.

ruler, be it a monarch or state, would be to each person's downfall,⁶⁰ 'and a life of a man solitary, poor, nasty, brutish and short'.⁶¹ Plural governance (called the 'state of nature' in Hobbes' words) would mean that everyone would be a law unto himself or herself.⁶² What is needed instead is a Leviathan in the form of a state that has people's safety and prosperity as its business.⁶³ In short, the public interest is the state's business. Much like Hobbes, Weber sees sovereignty in modern society as having a collective rather than private end.⁶⁴ The private realm is that of the 'governed'. Furthermore, like Hobbes, Weber's conception of the state is that of a social institution with the 'monopoly on the legitimate use of physical force'.⁶⁵

The classic constitutional understandings of governance are based on this Westphalian conception, *supra*.⁶⁶ South African constitutionalism is no exception. Currie and de Waal describe the state as '*manag[ing]* the public affairs of [a political] community';⁶⁷ '*achiev[ing]* control through [*inter alia*] regulation...and, ultimately, the sanction of coercion';⁶⁸ and as the holder of 'the right to govern...emanat[ing] from the governed themselves...whose agreement to obey the government is restricted to the exercise by the government of the authority that it has been granted in the constitution'.⁶⁹ These conceptions of the state's role fall neatly into Westphalian understandings of the state making its peoples' prosperity and safety its business. Mainstream discussions of governance in the legal arena in South Africa evidences no explicit study of actors other than the state. It is restricted to the study of governance as government. There are still conceptual divisions between 'private law', or the realm of law involving non-state actors, and 'public law', that involving 'the state acting in an authoritative capacity'.⁷⁰ Rose and Miller emphasise the importance of moving beyond this division between private and public.⁷¹ Currie and de Waal concede somewhat by acknowledging that the 'gap has narrowed'

⁶⁰ *Ibid* 57.

⁶¹ *Ibid* 58.

⁶² *Ibid* 57.

⁶³ *Ibid* 1.

⁶⁴ *Ibid* 33.

⁶⁵ M Weber 'Politics as a Vocation' in Pizzorno *A political sociology* (1971) 27 at 28.

⁶⁶ I Currie and J De Waal (2001) *The new constitutional and administrative law* 4.

⁶⁷ *Ibid* 4.

⁶⁸ *Ibid* 6.

⁶⁹ *Ibid* 11.

⁷⁰ *Ibid* 8.

⁷¹ P Miller and N Rose (2008) *Governing the present* 19.

between the two.⁷² Growing recognition exists of a 'new governance' construction among legal theorists in other jurisdictions. These constructions empirically may not involve the state.⁷³

The top-down, command-and-control mentalities characteristic of Westphalian perspectives worked in times 'when tasks were relatively straight-forward' and 'those at the top of the pyramid had enough information to make informed decisions'.⁷⁴ Bottom-up policy implementation theorists observed the 'multi-actor' nature of implementation.⁷⁵ These observations were made in the context of implementation and not beyond. In any event, inklings of plural conceptions of networks by Hjern and Hull⁷⁶ are observed particularly in the bottom-up perspectives.⁷⁷ This is not necessarily in conflict with Westphalian constructions.

Neo-liberal understandings are a case in point. Osborne and Gaebler see this as a synthesis of strong governments and strong markets, not a choice between them, understanding it as 'entrepreneurial government'.⁷⁸ Thus, there is not a hierarchy, but a participatory model of actors working in a team where the government 'steers' rather than 'rows'.⁷⁹ On this basis, the model is still state-centric albeit in a different form. In Bayley and Shearing's words, the state is the 'auspice' and the market the 'provider' of services.⁸⁰ Loader and Walker call this state-anchored pluralism.⁸¹ Even though it should be noted that Rose and Miller state that they reject 'state centred' models of power, finding no essential need for the state whereas Loader and Walker do.⁸² In describing the observed changes from the welfare state of the nineteenth and

⁷² Currie (note 66) 8.

⁷³ See, for a detailed review, O Lobel 'The renew deal: the fall of regulation and the rise of governance in contemporary legal thought' (2005) 89 *Minnesota law review* 342.

⁷⁴ D Osborne and T Gaebler (1993) *Reinventing government: how the entrepreneurial spirit is transforming the public sector* 14-15.

⁷⁵ Pressman (note 5); Berman (note 9), O'Toole (note 4).

⁷⁶ Hjern (note 38) 110.

⁷⁷ Later they used described it as network analysis. See CJ Hull and B Hjern (1987) *Helping small firms grow*.

⁷⁸ Osborne (note 74).

⁷⁹ *Ibid* 28.

⁸⁰ DH Bayley and C Shearing (2001) *The new structure of policing: description, conceptualization, and research agenda*.

⁸¹ I Loader and N Walker (2006) 'Necessary virtues: the legitimate place of the state in the production of security' in J Wood and B Dupont (eds) *Democracy, society and the governance of security* 165 at 194.

⁸² N Rose and P Miller 'Political power beyond the state: problematics of government' (1992) 43 (2) *The British journal of sociology* 173 at 176.

twentieth centuries to neo-liberal paradigm of the late twentieth century, Rose and Miller describe it thus:

‘It entailed the deployment of new technologies of governing from a centre through powerful means of governing at a distance; these appeared to enhance the autonomy of zones, persons, entities, but enwrapped them in new forms of regulation – audits, budgets, standards, risk management, targets, shadow of the law, etc. it entailed a new conception of the subjects to be governed: that these would be autonomous and responsible individuals, freely choosing how to behave and act’.⁸³

IV MUNICIPAL GOVERNANCE, BARRIERS AND ENERGY

This pluralism observed in governance arguably involves not only relations between state-actors and non-state actors, but also between the various spheres and departments found within each. Since the case under study involves a municipality, it would be apt to look at theories regarding action by this particular sphere. The concept of ‘barriers to municipal action’ and a ‘how-to’ on overcoming these has received much attention in the literature on municipal climate change action.⁸⁴ To unravel both barriers and overcoming these was the City’s primary objective in commissioning the Centre to undertake research on the SWHB. Here, in exploring this focus as set out in the literature on this topic, the various assumptions and understandings regarding governance will be interrogated.

Traditionally, and in line with Westphalian understandings, government is seen as unitary and sovereign.⁸⁵ It fits in with top-down models of decision-makers calling the shots, while those at the bottom implement the policies. It rests on Weber’s centralised conceptions of power, which will be explored in-depth later. Other spheres of government, other than the central government, are responsible for the actual delivery of services.⁸⁶ In pre-Constitutional South Africa, the racially

⁸³ Miller (note 71) 18.

⁸⁴ PJ Robinson and CD Gore ‘Barriers to Canadian municipal response to climate change’ (2005) 14 (1) *Canadian journal of urban research* 102 at 112; P Mukheibir and GI Ziervogel ‘Developing a Municipal Action Plan (MAP) for climate change: the city of Cape Town’ (2007) 19 *Environment and urbanisation* 143; S Burch ‘In pursuit of resilient, low carbon communities: An examination of barriers to action in three Canadian cities’ (2009) *Energy policy* 1; S Burch ‘Transforming barriers into enablers of action on climate change: Insights from three municipal case studies in British Columbia, Canada’ (2010) 20 *Global environmental change* 287 at 293.

⁸⁵ M Betsill and H Bulkeley ‘Transnational governance and global environmental governance: the cities for climate protection programme’ (2004) 48 (2) *International studies quarterly* 471.

⁸⁶ See BG Peters and J Pierre ‘Developments in intergovernmental relations: towards multi-level governance’ (2001) 29 (2) *Policy & politics* 131.

segregated local governments were just that: the bearers of the obligations to deliver on the policy.⁸⁷ Under the Constitutional dispensation, the relations between the different spheres of government are co-operative in nature.⁸⁸ Although central government still holds significant power in intergovernmental relations, municipalities in South Africa have been given greater scope than before to create laws.⁸⁹ This has occurred through processes of decentralisation.⁹⁰ Decentralisation can arguably be used to describe the process of movement from 'government', as Leviathan, to 'governance', as plurality of actors. The latter will be given explicit attention later.

In South Africa, local government is one sphere of the three spheres of government. Local government derives its 'powers and functions', in the legalistic sense from the Constitution.⁹¹ Mandates set out in Schedule 4B and 5B of the Constitution form the legal basis on which the local government can legitimately exercise its power. This is based on the traditional understanding of power as articulated by Weber (and below espoused). In considering the creation of opportunities for action, Betsill and Bulkeley have suggested the use of policies and plans already in place, as hooks on which to place initiatives where the municipality is not given an 'environment' or 'sustainability' initiatives mandate.⁹² This is important to note in the context of South Africa, as local governments' are not included in the 'environmental mandate'. Municipalities are compelled, however, to provide services in a sustainable manner.⁹³ Even though the majority of research on the topic concerns mitigation rather than adaptation measures to climate change,⁹⁴ it will be sufficient to focus on the literature on mitigation measures here as the draft SWHB was an attempt to implement a mitigation measure.

I shall now turn to detail some of the common barriers experienced by local governments as noted in the literature. Firstly, a recurring obstacle is the fact that

⁸⁷ See R Cameron 'Metropolitan restructuring (and more restructuring) in South Africa' (2005) 25 *Public administration and development* 329; B Bekink (2006) *Principles of South African local government law* 23-24.

⁸⁸ The Constitution of the Republic of South Africa (1996) Chapter 3.

⁸⁹ Cameron (note 87); Bekink (note 87) 23-24.

⁹⁰ *Ibid.*

⁹¹ The Constitution of the Republic of South Africa (1996) s 156 and Schedules 4B and 5B.

⁹² M Betsill 'Mitigating Climate Change in US Cities: opportunities and obstacles' (2001) 6 (4) *Local environment* 393.

⁹³ The Constitution of the Republic of South Africa (1996) s 152(1)(b).

⁹⁴ Mukheibir (note 84) 145.

officials see climate change action as a national rather than a local responsibility.⁹⁵ In addition, institutional barriers including bureaucratic structures, administrative capacity issues and budgetary constraints pose a problem.⁹⁶ Burch, in the Canadian context, observes that other spheres of government undo municipal efforts to mitigate as a result of a failure to streamline efforts.⁹⁷ In addition, municipal departments work in silos, which is often exacerbated by physical distance, such as working in different buildings.⁹⁸ Mukheibir and Ziervogel point out a number of obstacles particular to the CCT.⁹⁹ Firstly, there is failure to see the link between service delivery and sustainability.¹⁰⁰ Also, shortcomings with human capacity, knowledge and understanding exist.¹⁰¹ The combination of financial constraints, the short political life politicians hold and competing priorities of poverty and development, for instance, result in the neglect of medium to long-term efforts.¹⁰² Finally, Ward, talking in the context of South Africa, points out that local governments generate the majority of their income from provision of electricity to the public.¹⁰³ Energy efficiency programmes are thus problematic for local government initiatives.¹⁰⁴

There are suggestions to overcome some of these problems. Holgate, who undertook a study of the City of Cape Town and Johannesburg municipalities, concluded that champions for climate change action were needed to at a higher level of leadership and support from the media was necessary too.¹⁰⁵ Furthermore, as Burch points out, administrative capacity constraints are aggravated by the fact that environmental considerations are not already part of job descriptions.¹⁰⁶ If environmental management skills were required, there would be an enhancement of skills and knowledge to deal with these problems. Betsill and Bulkeley, based on a

⁹⁵ Robinson (note 84) 112; M Betsill (note 92) 395; E Ostrom 'Polycentric governance systems for coping with collective action and global environmental change' (2010) *Global environmental change* 1.

⁹⁶ Betsill (note 92) 400-401.

⁹⁷ S Burch 'In pursuit of resilient, low carbon communities: An examination of barriers to action in three Canadian cities' (2009) *Energy policy* 1 at 6.

⁹⁸ *Ibid.*

⁹⁹ Mukheibir (note 84).

¹⁰⁰ *Ibid* 156.

¹⁰¹ *Ibid.*

¹⁰² *Ibid.*

¹⁰³ S Ward (2008) *The New Energy Book for Urban Development in South Africa* 119.

¹⁰⁴ *Ibid.*

¹⁰⁵ C Holgate 'Factors and actors in climate change mitigation: a tale of two South African cities' (2007) 12 (5) *Local environment* 471 at 480.

¹⁰⁶ Burch (note 97) 5.

survey of various municipalities in the US, suggest linking mitigation measures to co-benefits such as cleaner air for all and cost savings, particularly in terms of efficiency in municipal operations.¹⁰⁷ These include energy efficient traffic systems, street lighting and the like.¹⁰⁸ Co-benefits can be an incentive for municipalities to act.

Beyond talk of small changes in action, Burch highlights the all-important point that in order for mitigation (and adaptation) strategies to succeed, the underlying development path needs to change drastically, as the continuing existence of past policies that are unsustainable will flout any attempt to become more sustainable.¹⁰⁹ Gaining widespread political support from the public on climate change issues as well as incentivising personal change through the provision of, for instance, public transport would aid in institutionalising sustainability.¹¹⁰

Both Holgate and Mukheibir call for the use of capacity outside the state.¹¹¹ Betsill and Bulkeley, *infra*, write extensively on governance and conceive of municipalities as one node among many that need to play a role in environmental governance initiatives.¹¹² With the exception of Betsill and Bulkeley, explicit discussion of governance configurations is absent from this literature. However, Burch's approach is restricted to considering central state action in Canada and does not involve other actors in the equation. For instance, she calls for the streamlining of governmental actions as well as strong, top-down political leadership to ensure the success of implementation of climate change action.¹¹³ Arguably, the fact that these theorists are considering local government initiatives as opposed to central

¹⁰⁷ Betsill (note 92) 398; C Kousky and S Schneider 'Global climate policy: will cities lead the way?' (2003) 3 *Climate policy* 359.

¹⁰⁸ Betsill (note 92) 397.

¹⁰⁹ Burch (note 97).

¹¹⁰ Kousky (note 107) 368.

¹¹¹ Mukheibir (note 84) 147; Holgate (note 105) 476-479.

¹¹² M Betsill 'Acting locally, does it matter globally? The contribution of US cities to global climate change mitigation' (2001, 6-8 October) Paper prepared for the Open Meeting of the Human Dimensions of Global Environmental Change Research Community in Rio de Janeiro Brazil; MM Betsill and H Bulkeley 'Looking Back and Thinking Ahead: A decade of cities and climate change research' (2007) 12 (5) *Local Environment* 447-456; M Betsill, H Bulkeley & L Andonova; 'Transnational climate change governance' (2007, May 24-26) Paper prepared for the Amsterdam Conference on the Human Dimensions of Global Environmental Change in Amsterdam, Netherlands; M Betsill (note 92); M Betsill and H Bulkeley 'Rethinking sustainable cities: multilevel governance and the 'urban' politics of climate change' (2005) 14 (1) *Environmental politics* 42; Betsill (note 85).

¹¹³ S Burch 'Transforming barriers into enablers of action on climate change: Insights from three municipal case studies in British Columbia, Canada' (2010) 20 *Global environmental change* 287 at 293.

government could indicate inklings of a decentred approach. Since the focus is still on state initiatives, it could equally be considered state-centric and sympathetic toward Westphalian understandings of power.

V UNDERSTANDING POWER

It is necessary in placing these ‘Westphalian’ and ‘neo-liberal’ understandings of governance to take a step back. Doing so would require looking into certain premises on which these understandings are based. Understanding power is the best place to start. Conventional conceptions of power see law as ‘conferring and controlling power’.¹¹⁴ Public law is that area of law, in particular, which confers powers on the state.¹¹⁵ Furthermore, Currie and De Waal relate law and the states regulation of society in three ways saying one that ‘law *legitimises* the existence of and the power of the state’ (emphasis in original). Secondly, the state is said to use law as ‘a means of regulating society’.¹¹⁶ Finally, law ‘[controls] and [limits] the state’s power’.¹¹⁷ They warn that, citing Rawls, modern understandings of legitimisation of state action goes beyond compliance with legal source and constraint by the law, but also compliance with human rights standards.¹¹⁸ The element of the law limiting the state is absent from Hobbes’ conception of the power of the state. As Hobbes sees it, the power of the sovereign is indivisible. This fact does not detract from the state-centric and Westphalian grounding of legalistic conceptions of power and legitimacy adhered to in mainstream understandings today.¹¹⁹

In Weber’s account of legitimation, this reliance on ‘the virtue of legality’ is one of three potential legitimations.¹²⁰ Power to Weber is broadly ‘the ability to impose your will on others, even if they resist’.¹²¹ This is a static conception of bureaucratic

¹¹⁴ Currie (note 66) 7.

¹¹⁵ *Ibid* 8.

¹¹⁶ *Ibid* 9.

¹¹⁷ *Ibid*.

¹¹⁸ *Ibid*; In much the same vein, Davis, Haysom, Cheadle state: ‘All constitutions concern themselves with the exercise of public power....If a modern democratic constitution concerns itself with the locus of power, it also concerns itself with the form in which power is exercised. Law is the medium through which power is disseminated and exercised beginning with the constitution itself. No rule may be made except in accordance with the constitution –a democratic constitution is a rule-making machine. No public body may exercise power except in terms of an authorising rule.’ (Emphasis in original). This is from MH Cheadle, DM Davis and NRL Haysom (2002) *South African constitutional law: the bill of rights* 1.

¹¹⁹ Hobbes (note 58) 80.

¹²⁰ Weber (note 65) 29. The other two are termed ‘traditional’ and ‘charismatic’ legitimations.

¹²¹ S Whimster (2007) *Understanding Weber* 226.

power holding its locus in an office or status.¹²² Weber describes obedience of the ruled to the ruler's instructions, despite any reluctance and resistance, as stemming from 'the acceptance of the legitimacy underlying the command structure'.¹²³ Essentially, the bureaucrat must pursue the interest of the corporate group as laid down by the law and in so doing deal with people in a legalistic manner rather than as individuals.¹²⁴ The law is what people accept as legitimating the exercise of power.

These understandings of power underpin the Westphalian conception of the state. Miller and Rose neatly describe it thus:

'Key practices of rule were institutionalized within a central, more or less permanent body of offices and agencies, given a certain more or less explicit constitutional form, endowed with the capacity to raise funds in the form of taxes, and backed with the virtual monopoly of the use of force over a defined territory.'¹²⁵

They assert that this conception of power is no longer relevant to modern forms of political power.¹²⁶ In doing so, they follow Foucault.

Foucault asserts that power 'must be allowed a very broad meaning'.¹²⁷ He rejects Weber's legalistic or static understanding of power being linked to legitimacy.¹²⁸ Dean goes so far as to describe Foucault's conception of power as the 'anti-Leviathan'.¹²⁹ In doing so, Foucault criticises this conception for three reasons: one, for conceiving of power universally as being centralised in a unitary agency; two, for viewing power to be possessed by a sovereign (be it government, monarch or the ruling class); and finally, for the notion that power is legitimated through law, which ultimately implies a characterisation of power as prohibition and as repression.¹³⁰ To Foucault, power can only be power when addressing free subjects or those free to act as they choose.¹³¹ According to Foucault, the implication of this is that, power

¹²² Idem; RP Cuzzort and EW King (1980) *20th century social thought* 87.

¹²³ *Ibid* 239.

¹²⁴ Cuzzort (note 122) 90.

¹²⁵ Miller (note 71) 56.

¹²⁶ *Ibid*.

¹²⁷ M Foucault 'The subject and power' (1982) 8 (4) *Critical inquiry* 777 at 788.

¹²⁸ *Ibid* 778.

¹²⁹ M Dean (1994) *Critical and effective histories: Foucault's methods and historical sociology* 152.

¹³⁰ *Ibid* 155.

¹³¹ M Foucault 'The subject and power' 8 (4) *Critical inquiry* 777 at 790; C Gordon 'Governmental rationality: an introduction' (1991) in G Burchell, C Gordon and P Miller (eds) *The Foucault effect: studies in governmentality* 1 at 5.

though dispersed, is not always exercised.¹³² Power is ‘actions on others’ actions’ presupposing the subjectivity or ‘capacity as agents’ of those over whom such power is exercised.¹³³ Power is both ‘an omniscient dimension in human relations’ and open-ended ‘strategic game’.¹³⁴ Foucault, quoted by Gordon, puts it thus:

‘At the very heart of the power relationship, and constantly provoking it, are the recalcitrance of the will and intransigence of freedom.’¹³⁵

Likewise, Latour expresses that ‘[p]ower is not something you can possess and hoard’.¹³⁶ Rather ‘power is an effect and not a cause’ to both Latour and Foucault.¹³⁷ Developing this conception, Latour sees power as the ability to enrol others to act in the fulfilment of one’s own objects.¹³⁸ The most important point that both theorists emphasise is that those involved in the act of power themselves act, in other words are actors. Being able to inspire action by other actors is power. Essentially this means that power and governance is thus produced through ‘action at a distance’.¹³⁹ Ultimately, Latour demonstrates through the analogy of passing on of a token over time, that through the acts of multiple actors power is produced.¹⁴⁰ Put differently, power is the product of collective action. Although fitting comfortably with neoliberal conceptions of steering and rowing,¹⁴¹ enrolment has relevance in more dispersed conceptions of governance. For instance, the paradigm within which nodal governance falls is an example of such dispersed conceptions of governance (which will be discussed later). In fact, enrolment as a mode of governance is the antithesis of the Westphalian coercive mode of governance.

Black takes Latour’s conception of enrolment further. In her view, the perspective from which one looks determines the enroller.¹⁴² Furthermore, she points out that enrolment need not be successful as the distribution of power between actors

¹³² Foucault (note 131).

¹³³ Gordon (note 131) 5. .

¹³⁴ *Ibid.*

¹³⁵ *Ibid.*

¹³⁶ B Latour ‘The power of association’ in J Law (ed) (1986) *Power, and action and belief: a new sociology of knowledge* 264 at 265.

¹³⁷ *Ibid.*; Foucault (note 131).

¹³⁸ Latour (note 134) 268-269.

¹³⁹ B Latour (1987) *Science in Action: how to follow scientists and engineers through society*.

¹⁴⁰ Latour (note 136) 268.

¹⁴¹ See N Rose and P Miller ‘Political power beyond the state: problematics of government’ (1992) 43 (2) *The British journal of sociology* 173; Osborne (note 74).

¹⁴² J Black ‘Enrolling actors in regulatory systems: examples from UK financial services’ (2003) *Public law* 63 at 85-86.

ultimately determines who enrolls and who is enrolled.¹⁴³ Black presents enrolment as a framework in studying decentred regulation.¹⁴⁴ To Black analysing enrolment entails several dimensions either individually or in combination which include: ‘the nature of the inter-relationship between actors’, ‘the function that an actor is being enrolled to perform, the resources that are being enrolled, and the character of the enrolment (formal or informal, iterative or random/ad hoc).’¹⁴⁵ Although Black writes in the context of decentered regulation theories, her perspectives on enrolment add to the dispersed conception of power and plural governance perspectives.

VI NETWORKS: PLURALISM IN GOVERNANCE

Much like a dispersed understanding of power, governance theories across several disciplines have moved away from understanding governance as government alone. This is evidenced in the neo-liberal or ‘advanced liberal’ theories of Osborne and Gaebler as well as Loader and Walker. A few questions arise: What does governance mean? What are the underlying assumptions on which new understandings of governance are based? As aforementioned, there are too many definitions of governance. Although, a definition for these purposes will indeed be necessary. Thus, the definition Burris *et al* use of governance is ‘organized efforts to manage the course of events in a social system’ will suffice.¹⁴⁶

The chosen definition deliberately omits the state. Bureaucracy is no longer the only governing structure. Osborne and Gaebler see bureaucratic models of governance as having had their place in the past, when ‘those at the top of the pyramid had enough information to make informed decisions’.¹⁴⁷ Now, in the ‘information society’ where citizens are able to access information as quickly as their leaders, bureaucratic models underpinned by Westphalian understandings no longer work.¹⁴⁸ Unlike Osborne and Gaebler, Castells’ rejects the Information Society as ‘unspecific and misleading’.¹⁴⁹ Instead, Castells’ characterises society as the

¹⁴³ J Black ‘Legitimacy and the competition for regulatory share’ LSE Law, society and economy working papers (14/2009) Law Faculty of London School of Economics and Political Science.

¹⁴⁴ *Ibid.*

¹⁴⁵ Black (note 142) 86.

¹⁴⁶ S Burris, M Kempa and C Shearing ‘Changes in governance: a cross-disciplinary review of current scholarship’ (2008) 41 (1) *Akron Law Review* 1 at 3.

¹⁴⁷ Osborne (note 74) 15.

¹⁴⁸ *Ibid.*

¹⁴⁹ M Castells ‘Materials for the explanatory theory of the network society’ (2000) 51 *British journal of sociology* 5 at 6.

Network Society.¹⁵⁰ A society falling in the Information Age: ‘a historical period in which human societies perform their activities in a technological paradigm constituted around microelectronics-based information/communication technologies, and genetic engineering’.¹⁵¹ The network society manifests in all forms of cultural and institutional settings.¹⁵²

Networks, though not new to social organisation, are empowered by the developments in information or communication technologies, as these developments enable flexibility and decentralisation according to Castells.¹⁵³ This rather complex portrayal of society as networked has no doubt influenced governance theories.¹⁵⁴ Governance theorists have used this networked conception of society to describe the pluralisation of governance and the potential for configurations of governance beyond the state. Rhodes speaks of policy networks.¹⁵⁵ Ostrom speaks of polycentric systems.¹⁵⁶ Yet others speak of multilevel governance, which includes transnational governance arrangements.¹⁵⁷

All fit into an understanding of governance as networked. Even, Rose and Miller and Osborne and Gaebler and Loader and Walker, who depict governance arrangements in state-centric, ‘advanced’ or neo-liberal ways, construct governance as plural. The difference between neo-liberalists and those who understand governance as networked, is the state-centric nature of the former. Neo-liberalists prize the role of government seeing the state as a necessary virtue.¹⁵⁸ The state is considered to steer policy or in essence control the network,¹⁵⁹ whereas network governance theorists acknowledge a configuration of ‘governance without government’.¹⁶⁰ In addition, they contest the argument that networks are capable of steering. In other words, neo-liberal theories are state-centric or steeped in state

¹⁵⁰ *Ibid.*

¹⁵¹ *Ibid* 5-6.

¹⁵² *Ibid.*

¹⁵³ *Ibid.*

¹⁵⁴ Burris (note 146) 22.

¹⁵⁵ RAW Rhodes (1997) *Understanding governance: policy networks, governance, reflexivity and accountability* 52.

¹⁵⁶ Ostrom (note 95) 1.

¹⁵⁷ Betsill (note 85).

¹⁵⁸ Loader (note 81).

¹⁵⁹ M Bevir and D Richards ‘Decentring policy networks: a theoretical agenda’ (2009) 87 (1) *Public administration* 3.

¹⁶⁰ RAW Rhodes ‘New governance: governing without government’ (1996) XLIV *Political studies* 652.

'anchored pluralism'.¹⁶¹ To understand the difference between the two perspectives, I shall now turn exploring Rhodes *et al*, Ostrom *et al* and Betsill *et al* and their understandings of governance.

Before doing so, it is apt to note that I have deliberately not included a list of important theorists who write on new governance. These include Teubner,¹⁶² Trubek and Trubek,¹⁶³ Lobel,¹⁶⁴ Gunningham,¹⁶⁵ Karkainen,¹⁶⁶ and many more.¹⁶⁷ It will not be necessary to discuss these theorists further for the purposes of this dissertation. I shall now return to look at Rhodes and his policy networks concept.

(a) *Policy networks*

Rhodes typifies understanding of networks in the organisational and policy context.¹⁶⁸ He defines policy networks as 'formal and informal institutional linkages between governmental and other actors structured around shared interests in public policymaking and implementation'.¹⁶⁹ Interdependence characterises the relationship between the various actors fuelled by resource-exchange between them.¹⁷⁰ The distribution of resources between actors in a network is key to understanding the distribution of power within it too.¹⁷¹ Bevir and Rhodes define power thus:

'Given that power refers to the way the actions of others define what we can and cannot do, it appears throughout governance. Power appears wherever people interpret

¹⁶¹ Loader (note 81) 194.

¹⁶² See G Teubner *Autopoietic: A new approach to law and society* (1987).

¹⁶³ See J Scott & DM Trubek 'Mind the Gap: Law and New Approaches to Governance in the European Union' (2002) 8 *European law journal* 1; LG Trubek 'Public interest lawyers and new governance: advocating for healthcare' (2002) *Wisconsin law review* 575.

¹⁶⁴ See O Lobel 'The renew deal: the fall of regulation and the rise of governance in contemporary legal thought' (2005) 89 *Minnesota law review* 342; O Lobel 'Setting the Agenda for New Governance Research' (2004) 89 *Minnesota Law Review* 498.

¹⁶⁵ See C Holley, N Gunningham and C Shearing *The new environmental governance* (2011); N Gunningham 'Environmental law, regulation and governance' (2009) 21 (2) *Journal of environmental law* 179.

¹⁶⁶ See B Karkkainen 'Adaptive ecosystem management and regulatory penalty defaults: toward a bounded pragmatism' (2003) 87 *Minnesota Law Review* 943; B Karkkainen '"New governance" in legal thought and in the world: some splitting as antidote to overzealous lumping' (2005) 89 *Minnesota law review* 471.

¹⁶⁷ See O Lobel 'The renew deal: the fall of regulation and the rise of governance in contemporary legal thought' (2005) 89 *Minnesota law review* 342.

¹⁶⁸ Burris (note 146) 24.

¹⁶⁹ RAW Rhodes 'Understanding governance: ten years on' (2007) 28 (8) *Organization studies* 1243 at 1244.

¹⁷⁰ Rhodes (note 155).

¹⁷¹ *Ibid.*

and respond to one another. Every actor is constrained by the ways in which others act.¹⁷²

This falls squarely in the Foucauldian understandings of power. No explicit reference to Foucault is made however. Although this dispersed understanding of power allows for insight into the basic power relationships underpinning Rhodes *et al* narratives. Furthermore, Bevir and Rhodes observing the relations within decentred networks, point out that the hollowed-out state like all other actors in a network need to rely on trust and diplomacy in relating to non-state actors within these networks.¹⁷³ Marsh contests Bevir and Rhodes' understanding of power asserting that hierarchy is still the main mode of governance, with a strong central albeit fragmented government.¹⁷⁴ He thus argues for an 'asymmetric model of power', with power still predominantly centred in the state.¹⁷⁵

In addition to his dispersed conception of power, Rhodes sees network governance as one form of governing structures appropriate in particular contexts.¹⁷⁶ He explains that bureaucratic and market governing structures are still observed and can be relevant at times, but that networks represents a third possible alternative when relevant.¹⁷⁷ Thus, it is necessary to choose between governing structures or mixtures of these.¹⁷⁸ In addition, Rhodes identifies several kinds of networks.¹⁷⁹ Marsh and Rhodes define policy communities and issue networks, for instance, as opposites along a continuum of network types.¹⁸⁰ The former is highly integrated and the latter loosely so.¹⁸¹ Networks, though, are distinct from and an alternative to markets and bureaucracies and do not form a hybrid of the two.¹⁸² Instead, networks

¹⁷² M Bevir and RAW Rhodes 'The differentiated polity as narrative' (2008) 10 *British journal of politics and international relations* 729 at 731.

¹⁷³ *Ibid.*; Rhodes (note 155); Bevir (note 159).

¹⁷⁴ D Marsh 'Understanding British government: analysing competing models' (2008) 10 *British journal of politics and international relations* 251 at 257.

¹⁷⁵ *Ibid.*

¹⁷⁶ RAW Rhodes 'Policy networks: a British perspective' (1990) 2 (3) *Journal of theoretical politics* 293; RAW Rhodes 'From marketisation to diplomacy: it's the mix that matters' (1997) 56 (2) *Australian journal of public administration* 40 at 48.

¹⁷⁷ RAW Rhodes 'Decentering British governance: from bureaucracy to networks' (2001) eScholarship University of California Berkeley 4.

¹⁷⁸ *Ibid.*

¹⁷⁹ See Rhodes (note 155) 38-39 where he discusses the following kinds of networks: policy communities, professional networks, intergovernmental networks, producer networks and issue networks.

¹⁸⁰ D Marsh and RAW Rhodes (1992) *Policy networks in British government* 13.

¹⁸¹ *Ibid.*

¹⁸² Rhodes (note 155) 52.

span boundaries of public, private and voluntary sectors.¹⁸³ They are neither characterised by rules and authority like bureaucracies, nor by prices and competition like markets, instead trust and diplomacy are features of this narrative.¹⁸⁴

Governance in Rhodes' narrative is defined as '*self-organizing, interorganizational networks* characterized by interdependence, resource exchange, rules of the game and significant autonomy from the state' (emphasis in original).¹⁸⁵ Rhodes and Bevir assert that 'governance as networks is a common and important development in advanced industrial societies where the relationship between state and civil society has changed dramatically'.¹⁸⁶ In addition, they make clear that like governance through markets or bureaucracies, governance through networks also has problematic aspects.¹⁸⁷ These include the difficulty of holding networks to account, fragmentation in implementing actors and the inability to steer networks.¹⁸⁸ Rhodes argues that given the nature of the network structure as rooted in relationships of trust, the strategies of facilitating, accommodating and bargaining must be used in overcoming problems that arise from such a structure.¹⁸⁹ Having said that, Rhodes and Bevir emphasise that there are no simple solutions to the problems that any governance model may entail, and when presented with a simple solution it should be distrusted.¹⁹⁰

(b) *Polycentric governance*

Unlike Elinor Ostrom et al, the work of Rhodes *et al* is limited to political science studies and public administration considerations.¹⁹¹ Ostrom *et al* study diverse forms of common pool resources worldwide, particularly that of small communal groups.¹⁹² They lament the fixation policy analysts have with state and market policy.¹⁹³ Governance, to those in the Workshop in Political Theory and Policy Analysis, is 'the way society as a whole manages the full array of its political, economic and

¹⁸³ *Ibid.*

¹⁸⁴ Rhodes (note 169) 1246.

¹⁸⁵ Rhodes (note 155) 15.

¹⁸⁶ M Bevir and RAW Rhodes (2003) *Interpreting British governance* 54.

¹⁸⁷ *Ibid* 75-76.

¹⁸⁸ Rhodes (note 155) 58-59; Rhodes (note 160) 665.

¹⁸⁹ *Ibid* 58.

¹⁹⁰ M Bevir and RAW Rhodes 'Searching for civil society: changing patterns of governance in Britain' (2003) 81 (1) *Public administration* 41 at 60.

¹⁹¹ MD McGuinnis (1999) *Polycentric governance and development*.

¹⁹² *Ibid* 3.

¹⁹³ *Ibid.*

social affairs'.¹⁹⁴ These scholars have developed a three-fold structure involving the interplay between resource management, development and governance called the Institutional Analysis and Development (IAD) framework.¹⁹⁵ Government ideally only intervenes with common pool resource groups in limited circumstances.¹⁹⁶ By all means, this group emphasises the need to protect group rights particularly when the goal of the group is sustainable development as opposed to economic growth.¹⁹⁷

Elinor Ostrom in particular, challenges Hardin's conception of 'the tragedy of the commons'.¹⁹⁸ In this classic understanding, which follows Westphalian approaches, Hardin asserts that people's overuse of resources and consequent environmental destruction cannot be abated without centrally regulated control.¹⁹⁹ Accepting that there are many instances of individual selfish behaviour and excessive extraction of wealth from the common pool, Ostrom *et al* nonetheless present alternatives.²⁰⁰ They show examples of self-governing communities that are able to govern the use of common pool resources in a sustainable manner over long periods of time.²⁰¹ Essentially, Ostrom *et al* through their research demonstrate that governance is polycentric.²⁰²

This approach was highlighted to show another influential and more radical approach to governance than that of Rhodes et al. Much of the research this group has undertaken entailed small-scale fisheries, agricultural and forestry groups

¹⁹⁴ *Ibid* 1.

¹⁹⁵ See E Ostrom (1999) 'Institutional rational choice: an assessment of the institutional analysis and development framework' in P Sabatier *Theories of the policy process* 35; LL Kiser and E Ostrom 'The three worlds of action: a metatheoretical synthesis of institutional approaches' in E Ostrom (ed) *Strategies of political enquiry* 179; RJ Oakerson (1992) 'Analyzing the commons: a framework' in DW Bromley and D Feeney *Making the commons work: theory, practice and policy* 41.

¹⁹⁶ McGuinnis (note 191).

¹⁹⁷ E Ostrom (1990) *Governing the commons: the evolution of institutions for collective action*; E Schlager and E Ostrom (1999) 'Property rights regimes and coastal fisheries: an empirical analysis' in MD McGuinnis (ed) *Polycentric governance and development* 87.

¹⁹⁸ G Hardin 'The tragedy of the commons' (1968) 162 (3859) *Science* 1243.

¹⁹⁹ In E Ostrom (1990) *Governing the commons: the evolution of institutions for collective action* 9, Hardin is quoted as saying 'people must be responsive to a coercive force outside their individual psyche's, a Leviathan, in Hobbes' words.'

²⁰⁰ McGuinnis (note 191) 2.

²⁰¹ *Ibid*; E Ostrom, R Gardner and J Walker (1994) *Rules, games and common-pool resources*; E Ostrom (1991) *Crafting institutions for self-governing irrigation systems*; G Varughese and E Ostrom 'The contested role of heterogeneity in collective action: some evidence from community forestry in Nepal' (2001) 29 (5) *World development* 747.

²⁰² McGuinnis (note 191); E Ostrom 'A polycentric approach for dealing with climate change' (2009) Background paper to the 2010 World Development Report: Policy research working paper 5095 available at <http://econ.worldbank.org> (accessed on 16 November 2011).

working for the communal benefit.²⁰³ As aforementioned, they argue for the protection of groups of this kind which display sustainable practices. In addition, Ostrom calls for all forms of institutions right down to the family unit to take action regarding climate change by changing their behaviour.²⁰⁴ In so doing, they display a reinvention of governance itself, rather than simply that of government as Rhodes *et al* do.

(c) Transnational governance, municipalities and climate change

Like Ostrom and Rhodes, Betsill and Bulkeley acknowledge the possibility of governance that does not include the state.²⁰⁵ The scale of this approach is distinct from the previous two as the focus is on transnational networks of municipalities and falls within international relations literatures.²⁰⁶ Municipalities globally, in the international arena, are forming networks and collaborating on climate change matters.²⁰⁷ On this basis, proponents reject the traditional understanding of the state as a 'unitary and sovereign actor' as various spheres and departments within these are able to govern as independent actors.²⁰⁸ Betsill *et al* thus focus on pluralised engagement within environmental governance structures on the global scale.²⁰⁹ Drawing on Rhodes' concept of policy networks, Betsill and Bulkeley find the resource-exchange conception in understanding the operations of a network useful in developing their own ideas.²¹⁰

²⁰³ See Ostrom (note 201); Ostrom *et al* (note 201); Varughese (note 201); McGuinnis (note 191).

²⁰⁴ Ostrom (note 95).

²⁰⁵ M Betsill and H Bulkeley 'Rethinking sustainable cities: multilevel governance and the 'urban' politics of climate change' (2005) 14 (1) *Environmental politics* 42.

²⁰⁶ *Ibid.*

²⁰⁷ Cities for Climate Protection (CCP) programme, an international network of municipalities run by the International Council for Local Environmental Initiatives (ICLEI), is one example of such a transnational network. Financial and political resources on the one hand and knowledge creation and norm generation on the other are equal draw cards for those municipalities most effectively engaged with the networks. Access to technical and best practice information has not been as influential, however. Although these networks are not merely a means to gaining access to resources, knowledge or for generating norms. Instead, each of these is 'inextricably linked in the process of building and maintaining networks'. Many cities joining the programme have done little in terms of climate change action prior to joining. Many have and yet have still benefit from being a member of the network. Primarily the CCP helps the latter cases with reframing prior knowledge from being a global to a local issue allowing for greater scope of municipal action. Durban, Cape Town and Johannesburg are three South African municipalities that are participating in this non-governmental organisations' organisation of state actors. See Betsill (note 85).

²⁰⁸ Betsill (note 85).

²⁰⁹ *Ibid.*

²¹⁰ *Ibid* 479. As they point out, unlike their international focus Rhodes *et al* mainly focus within the national arena.

Much like Ostrom, Betsill and Bulkeley call for all levels of government and society to play a part in climate change mitigation.²¹¹ Furthermore they stress, the dangers of over-reliance on municipal action, as the scope for mitigation measures being effective is limited as with overreliance on any one kind of actor would be.²¹² In pointing out gaps in the climate change research by local governments, Betsill and Bulkeley point out that more research needs to be done in the global South on the role of transnational networks in climate change mitigation in municipalities.²¹³

(d) Conclusion

These theorists are some among the endless number of those who have written on network governance theories. There are numerous theorists in various fields from health to environment. For these purposes, it would not be necessary to go beyond these thinkers. Instead, we will turn now to a development that has grown out of work around network governance: nodal governance.

VII NODAL GOVERNANCE

Developing out of a network understanding of governance, nodal governance unpacks the constituent organisations or nodes that make up a network that may exist. Braithwaite defines a node as ‘a point in time and space where a cluster of actors collaborate to mobilize pooled resources to tie together strands in Castellan networks of power’.²¹⁴ In Castells’ own words, drawing on a mathematical metaphor, a node is ‘the point where the curve intersects itself’.²¹⁵ However, Castells’ fails to take nodes beyond this, paying no attention to nodes themselves.²¹⁶ The nascent theory of nodal governance spans many disciplines from security to health to intellectual property. In essence, a nodal governance framework hones in on nodes to find out what makes them tick. After all, it is nodes, not networks, which make

²¹¹ M Betsill ‘Acting locally, does it matter globally? The contribution of US cities to climate change mitigation’ Paper presented for the open meeting of the Human Dimensions of Global Environmental Change Research Community Rio de Janeiro Brazil (6-8 October 2001) 9.

²¹² *Ibid.*

²¹³ M Betsill and H Bulkeley ‘Looking back and thinking ahead: a decade of cities and climate change research’ (2007) 12 (5) *Local environment* 447 at 453.

²¹⁴ J Braithwaite ‘Methods of power for development: weapons of the weak, weapons of the strong’ (2004) 26 *Michigan international law journal* 297 at 300.

²¹⁵ Castells (note 149) 15.

²¹⁶ S Burris, P Drahos and C Shearing ‘Nodal governance’ (2005) 30 *Australian journal of legal philosophy* 30 at 37.

governance ‘buzz’.²¹⁷ It is nodal governance that will be used to frame the analysis of the findings made in this thesis.

A node is an institution with four key characteristics: mentalities, technologies, resources and a structure for the direction and use of the other three characteristics.²¹⁸ Burris provides a more thorough definition of a node, which is widely quoted:²¹⁹

[A] node must have some institutional form. It need not be a formally constituted or legally recognized entity, but it must have sufficient stability and structure to enable the mobilization of resources, mentalities, and technologies over time. A street gang can be a node, as can a police station, or even a particular shift at a firehouse. A node like this may be primarily part of an integrated network, like a department in a firm; it may be linked to other nodes in multiple networks without having a primary network affiliation, like a small lobbying firm; or it may be what we call a “superstructural node,” which brings together representatives of different nodal organizations to concentrate the members’ resources and technologies for a common purpose but without integrating the various networks—a trade association, for example.²²⁰

Mentalities concern the characteristic attitudes a node holds about the sectors they were formed to govern.²²¹ The various models of governance espoused earlier from the Hobbesian understanding, to neo-liberal persuasions and model of organised networks demonstrate different modes as well as mentalities of governance.²²² Technologies are the methods used for asserting one’s influence over the issue, which one governs.²²³ Essentially, these are the tools of governance enabling action such as legal mechanisms, symbolic mechanisms and physical mechanisms.²²⁴ Legal mechanisms are hard tools whereas trust and diplomacy are softer tools of governance.²²⁵ Resources are those things, which support the operation of the node

²¹⁷ C Shearing and J Wood (2007) *Imagining security* quoted in C Shearing and L Johnston ‘Nodal wars and network fallacies: a genealogical analysis of global insecurities’ (2010) 14 (4) *Theoretical criminology* 495 at 500; J Braithwaite (2008) *Regulatory capitalism: how it works, ideas for making it better* 200.

²¹⁸ Burris (note 146) 37.

²¹⁹ C Shearing and J Wood (2007) *Imagining security* 29; L Johnston, M Button and T Williamson ‘Police, governance and the private finance initiative’ (2008) 18 (3) *Policing and security* 225 at 241.

²²⁰ S Burris ‘Governance, micro-governance and health’ (2004) 77 *Temple law review* 335 at 341-342.

²²¹ Burris (note 216) 37.

²²² Shearing (note 217) 495; Shearing (note 219) 7.

²²³ Burris (note 146) 37.

²²⁴ C Shearing and L Johnston (2003) *Governing security: explorations in policing and justice* 28.

²²⁵ *Ibid.*

and the node's exertion of influence.²²⁶ Finally, a structure of the node must be formed to support the combined use of the mentalities, technologies and resources over time.²²⁷ The node can be formally or informally constituted, but must have 'at least a toe-hold in a governance network'.²²⁸

Through these defining characteristics, a node can achieve endless goals for which they may be constituted. In other words, a node can be formed for sinister purposes such as trade in narcotics, or addressing more philanthropic goals such as outreach programmes, or simply to formally administer a particular sector.²²⁹ It need not, however, be deliberately, legally or formally constituted to govern a particular issue.²³⁰ After all, Shearing and Wood locate nodal governance 'squarely' within Latour and Foucault's conceptions of governance and power.²³¹ This means that a dispersed understanding of where power lies is foundational to this theory. In addition, proponents understand power as governance through enrolment as explained *supra*.

Large entities such as governments are assemblages of various nodes and can thus be understood as networks rather than simply nodes.²³² Johnston *et al* do stress that conceptual priority should not be given to the state over other nodes.²³³ This is of course in line with the dispersed understanding of power and governance. Essentially, a nodal governance approach allows the empirical data to reveal for itself how power is distributed between nodes in a network.²³⁴ In this way, the complexity of governance is recognised. This is unlike the traditional theory that is exemplified in statutes and constitutions where the assumption is made that states are the key players. South African legal and regulatory theories are no exception to the traditional theoretical assumptions. For nodal governance proponents, if the state happens to be the most important governing node in a particular area, the data should reveal that fact. It should not be assumed.

²²⁶ Burris (note 216) 37.

²²⁷ *Ibid.*

²²⁸ Burris (note 146) 26.

²²⁹ *Ibid.*

²³⁰ *Ibid* 38.

²³¹ Shearing (note 219) 27.

²³² Burris (note 220) 341; Burris (note 1) 26.

²³³ Johnston (note 219) 241; Shearing (note 217) 147; Burris (note 146) 25.

²³⁴ Shearing (note 217) 500; Shearing (note 219) 147.

Centralisation within a network is conceivable and occurs when one or a few dominant nodes exist giving them greater degree of influence over the network.²³⁵ As Dupont and Wood point out, networks consisting of various nodes ‘operate in varying degrees of permanency and flux’.²³⁶ As aforementioned, Rhodes argues that networks characteristically bargain within themselves and between other networks in a process of resource-exchange.²³⁷ The organisations that form a network are dependent on one another for resources.²³⁸ Therefore, Shearing and Johnston suggest that coherence of a network could potentially be problematic, as nodes that make up networks do not necessarily share mentalities and objectives.²³⁹ Networks could thus be characterised by conflict and resistance.²⁴⁰ The effect of this would be to have ineffective and inefficient networks.

Shearing and Johnston call for nodal analysis prior to network analysis warning against ‘the fallacy of nodal-network equivalence’.²⁴¹ The existence of a network should not be assumed; instead the empirical data should reveal the existence of a network.²⁴² Dupont and Wood echo this sentiment adding that ‘it is not assumed... that nodes are networked’.²⁴³ To reiterate, Dupont and Wood contextualise nodal analysis as follows saying that ‘moving from a nodal level analysis to the system of properties of networks, one is concerned with more of a “bird’s-eye view” of actions between nodes’.²⁴⁴ In fact, through a nodal approach the nature and contribution of various nodes to governance is revealed.²⁴⁵ As Shearing and Wood put it: ‘[i]n developing a nodal governance framework, we are thus seeking to provide a conceptual architecture for analysing trends in governance that is equally comfortable with the idea that governance can be contested and uncoordinated as it is with the idea that it can be cooperative and coordinated’.²⁴⁶ This approach sits more comfortably than theories such as state-centric models with

²³⁵ B Dupont and J Wood ‘Urban security, from nodes to networks: on the value of connecting disciplines’ (2007) 22 (2) *Canadian journal of law and society* 95 at 105.

²³⁶ *Ibid* 99.

²³⁷ Rhodes (note 155) 37.

²³⁸ *Ibid*.

²³⁹ Shearing (note 217) 500.

²⁴⁰ *Ibid*.

²⁴¹ *Ibid* 496.

²⁴² Shearing (note 219) 147.

²⁴³ Dupont (note 235) 99.

²⁴⁴ *Ibid* 103.

²⁴⁵ *Ibid* 146.

²⁴⁶ Shearing (note 219) 28.

the current plural state of governance in that it allows the data to speak for itself rather than making assumptions about what may be in fact happening. It is for this reason among others that I prefer to use framework of analysis to others.

Like Rhodes, Shearing and Wood highlight that enrolment by the state resulting in state-centric pluralist configurations are a possibility.²⁴⁷ However, it is one possibility among many. Shearing and Johnston, for instance, in the context of security speak of using 'any means that will promote safe and secure spaces in which people live and work'.²⁴⁸ This is so since each node attempts to enrol other nodes where relevant.²⁴⁹ Non-state nodes can enrol states too, after all.²⁵⁰ Essentially, for nodal governance the world is hierarchically ordered.²⁵¹ Auspices attempt to enrol other nodes in order to achieve their own ends.²⁵² Hierarchies thus co-exist and overlap with plurality in both the top and bottom actors.²⁵³ Nodal governance is simultaneously coordinated and uncoordinated with co-ordination being successful only when nodes successfully enrol others to achieve their aims to influence the 'flow of events'.²⁵⁴

Loader and Walker claim that the theory of nodal governance holds that the state is no longer an important node.²⁵⁵ In contrast, Loader and Walker postulate that state is a 'necessary virtue' of governance systems.²⁵⁶ They interpret nodal governance in the context of security as calling for the state to play less of a role in security governance.²⁵⁷ In answer to this, Johnston emphasises that nodal governance is descriptive of what is and not a normative construction of how governance ought to be constituted.²⁵⁸ Loader and Walker interpret Shearing *et al*, as portraying the state as an idiot.²⁵⁹ According to Loader and Walker, Shearing *et al* assert that the state is too far removed and thus ignorant of the particular needs of a local community to

²⁴⁷ *Ibid* 149.

²⁴⁸ Shearing (note 219) 71.

²⁴⁹ Shearing (note 217) 149.

²⁵⁰ *Ibid*.

²⁵¹ *Ibid*.

²⁵² *Ibid*.

²⁵³ *Ibid*.

²⁵⁴ *Ibid*.

²⁵⁵ Loader (note 81); I Loader and N Walker 'State of denial? Rethinking the governance of security' (2004) 6 *Punishment and society* 221.

²⁵⁶ Loader (note 81).

²⁵⁷ *Ibid* 175.

²⁵⁸ L Johnston (2006) 'Transnational security governance' in Wood J and Dupont B (eds) *Democracy, society and the governance of security* 165 at 194; Johnston (note 219) 240.

²⁵⁹ Loader (note 81) 175-178.

govern over its security needs.²⁶⁰ In addition, as Loader and Walker interpret them,²⁶¹ Shearing *et al* nonetheless rely on the state to create key conditions for bottom-up configurations, such as local community action, to succeed.²⁶² These conditions include either the state maintaining control over non-state providers where public goods are concerned²⁶³ or the state redistribution and generation of the collective resources to strengthen local communities' chances of success at governing.²⁶⁴ The state would be the last resort in the understanding Shearing *et al* hold according to Loader and Walker.²⁶⁵ In reply, Johnston makes clear that the state's knowledge may restrict its ability to act in some areas or levels, but not all.²⁶⁶ Conceivably, they could create an overarching regulatory structure without catering for or knowing about the particular situations of a local community allowing that community to carry out such duties or actions themselves.²⁶⁷

Nodal governance does not purport to dismiss the state as a node. Doing that would contradict the premise on which it is based that the locations of power and governance must be revealed through empirical research.²⁶⁸ In this sense, in line with Braithwaite's conception of a node, *supra*, the power held by a particular node within a particular space and time and even its existence as a node to begin with, should be revealed through empirical findings.²⁶⁹ Essentially, nodal governance lends an interesting lens through which organisations can be explored. It allows for the in-depth study of a node revealing the various important characteristics that make up each. In this way too, the networks in which each such institution is involved if any can be unveiled and ultimately the interactions between them too. What this allows for is the organic exploration of interactions between nodes and the relationships that shape a particular network, if one exists. In this way, the constituency of the network can be revealed rather than assumed. This could

²⁶⁰ *Ibid.*

²⁶¹ *Ibid.*

²⁶² Loader (note 81) 175-178.

²⁶³ C Shearing and J Wood 'Governing security for common goods' (2003) 31 *International journal of the sociology of law* 205 at 217.

²⁶⁴ Shearing (note 217) 155.

²⁶⁵ J Wood 'Cultural change in the governance of security' (2004) 14 *Policing and society* 31 at 39.

²⁶⁶ Johnston (note 219) 49.

²⁶⁷ *Ibid.*

²⁶⁸ C Shearing and J Wood 'Nodal governance, democracy and the new denizens' (2003) 30 (3) *Journal of law and society* 400 at 404.

²⁶⁹ *Ibid.*

conceivably, but not necessarily, lead to a revelation that states dominate a particular network arena.

VIII FORUM-SHIFTING

With the fragmentation of governance evidenced through nodal and networked understandings of governance, ‘forum shifting’ has grown as a method of power.²⁷⁰ Nodes have used this tactic in order to secure centralisation in a different forum with themselves as the key actors.²⁷¹ Drahos describes forum shifting in the context of international relations as a node shifting forums.²⁷² A node will attempt to shift from one where resistance is experienced to one where that node is more likely to succeed.²⁷³ Further he delineates kinds of forum shifting or rather ‘three basic strategies –moving an agenda from one organization to another, leaving an organization and pursuing agendas simultaneously in more than one organization’.²⁷⁴

Drahos and Braithwaite show how the United States used this strategy to gain power over intellectual property matters in the international arena.²⁷⁵ The World Intellectual Property Organization (WIPO), which included NGOs in the configuration, held power previously.²⁷⁶ Powerful players, including the United States in particular, moved negotiations over intellectual property rights from WIPO to the General Agreement on Tariffs and Trade, now the World Trade Organisation, which culminated with the adoption of the Agreement on Trade-Related Aspects of Intellectual Property Rights.²⁷⁷ Forum or a regime shifting is therefore a means of reconfiguring power relations. When reaching a stalemate situation, organisations can reach out to a different forum to achieve the same result. Those who do not hold power may also use this tool.²⁷⁸ Interestingly, cities or municipalities can also use

²⁷⁰ Burris (note 146) 34.

²⁷¹ Braithwaite (note 214) 327.

²⁷² P Drahos ‘Securing the future of intellectual property: intellectual property owners and their nodally coordinated enforcement pyramid’ (2004) 36 *Case Western Reserve journal of international law* 53 at 55.

²⁷³ *Ibid.*

²⁷⁴ *Ibid.*

²⁷⁵ Braithwaite (note 214); Drahos (note 272).

²⁷⁶ LR Helfer ‘Regime shifting: the TRIPS agreement and new dynamics of international intellectual property lawmaking’ (2004) 29 *Yale journal of international law* 1.

²⁷⁷ *Ibid.*

²⁷⁸ Braithwaite, (note 214) 327-328, advocates that much like the United States created a new forum governing through the Trade-Related Aspects of Intellectual Property Rights as a means to gain greater control in this, developing nations as weaker nodes could potentially do the same.

forum shifting as a tool for achieving ends especially when no other option remains.²⁷⁹

IX CONCLUSION

Governance, in Castells' Network Society, is complex. Many conceptions and understandings of governance exist. The sense used here concerns 'organised efforts to manage the course of events in a social system'.²⁸⁰ Mainstream understandings tend to be state-centric as they fail to acknowledge the plurality not only in providers, but auspices too. In fact, in the South African context, constitutional understandings including the restriction of municipal action to 'constitutionally mandated' activities hold onto the old static juridical conception of legitimacy and power. As the bottom-up theorists hinted in their studies of policy implementation, power is not as static and those at the 'bottom' also influence the process. Foucault and Latour portray power as dynamic and dispersed in that it is gained through the successful enrolment of other actors. Yet, as Foucault emphasises, power may be everywhere but is not exercised by everyone. The implication of this in networked society is governance cannot be restricted to the state and that influencing others to act is not as simple as resorting to legalistic or top-down understandings of power and legitimacy. Bureaucratic, top-down constructions are still in existence, but this is just one governance configuration. Forum shifting is a method of power, which powerful actors have used to ensure that their aims are achieved. Initiating any governance initiative requiring the enrolment of others therefore would require an understanding of the complexities of governing. In the networked governance context, it would require the use of trust and diplomacy, as Rhodes *et al* make clear.

I shall be using these various theories to analyse the empirical data in order to reach conclusions on the main research question and the three sub-questions. Nodal governance will be used to frame the analysis of the two nodes focused on in my research with particular focus on mentalities and technologies. I shall merely touch on the characteristic of resources. Theories on implementation, governance and power will aid in unpacking the mentalities and technologies of the main nodes. I

²⁷⁹ See D Kairys 'The cities take initiative: public nuisance lawsuits against handgun manufacturers' in BE Harcourt (ed) *Guns, crime and punishment in America* 363. This details a case where a municipality in the United States used litigation as a means for controlling the handgun manufacturers when the federal and state governments failed to act.

²⁸⁰ Burris (note 146) 3.

intend the relevance of implementation theories and networked governance theories to be revealed in this process. Networked governance and municipal climate change governance theories will be used to understand the various networks involved in the process. In exploring the various networks, I will shed light on the nodes upon which I focus. In addition, that as much as a node has its own characteristics as nodal governance theories highlight, I aim to show that the characteristics of the nodes are also shaped by the networks within which they may find themselves. Ultimately, the aim of exploring these various theories is to understand why the SWHB failed.

METHODOLOGY: THE STORY BEHIND THE STORY

I INTRODUCTION

In understanding the perspective of any researcher on a particular topic, it is necessary to understand the story behind their story. In other words, it is critical to know the research design used, the methods used to obtain the empirical work, limitations of the research conducted and ethical considerations. All these factors inform the outsider to some extent about that which went into the neatly organised presentation of what is a messy process. Here I shall present the story behind how I reached an understanding of the various narratives of the SWHB process, before divulging these narratives.

II THEORETICAL PERSPECTIVES AND KNOWLEDGE CLAIMS

Before detailing the methods and designs that went into this research, it would be apt to briefly discuss a few pertinent issues regarding theoretical perspectives and knowledge claims made in undertaking the research. Firstly, I would like to detail the difference between qualitative and quantitative methods. Qualitative methods involve the analysis and interpretation of texts and interviews in order to 'discover meaningful patterns descriptive of a particular phenomenon'.¹ Quantitative methods, though allowing for hypothesis-generating approaches, would involve statistical and numerical information.² I used qualitative methods of research as it allowed me to explore the perspectives of various officials and to generate a hypothesis from these. Arguably quantitative methods could have been used, we had set out to understand the narrative of the SWHB and thus the qualitative methods were most useful in this regard.

Secondly, ontological and epistemological bases are also important factors in placing a researcher's take on their research that is separate from choice of qualitative and quantitative methods.³ Ultimately one's perspective on social reality (ontological perspective) and one's beliefs on how we can come to know about the world

¹ CF Auerbach and LB Silverstein (2003) *Qualitative data: an introduction to coding and analysis* 3.

² *Ibid* 4.

³ As Creswell points out these can also simply be described as worldviews. See JW Creswell (2009) *Research design: qualitative, quantitative and mixed methods approaches* 3ed. 6.

(epistemological perspectives) inform how one conducts research.⁴ Arguably, the two extremes on the continuum are positivism and constructivism.⁵ Proponents of the former believe in strictly describing that which we can measure and observe in search for absolute truths.⁶ Post-positivism, however, challenges the idea of absolute truths and acknowledges that when observing humanity we cannot make such claims.⁷ Those who emphasise the latter, constructivism, propose that the world around us is based on our perceptions of it.⁸ In essence, the post-positivists prize objectivity and searching for bias, whereas constructivists acknowledge the subjectivity of human experience.⁹ Arguably, the closest one can get to objective observation is to marry the perspectives of various individuals (or organisations) in the experience of a process.¹⁰

The adaptive theory of Layder represents a middle ground as it emphasises that the interaction between theory and empirical observation.¹¹ This is where the approach I have taken can be placed. In a modern form of social science research that acknowledges the importance of theory building, yet the fallibility in perspectives and theories testing these through empirical research.¹² In doing so, I have used a case study research design and generated a hypothesis in trying to understand both theory and findings.

III RESEARCH DESIGN: CASE STUDY RESEARCH

At the outset, it is necessary to note how I chose to design the research as such. As explained before, this was an opportunity given to me by the Centre where I read for this thesis. I had been part of a team commissioned by the CCT to undertake a study of the SWHB. In this sense, the design was chosen for me: case study research. Since the focus was on one particular failed initiative, I asked the question: Why did the

⁴ D Silverman (2010) *Doing qualitative research* 3ed 109.

⁵ Creswell (note 3).

⁶ *Ibid* 7.

⁷ *Ibid*.

⁸ *Ibid* 8.

⁹ *Ibid* 7-8.

¹⁰ *Ibid* 9.

¹¹ For more see Chapter 6 in D Layder (1998) *Sociological practice: linking theory and social research*.

¹² Layder (note 11) 132-133.

SWHB not take off? After all, Yin does highlight that case studies are the preferred strategy when *inter alia* 'why' questions are asked.¹³

Yin defines the research design of undertaking a case study as 'an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used.'¹⁴ He is one of the foremost-cited theorists on this method of research. Furthermore, Yin highlights that an advantage of this method of research is that it allows one 'to retain the holistic and meaningful characteristics of real-life events such as...organizational and managerial processes...'.¹⁵ Using a case study research design is thus suitable for this form of enquiry, as I would be focusing 'holistically' and 'meaningfully' on one particular set of events from the perspective of two key organisational actors. Rhodes in the organisational research he undertakes regarding politics and public administration issues in the British governance context to follows Yin in seeing the value of this method of research.¹⁶

Criticism of case study research include that case studies are too limited to make broad claims.¹⁷ O'Toole, in the context of policy implementation theories, expresses that this form of research design is limiting in extracting general observations and also overused.¹⁸ However, this fails to see the fact that the multiple case studies technique is a conceivable design of a research project.¹⁹ This design method, like any other, has its role to play and its various applications. Here is applicable because it is describing the draft by-law as an intervention to reach particular energy efficiency aims and attempting to understand what went wrong in the process of trying to reach these aims.²⁰ There are conversations around what a case really is and Ragin *et al* discuss the various contradictions in the manner in which social scientists

¹³ RK Yin (2003) *Case study research: design and methods* 3 ed. 7.

¹⁴ RK Yin (1984) *Case Study Research: Design and Methods* 23.

¹⁵ Yin (note 14) 2.

¹⁶ RAW Rhodes (1997) *Understanding governance: policy networks, governance, reflexivity and accountability* 20.

¹⁷ *Ibid* 19.

¹⁸ LJ O'Toole 'Research on policy implementation: assessment and prospects' (2000) 10 (2) *Journal of public administration and research theory* 263 at 269.

¹⁹ Yin (note 14) 15.

²⁰ *Ibid*.

use this term.²¹ Another point that Ragin *et al* make, that need be highlighted here, is that the case is ultimately constructed by the research question posed.²²

IV METHODOLOGY

In exploring this case study, I have chosen to use the deductive method of putting forward a hypothesis, which I have then explored through the research I have undertaken. This hypothesis is namely:

The Environmental Resource Management Department did not fully appreciate the complexities of governance in choosing the solar water heater by-law to reach their aims without sufficient consultation the department they had designated as the implementers, namely the Planning and Building Development Management Department, and in so doing sealed the fate of the SWHB.

I generated this hypothesis after exploring and engaging with the literature in combination with the empirical data. Through the analysis of the findings and conclusions, I reached conclusions regarding this hypothesis. This entails discussing the research instruments I used, the strengths and weaknesses of my data population and sample choice, and the manner in which I analysed this data including justifying the chosen method of analysis.

(a) Research Instruments

The data was obtained through various means including interviews, reports, newspaper articles, email correspondences, minutes from meetings and websites. I was very fortunate to receive a file from one interviewee with all the relevant reports, minutes of meetings and correspondences regarding the draft by-law. The various websites I used were of the particular nodes involved in the process in particular. I did this to verify certain information. These sources were used to map the picture of the full process of the draft by-law and the lead up to the draft by-law being chosen. More importantly these were used to establish findings. These findings were presented in a report on the draft by-law, which the ERMD commissioned from the Centre. I was fortunate enough to be a part of the team that conducted the research and put together the report.

²¹ C Ragin and HS Becker (1992) *What is a case: exploring the foundations of social enquiry*.

²² *Ibid.*

Prior to embarking on the interviews, we undertook the initial research. This allowed us to designate broad themes and potential questions to ask under each of these themes. All interviews were unstructured and open-ended allowing officials to steer the direction of the interview. This was done with the hope that officials would gain our trust and speak freely on their perspectives on the process. A rough guide was prepared before hand to highlight important topics and issues that needed to be addressed. The interviews were conducted as casual conversations around the draft by-law where the interviewees were allowed to divulge their perspectives on the process. The interviews were done in person. There were either two or three of the four team-members present at the interviews and only ever one official at a time. I was present at all but two interviews.

Twelve interviews were conducted. Two of the interviews were repeats bringing the total in total to ten interviewees. Through the repeat interviews the views of the findings presented in a draft report were sought. The length of these interviews varied from one and a half to three hours totalling roughly thirty hours of raw data. These interviews were taken over a nine-month period. High-level officials were interviewed from the two departments: four of the interviewees were from the ERMD; three from the PBDMD and one was from the LSD. The relevant politician heading the Planning and Environment Portfolio was interviewed as well as a representative of SEA who was extensively involved in the process.

An official in the ERMD supplied us with a file of all important correspondences and internal reports regarding the draft by-law. The internal reports included reports to the Energy Committee, City Manager and the Supply Chain Management. Each updated the respective addressee on the important events in the progression of the draft by-law. In addition, there were draft reports regarding the stakeholder participation process. Also personal correspondences were included in this collection. These comprised of emails addressed to or received from either the ERMD or SEA.

(b) Data: population and sample: strengths and weaknesses

The sample of the population was a small class. It included mainly those local government officials involved in the SWHB process. Nine out of the ten interviewees were officials and one of these nine was a politician at the time. One person was from the NGO, SEA. The officials interviewed were limited to those four

top-level officials involved in the formulation and driving of the draft by-law situated in the ERMD. In addition, three of top-level officials in the PBDMD, the department designated as the one responsible for implementation, were also interviewed. The environmental lawyer of the CCT who was somewhat involved in the process was interviewed as well. Finally, the councillor who headed the Planning and Environment Portfolio Committee (PEPCO) at the time was interviewed as well.

Since the draft by-law did not go beyond formulation, there were no officials at the bottom as such who were directly involved in the process. However, interviewing those who would have had to implement by-law and finding out their perception of it would have added a potentially insightful perspective. Resources including time were limited. In addition, it is an unknown whether the bottom level officials who would ultimately have been the 'street officials' implementing the draft by-law knew much about it if anything at all. Arguably, not interviewing them could be seen as a weakness. However, failure to interview these officials could equally be seen as a strength since it was only the top-level officials who were directly involved in the process and could add informed insights on the process.

There was one official in particular, who had left the CCT in 2008. This official was involved with the SWHB process from the outset until leaving the CCT. Since this person was the champion of the SWHB process for the first two years and no one could provide us with the relevant contact details of this person, it was a loss not to have conducted an interview with this person. However, I was very fortunate to be provided with the internal CCT reports on the process as well as email communications that were written by this person. It helped immensely to have these private reports and to some extent made up for the fact that we could not interview this person.

It may have been interesting to understand the perspectives of stakeholders outside the CCT. If the draft by-law had eventually reached fruition, these would have included solar water heater installation companies as well as those that implemented other energy efficient water heating systems. There was a correspondence included in the file mentioned *supra* from a stakeholder expressing their opinion on the SWHB prior to it morphing into the more inclusive energy efficient water heating by-law. Also, interviewing those experts in the SABS who

corresponded with the ERMD officials on the SWHB would have added to the perspectives on the process.

(c) Analysis: techniques and justification

I used thematic analysis in making sense of the data. Both my supervisor and myself felt that it would not be necessary to use a computer-based coding programme. This was on the basis that I had transcribed all interviews verbatim using ordinary word-processing computer programme while listening to the recorded interviews. These transcripts aided in writing the commissioned report. I was therefore very familiar with the data and had already made findings in lieu of writing this report. Of course, I added findings of my own; much of the ground was done in preparation for compiling the report. I then went through all the interviews and extracted themes, which I presented in a table with all relevant quotes from the various interviewees and other sources of data for the corresponding themes. I could then proceed with making findings of my own. In the end, the findings I used were those I had come up with myself.

For reasons of time and focus, the two departments responsible for bringing about the stalemate situation were the only nodes interviewed, with exception of one politician and one representative from the NGO involved. It was thus felt that using nodal governance as a framework for the analysis of the empirical data was justified. Since extensive data was obtained regarding the two departments interviewed, it was also appropriate to use this to unpack these nodes. Once the nodal analysis was undertaken, I could then move to the analysis of any networks involved. After all, proponents of this nascent theory such as Shearing emphasise the need to undertake nodal analysis prior to network analysis.²³ Since I worked with Prof. Shearing on this project, the methods we used in obtaining the data and reaching the findings complemented this framework.

V LIMITATIONS

The major limitations of the research I undertook are the major strengths too. Firstly, I was part of a team. Choosing a topic or an approach was thus not an option. Of course, I had my input. Working with two professors meant by virtue of their

²³ C Shearing and L Johnston 'Nodal wars and network fallacies: a genealogical analysis of global insecurities' (2010) 14 (4) *Theoretical criminology* 495 at 496.

knowledge and experience that my input for good reason was not as weighted during the fieldwork. Even though this could be framed as a disadvantage, it was to a greater extent an advantage. Their experience in conducting interviews alone aided with ensuring that pertinent questions were asked. Their prestige secured interviews with the top officials and politician. Most importantly, both these factors led to the Centre being commissioned to write the report in the first place.

Secondly, the focus was not a choice. I soon learnt that when undertaking a postgraduate degree it is more about what one does with what one has than choosing what to explore. Thirdly, funding of course limited the amount of interviews that could be conducted. However, the main players in this process were accessible thanks to the fact that a department within the CCT commissioned the Centre. Only one important (former) official in the process was not accessible, as this official had left the CCT and was unable to take part in the interview process. Due to the fact that this involved state officials, there were certain documents and information that we could not access. This was only relevant with one or two documents. We were, after all, given many different internal reports that are not accessible to the general public.

Finally, having interviewed mainly the top officials who were involved in the policy decision process, perspectives of street level bureaucrats are absent from the equation. As much as this could be seen as a limitation, admittedly there was no involvement by officials other than those on the management level within one particular directorate, the SPD. I propose that in this case it would have been fruitless to interview countless street level bureaucrats about this initiative if these officials were not involved in the process.

VI ETHICS

The Centre submitted an ethics proposal in lieu of the commissioned report. In this proposal, it was explicitly stated that the data obtained would be given to me to enable me to write my master's thesis. Since sensitive information was handled, it was important to guarantee to those officials involved that the information would not be shared. We did so by providing them with a consent form and explanation of the research project where we promised to keep the information provided confidential. The ethics committee approved this standardised form, which we asked each official

to sign prior to conducting the interview. Before proceeding with the interview, we asked each official whether they agreed to the interview being recorded.

In this case, however, no vulnerable persons were involved as all the interviewees were experienced and educated. The interviews were conducted so that the story of the SWHB could be told from the perspectives of all the important players involved in the process. Of particular importance, was ensuring anonymity of the interviewees. I followed this by numbering the interviews. During the interviews, if wanting to mention an issue raised previously by a different official we would simply propose a certain take without divulging whose take this was. This helped in ensuring that no rifts were caused since those people interviewed were all colleagues.

VII CONCLUSION

There are various aspects to the methods of a research project. Relaying these various aspects is pertinent in contextualising my research. Although the design of a case study was determined for me by virtue of the research design used in the Centre's study commissioned by the CCT, it was a suitable one for this research project. All the sources made up a wealth of knowledge, information and insights allowing for the writing of several theses. This made the task of sifting through vast amounts of information both interesting and daunting. The hypothesis was deduced from engaging literature in combination with empirical data. This hypothesis and research question allowed me to focus on the complexities involved in the process. Additionally, both gave me the room to concentrate on the complexities of implementation, governance and power.

DISSECTING THE GREEN BULLS: NODALLY SPEAKING

I INTRODUCTION

There is no better place to start than with the main player or driver of an initiative. In this case, it is the ERMD or the 'green bulls'. Using nodal governance as a framework, I shall explore the ERMD's mentalities, followed by their technologies, and then briefly examine the issue of resources they use in governing. In order to understand these characteristics of this node I shall use theories on implementation, networked governance and power. Understanding their characteristic features will shed light on their actions within the SWHB process. Ultimately, reaching sub-conclusions on this node will help in shedding light on the hypothesis I have reached and will aid in answering the research question posed. In addition, discussing the various nodes in which this node finds itself in the chapter, *infra*, which deals with networks, will aid in understanding the node at hand better.

II MENTALITIES

The first characteristic to be explored is the mentalities that the ERMD have. Mentalities, in the construction Burris et al give, are ways of thinking about that which one governs.¹ It is the ERMD's ways of thinking about governing, and in particular governing energy efficiency initiatives and climate change, in the CCT that must be explored. There are a number of elements to the mentalities that the ERMD hold regarding governing: their activist approach to matters, their top-down conception of power relations and their top-down conception of governance itself. I shall draw on the various theories explored from implementation theory, to network governance theories, to theories on power and enrolment, in order to understand the ERMD's mentalities.

The ERMD have a tendency to take an activist approach to matters. This can be observed through their urgency. In turn, their urgency can be observed from their emphasis on 'quick wins',² preference for working with people who 'go, go, go',³ and use of international best practice or learning contexts.⁴ They often refer to international

¹ S Burris S, P Drahos and C Shearing 'Nodal governance' (2005) 30 Australian journal of legal philosophy 30 at 37.

² Interviewee 5.

³ Interviewees 8.

⁴ Interviewees 2, 3, 4, 5, 10; ERMD 'Draft Strategic Focus Area 3: Energy Efficiency for a Sustainable Future' (dated 13 March 2008); Minutes to meeting of the Energy Committee (dated 23

research in undertaking initiatives.⁵ Ready-made international solutions are a quick means to reach one's goals after all. The by-law was meant to be a means of achieving a drop in energy consumption in a short space of time, yet it has not been passed to this day.⁶ Numerous examples in interviews and targets set out in reports demonstrated the urgency with which this department works.⁷ In addition, their close relationship with SEA hints at this 'activist' tendency and interviewees from both departments observed this.⁸ Insiders found this to be a problem, with one stating 'how we sell the sustainability package to people needs to move away from the environmental activist kind of thing'.⁹ In fact, contrary to the ERMD officials' view, the PBDMD official asserts that activists have an important role to play:¹⁰

'My experience with the environmental department: they come more from an activist, philosophical approach...It's not a bad thing to be an activist. You need to understand when you come into a bureaucracy you need to understand as an activist 'how can I manipulate the system to my benefit?''¹¹

The dominant attitude in the department is that the SWHB implementation process is a no-brainer.¹² Essentially, it would be a law that would be both quick and easy to implement in the eyes of these officials. Despite the various criticisms of policy implementation theories, the first generation theories brought to the fore the fact that policy implementation is no easy task.¹³ Even the simplest of tasks can be complex to implement.¹⁴ Problems, however, generally only arise in cases where the initiative is new or goes against the grain of what is already entrenched.¹⁵ The ERMD have little appreciation for such complexities. They assume that implementation should proceed

October 2008); M Gosling 'Building by-law to be drafted: Compulsory solar heating mooted for Cape Town' *Cape Times* (dated 6 March 2006).

⁵ Interviewee 2, 3; ERMD 'Solar Water Heater Report to Energy Committee' submitted to the Energy Committee (October 2008) 3.

⁶ Interviewees 1, 3, 4, 5.

⁷ Interviewees 2, 3, 5, 10; CCT (2006) 'The Cape Town Energy and Climate Change Strategy' 2ed.; SEA 'Draft Report on Cape Town's Solar Water Heater By-law: Stakeholder Awareness and Participation Process' (15 June 2007) 2.

⁸ Interviewees 2, 4, 7, 9.

⁹ Interviewee 2.

¹⁰ Interviewees 4, 7, 10.

¹¹ Interviewee 7.

¹² Interviewees 2, 3, 4, 5.

¹³ JL Pressman and A Wildavsky (1973) *Implementation* xxi.

¹⁴ ER Alexander 'Improbable Implementation: The Pressman-Wildavsky Paradox Revisited' (1989) 9 (4) *Journal of public policy* 451 at 452.

¹⁵ DS Van Meter and CE Van Horn 'The policy implementation process: a conceptual framework' (1975) 6 (4) *Administration and society* 445 at 471-472.

promptly and effectively once passed into law.¹⁶ The SWHB was a ready-made solution to energy efficiency problems in the eyes of those in the ERMD.¹⁷ It was a tool used in another country. Top-down implementation theorists point out and the PBDMD stress that context is, however, an important factor to consider when drafting a policy.¹⁸

Really in relation to context the theory limits itself to making injunctions that policy makers should consider political, social and economic contexts.¹⁹ Brynard points out that although the broader context is significant, it is the institutional context that has the greatest effect on the implementation process.²⁰ Although considering factors such as relations between those in the organisation is significant,²¹ it does not go far enough. Nonetheless, implicit in the implementation theorists' injunction to consider context is that a policy cannot simply be implanted from one context to another.²² The fact that the SWHB is based substantially on the Barcelona Solar Heating Ordinance and that Danish experts were used to draft this by-law, is greatly problematic for the PBDMD,²³ though in the eyes of those in the ERMD, this fact was a strong point of the SWHB.²⁴ The fact that a foreign mechanism is used to inspire an initiative arguably need not be problematic, as long as context were sufficiently considered in drafting the by-law.

Context includes considerations of the applicability of research and instruments, in this instance SWHBs, in a particular setting. In other words, context is also about consideration of whether a particular technology, which may or may not have been used elsewhere, will have the potential to yield the results which justify using it. Sabatier and Mazmanian in fact highlight the importance of considering whether requisite technologies –in the ordinary sense of the word– exist in reaching the aims set out.²⁵ They do not, however, discuss the issue of whether a technology, which worked in one context, can be imported to another. Again, it should be stressed that learning from

¹⁶ Interviewees 2, 3, 4, 5.

¹⁷ *Ibid.*

¹⁸ P Sabatier and D Mazmanian 'The implementation of public policy: a framework of analysis' (1980) 8 (4) *Policy studies journal* 539 at 5; Van Meter (note 15) 471-472.

¹⁹ LJ O'Toole 'Policy recommendations for multi-actor implementation: an assessment of the field' (1986) 6 (2) *Journal of public policy* 181 at 202.

²⁰ P Brynard 'Policy implementation: lessons for service delivery' (2005) 40 (4) 1 *Journal of public administration* 649 at 659.

²¹ *Ibid.*

²² Sabatier (note 18); Van Meter (note 15); Brynard (note 20).

²³ Interviewees 3, 5, 6, 7, 8, 9; ERMD 'Report to City Manager' (dated 2008) 1; ERMD 'Solar Water Heater Report to Energy Committee' submitted to the Energy Committee (October 2008) 3; Minutes to meeting of the Energy Committee (dated 23 October 2008).

²⁴ Interviewees 1, 2, 3, 4, 5.

²⁵ Sabatier (note 18) 543.

another jurisdiction is not bad as long as one qualifies in light of the context within which one is working. Implanting an initiative from another jurisdiction and using foreign experts not familiar with the context within which the initiative is passed, however, can be problematic as evidenced with this SWHB. The importance of context in this regard is demonstrated by the example of the pilot project inspired by policy initiatives elsewhere, initiated by the ERMD:

‘A few years ago, we convinced the Electricity Department to go with street lighting, using energy efficient bulbs and we’d done the research and we’d given them everything... We’d given them Australian research, US research and Indian research. They listened to us and luckily they said they’d do a pilot project in the Strand. All the globes, all of them, went within three days. It’s too wet. It’s too windy. So, there is (*sic*) some realities.’²⁶

As a PBDMD official stated in a quote *supra*, being an activist or champion for a cause within a bureaucracy need not be a bad thing, as the trick is to be strategic.²⁷ In fact, the ERMD seem to take this approach, because their passion for sustainability issues drives them. The councillor commented on the ERMD, saying: ‘the environmentalists they are very passionate people and they will forever... I don’t want them to change, because if they change, we won’t have the Cape Town that we do have.’²⁸ Like the PBDMD, *supra*, her concern is that their actions are often impulsive rather than strategic as a result of being as passionate.²⁹ This leads to consideration of the proposal that the ERMD had for pushing the SWHB initiative forward or the ERMD’s ‘strategy’ for the SWHB. One official explains that the ‘top’ is able to harness resources, from human to financial, necessary for initiatives to be implemented.³⁰ In line with this, the ERMD argue that the SWHB matter could have been resolved thus:³¹

‘In this process both ERMD and PBDMD should have been given the opportunity to state their views, facts and concerns regarding the by-law. These views, facts and concerns should then have been taken higher up to EMT,³² Portfolio Committees and Council along with the

²⁶ Interviewee 10.

²⁷ Interviewee 7.

²⁸ Interviewee 10.

²⁹ Ibid.

³⁰ Interviewee 2.

³¹ Interviewees 1, 2, 3, 4, 5.

³² Abbreviation for the Executive Management Team.

by-law, put on the table and a decision made.’³³

The Executive Management Team or EMT, Portfolio Committees and Council are various nodes within the political level of the CCT. In resolving the stalemate situation in the SWHB, their proposal was for the ‘top’ to make a decision. Essentially, this reveals a construction of power in the Weberian form.³⁴ Top-down configurations of power may still be significant, but power is also dispersed.³⁵ This is in line with Foucault’s qualification that power is from everywhere, but is not always exercised.³⁶ Ultimately, power is the action of enrolment.³⁷ The ERMD’s perspective demonstrates an appreciation for only top-down, authoritarian understanding of how power-relations are constructed. They do not seem to acknowledge that any alternative power constructions exist.³⁸ After all, the political level is the decision-making or top level in the CCT and would enforce their decision from the top on the matter at hand.³⁹ The councillor disagrees with this proposal.⁴⁰ To her, the ERMD, as green activists, would argue for the philosophy behind the initiative, whereas the PBDMD would present the technical considerations.⁴¹ She asserts that the two cannot be compared and the politicians do not have the technical know-how that most bureaucrats, like the PBDMD, do.⁴²

The ERMD place themselves within Westphalian understandings of governance and Weberian conceptions of power.⁴³ Behind this assertion is, in the event that the politicians were to decide in favour of the SWHB, that the PBDMD would comply. This

³³ Interviewee 2; Email response to the Centre’s draft report on the by-law from ERMD (dated 20 January 2011).

³⁴ S Whimster (2007) *Understanding Weber* 226; RP Cuzzort and EW King (1980) *20th century social thought* 87.

³⁵ RAW Rhodes ‘Decentering British governance: from bureaucracy to networks’ (2001) *eScholarship University of California Berkeley* 4.

³⁶ M Foucault ‘The subject and power’ 8 (4) *Critical inquiry* 777 at 790; C Gordon ‘Governmental rationality: an introduction’ (1991) in G Burchell, C Gordon and P Miller (eds) *The Foucault effect: studies in governmentality* 1 at 5.

³⁷ B Latour ‘The power of association’ in J Law (ed) (1986) *Power, and action and belief: a new sociology of knowledge* 264.

³⁸ Sabatier (note 18) 551-552; Van Meter (note 15) 446-447.

³⁹ See ‘City Management Organogram’ accessed at www.capetown.gov.za/management/cct_management_structure_feb_2010.pdf (accessed on 15 October 2010).

⁴⁰ Interviewee 10.

⁴¹ *Ibid.*

⁴² *Ibid.*

⁴³ T Hobbes *Leviathan* (1985: 1651) 1; C Shearing ‘Reflections on the refusal to acknowledge private governments’ (2006) Wood J and Dupont B (eds) *Democracy, society and the governance of security* 11 at 19.

perception that the ERMD holds is echoed in their insistence that the executive director of the SPD should have made a decision on behalf of the whole directorate.⁴⁴ The executive director of the SPD neither made a decision on the by-law nor suggested any form of resolution.⁴⁵ An ERMD describes it thus:

‘What he’s doing, he’s not making -and again it’s not personal- he’s not making that decision. He’s allowing the two departments to throw hammers and tongs at each other and he is abdicating from that decision.’⁴⁶

The assumption in these examples is that it is only the top level, which holds power in the Westphalian sense,⁴⁷ albeit at the pinnacle point of the local government. Power as Weber would have it is, after all, the ability to impose ones’ own will on others despite their resistance to it.⁴⁸ Also, in line with the Weberian constructions of ‘bureaucratic power’, the political level is assumed to possess the power because of the office that they hold.⁴⁹ The ERMD’s mentalities of the governance and power thus fit mainstream understandings. Parson criticises Weber’s perspective, finding instead two sources of authority: authority through office and authority through professional or technical knowledge.⁵⁰ Those with technical expertise also have authority on the basis of their knowledge within their professional capacity alone.⁵¹ The ERMD seemingly miss the point that the planners hold power in their own area of expertise. This area of expertise is that area which the SWHB would affect if passed.

This apparent blindness to alternative configurations is revealing especially since officials in the ERMD acknowledge that often officials do not obey the politicians’ injunctions.⁵² An ERMD said in frustration:

‘It’s quite interesting that the politicians even though they are supposed to be running things can’t push city officials to do things... If the politicians say, “It’s blue!” and the officials are saying, “No, its green”. Then, you know, how do the politicians deal with

⁴⁴ Interviewees 1, 2, 3, 4, 5.

⁴⁵ *Ibid.*

⁴⁶ Interviewee 2.

⁴⁷ Hobbes *Leviathan* (note 43); P Sabatier ‘Top-down and bottom-up approaches to implementation research: a critical analysis and suggested synthesis’ (1986) 6 (1) *Journal of public policy* 21 at 25.

⁴⁸ Whimster (note 34) 226.

⁴⁹ Cuzzort (note 34) 87.

⁵⁰ T Parsons ‘Introduction’ (1947) in M Weber *The theory of economic and social organization* 3 at 47; T Parsons ‘The professions and social structure’ (1939) 17 (4) *Social forces* 457; M Waters ‘Collegiality, bureaucratization, professionalization: a Weberian analysis’ (1989) 94 (5) *Journal of sociology* 945 at 949.

⁵¹ T Parsons ‘The professions and social structure’ (1939) 17 (4) *Social forces* 457.

⁵² Interviewees 3, 4.

that?’⁵³

This finding flies in the face of the implication made that the politicians could direct the PBDMD officials otherwise. The ERMD’s attempt at enrolling the PBDMD consisted simply of identifying the PBDMD as implementers. There was insufficient depth in the ERMD’s attempt to enrol the PBDMD. These officials admit that they do not see a problem with implementing this initiative.⁵⁴ Like with Parson’s criticism of Weber, the ERMD did not fully realise the power in the technical knowledge that the PBDMD possess. Parson’s observation adds to the Foucauldian notion that power is not static,⁵⁵ albeit simply that Parson extends authority to beyond simply lying with an office but professions too. Instead, as Latour elaborates, power is the ability to enrol other actors to act in accordance with one’s wishes.⁵⁶ The ERMD need to concentrate on ways in which they could successfully enrol others, like the PBDMD.

Power is not decided by what is written in statutes, rather it is the ability to make free agents act freely in a manner that fulfils one’s own aims.⁵⁷ Black points out that enrolment need not be successful as the distribution of power between actors ultimately determines who enrolls and who is enrolled.⁵⁸ The ERMD failed successfully to enrol the PBDMD and could potentially have done so. As the PBDMD suggest, a means to do this could and should have been to consult with the PBDMD about the best potential means for achieving the aims.⁵⁹ The ERMD should have done this before embarking on and selecting any particular mechanism.⁶⁰ As the unfolding of events suggests, in this context, resorting to Weberian understandings of power and governance was both conceptually flawed and fruitless.

Latour points out two kinds of entities: mediators and intermediaries.⁶¹ These concepts will be useful to apply in understanding the perceptions that the ERMD hold of the PBDMD in relation to the SWHB process in contrast to the actual role taken on by the PBDMD. Intermediaries simply act in predicted manners replicating the expected

⁵³ Interviewee 3.

⁵⁴ Interviewees 1, 2, 3, 4, 5.

⁵⁵ Foucault (note 36).

⁵⁶ Latour (note 37) 264.

⁵⁷ Gordon (note 36) 5.

⁵⁸ J Black ‘Legitimacy and the competition for regulatory share’ LSE Law, society and economy working papers (14/2009) Law Faculty of London School of Economics and Political Science.

⁵⁹ Interviewees 6, 7, 9.

⁶⁰ *Ibid.*

⁶¹ B Latour (2007) *Reassembling the social*.

output of an input.⁶² In contrast, mediators change the input in that their responses are more complex and unpredictable than that of intermediaries.⁶³ In the case of the ERMD's actions in the SWHB initiative, they clearly saw the PBDMD simply as the intermediaries. They had anticipated that the PBDMD would simply implement the SWHB.⁶⁴ The ERMD was surprised that there was no immediate acceptance of the by-law, stating:

'It's a no-brainer the solar water heater actually, so the kind of level of resistance was just absurd, so one can expose absurdity with it.'⁶⁵

In making a remark such as this one, it becomes apparent that the ERMD did not fully realise the power held by the PBDMD in their technical know-how, as Parson would argue the PBDMD have as professional planners.⁶⁶ The ERMD gave little acknowledgement to the technical expertise of the PBDMD in their concerns regarding the SWHB. The ERMD thus did not fully realise the PBDMD's ability to contribute to the process. In other words, the ERMD did not see the PBDMD as mediators who are able to contribute to the process.⁶⁷ They did not see the PBDMD as having their own unpredictable, complex reactions to the initiative.

Consistent with their activist approach discussed earlier, the ERMD construct their relationships with others in the CCT as antagonistic and do so particularly in relation to the PBDMD.⁶⁸ The report the Centre was commissioned to write had to focus on the 'barriers to implementation' of the SWHB.⁶⁹ This perception is aggravated by name-calling with the ERMD being labelled 'tree-huggers', 'greenies' and 'bunny-huggers'.⁷⁰ The ERMD thus tend to see an 'them' and us' construction in relating with other departments, especially with the PBDMD.⁷¹ They go so far as to say that the biggest obstacle they face in progressing with the SWHB is the PBDMD.⁷² The ERMD officials

⁶² *Ibid.*

⁶³ *Ibid.*

⁶⁴ Interviewees 2, 3, 4, 5, 6, 7, 8, 9.

⁶⁵ Interviewee 3.

⁶⁶ Parsons (note 32).

⁶⁷ Interviewees 6, 7, 9.

⁶⁸ Interviewees 1, 2, 3, 4, 5.

⁶⁹ ERMD 'Terms of reference expressed as a report architecture: achieving a climate resilient and low carbon city: a governance framework for the City of Cape Town' *Organizational arrangements as institutional facilitators and blockers* (April 2010).

⁷⁰ Interviewees 1, 2, 3, 4.

⁷¹ *Ibid.*

⁷² Interviewee 3.

either see their department as the only one that sees sustainability as important,⁷³ or as the only one willing to drive it.⁷⁴ Both views are compatible with the idea of being lone heroes in the CCT for the environmental cause and being surrounded by barriers.⁷⁵ After all, those concerned with climate change action give much focus in the literature to means through which barriers can be converted into opportunities.⁷⁶

A suggested solution in both the literature,⁷⁷ and proposed by the ERMD officials,⁷⁸ is to create a higher-ranked environmental node in the city. The ERMD would ideally like the environmental portfolio to be a directorate rather than simply a department allowing them to harness greater power.⁷⁹ This suggestion also highlights the importance ERMD officials' place on top-down configurations of power. Although the creation the Energy Committee could represent an attempt to shift forums and thus reconfigure power relations, it was not such an instance.⁸⁰ The Energy Committee consists of several politicians, including the head of PEPCO along with one ERMD official, and this committee advises the Mayor directly.⁸¹ The ERMD did not fully realise the potential power that this forum holds.⁸² Their suggestion to push the SWHB up to PEPCO, the political leadership for the SPD, for the politicians to make a decision, does reveal an understanding of power in the Weberian sense alone.⁸³ Despite the evidence that top-down constructions of power are not suitable to every situation, they do not sufficiently grasp this. In other words, they seem not to understand power in the Foucauldian sense as dispersed and to understand that the PBDMD hold their own power in this equation.⁸⁴

⁷³ Interviewees 1, 3, 5.

⁷⁴ Interviewees 2, 3.

⁷⁵ Interviewees 1, 2, 3, 4, 5.

⁷⁶ PJ Robinson and CD Gore 'Barriers to Canadian municipal response to climate change' (2005) 14 (1) *Canadian journal of urban research* 102; S Burch 'In pursuit of resilient, low carbon communities: An examination of barriers to action in three Canadian cities' (2009) *Energy policy* 1; S Burch 'Transforming barriers into enablers of action on climate change: Insights from three municipal case studies in British Columbia, Canada' (2010) 20 *Global environmental change* 287; M Betsill 'Mitigating Climate Change in US Cities: opportunities and obstacles' (2001) 6 (4) *Local environment* 393.

⁷⁷ S Burch 'Transforming barriers into enablers of action on climate change: Insights from three municipal case studies in British Columbia, Canada' (2010) 20 *Global environmental change* 287 at 293.

⁷⁸ Interviewees 1, 2, 3, 5.

⁷⁹ Interviewee 1, 2, 3.

⁸⁰ P Drahos 'Securing the future of intellectual property: intellectual property owners and their nodally coordinated enforcement pyramid' (2004) 36 *Case Western Reserve journal of international law* 53 at 55.

⁸¹ ERMD 'Report on Council mandates and structures for SFA 3 Energy for a sustainable future' (2008).

⁸² Interviewee 10.

⁸³ Whimster (note 34); Cuzzort (note 34).

⁸⁴ Foucault (note 36).

The ERMD have been extensively involved in the national process of amending the National Building Regulations (NBR),⁸⁵ because it has substantially the same effect as the Energy Efficient Water Heating by-law.⁸⁶ In fact, as the champion for energy efficiency makes clear, they were not only involved but:

‘So, while pushing for a SWHB, we were also pushing for changes to the national building regulations in case the bylaw...Well, either the bylaw was going to work and then others would be agreeable to implement the bylaw or it should become part of national policies that all new build should have solar water heaters.’⁸⁷

The process has been more open allowing input from all interested parties from an early stage and both the PBDMD and the ERMD have taken full advantage of this.⁸⁸ As the ERMD see matters, the PBDMD may as well support the by-law as they are going to have to do the same thing once the national standards are amended.⁸⁹ In pushing for the same issue in two forums simultaneously, the ERMD made use of the technique of forum shifting. They did this to ensure that if the SWHB did not succeed, there would be another means to push the same agenda.⁹⁰ This fits the classic definition of this method of power as moving an agenda from a forum where resistance is experienced to one where a node is more likely to succeed with the same initiative.⁹¹ In addition, it is a matter of trying to get the same initiative to a forum that has greater implementing powers, namely the national government Department of Trade and Industry (DTI).⁹² Making this move shows more clearly that this node holds mentalities that top-down approaches to governing are ideal. In this instance, it fits more neatly with Westphalian understandings, as the forum to which the agenda is shifted is the central government.⁹³

Interestingly, their strong knit relationship with SEA demonstrates something different to what other actions and comments have revealed. The relationship seems to be that of mutual enrolment between the two nodes in the sense conceived of by Latour.⁹⁴ Although arguably, the enroller is determined from the perspective from

⁸⁵ Interviewee 3, 4, 5, 6, 7, 9, 10; National Building Regulations and Building Standards Act 103 of 1977.

⁸⁶ *Ibid.*

⁸⁷ Interviewee 3.

⁸⁸ Interviewees 3, 4, 5, 6, 7, 9, 10.

⁸⁹ Interviewees 3, 4, 5.

⁹⁰ Interviewee 3.

⁹¹ Drahos (note 22).

⁹² *Ibid.*

⁹³ Hobbes (note 43); B Bekink (2006) *Principles of South African local government law* 23-24.

⁹⁴ Latour (note 37) 268.

which one looks as Black emphasises.⁹⁵ Power is dispersed and in this example the relationship seems to be characterised by trust fitting with Rhodes' characteristic features of networks.⁹⁶ The SEED collaboration has seen energy efficiency initiatives in the CCT successfully through implementation.⁹⁷ These nodes seem to have collaborated in a co-ordinated and stable manner forming an integrated network based on trust in the context of one particular issue at least. I shall return to this later when discussing the network formed in greater depth. I shall turn now to consider the ERMD's characteristic methods for exerting control.

III TECHNOLOGIES

In nodal governance, technology is not used in the conventional sense. Instead, it is used to refer to those 'sets of methods for exerting influence over the course of events at issue'.⁹⁸ In this section, I shall be comparing the by-law to the other policy initiatives that the ERMD have undertaken to expand the understanding of the kinds of technologies that this department uses. Rose and Miller, who inspired the use of the term in the context of governance theories in this manner,⁹⁹ conceive of technologies as the mechanisms or strategies, techniques and procedures through which actors attempt to govern.¹⁰⁰

The PBDMD perceive that the ERMD prefer to use legislation to do this.¹⁰¹ There is not much evidence other than the initiation of this by-law to support the claim. Of great concern to the PBDMD with using a by-law mechanism is the harsh consequence of criminal conviction and liability to payment of a fine for failure to comply with it.¹⁰² For the ERMD, a by-law made most sense, as it would have the effect of increasing the demand for SWHs.¹⁰³ The ERMD vehemently deny giving preference for any particular

⁹⁵ J Black 'Enrolling actors in regulatory systems: examples from UK financial services' (2003) *Public law* 63 at 85-86.

⁹⁶ RAW Rhodes (1997) *Understanding governance: policy networks, governance, reflexivity and accountability*.

⁹⁷ http://www.sustainable.org.za/index.php?option=com_content&view=article&id=6%3Asustainable-energy-for-environment-and-development-seed&catid=15%3Aarchived-projects&Itemid=3 (accessed on 24 July 2011).

⁹⁸ Burris (note 1) 37.

⁹⁹ J Black 'Mapping the contours of contemporary financial services regulation' (2002) 2 *Journal of corporate law studies* 253.

¹⁰⁰ N Rose and P Miller 'Political power beyond the state: problematics of government' (1992) 43 (2) *The British journal of sociology* 173 at 183.

¹⁰¹ Interviewees 6, 7, 9.

¹⁰² Interviewee 6.

¹⁰³ Interviewee 3; SEA 'Draft Report on Cape Town's Solar Water Heater By-law: Stakeholder Awareness and Participation Process' (15 June 2007) 9.

mechanism and claim to be open to using the appropriate means available to achieve goals.¹⁰⁴ These included a number of the following:

‘[I]n fact we have only ever implemented one by-law (outdoor signage) and developed a host of policy’s (*sic*) (IMEP, Beach Cleaning, Whale Stranding etc.), a number of council strategies (biodiversity, coastal, energy, Education (*sic*) and training, heritage etc.), a number of management plans, Environmental Management Frameworks EMF’s (*sic*), communication tools, stewardship programmes etc.’¹⁰⁵

With regard to energy efficiency initiatives, they have used methods targeting the municipal fleet or CCT buildings with retrofit programmes.¹⁰⁶ In addition, they attempted to promote the use of SWHs in another way: a bulk rollout retrofit programme where the CCT would work in collaboration with a SWH installation company. This would entail the company installing the SWH on a residential home on credit and the CCT would collect the paybacks from the resident through the ratepayer system on behalf of the company.¹⁰⁷ This process never reached fruition either. What these various projects demonstrate, however, are that the ERMD are willing to use many and varying technologies to reach their aims. This openness to using methods other than legal ones displays a willingness to consider alternative configurations of power and governance.

The SWHB itself has the consequence of criminal sanction in the event of failure to comply with it. It thus harks back to the state as the Hobbesian Leviathan using a command-and-control tool.¹⁰⁸ The retrofit mechanism, with which the ERMD toyed, demonstrates less abrasive and more collaborative understanding of governance and dispersed understanding of power.¹⁰⁹ It fits in with Foucault’s idea of power being about free actors freely acting in line with the will of others,¹¹⁰ in configurations of power as a strategic game.¹¹¹ Ultimately this hints at a networked understanding of governance,

¹⁰⁴ Interviewees 2, 3, 4, 5. Email response to the Centre’s draft report on the by-law from ERMD (dated 20 January 2011).

¹⁰⁵ Email response (note 99).

¹⁰⁶ Interviewee 4.

¹⁰⁷ *Ibid.*

¹⁰⁸ Shearing (note 43)19.

¹⁰⁹ Interviewees 3, 4.

¹¹⁰ Gordon (note 36). See the compatible understanding in M Bevir and RAW Rhodes ‘The differentiated polity as narrative’ (2008) 10 *British journal of politics and international relations* 729 at 731.

¹¹¹ *Ibid.*

where relations are characterised by resource-exchange in Rhodes construction of the policy network.¹¹²

The retrofit programme hints at a networked understanding of governance through splitting the responsibility of administering the initiative between the state and non-state actors. This networked perspective and retrofit initiative is grounded in dispersed understandings of power.¹¹³ In this situation, the companies involved would provide the SABS approved SWHs and installers; and the CCT would provide endorsement of the companies' service, the billing system and access to reliable ratepayers.¹¹⁴ Although this initiative, like the by-law, never reached the implementation stage,¹¹⁵ the fact that the ERMD attempted an initiative of this kind stands in contrast to the fact that they attempted the SWHB initiative.

The question then arises: if the ERMD have a wide repertoire of tools to reach their aims, the reason why they chose a by-law mechanism to reach their aims and did not explore various alternatives, is a puzzle. In answer to this, there are three potential explanations. Firstly, it is arguable that the fact that the environmentalist network in which the ERMD fall, discussed, *infra*, influenced this choice. This network ERMD provided funds as well as expert help from Danish experts to draft the policy.¹¹⁶ The second reason was potentially the desire for a quick solution.¹¹⁷ The SWHB represented just that for the ERMD.¹¹⁸ The bylaw was a ready-made solution to the energy efficiency problem, as the ERMD relied on the Barcelona Solar Heating Ordinance.¹¹⁹ Finally, the SWHB was a means to drive the demand for SWHs up and thus the price down, according to the ERMD.¹²⁰ From this perspective, a legal mechanism would ensure the price decrease.

¹¹² Rhodes (note 96) 37.

¹¹³ M Bevir and RAW Rhodes 'The differentiated polity as narrative' (2008) 10 *British journal of politics and international relations* 729 at 731.

¹¹⁴ Interviewee 4.

¹¹⁵ *Ibid.*

¹¹⁶ Interviewees 3, 5, 6, 7, 8, 9; ERMD 'Report to City Manager' (dated 2008) 1; ERMD 'Solar Water Heater Report to Energy Committee' submitted to the Energy Committee (October 2008) 3; Minutes to meeting of the Energy Committee (dated 23 October 2008).

¹¹⁷ Interviewees 1, 2, 3, 4, 5.

¹¹⁸ *Ibid.*

¹¹⁹ ERMD 'Report to City Manager' (dated 2008) 1; ERMD 'Solar Water Heater Report to Energy Committee' submitted to the Energy Committee (October 2008) 3; Minutes to meeting of the Energy Committee (dated 23 October 2008).

¹²⁰ Interviewee 3.

Another technology of governance to be considered is mandates. Mandates posed a problem in the by-law process. It is the legal basis on which municipalities make by-laws.¹²¹ Despite the fact that initially the mandate issue presented an obstacle, with the aid of a legal adviser and endorsement of this adviser's opinion by the legal department, it was turned around and a mandate was found on which the SWHB could rest.¹²² Since the SWHB mandate concern, 'the response regularly is: "Environment doesn't have a mandate. You're not a local government function. It's a provincial and national government function".'¹²³ Mandates are essentially a means of setting parameters on the areas in which the various spheres of the state can make laws or technologies.¹²⁴

The legal opinion written by a legal expert on local government laws was the tool that turned around the mandate issue that was faced in the SWHB process.¹²⁵ The LSD required this of the ERMD and the ERMD complied.¹²⁶ It is arguable therefore that the LSD enrolled the ERMD to act according to its wishes. The opposite is arguable too, as the ERMD arguably enrolled the LSD. The ERMD arguably enrolled the LSD to aid it with the SWHB. The ERMD required that the LSD both endorse the opinion and redraft the by-law to reflect the change the opinion had proposed.¹²⁷ The identity of the enroller and the enrolled is not fixed in Black's configuration of enrolment, as it is ultimately a matter of perspective.¹²⁸ The opinion exerted enough influence for the SWHB to be recognised as legally acceptable, but that was simply for one leg of the race.

Another technology to consider is the scorecard, which is the rating system that municipalities use to assess the performance of officials that are considered part of management.¹²⁹ The political level uses it to hold administrators to account.¹³⁰ These set out the official's goals and targets.¹³¹ Failure to meet these, results in the forfeiture of an official's bonus.¹³² Some in the ERMD note that scorecards are not streamlined within

¹²¹ J De Visser 'In re: City of Cape Town's Proposed Solar Water Heating By-law' (June 2007).

¹²² Interviewees 3, 5; J De Visser (note 121).

¹²³ Interviewee 5.

¹²⁴ Bekink (note 93).

¹²⁵ Endorsement Letter from LSD addressed to ERMD presented as Annexure B Energy Committee Agenda Volume 2 (2008) 16.

¹²⁶ ERMD 'Draft Strategic Focus Area 3: Energy Efficiency for a Sustainable Future' (dated 13 March 2008); Minutes to meeting of the Energy Committee (dated 23 October 2008).

¹²⁷ Interviewee 1.

¹²⁸ J Black (note 95).

¹²⁹ Interviewees 1, 2, 3, 4, 5, 6, 7, 9.

¹³⁰ Interviewee 1.

¹³¹ Interviewees 1, 3, 4, 5.

¹³² *Ibid.*

or between the departments, aggravating the failure to co-ordinate.¹³³ This is aptly demonstrated by a PBDMD official's response to the by-law, saying 'if your scorecard says you must produce this by-law I would say, "So what? I've got my own scorecard"'.¹³⁴ Incorporating the eight strategic imperatives into the scorecards of all officials, as far as relevant, is suggested as a means to overcome both issues of silos within the CCT and issues of streamlining.¹³⁵ However, the law already mandates the incorporation of IDP strategic focus areas into scorecards.¹³⁶

As aforementioned, the scorecard is the tool used in local governments as a mechanism to hold officials to account.¹³⁷ The ERMD's proposal to ensure that the scorecards are streamlined using the strategic focus areas in the IDP may just be the solution to the co-ordination problems in this bureaucratic context.¹³⁸ What this suggestion does show is that the ERMD are strongly vested in reliance on hard mechanisms.¹³⁹ A softer mechanism would be collaboration through the nurturing of relationships of trust, which is another one of the many possible technologies of governance.¹⁴⁰ This thus demonstrates that the ERMD have a narrow understanding of potential technologies available in governance configurations, making use of mainly mainstream, common-and-control mechanisms to exert influence.¹⁴¹ The SWHB, the legal opinion and this proposal regarding the scorecards are evidence of this. This quote shows this tendency quite clearly:

'...[W]e as humans, and as institutions don't like change...and that change is going to be a little bit uncomfortable...But if you get that law through, people will adjust to it. They will shift and change and over a period of time it will not be an issue anymore. They will [for example] drive smaller cars and they'd actually find that it would be fine.'

¹³³ Interviewees 1, 3, 6.

¹³⁴ Interviewee 6.

¹³⁵ Interviewees 1, 4, 6.

¹³⁶ Local government: municipal performance regulations for municipal managers and managers directly accountable to the municipal manager GNR805 GG 29089 of 1 August 2006 reg 23(2).

¹³⁷ The Local Government: Municipal Systems Act 32 of 2000 s 57(1)(b), (2), (4A), (4B) and (5); Local government: municipal performance regulations for municipal managers and managers directly accountable to the municipal manager GNR805 GG 29089 of 1 August 2006 Chapter 3.

¹³⁸ Interviewees 4, 5.

¹³⁹ C Shearing and L Johnston (2003) *Governing security: explorations in policing and justice* 28.

¹⁴⁰ *Ibid*; C Shearing and M Kempa 'A museum of hope: a story of Robben Island' (2004) 62 *Annals of the American academy of political and social science* 592.

¹⁴¹ Shearing (note 139) 28.

It should be noted that the ERMD do call for bottom-up influence in the negotiations regarding the scorecards of senior officials.¹⁴² This could aid in streamlining efforts between those working within the same department or directorate according to the ERMD. In arguing this, the ERMD officials had in mind that, had the SWHB been on the executive directors' scorecard it may in all likelihood, have been passed and in effect today.¹⁴³ Although again an example of a hard mechanism to ensure co-ordination,¹⁴⁴ this bottom-up influence does, to some extent, contest typical Westphalian understandings of power as the sole potential configuration and hints at a more dispersed understanding of power relationships. It contests mainstream understandings by conceiving of situations where officials lower down in the ranks have some influence in deciding on those activities which top officials are expected to fulfil. Arguably, this conception is still steeped in understandings of power and influence that bottom-up proponents to policy implementation contest. Elmore, in the context of implementation theory, criticises top-downers for assuming that those on top '*control organizational, political, and technological [processes] that affect implementation [emphasis in the original]*'.¹⁴⁵ This is the assumption underlying this suggestion made by the ERMD.

Thus far, it seems evident that the ERMD predominantly hold views of governance and power in conventional terms. Although bureaucratic or Westphalian forms of governance and power are still significant,¹⁴⁶ it is not the sole configuration. There is evidence that their understanding embraces new governance perspectives as well. In terms of sources of resources, there is a hint that this nodes' perspective includes an alternative understanding.

IV RESOURCES

In terms of nodal governance analysis, resources are those things that support the operations of a node and the node's exertion of influence.¹⁴⁷ The CCT would seem an obvious source of monetary resources. As made clear by this case and others concerning energy efficiency, however, several monetary resources for this strategic focus area

¹⁴² Interviewees 1, 3, 4.

¹⁴³ *Ibid.*

¹⁴⁴ Shearing (note 139); Shearing (note 140).

¹⁴⁵ RF Elmore 'Backward mapping: implementation research and policy decisions' (1979-1980) 94

(4) *Political science quarterly* 601 at 603.

¹⁴⁶ Rhodes (note 96).

¹⁴⁷ Burris (note 1) 37.

have come from sources that are external to the CCT.¹⁴⁸ In fact, the director of the ERMD admits to receiving only 'R1 million in one year',¹⁴⁹ for energy efficiency from the CCT.¹⁵⁰ He elaborates that this was used to employ staff members and contract consults.¹⁵¹ The NGO, SEA, is a source of external funding.¹⁵² This is an unusual state of affairs as it is more common for state actors to give funding to the voluntary sector than vice versa.¹⁵³ The relationship with SEA is clearly a resource that aids the ERMD with their exertion of influence in matters concerning energy efficiency. It is true that, in terms of resources, the general rule is that one takes what one can get. This collaboration also flies in the face of any conception of the state as the holder of common pool resources in the Westphalian understanding.¹⁵⁴

It demonstrates a plurality in governance and thus the great complexity that governance in the Castellian Network Society presents.¹⁵⁵ SEA did, after all, receive these funds from DANIDA, which specifically partners with either developing countries or the volunteer organisations within such countries.¹⁵⁶ This fact adds to the point that governance is complex and power is dispersed. Although the collaboration hints that the ERMD do have some appreciation of alternative governance arrangements, is alone not indicative. However, the point should be made, and will be elaborated on later, that the network providing resources to the ERMD influences the mentalities that the ERMD hold.

V CONCLUSION

The ERMD, as evidenced from their mentalities and preferred technologies in particular, are passionate about that which they purport to govern. They see governance as top-down and power as top-down, for that matter, too. There are hints, however, at alternative understandings, as seen through, *inter alia*, the ERMD's use of various

¹⁴⁸ Interviewee 2,5; CCT 'Report to the Director Supply Chain Management' (7 February 2008) 1.

¹⁴⁹ Interviewee 5.

¹⁵⁰ *Ibid.*

¹⁵¹ *Ibid.*

¹⁵² Interviewees 2, 3, 4, 5; ERMD 'Report to City Manager' (dated 2008); SEA 'Draft Report on Cape Town's Solar Water Heater By-law: Stakeholder Awareness and Participation Process' (15 June 2007) 2.

¹⁵³ See SP Osborne and K McLaughlin 'The cross-cutting review of the voluntary sector: where next for local government-voluntary sector relations?' (2004) 38 (5) *Regional studies* 573.

¹⁵⁴ Hobbes (note 43).

¹⁵⁵ M Castells 'Materials for the explanatory theory of the network society' (2000) 51 *British journal of sociology* 5; Burris (note 1); Rhodes (note 96) 52; RAW Rhodes 'Understanding governance: ten years on' (2007) 28 (8) *Organization studies* 1243 at 1244; E Ostrom (1990) *Governing the commons: the evolution of institutions for collective action*.

¹⁵⁶ <http://um.dk/en/danida-en/partners/> (accessed 30 November 2011).

mechanisms, and their strong collaboration with SEA. Their actions, including the choice of the SWHB and the want to push it through to the political level, demonstrate mainstream understandings conceptions of power and governance. Their understandings must be interpreted in light of the fact that they are passionate about that area which they govern. Often, therefore, they are blinded to being strategic. There thus seems to be strong evidence for the hypothesis that the ERMD did in fact not fully appreciate the complexities of governance and power when choosing the SWHB as a means to reach their aims. Furthermore, the evidence suggests that they lacked sufficient consultation with the PBDMD in this SWHB process. In addition, it has become clear that the ERMD see the PBDMD as intermediaries who would simply implement, rather than mediators who could influence. The combination of these factors point fact that the dominant outlook that this node holds, falls within the Westphalian or Weberian conceptions of power, authority and governance.

enforce and work with it? And clearly there was our name and the Director right on top of it...'⁴

Simply being chosen to implement it concerned them.⁵ They posed the question why the ERMD could not enforce it,⁶ but acknowledged that the ERMD had no means to do so as they have no enforcement unit.⁷ Nonetheless the fact remains that the PBDMD sees no reason to care about the initiative at all.⁸ In the PBDMD's view, an open dialogue at the onset is what should have happened.⁹ This should have been an opportunity to brainstorm means of reaching the intended aims.¹⁰ The ERMD and SEA representative acknowledge that this should have been done, saying:¹¹

'Agree, [h]owever, the draft was presented in a very open-minded and friendly way. If they wanted they had the opportunity to engage.'¹²

The mentalities that the PBDMD holds are often the opposite to that of the ERMD. The PBDMD interestingly emphasise softer approaches to interaction than rather than the seemingly antagonistic activist approach the ERMD take. Their emphasis seems to be on trust and diplomatic relations between themselves and the departments with which they work.¹³ Their suggestion that an open dialogue should have occurred at the outset between the PBDMD and the ERMD on their aims concerning energy efficiency and potential mechanisms to reach these, is evidence of their this softer approach.¹⁴ It fits in with the characteristic features of networked understandings of governance, which Rhodes *et al* espouse.¹⁵

Their emphasis on softer approaches to relating is also seen in the establishment of PETT. The establishment of this team is better described as a forum-establishing technique comparable to forum-shifting ones, as it is also a tool of power too. Forum-shifting theory is still useful and relevant in this instance. PETT is a forum

⁴ Interviewee 7.

⁵ Interviewees 6, 7, 9; Correspondence (note 116).

⁶ Interviewee 6, 7, 9.

⁷ Interviewee 7.

⁸ Interviewees 6, 7, 9.

⁹ Interviewees 6, 7, 10.

¹⁰ *Ibid.*

¹¹ Interviewees 5, 8. Correspondence (note 116).

¹² Interviewee 8.

¹³ Interviewees 6, 7, 9.

¹⁴ Interviewees 6, 7, 10.

¹⁵ RAW Rhodes (1997) *Understanding governance: policy networks, governance, reflexivity and accountability* 37.

established as a result of the SWHB saga that provides a meeting point for all the departments in the SPD to discuss new policy ideas. PETT gives each department in the SPD an opportunity to enrol the others in line with Latour's understanding of power as enrolment.¹⁶ Having a platform of this nature where each department sits as equal parties discussing potential initiatives they would like to take forward, acknowledges the dispersed nature of power. It allows for the opportunity for enrolment through providing a platform to share policy ideas and for the free actors to decide whether or not to act in accordance with the wishes of another.¹⁷

The aim is to try to gain consensus on an initiative before informing the political level. Despite this, as Black emphasises, enrolment is not always successful.¹⁸ The importance of raising this here is to demonstrate the mentalities that the PBDMD hold toward both tools of governance and power. Their perceptions of governance and power reveal that they view themselves as one player among many in a configuration where power is dispersed in line with Foucault and Latour.¹⁹ The establishment of PETT as an alternative tool of power will be discussed in more detail in the section below dealing with the SPD as a network.

In order to better understand the ERMD's attempted enrolment of the PBDMD; I shall now look at Black's understanding of this concept. I shall draw on Black's framework of enrolment here, merely to add to Foucault and Latour's understanding of power as dynamic and specifically power as enrolment.²⁰ Firstly, the inter-relationship between the ERMD and the PBDMD is formally that of two sister departments within a directorate, the SPD.²¹ Secondly, the PBDMD was unsuccessfully enrolled to perform the function of implementers of the SWHB.²² Thirdly, the ERMD attempted to enrol the PBDMD to administer a legal mechanism, the SWHB. The ERMD felt that this mechanism was essential to achieve the broader aim of energy efficiency. In addition, the ERMD attempted to enrol the human

¹⁶ B Latour 'The power of association' in J Law (ed) (1986) *Power, and action and belief: a new sociology of knowledge* 264 at 268.

¹⁷ M Foucault 'The subject and power' 8 (4) *Critical inquiry* 777 at 777.

¹⁸ J Black 'Legitimacy and the competition for regulatory share' LSE Law, society and economy working papers (14/2009) Law Faculty of London School of Economics and Political Science.

¹⁹ Foucault (note 17); Latour (note 16).

²⁰ Latour (note 16).

²¹ J Black 'Enrolling actors in regulatory systems: examples from UK financial services' (2003) *Public law* 63 at 86.

²² Interviewees 1, 2, 3, 4, 5, 6, 7, 8, 9, 10; ERMD 'Solar Water Heater Report to Energy Committee' submitted to the Energy Committee (October 2008) 3.

resources or the street-level building inspectors and approvers.²³ Finally, the character of this enrolment was both formal and ad hoc, as the ERMD would have no further involvement with the PBDMD on the SWHB mechanism once passed.²⁴ The ERMD's involvement would cease, as administration of the SWHB would be handed over completely to the PBDMD.²⁵

On the other hand, the ERMD see the PBDMD as being resistant to change.²⁶ An official in the PBDMD admits this too,²⁷ and the politician in fact stated as follows:²⁸ '[t]echnocrats won't innovate [as] [t]hey follow rules.'²⁹ One reason proposed is that it lacks human capacity due to a shortage of skilled staff in lower tiers.³⁰ Over two-dozen building inspectors and plan approvers were dismissed for 'moonlighting' in 2009.³¹ Another ERMD official is of the opinion that the PBDMD are reluctant to take on more work or for change to take place because 'they've got their hands full 70% of the time doing private work'.³² Most of the ERMD officials agree that adversity to change is common to the whole of the CCT.³³ The ERMD forwarded this as a reason for the PBDMD's response to the SWHB.³⁴

Despite the corruption allegations that the ERMD forward, this attitude toward change is a typical characteristic of bureaucracies and line departments within them.³⁵ In Weber's bureaucracy, there is clear a division between competencies with tight hierarchical relationships between subordinates and superiors.³⁶ Rhodes iterates characteristics common to bureaucratic structures, each of which may prove advantageous in particular instances of governing: 'reliability, predictability, probity, cohesion and continuity'.³⁷ The PBDMD thus is simply a typical bureaucratic line department in its' attitude toward changing routine behaviours. There is little to show

²³ Interviewees 3, 6, 7; SEA (2007) *Draft Report on Cape Town's Solar Water Heater By-law: Stakeholder Awareness and Participation Process 2*.

²⁴ Interviewees 1, 2, 3, 4, 5, 6, 7, 8, 9, 10; ERMD (2008) *Solar Water Heater Report to Energy Committee* submitted to the Energy Committee 3.

²⁵ Interviewees 3, 4, 5, 6, 7; ERMD (note 24) 3.

²⁶ Interviewees 3, 4.

²⁷ Interviewee 7.

²⁸ Interviewee 10.

²⁹ *Ibid.*

³⁰ Interviewee 3.

³¹ *Ibid.*

³² Interviewee 4.

³³ Interviewees 2, 3, 4.

³⁴ *Ibid.*

³⁵ Rhodes (note 15) 108-109.

³⁶ EC Page (1985) *Political authority and bureaucratic power: a comparative analysis*.

³⁷ Rhodes (note 15) 109.

that the ERMD's reasons hold much merit and it is beyond the scope of this thesis to entertain it in any event.

Interestingly, the PBDMD emphasise aesthetics and are concerned with the aesthetic problems that SWHs will pose.³⁸ This is arguably informed by the fact that in terms of the NBR, building approval can be withheld on the basis of aesthetics.³⁹ Also, many complaints are made to and legal challenges made against the PBDMD on the basis that a structure is aesthetically displeasing by those from affluent areas.⁴⁰ In fact, there have been complaints made about 'unsightly' SWHs.⁴¹ As the politician interviewed states:

[S]omething that I foresee is going to be a huge problem when we eventually get to implementing the draft by-law, is that Cape Town are (*sic*) quite rigid about their scenic beauty... So, one of the questions just in terms of communicating our intention on the draft by-law was that well, what do you expect from this? If we're on sea, are we going to look and see all these things on the roofs and is it going to glare at us? So, I expect that, that's going to become an issue.⁴²

This concern with aesthetics is rooted in the fact that there are grounds in law, under the NBR, for citizens to challenge the approval of unsightly structures.⁴³ Aesthetic considerations are embedded in the considerations planners must take into account when approving structures.⁴⁴ Since SWHs have already posed a problem on this basis in certain areas, it is unlikely that the PBDMD would be persuaded that the SWHB is an appropriate mechanism.⁴⁵ Perhaps the PBDMD would be less concerned with the Energy Efficient Water Heating By-law, which includes other energy efficient mechanisms that are more discrete, their attitude would change. After all, the PBDMD are more persuaded by the DTI's efforts at making energy efficient devices compulsory, including a choice of heat pumps that are not visible from outside, in new buildings.⁴⁶ Despite comparisons between the amendments to the NBR and the SWHB, their positive attitude toward the former rests mainly on the

³⁸ Interviewees 6, 7, 9; SEA (note 23) 20.

³⁹ NBR s 7(b)(ii)(aa).

⁴⁰ Interviewees 6, 7, 9.

⁴¹ *Ibid.*

⁴² Interviewee 10.

⁴³ Interviewees 6, 7, 9; National Building Regulations and Building Structures Act 103 of 1977 s 7(b)(ii)(aa).

⁴⁴ *Ibid.*

⁴⁵ Interviewees 6, 7, 9; SEA (note 23) 2.

⁴⁶ *Ibid.*

fact that their direct superiors have prescribed it. The DTI is, after all, the national government department under whose administration the NBR falls.⁴⁷ Therefore, as typical bureaucrats would, the PBDMD characteristically obey the wishes of their direct superiors⁴⁸

With the national process, however, the PBDMD have been more positive.⁴⁹ The NBR is the law under which they work. Many of the PBDMD's concerns with regard to effectiveness of a law like this remain the same.⁵⁰ Concerns which remain are 'bang for buck',⁵¹ their capacity to administer it,⁵² capacity of the industry to deliver,⁵³ the non-existence of compulsory SABS standards,⁵⁴ as well as the ability to monitor and deal with non-compliance.⁵⁵ In essence then, their concern with both initiatives is the practicability. These concerns display an emphasis on the certainty in the effectiveness of a mechanism.

This is characteristic of bureaucracies too as they are comprised, in Weber's understandings, of professionals who have specialised in that which they are working.⁵⁶ At all costs, bureaucrats will avoid the havoc brought about by a legal mechanism, and in particular, those that they consider technically unsound or ineffective in reaching its' aims.⁵⁷ These conceptions do fit neatly into Westphalian understandings, as they are the based on Weberian conceptions of state and bureaucratic functions.⁵⁸ In essence, the PBDMD place an emphasis on being the least interventionist as possible in emphasising the need to move away from command-and-control mechanisms where possible.⁵⁹

On the point of being the least interventionist as possible, Gunningham et al, in the context of environmental initiatives, argue that there is a growing need for

⁴⁷ <http://www.capetown.gov.za/en/planningandbuilding/Functions/Pages/BuildingDevelopment.aspx> (accessed 1 December 2011). Here the PBDMD state that they operate under the NBR. Since the NBR is administered by the DTI, the DTI is the superior of the PBDMD in the national government sphere.

⁴⁸ Page (note 36) 25.

⁴⁹ *Ibid.*

⁵⁰ Interviewee 6, 7.

⁵¹ Interviewee 7.

⁵² Interviewees 6, 7, 9.

⁵³ *Ibid.*

⁵⁴ *Ibid.*

⁵⁵ *Ibid.*

⁵⁶ *Ibid.*

⁵⁷ Rhodes (note 15) 109.

⁵⁸ Page (note 36) 28.

⁵⁹ Interviewees 6, 7, 9.

regulatory mechanisms as alternatives to government ones.⁶⁰ In addition, this need is particularly for those initiatives that are complementary to government programmes and policies.⁶¹ They emphasise the need for commercial and non-commercial organisations to drive and implement initiatives.⁶² This, according to Gunningham et al, would take place with government creating the regulatory environment to make such a push from non-governmental entities possible. Essentially, government should 'shape market orderings and facilitate the constructive activities of non-governmental institutions'.⁶³ In this sense, government action is at a distance as it guides the energies and behaviours of businesses.⁶⁴ The PBDMD thus appreciate that it is not the state alone that govern, regulate or take action.

Another difference in approach from the ERMD is that the PBDMD recognise that processes happen slowly in government.⁶⁵ This is natural to them in an institution like a government of a major metropolitan.⁶⁶ They find the ERMD's want for quick results problematic.⁶⁷ As one official put it, '[o]ne must not allow one's passion to diminish because the wheels turn slowly, but one mustn't have unrealistic expectations either'.⁶⁸ Another stated that 'either speak about things starting slowly and your results are fast because you've done all the proper groundwork or you go in fast and then your delays are so long because you haven't thought about it properly'.⁶⁹ In sum, as the PBDMD put it: 'you go slow, to go fast'.⁷⁰

This ties into the tendency bureaucrats have, according to Weber, in emphasising the long term rather than the short as politicians do.⁷¹ In some ways, this links with arguments of certainty, *supra*, in Weber's ideal type of bureaucracy. The primary concern of the PBDMD is efficiency in the implementation of the SWHB in the long term as opposed to the short.⁷² Ultimately, it is a matter of maintaining the status

⁶⁰ N Gunningham, M Phillipson and P Grabosky 'Harnessing third parties as surrogate regulators: achieving environmental outcomes by alternative means' (1999) 8 *Business strategy and the environment* 211.

⁶¹ *Ibid.*

⁶² *Ibid.*

⁶³ *Ibid* 219.

⁶⁴ *Ibid.*

⁶⁵ *Ibid.*

⁶⁶ *Ibid.*

⁶⁷ *Ibid.*

⁶⁸ Interviewee 6.

⁶⁹ Interviewee 9.

⁷⁰ *Ibid.*

⁷¹ Page (note 35) 29.

⁷² Interviewees 6, 7, 9.

quo.⁷³ The PBDMD consists of Weber's ideal bureaucrats after all. As one PBDMD official admitted:

'My department are (*sic*) typically a line department, a regulating type of department with a bureaucracy type of approach.'

III TECHNOLOGIES

Technologies, as explained *supra*, are those mechanisms, procedures, strategies and techniques for exerting influence over a course of events. On the selection of technologies, they emphasise the local context above all.⁷⁴ As the issue of aesthetics suggests, there are peculiarities to Cape Town. The PBDMD thus find ERMD's preference for international examples for inspiration concerning.⁷⁵ This is especially important since SWH systems used in Europe would seldom be appropriate for this climate.⁷⁶ Furthermore, many properties do not have the right orientation to accommodate a SWH.⁷⁷ Although arguably resolved by the broadening of the draft by-law,⁷⁸ the fact remains that solutions from overseas cannot be imported and implemented without considering all factors relevant to the local context.⁷⁹ A PBDMD official explains it thus:

'It's very interesting because my director was now for three weeks with the Mayor in China. While they were there, I got an email from my director saying, "Listen when the mayor is back he wants to see a number of sites identified where they can put up high rise residential developments." You talk about context. Do you think that 50-storey high block of flats would be the solution to the housing problem in Khayelitsha?'⁸⁰

Local context concerns in determining the appropriateness of a mechanism are important factors influencing the effectiveness or success of implementation. The PBDMD raised this as would be expected from professional bureaucrats.⁸¹ Effective mechanisms need to be informed by the consideration of the local context in a

⁷³ Rhodes (note 15) 108-109.

⁷⁴ *Ibid.*

⁷⁵ Interviewees 6, 7, 10.

⁷⁶ Interviewees 6, 7.

⁷⁷ Interviewees 6, 7; Correspondence from Sunpower to SEA (17 February 2007).

⁷⁸ Interviewee 10.

⁷⁹ Interviewees 6, 7, 9.

⁸⁰ Interviewee 7.

⁸¹ Interviewees 6, 7.

broader sense than the top-down implementers propose or the ERMD practice.⁸² A mechanism of governance to the PBDMD must be appropriate to the context for which it is selected.⁸³ This relates to professionalism within bureaucracies and ensuring that a mechanism is indeed effective in reaching its' aims.⁸⁴ Their view, though, does link to top-down perspectives of implementation, which assumes that the drafting of a policy itself is determinative in the success of its' implementation.⁸⁵ Nonetheless, the PBDMD do have a wider conception of what implementation entails.⁸⁶ They acknowledge the complexities inherent in implementation.

In acknowledging that one cannot just create a law for everything,⁸⁷ the PBDMD contend that the more nuanced approach to municipal initiatives usually observed in the CCT should have been taken with the SWHB.⁸⁸ To them one does not move simply from idea to law.⁸⁹ The PBDMD's emphasise initially implementing a policy as a soft mechanism. Issues should then be ironed out along the way, which is a rather fluid approach to implementation.⁹⁰ This is unlike the hard top-down understandings emphasised by Sabatier and the like.⁹¹ Top-down understandings propose an approach whereby the policy is articulated in a manner that need simply be implemented.⁹² In other words, the policy can structure the implementation process so as to ensure the success in reaching the stated aims.⁹³ Implementation then is simply the action of carrying out what the policy requires. The definition of policy itself is restricted to hard mechanisms such as laws or judicial decisions as Van Meter *et al* and Sabatier *et al* define it in their frameworks.⁹⁴

⁸² *Ibid*; P Sabatier and D Mazmanian 'The implementation of public policy: a framework of analysis' (1980) 8 (4) *Policy studies journal* 539; DS Van Meter and CE Van Horn 'The policy implementation process: a conceptual framework' (1975) 6 (4) *Administration and society* 445 at 471-472; LJ O'Toole 'Policy recommendations for multi-actor implementation: an assessment of the field' (1986) 6 (2) *Journal of public policy* 181 at 202.

⁸³ Interviewees 6, 7.

⁸⁴ *Ibid*.

⁸⁵ Sabatier (note 8); Van Meter (note 8).

⁸⁶ Interviewees 6, 7, 9.

⁸⁷ Interviewees 6, 7, 9.

⁸⁸ *Ibid*.

⁸⁹ *Ibid*.

⁹⁰ *Ibid*.

⁹¹ Sabatier (note 82); Van Meter (note 82).

⁹² Sabatier (note 82) 544; Van Meter (note 82) 458; P Sabatier 'Top-down and bottom-up approaches to implementation research: a critical analysis and suggested synthesis' (1986) 6 (1) *Journal of public policy* 21 at 24-25.

⁹³ Sabatier (note 82) 544; Van Meter (note 82).

⁹⁴ Sabatier (note 82) 538; Van Meter (note 82) 448.

On the other hand, the bottom-up proponents emphasise the role played by those who implement a policy, in shaping the policy.⁹⁵ Hjern et al, in fact, start with the bottom-level officials in both the state and non-state sector and in this process discover the contacts, and thus the networks and programmes as well, in which implementers are involved.⁹⁶ In doing so, they are able to see the influence that these actors have in their sectors,⁹⁷ and thus do not conflate the importance of a particular initiative within that sector.⁹⁸ Furthermore, the bottom-uppers accept the adaptation and evolution of policies, since they do not focus, as the top-downers do, on the attainment of objectives.⁹⁹

In a sense, the PBDMD have proposed an approach, which combines the two approaches to viewing policy implementation. They acknowledge the evolutionary nature of policy as it is being implemented. Furthermore, they see the need for the evaluation of the effectiveness of such policy during the implementation process as bottom-uppers do.¹⁰⁰ In other words, as is characteristic of the bottom-up approach to policy implementation,¹⁰¹ the PBDMD acknowledge the role that the implementation process and the influence that the implementers' themselves have on the policy.¹⁰² In line with this approach the PBDMD advocates the initial adoption of a soft-mechanism that evolves through implementation, rather than a legal mechanism.¹⁰³ To them, the term 'policy' describes such a soft mechanism as opposed to 'law', which represents a harder one.

⁹⁵ M Lipsky 'Street-level bureaucracy and the analysis of urban reform' (1971) 6 *Urban affairs review* 391; B Hjern and C Hull 'Implementation research as empirical constitutionalism' (1982) 10 *European journal of political research* 105; CJ Hull and B Hjern (1987) *Helping small firms grow*.

⁹⁶ Hull (note 95).

⁹⁷ *Ibid*; M Lipsky 'Street-level bureaucracy and the analysis of urban reform' (1971) 6 *Urban affairs review* 391; P Berman and McLaughlin 'Rethinking the Federal role in education' (1978) The Rand paper series.

⁹⁸ Sabatier (note 92) 34.

⁹⁹ P Berman 'Designing implementation to match policy situation: a contingency analysis of programmed and adaptive implementation' (1978) Paper for delivery at the 1978 annual meeting of the American political science association 9; G Majone and A Wildavsky 'Implementation as evolution' in JL Pressman and A Wildavsky (1983) *Implementation* 3ed. 163.

¹⁰⁰ Interviewees 6, 7.

¹⁰¹ G Majone and A Wildavsky 'Implementation as evolution' in JL Pressman and A Wildavsky (1983) *Implementation* 3ed. 163; A Wildavsky and A Browne 'Implementation as mutual adaptation' in JL Pressman and A Wildavsky (1983) *Implementation* 3ed. 206; RF Elmore 'Backward mapping: implementation research and policy decisions' (1979-1980) 94 (4) *Political science quarterly* 601 at 603; Hull (note 95); B Hjern 'Implementation research – the link gone missing' (1982) 2 (3) *Journal of public policy* 301 at 303; Sabatier (note 92).

¹⁰² Interviewees 6, 7.

¹⁰³ Interviewees 6, 7; Majone (note 101).

Then, if considered appropriate based on the implementation of the ‘policy’, the PBDMD insists on the development of the policy into a legal mechanism.¹⁰⁴ Such legal mechanism must be technically sound in that likelihood of non-compliance and other implementation problems will be minimal. If this is achieved, implementation could be considered successful.¹⁰⁵ This is where the element of a top-down approach, as Sabatier *et al* view it, is seen.¹⁰⁶ The fact that the SWHB did not go through this process of initially being a policy and later taking the form of a by-law or hard, legal mechanism is problematic in the view of the PBDMD.¹⁰⁷ Since this process is the usual one observed in the CCT,¹⁰⁸ this again demonstrates the emphasis as is common with typical bureaucrats on sticking to routine.¹⁰⁹

The PBDMD have a number of concerns with the SWHB. They find the draft by-law to be poorly drafted.¹¹⁰ One official in the PBDMD commented that the issue with the technical aspects could have been overcome with their help.¹¹¹ Of primary concern in this regard, is the absence of compulsory SABS SWH standards.¹¹² This concern is aggravated by the fact that many systems on the market are badly produced.¹¹³ Necessitating the use of such systems without proper approval is problematic and the voluntary standards are not sufficiently rigorous.¹¹⁴ The PBDMD find the amendments to the NBR to be more technically sound than the draft by-law and applaud the fact that it allows for consumer choice between different energy efficient water heating options.¹¹⁵

Another concern was the fact that failure to comply with the draft by-law would result in the certificate of occupancy for the building being withheld.¹¹⁶ Since this certificate has to do with the safety of occupying a building and that failing to have a SWH would not impact on safety, withholding the certificate could not be tenable.¹¹⁷ This is especially so since the NBR does not require that water be heated in a

¹⁰⁴ Interviewees 6, 7.

¹⁰⁵ Interviewees 6, 7, 9.

¹⁰⁶ Sabatier (note 92).

¹⁰⁷ *Ibid.*

¹⁰⁸ *Ibid.*

¹⁰⁹ Rhodes (note 15).

¹¹⁰ *Ibid.*

¹¹¹ Interviewee 6.

¹¹² Interviewees 6, 7, 10.

¹¹³ Interviewee 10.

¹¹⁴ Interviewee 6, 7.

¹¹⁵ *Ibid.*

¹¹⁶ *Ibid.*

¹¹⁷ *Ibid.*

building.¹¹⁸ To those in the PBDMD, municipal laws cannot be more burdensome than that of the national laws.¹¹⁹ Even though they acknowledge that the local government is empowered to make laws and should where appropriate, they emphasise that the role of such laws is to compliment the national framework suiting the municipality's particular needs.¹²⁰

This preoccupation with technical soundness again demonstrates that the PBDMD are professional bureaucrats through-and-through. In Weber's conception of bureaucrats, bureaucrats have technical knowledge that involves lengthy training as well as experience in working within the administration.¹²¹ The bureaucrats with whom we had interviewed in the PBDMD each had over twenty years of experience.¹²² Specialist and technical knowledge is therefore what is required of bureaucrats in the classic sense and thus emphasis on technical aspects of the SWHB comes as no surprise.¹²³ Most importantly, to Weber, the office of bureaucrat is one that is a vocation and a concentration of ethical commitment and duty.¹²⁴ This concentration of the ethical commitment and duty is independent of and superior to the role that the bureaucrat may have in any personal or other capacity.¹²⁵

In developing Weber's bureaucrat, Jacobsen's model of bureaucratic norms distinguishes three roles that a bureaucrat plays at different times: loyalty, autonomy and advocacy.¹²⁶ Loyalty refers the manners in which the bureaucrats relate to the politicians, or rule makers.¹²⁷ A bureaucrat is loyal to the politician where the bureaucrat attempts to formulate and implement a rule as closely to political intentions as possible.¹²⁸ In the case of the PBDMD, this department relates in this way to their rulemaking superiors, the DTI, in central government.¹²⁹ Autonomy points to the professionalisation of the bureaucracy and the tendency to emphasise

¹¹⁸ *Ibid.*

¹¹⁹ *Ibid.*

¹²⁰ *Ibid.*

¹²¹ Page (note 36) 29.

¹²² Interviewees 6, 7.

¹²³ Page (note 36) 25.

¹²⁴ P du Gay 'Max Weber and the moral economy of office' (2008) 1 (2) *Journal of cultural economy* 129 at 135.

¹²⁵ *Ibid.*

¹²⁶ DI Jacobsen 'The role of the public manager: Loyalty, autonomy or advocacy?' (1996) 19 (1) *Scandinavian Political Studies* 45 at 47.

¹²⁷ *Ibid.*

¹²⁸ *Ibid* 48.

¹²⁹ Interviewees 6, 7, 9.

technical knowledge that is seen as a result of such professionalism.¹³⁰ The PBDMD display this emphasis on professionalism.¹³¹ Furthermore, the need for policies to be technically sound is of paramount importance to these officials.

According to Jacobsen, the result of emphasis on professionalism is that bureaucrats attempt to shelter themselves from political interference placing greater emphasis on professional values.¹³² In the case of the SWHB, the PBDMD sheltered themselves from an initiative by the ERMD that they found to be technically problematic.¹³³ Finally, advocacy is a third trend. This is observed in the bureaucrats want to serve the 'client' or the citizen acting in the interest of the citizen.¹³⁴ Again, the PBDMD demonstrated such a tendency in the SWHB case. They did this in expressing that the SWHB mechanism was burdensome in that it ultimately required people to ensure that they have heated water. In addition, their emphasis on the local context shows an appreciation for the effects that an imitative has on 'clients'. Such a requirement, as mentioned *supra*, is absent from the compulsory standards as some may not use or want to use heated water.¹³⁵

Of greater concern to the PBDMD, is the issue of monitoring non-compliance.¹³⁶ The issue of compliance with by-laws is not the hardest part with which to deal.¹³⁷ As they had communicated to the ERMD, their concern was not with cases where people abided by the law.¹³⁸ Ensuring that people do not simply ignore the law by failing to comply, posed the biggest problem.¹³⁹ Although potentially few cases of non-compliance exist, it would be burdensome if as little as ten per cent of cases failed to comply with the SWHB.¹⁴⁰ This is so since the sanction of non-compliance would involve time consuming and costly litigation for the PBDMD.¹⁴¹ To illustrate the point, one official confided that:

¹³⁰ Jacobsen (note 126) 49.

¹³¹ Interviewees 6, 7, 9.

¹³² Jacobsen (note 126) 49.

¹³³ Interviewees 6, 7, 9.

¹³⁴ Jacobsen (note 126) 50.

¹³⁵ Interviewees 6, 7, 9.

¹³⁶ *Ibid.*

¹³⁷ Interviewees 6, 7.

¹³⁸ Interviewees 3, 4, 6, 7.

¹³⁹ *Ibid.*

¹⁴⁰ Interviewees 6, 7.

¹⁴¹ *Ibid.*

'It's only when you've grappled with bringing someone to court that you really understand the problems. I was just by the by involved in the building with the SABC in Sea Point. We took probably ten years to get them to fix it. And they eventually have fixed it, but we ended up taking them to the High Court. It takes a lot of effort and money. We serve the notice, and they ignore the notice. You go and talk to them and they ignore you. Then you have to appoint advocates and getting affidavits and go to court and we won the case eventually. And then they didn't do anything so now it is contempt of court. "Please you know we don't want to do this!" And eventually they did something, but unless you've actually done it it's difficult you know to...The uninitiated would say well just serve a notice and that's the end of the problem. It's in fact not. It's only the start of another process.'¹⁴²

Further, the PBDMD are unconvinced that the draft by-law is an effective way of reaching the objectives the ERMD have.¹⁴³ Officials in the PBDMD think that inadequate research has been done to determine the draft by-law's impact.¹⁴⁴ It estimates that very few new buildings would fit the bill with either size or price of the building or renovation determining the application of the draft by-law.¹⁴⁵ It feels that targeting building retrofits would be better.¹⁴⁶ In undertaking their calculation of the impact that the draft by-law would have in the CCT, it found:

'The solar geyser by-law in terms of what is the bang for your buck that you might get out of this draft by-law. Our sort of prelim investigation we put in some stats over there in terms of our building plans and the target that you will reach with that by-law will be about 4% of building plans.'¹⁴⁷

Since they prefer incentive systems to that of enforcement,¹⁴⁸ the planners found the SWHB to be limiting and felt that a mechanism allowing consumer choice in the form of incentive systems would be far more effective.¹⁴⁹ For this reason, the PBDMD prefer the green-star rating system for hotels, for instance, where the star

¹⁴² Interviewee 6.

¹⁴³ Interviewees 6, 7, 9.

¹⁴⁴ *Ibid.*

¹⁴⁵ Interviewees 6, 7, 9; SEA (note 23) 9.

¹⁴⁶ *Ibid.*

¹⁴⁷ Interviewee 7.

¹⁴⁸ *Ibid.*

¹⁴⁹ Interviewees 6, 7, 9.

rating gained would link to the efficiency of a building.¹⁵⁰ This to them would be a far more effective mechanism.¹⁵¹

The PBDMD's concern with non-compliance with the SWHB and emphasis on incentive systems as mechanisms of governance reveals their mentalities regarding power. Conceivably, hard mechanisms such as laws or litigation procedures are steeped in command-and-control understandings falling in line with top-down, Westphalian conceptions of power.¹⁵² On the other hand, softer incentive systems of governance envisaged through technologies like the green-star rating of hotels, are more in line with dispersed understandings of power.¹⁵³ This conclusion is based on the fact that the former relies on power as the ability to make others act despite resistance, as Weber would have it.¹⁵⁴ The latter constructs a conception of power that acknowledges the will of all involved in the process of action, from the 'client' to the bureaucrat.¹⁵⁵ The bureaucrat through incentive systems enrolls the free actor as client to act as they wish within a realm of recognised actions.¹⁵⁶ Thus, this acknowledges Latourian understandings of power as dynamic involving the enrolment by each actor of the other.¹⁵⁷ As Black puts it, after all, who is enrolled and who is enrolling is a matter of perspective.¹⁵⁸ I can now turn to touch on the nodal characteristic of resources in relation to the PBDMD.

IV RESOURCES

As aforementioned, there are capacity issues in the PBDMD.¹⁵⁹ Concerns were raised early on in the process regarding this constraint.¹⁶⁰ In fact, in 2007 the ERMD commissioned an assessment of the impact that implementing the draft by-law

¹⁵⁰ *Ibid.*

¹⁵¹ *Ibid.*

¹⁵² C Shearing and L Johnston (2003) *Governing security: explorations in policing and justice* 28; Black (note 21) 67.

¹⁵³ Foucault (note 17) 788; M Dean (1994) *Critical and effective histories: Foucault's methods and historical sociology* 152; C Gordon 'Governmental rationality: an introduction' (1991) in G Burchell, C Gordon and P Miller (eds) *The Foucault effect: studies in governmentality* 1 at 5; B Latour 'The power of association' in J Law (ed) (1986) *Power, and action and belief: a new sociology of knowledge* 264 at 265.

¹⁵⁴ Whimster S (2007) *Understanding Weber* 226.

¹⁵⁵ Foucault (note 17); Latour (note 16).

¹⁵⁶ *Ibid.*

¹⁵⁷ Latour (note 16).

¹⁵⁸ Black (note 21) 85-86.

¹⁵⁹ Interviewees 3, 6, 7, 9.

¹⁶⁰ Correspondence from ERMD to PBDMD (dated 6 February 2008); ERMD (note 42).

would have on the PBDMD.¹⁶¹ The politician heading the PEPCO acknowledges the impact that it would have on the resources of the PBDMD, but maintains that all the aid that the PBDMD requires to successfully implement the draft by-law will be provided.¹⁶² This is because the CCT wants the draft by-law and wants it to work.¹⁶³ The PBDMD was expected to use their human resources in implementing the SWHB, but lacks sufficient human resources as their current position stands.¹⁶⁴ Other than concerns regarding capacity, the PBDMD had concerns with the fact that their street level bureaucrats designated to implement the SWHB have no knowledge of SWHBs. Knowledge of this does not form part of their specialisation.

In holding these concerns, these top-level administrators demonstrate again that they are typical bureaucrats.¹⁶⁵ They emphasise the need to be sufficiently qualified to undertake tasks in general and therefore apply the same emphasis to the requirements set out in the SWHB.¹⁶⁶ This is, of course, in line with the Weberian understanding of administrators as specialised and qualified in the tasks that they undertake.¹⁶⁷ In addition, this shows the professionalism to which the PBDMD aspire in their work. Such aspiration is characteristic of bureaucrats with both the requisite qualifications and experience for the area of service delivery in which they specialise.¹⁶⁸

V CONCLUSION

This nodal analysis reveals those characteristics typical of the PBDMD. They fit the mould of Weber's typical bureaucrats being both specialists in planning along with several decades of work in the administration of municipalities among other things. Yet, the PBDMD understand the complexities of governance and appreciate that power can involve the enrolment of free actors. Their perspectives are thus sophisticated. Applying Jacobsen's model, the PBDMD display tendencies toward 'loyalty', 'autonomy' and 'advocacy' simultaneously. In terms of dealing with clients as such, they prefer incentive systems to hard laws. This does reveal an

¹⁶¹ *Ibid.*

¹⁶² Interviewee 10.

¹⁶³ *Ibid.*

¹⁶⁴ Interviewees 6, 7, 9; SEA 'Draft Report on Cape Town's Solar Water Heater By-law: Stakeholder Awareness and Participation Process' (15 June 2007) 2

¹⁶⁵ Jacobsen (note 126) 49.

¹⁶⁶ Interviewees 6, 7, 9.

¹⁶⁷ Page (note 36) 29.

¹⁶⁸ *Ibid.*

understanding of power akin to Foucauldian and Latourian understandings of power as dynamic enrolment of free actors. In terms of conceptions of governance, the PBDMD give preference to relating with other nodes in relationships of trust and through means of diplomacy. Emphasis on relating in this manner shows congruence with Rhodes' understanding of networks as a method of governing as opposed to bureaucracy or markets. The PBDMD may be typical bureaucrats, as such, but they display sophisticated conceptions of governance and power.

I INTRODUCTION

Having explored the two nodes most instrumental in producing the stalemate situation, I can now turn to exploring the various networks. As Shearing and Johnston emphasise, nodal analysis must, after all, be done prior to network analysis so that it can be discovered in the process of nodal analysis whether the nodes are in fact part of networks.¹ In doing so, nodes other than those analysed will be discussed in order to analyse the relevant networks. Although nodes are what make governance buzz,² it is still important to understand network operations. Furthermore, exploring such networks could help in exploring the hypothesis generated and the research question posed. Four networks will be explored here: the CCT, the SPD and the network of environmentalists and the network of planners. Each hold different characteristics and each have had an effect on the SWHB process in different ways. It is particularly important for my purposes, because exploring the relevant networks will aid in understanding the nodes and the characteristics, which they hold. There are essentially three factors that make the exploration of networks important here: setting the context for the policy; displaying the formal organisation and daily interactions that the nodes have and showing the broader networks within which these nodes find themselves.

II NETWORKS: 'GENERALLY SPEAKING'

Networks will be used in the manner in which Rhodes *et al* use the term. Rhodes *et al* define networks, more specifically policy networks, as quoted *supra*, as 'formal and informal institutional linkages between governmental and other actors structured around shared interests in public policymaking and implementation'.³ These analyses of the various networks will not only set the greater context, but also it is hoped it will reveal the complexities of governance to a greater extent. Ayling *et al* point out, in the context of policing, that the police are shaped by the networks within which

¹ C Shearing and L Johnston 'Nodal wars and network fallacies: a genealogical analysis of global insecurities' (2010) 14 (4) *Theoretical criminology* 495.

² C Shearing and J Wood (2007) *Imagining security* quoted in C Shearing and L Johnston 'Nodal wars and network fallacies: a genealogical analysis of global insecurities' (2010) 14 (4) *Theoretical criminology* 495 at 500.

³ RAW Rhodes 'Understanding governance: ten years on' (2007) 28 (8) *Organization studies* 1243 at 1244.

they find themselves.⁴ Following on from this point, it is apt to point out that a potential shortcoming of nodal governance is the failure to acknowledge that networks play a role in shaping nodes. That nodes may have their own characteristics does not detract from this point. The analysis of police by Ayling *et al* suggest showed that the interactions with other nodes shape the police's characteristics.⁵ I wish to take this point further here and to show that this is a failing of nodal governance theory. I shall do this by showing how the various networks, within which the ERMD and PBDMD interact, shape each of them.

III THE CITY OF CAPE TOWN METROPOLITAN MUNICIPALITY

The CCT can best be described as a nodal assemblage.⁶ Such nodes, as Burris makes clear, are also known as networks rather than merely nodes.⁷ It comprises of various departments and directorates with over twenty thousand employees.⁸ Although only one sphere of government, it is a network of actors in its own right. The governing structure in the CCT is not simply a bureaucracy in the Weberian sense.⁹ In this sense, it is a municipal governance structure as it goes beyond simply just 'local government' involving various actors both from within and without the state and the local sphere of the state.¹⁰ This is seen with the ERMD and its relationships with non-state and other state actors from the CCT and beyond in the SWHB scenario.¹¹

The CCT has a tendency to be conservative.¹² Various factors have led to this. One is that the CCT is shaped by the political instability involving a fight for power between the ANC and DA over the past decade.¹³ Power has changed hands three

⁴ J Ayling, P Grabbosky and C Shearing (2009) *Lengthening the arm of the law: enhancing policy resources in the twenty-first century*.

⁵ *Ibid.*

⁶ S Burris 'Governance, micro-governance and health' (2004) 77 *Temple law review* 335 at 341; Burris (note 1) 26.

⁷ *Ibid.*

⁸ Interviewees 2, 3, 4.

⁹ EC Page (1985) *Political authority and bureaucratic power: a comparative analysis*.

¹⁰ See RAW Rhodes (1997) *Understanding governance: policy networks, governance, reflexivity and accountability* 112-136.

¹¹ ERMD 'Report to City Manager' (dated 2008); SEA 'Draft Report on Cape Town's Solar Water Heater By-law: Stakeholder Awareness and Participation Process' (15 June 2007) 2; ERMD 'Terms of Reference: Feasibility study outlining the impact of the proposed amendments to the building regulations (i.e. SWH By-law by-law (*sic*) and regulation on efficient building construction) on the Planning and Building Development Department ito (*sic*) operational and resource requirements' Invitation to submit a proposal (dated 6 February 2008).

¹² Interviewees 2, 3, 7.

¹³ Interviewees 2, 7; <http://mg.co.za/article/2006-11-02-can-cape-town-survive-another-change-of-guard> (accessed on 25 July 2011).

times between the years 2000 and 2006.¹⁴ Politicians are too afraid to push change in the CCT as they fear that the matter may blow out in the media.¹⁵ In an environment as politically unstable as this one, top-down power dynamics characterise how matters are pushed. As one official puts it:

‘Whereas if the mayor woke up this morning and walked into the city manager’s meeting and said that “I want a SWH by-law by the end of this year and I’m going to go public and say that that’s what I want because I’m driving energy efficiency”. There will be a SWHB by the end of this year, because it is no different to the delivery of the Soccer World Cup in Cape Town. Helen Zille said: “Ok, we’re going to build a stadium in Green Point.” They built a stadium in Green Point in record time.’¹⁶

In so stating, this official was stressing the point that pushing an imitative that involves change, such as the SWHB, from the bottom upwards, is harder to do than pushing it from the top downwards. In such a situation, the solution is really to enrol the necessary players successfully to aid one in achieving the task at hand.¹⁷ The CCT may be a difficult terrain to navigate, however, in the Foucauldian understanding of power as dispersed, it is not impossible.¹⁸ The ERMD made the assumption that the PBDMD would implement, what was to the ERMD, a simple mechanism to enforce.¹⁹ Yet, in a network characterised by top-down power dynamics, the ERMD failed to resort to the one tool of power available to them in the situation where they were pushing a matter from the bottom upward, namely enrolment.

Turning back to the conservative nature that characterises the CCT, a second reason for this is informed by the CCT officials’ lack of motivation.²⁰ This is due both to promotional opportunities being limited and to having grievances with regard to pay.²¹ In addition, and linking to the lack of motivation, is the adversity to change due to the difficulty thereof.²² Finally, strict municipal financial laws deter change. The legislation governing this imposes harsh criminal sanction for politicians and

¹⁴ <http://mg.co.za/article/2006-11-02-can-cape-town-survive-another-change-of-guard> (accessed on 25 July 2011).

¹⁵ Interviewees 2, 7.

¹⁶ Interviewee 2.

¹⁷ M Foucault ‘The subject and power’ (1982) 8 (4) *Critical inquiry* 777.

¹⁸ *Ibid.*

¹⁹ Interviewees 1, 2, 3, 4, 5.

²⁰ Interviewee 2.

²¹ *Ibid.*

²² *Ibid.*

officials who approve 'fruitless and wasteful expenditure'.²³ An official explains that:

'You need to understand that many council officials don't have the approach of "Hey! This is a great idea! Let's do this!" They have an approach of: "This is different from what we have always done. There are all these troubles that we are going to meet up with. Let's not do this!" This is a very negative attitude that we do generally find.'²⁴

Therefore, in Rhodes' continuum of networks, this metropolitan municipality is most like the issue networks, as it is unstable, has many members and has limited vertical interdependence.²⁵ Although not typically used to describe spheres of government, it is appropriate to show the similarities in order to make apparent the fact that governance is complex in various settings. After all, political instability does characterise the CCT.²⁶ The last characteristic, namely 'limited vertical interdependence', would seem *prima facie* hard to justify. There are eleven directorates in the CCT and most have several departments within them.²⁷ These departments are vertically dependent on the directorate within which they fall as well as the corresponding portfolio committee. Otherwise, as highlighted by both the PBDMD and the ERMD, there are silos between the various functions.²⁸ Thus, it would seem from the various officials' accounts,²⁹ and by virtue of the structure of the CCT itself,³⁰ that there is in fact limited vertical interdependence within the CCT network.

As a result of this instability, there is a preference for hard mechanisms of governance within this network. By-laws outlast the political term of office after all.³¹ These mechanisms can be problematic and should only be used in particular circumstances as the PBDMD see matters.³² If used in every potential situation,

²³ Interviewee 3 and 5; ss 32, 62, 95, 102, 105, 142, 171, 173 of the Local Government: Municipal Finance Management Act 56 of 2003.

²⁴ Interviewee 4.

²⁵ Rhodes (note 10) 38-39; Interviewees 2, 7.

²⁶ Interviewees 2, 7.

²⁷ *Ibid.*

²⁸ Interviewees 2, 3, 4, 5, 6, 7, 9.

²⁹ *Ibid.*

³⁰ See 'City Management Organogram' accessed at www.capetown.gov.za/management/cct_management_structure_feb_2010.pdf (accessed on 15 October 2010).

³¹ *Ibid.*

³² *Ibid.*

unenforceable laws result.³³ To stress this point, one official pointed out the consequence of a rather controversial recent by-law passed in the CCT known as the ‘barking dog’ by-law:

‘Then you sit with a stupid by-law saying a dog can bark six times in an hour. I mean come on. That's ridiculous, you know, because you want a by-law.’³⁴

The reason for giving preference to such technologies of regulation is to embed the proposed change. It seems this was the aim behind the SWHB too. However, there are existing embedded regulations or, as Burch puts it, ‘socio-technical path dependency’ exists.³⁵ As seen in studies of municipal climate change governance, the existing norms often work contrary to the aims of the laws regarding sustainability.³⁶ The existence of embedded norms, including the stringent financial regulations, arguably accounts for the fact that change is disfavoured. When change is pushed, hard mechanisms are preferred to counter the status quo and ensure the durability of the initiative.

In addition, the political instability and the short-term foci in the CCT, are also countered by the push for hard mechanisms such as by-laws.³⁷ Short-term foci are entrenched by the scorecard system,³⁸ the political term of office³⁹ and the accounting standards.⁴⁰ Emphasis on the short-term is problematic for the sustainability agenda as it requires a longer-term drive.⁴¹ As the literature shows, the placing of emphasis on the short-term by politicians is a problem not unique to the CCT.⁴² In fact, Weber highlighted that this as a typical outlook that politicians take, as leaders, in contrast to bureaucrats who emphasise the longer term.⁴³ The instability characteristic of the political scene in the CCT often pushes politicians to emphasise concerns of poverty alleviation over sustainability concerns without making the

³³ *Ibid.*

³⁴ Interviewee 9.

³⁵ S Burch ‘Transforming barriers into enablers of action on climate change: Insights from three municipal case studies in British Columbia, Canada’ (2010) 20 *Global environmental change* 287 at 292.

³⁶ *Ibid.*

³⁷ Interviewees 2, 5, 6, 7, 9.

³⁸ Interviewee 1.

³⁹ Interviewee 1.

⁴⁰ Interviewee 5.

⁴¹ Interviewees 1, 5.

⁴² Burch (note 35) 292; S Burch ‘In pursuit of resilient, low carbon communities: An examination of barriers to action in three Canadian cities’ (2009) *Energy policy* 1 at 9; M Betsill ‘Mitigating Climate Change in US Cities: opportunities and obstacles’ (2001) 6 (4) *Local environment* 393 at 401.

⁴³ Page (note 9) 29.

necessary link between the two.⁴⁴ Mukheibir *et al* highlight this as a concern for the CCT, since it holds back the potential of achieving sustainability socially, economically and environmentally in the city.⁴⁵ Those outside the ERMD have thus neglected the SWHB initiative.⁴⁶ The SWHB requires a change in the way that buildings are approved and change in bureaucracies is often ill received.⁴⁷ Whichever way one chooses to perceive the problem, the SWHB is just another hard mechanism used by its proponents to ensure that the aims underlying them are met and not simply used as a symbolic mechanism for climate change action.

I shall now turn to another organisational structure, which I argue is a network comprising of several nodes. In fact, this network is the meeting point for the two nodes upon which I have focussed, namely the Strategy and Planning Directorate (SPD).

IV THE STRATEGY AND PLANNING DIRECTORATE

Formally, the SPD is one of the eleven directorates in the CCT under which both the ERMD and the PBDMD fall, along with two more departments.⁴⁸ The other two departments are Spatial Planning and Urban Design as well as Strategic Development Information and Geographic Information Systems Department.⁴⁹ Non-state collaborators participate in initiatives of the SPD as seen with the SWHB scenario. The ERMD and the PBDMD themselves, as shown *supra*, are characteristically different and form separate nodes. Networks are where nodes meet,⁵⁰ if the node is part of a network at all.⁵¹ On these bases, the SPD is a network with various nodes. Castell does, and nodal governance proponents do, characterise society today as networked after all.⁵² Concentrating on this network allows for a

⁴⁴ Interviewees 1, 2, 3, 4, 5; Betsill (note 42); C Kousky and S Schneider 'Global climate policy: will cities lead the way?' (2003) 3 *Climate policy* 359; Burch (note 35).

⁴⁵ P Mukheibir and GI Ziervogel 'Developing a Municipal Action Plan (MAP) for climate change: the city of Cape Town' (2007) 19 *Environment and urbanisation* 143 at 145.

⁴⁶ *Ibid.*

⁴⁷ Interviewees 2, 4.

⁴⁸ See 'City Management Organogram' accessed at www.capetown.gov.za/management/cct_management_structure_feb_2010.pdf (accessed on 15 October 2010).

⁴⁹ CCT (2011) *Council overview*.

⁵⁰ J Braithwaite 'Methods of power for development: weapons of the weak, weapons of the strong' (2004) 26 *Michigan international law journal* 297 at 300.

⁵¹ Shearing (note 1).

⁵² M Castells 'Materials for the explanatory theory of the network society' (2000) 51 *British journal of sociology* 5 at 6; Burris (note 6); S Burris, M Kempa and C Shearing 'Changes in

bird's eye view of interactions between the two most important nodes for my purposes. It will bring me a step closer to answering the research question and formulating a hypothesis in relation to this question. Much of the context of this network has become apparent from the nodal analysis of the ERMD and PBDMD.

This network may not fit the characteristics of either of the two main network types that Rhodes sets out, namely policy communities and issue networks as described, *supra*.⁵³ The SPD does, however, reflect a mixture of the two. Like a policy community, this network has the following characteristics: there are limited participants in the form of those member departments; a shared leader and resources to exchange to be found in each node.⁵⁴ The parallels between this network and issue networks are as follows: a range of affected interests and a measure of agreement with conflict are ever-present.⁵⁵ In this sense, forming a stable formal structure akin to the stability of a policy community,⁵⁶ the actual relationship between the various nodes is closer to that of an issue network.⁵⁷ This is so since the relationship is unstable as it is characterised by conflict arising from the fact that the primary activities of each is traditionally seen as conflicting namely sustainability and development. Heclo's idea of 'issue networks' is really that networks vary according to policy issues and that different policy issues would have different networks.⁵⁸ Since the SWHB, as one policy issue, touches on both building regulations and energy efficiency, there are two affected interests involved. Arguably then, the contested nature of the collaboration between sustainability and development in this network is understandable. After all, as Shearing and Johnston point out, a network may be characterised by conflict and resistance.⁵⁹

In a sense then, PETT represented a forum-establishing opportunity within the SPD and an opportunity to create trust relationships between these two nodes. The PBDMD led to the establishment of this task team with the aim that a repetition of their 'SWHB experience' would not happen within the SPD. In other words, the

governance: a cross-disciplinary review of current scholarship' (2008) 41 (1) *Akron Law Review* 1 at 25.

⁵³ Rhodes (note 10) 38-39.

⁵⁴ *Ibid* 44.

⁵⁵ *Ibid*.

⁵⁶ See 'City Management Organogram' (note 48).

⁵⁷ Rhodes (note 10) 38-39.

⁵⁸ H Heclo 'Issue networks and the executive establishment' in A King (1978) *The new American political system* 87.

⁵⁹ Shearing (note 1) 500.

PBDMD wanted to avoid being handed a policy or by-law and being told to implement it without having had prior involvement in the process, like what had happened with the SWHB process. Essentially, it was established to deal with policy initiatives in the directorate to bring this network closer.⁶⁰ It provides a meeting point where the various departments within the directorate can table a policy idea, though it excludes the discussion of draft by-laws.⁶¹ According to those in the PBDMD, the forum has worked effectively in bringing departments together, except the ERMD, to discuss policy initiatives before they begin.⁶² Unfortunately, the ERMD have chosen not to be involved with PETT as extensively as the others. One PBDMD official believes that the ERMD has tabled more by-laws since PETT's inception, because it wishes to circumvent PETT.⁶³ In fact, the ERMD director knew very little about PETT.⁶⁴ To the ERMD, the PBDMD are 'troublesome' officials,⁶⁵ standing in the way of their green initiatives. The PBDMD perceive of this relationship completely differently.⁶⁶ In their view, the two departments relate as professionals and there are no 'tensions' between them.⁶⁷ As a PBDMD official puts it, the two departments 'agree to disagree'.⁶⁸

Even though it does not fit the traditional understanding of forum-shifting as an opportunity for gaining greater power, this is nonetheless a means to reconstitute power within the SPD in making it more dispersed. In doing so, one node will attempt to enrol another into acting in accordance with the former's own wishes. It is akin to the Latourian understanding of power as the various nodes meet as free and equal parties, each with an opportunity to enrol the other.⁶⁹ Additionally, this forum has the potential to open up channels of communication and relationships of trust, which are clearly lacking, allowing for the open negotiation of all policy ideas within the SPD. A network's success, in Rhodes' understanding, is dependent on the

⁶⁰ Interviewees 7, 9.

⁶¹ *Ibid.*

⁶² *Ibid.*

⁶³ *Ibid.*

⁶⁴ interviewee 5.

⁶⁵ Interviewees 3, 4, 5.

⁶⁶ *Ibid.*

⁶⁷ Interviewees 6, 7.

⁶⁸ Interviewee 6.

⁶⁹ *Ibid.*; Foucault (note 17) 778.

existence of relationships of trust and diplomacy.⁷⁰ Initiatives undertaken within the network, such as the SWHB, require relationships of trust and diplomacy between the nodes within it, but they are currently absent.

Another aggravating factor in the seemingly strained relationship between the two departments, is the fact that there is physical distance between the departments.⁷¹ Channels for communication are therefore quite restricted. That the PBDMD seem to know little about the developments of the draft by-law, and the ERMD seem to know little about PETT, demonstrates a communication issue within this network.⁷² After all, the PBDMD is seemingly unaware that the SWHB became the Energy Efficient Water Heating By-law allowing more consumer choice.⁷³ The PBDMD is in Civic Centre, or the main building, whereas the ERMD is housed several blocks apart in a different building. Burch points out that physical distance can be a major aggravating factor in the inability to co-ordinate properly on initiatives.⁷⁴

Opportunities that facilitate the development of a softer side to relating must exist in order to aid with manners of relating during formal meeting points. Olsen *et al* elaborates on this point showing that the frequency and duration of interaction affects the relationship held between individuals in an organisational setting.⁷⁵ Having contact determines the ability to establish relationships of trust.⁷⁶ If a relationship of trust is established, the likelihood of effective collaboration is greatly enhanced.⁷⁷ Settings for the ERMD and PBDMD to create relationships of trust do not currently exist as there is insufficient informal contact between the two departments.

It concerns those in the PBDMD that no informal 'corridor' moments are possible.⁷⁸ The PBDMD has better relationships with other departments housed in the same building despite the fact that they are in separate portfolios.⁷⁹ It is about the opportunity to meet more informally when walking by each other in the corridor and

⁷⁰ Rhodes (note 10); M Bevir and D Richards 'Decentring policy networks: lessons and prospects' (2009) 87 (1) *Public administration* 132; M Bevir and RAW Rhodes 'The differentiated polity as narrative' (2008) 10 *British journal of politics and international relations* 729 at 731.

⁷¹ Interviewees 6, 7.

⁷² Interviewees 6, 7, 9.

⁷³ *Ibid.*

⁷⁴ S Burch (note 42) 6.

⁷⁵ JG March and JP Olsen 'The uncertainty of the past: organizational learning under ambiguity' (1975) 3 *European journal of political research* 147 at 164.

⁷⁶ *Ibid* 166.

⁷⁷ *Ibid.*

⁷⁸ Interviewee 7.

⁷⁹ *Ibid.*

exchange a greeting.⁸⁰ This could potentially enable them to establish a personal side to their relationships with one another. These departments only meet in formal meeting contexts.⁸¹ These are often antagonistic settings given they are working on what is traditionally seen as two opposing agendas: sustainability and development respectively.⁸² The only such opportunity is PETT, which is seemingly not being ideally utilised. This is so since the ERMD are hardly participating in it and in any event, it is still a formal setting. Potentially more informal settings with more frequent interaction may help in breaking down ERMD's perception that other actors,⁸³ including the PBDMD, are antagonistic toward them. In the same vein, development of a softer side to relating between the officials in both nodes may also aid in ensuring the success of a forum such as the PETT.

Having explored the formal meeting point for the two nodes, I shall turn now to explore the main network in which the ERMD is involved: the environmentalists. Understanding this network especially, will aid in understanding the ERMD.

V THE ENVIRONMENTALISTS

A tight network clearly exists between the ERMD and SEA. In addition, during this process DANIDA played a role in collaborating too, through providing resources. SEA, as has become apparent, was quite extensively involved in doing the groundwork for this draft by-law process, including the undertaking of the stakeholder and public participation process for it.⁸⁴ The collaboration between the ERMD and SEA along with the DANIDA sits more easily at first glance with the idea of a network. In some sense, the SEED initiative is a transnational governance arrangement of a different kind. It involves the linking node in the form of a non-government organisation (NGO), namely SEA. This arrangement is much like the role ICLEI plays in the Cities Climate Protection Programme (CCP), except on a distinct scale.⁸⁵ The fact that DANIDA supports the initiative is arguably the factor that makes it a transnational network as Betsill *et al* may see it.⁸⁶ In any event, it

⁸⁰ *Ibid.*

⁸¹ *Ibid.*

⁸² Interviewees 2, 4, 6.

⁸³ March (note 74) 164.

⁸⁴ ERMD (note 11); Email correspondence from ERMD to SEA (dated 15 January 2007).

⁸⁵ M Betsill and H Bulkeley 'Transnational governance and global environmental governance: the cities for climate protection programme' (2004) 48 (2) *International studies quarterly* 471.

⁸⁶ *Ibid.*

demonstrates what Ostrom *et al* would call: the polycentricity of climate change action beyond simply central governments on the global scale.⁸⁷

Like with the other networks, this network does not fall within the strict parameters of the network types set out by Rhodes. It is characterised by resource-exchange.⁸⁸ SEA provides support to the ERMD both in the monetary sense and in terms of capacity.⁸⁹ DANIDA provides monetary support in exchange for the resource of having others realise those aims it wishes to achieve.⁹⁰ In the case of SEED, the aim DANIDA has, is to facilitate sustainability programmes within a developing country.⁹¹ CCT thus provides an opportunity to utilise government resources including mechanisms that the other two nodes cannot initiate formally.

This network, much like the ERMD as a node itself, has a characteristic activist approach. It comes as no surprise, since SEA is an NGO typically constituted by activists, in this case, of the environmental kind.⁹² Also, DANIDA works with various NGOs worldwide addressing issues of development and sustainability.⁹³ Arguably then, this network is a shaper of the mentalities, which the ERMD hold. In fact, the 'champion' for energy initiatives in the CCT who works in the ERMD, is the former director of SEA.⁹⁴ The superficial dismissal given by SEA to the criticism of by-law by a leading SWH installer demonstrates a lack of appreciation of the complexities of governmental initiatives.⁹⁵ This particular stakeholder is a major company specialising in the installation of SWHs and more recently, heat pumps.⁹⁶

⁸⁷ E Ostrom 'Polycentric governance systems for coping with collective action and global environmental change' (2010) *Global environmental change* 1.

⁸⁸ Rhodes (note 15).

⁸⁹ Interviewees 1, 2, 3, 4, 5, 8.

⁹⁰ *Ibid.*

⁹¹ <http://www.danidadevforum.um.dk/en> (accessed on 16 December 2011); Press release: SEA and Royal Danish Embassy dated 26 February 2010 accessed at [www.cityenergy.org.za/files/resources/media%2520kit/Press%2520release.pdf+\"cape+town\"+\"sustainable+energy+africa\"+\"solar+water+heater\"&docid=47df911300aa51f04655c86e844353cb&chan=EgAAAAQuXdzQkCtMs5ZwFV02FB00ggi085%2BfVVpf1kmcZuLo&a=sv](http://www.cityenergy.org.za/files/resources/media%2520kit/Press%2520release.pdf+\) (accessed on 13 August 2011).

⁹² Interviewees 3, 8.

⁹³ *Ibid.*

⁹⁴ Interviewees 1, 2, 3, 4, 5.

⁹⁵ Interviewees 1, 2, 3, 4, 5, 8.

⁹⁶ SEA (note 11) 9; <http://www.sunpower.co.za/> (accessed on 15 August 2011). There were several concerns raised by this stakeholder. Firstly, that there are insufficient skilled installers in Cape Town and as he put it 'until training has been done, it makes no sense to make an impractical law'. Secondly, there is no capacity to police the draft by-law, as there are insufficient trained inspectors to decide whether the installations are compliant with the law. Thirdly, he is of the view that a retrofit programme would have a higher impact as 'new build' was not necessarily going to have a big impact.

Although, the criticisms dealt with pertained to the stage where the draft by-law was limited to SWHs, the main issue to note is the fact that short and superficial responses were given to these concerns.⁹⁷

These issues are dealt with in a very quick and inadequate manner. This echoes the sentiments aforementioned that the PBDMD that environmental activists often lack understanding of the complexity of the processes that go into passing technical legislation of this kind.⁹⁸ Also, it reflects the PBDMD's concern that insufficient research went into the draft by-law.⁹⁹ After all, as Weber shows, administrative work is a vocational matter involving both formal training, technical know-how and years of experience within the administration.¹⁰⁰ This experience in driving government initiatives is not only obviously lacking within SEA, but unfortunately within the ERMD too. Only one top official seems to have more than a few years experience working as a government official.¹⁰¹ The manner in which SEA dealt with the matter can thus be anticipated from passionate activists who have little to no experience within government.¹⁰²

Turning now to the establishment of the Energy Committee, one observation in particular needs to be made that is relevant to this network. The Energy Committee is a powerful tool as it is a direct link to the mayor of the CCT.¹⁰³ However, even though this network initiated the establishment of this forum, it has yet to realise the potential power that it holds.¹⁰⁴ Little has been done by the environmentalists to use this committee and had they realised its' potential it could have been considered a forum-shifting technique to harness greater top-down power.¹⁰⁵ In fact, the politician whom we interviewed and under whom the ERMD fall, criticised the fact that the ERMD had not made more effective use of this forum and potential power it

Lastly, he raised the fact that not all buildings have suitable orientations for SWH and other technologies would be better in these instances.

⁹⁷ SEA (note 11).

⁹⁸ Interviewee 6, 7, 9.

⁹⁹ *Ibid.*

¹⁰⁰ Page (note 9) 25.

¹⁰¹ Interviewees 1, 2, 3, 4, 5.

¹⁰² *Ibid.*

¹⁰³ Interviewee 10; The Local Government: Municipal Structures Act 117 of 1998 s 80.

¹⁰⁴ Interviewee 10.

¹⁰⁵ P Drahos 'Securing the future of intellectual property: intellectual property owners and their nodally coordinated enforcement pyramid' (2004) 36 *Case Western Reserve journal of international law* 53 at 55; J Braithwaite 'Methods of power for development: weapons of the weak, weapons of the strong' (2004) 26 *Michigan international law journal* 297 at 300.

holds.¹⁰⁶ It is after all, a committee that directly advises the Mayor of the CCT on energy efficiency and climate change matters.¹⁰⁷ Instead, this network chose to push the SWHB to the political level, or PEPCO, for this level to make a decision.¹⁰⁸ This is a forum-shifting technique, as Drahos or Braithwaite would see it.¹⁰⁹ In this case, the alternative forum, PEPCO, has actors with greater power to drive the sustainable energy agenda within the CCT. It resorted to Westphalian constitutions of power, relying on the political level within the city to push the agenda of energy efficiency forward.¹¹⁰

This is the network with which the ERMD most closely collaborates. It comes as no surprise then that it shares characteristics with this network. The main point of highlighting its' existence is to demonstrate that a network can be a shaper of a node in line with the implications of the work of Ayling *et al.*¹¹¹ Just as Ayling *et al* were able to demonstrate that the police were shaped by the networks within which they found themselves, so too can it be demonstrated that the ERMD is shaped by the involvement with this one. It is apparent that the activist approach that characterises the ERMD may well be an influence from this network. The ERMD's choice of a by-law to drive their energy efficiency aims, the use of the Danish experts and the Barcelona Ordinance were all influences that resulted from collaboration with the other nodes in this network.¹¹² The greatest attention has been given to this network in comparison to others because it played such a crucial role in contributing toward the SWHB process and shaping the decisions that the ERMD made in terms of this draft by-law. I shall now turn to unpack the network of planners to try to understand the PBDMD a bit better.

VI THE PLANNERS

This network consists of professional planners across the three spheres of government as well as those outside government. The PBDMD, like the typical bureaucrats that they are, implement those laws and policies devised by their

¹⁰⁶ Interviewee 10.

¹⁰⁷ Interviewee 10; The Local Government: Municipal Structures Act 117 of 1998 s 80.

¹⁰⁸ Drahos (note 105) 55; Braithwaite (note 105) 300.

¹⁰⁹ Drahos (note 105) 55; Braithwaite (note 105) 300.

¹¹⁰ M Weber 'Politics as a Vocation' in Pizzorno *A political sociology* (1971) 27 at 29; I Currie and J De Waal (2001) *The new constitutional and administrative law* 4.

¹¹¹ Ayling (note 4).

¹¹² Interviewees 1, 2, 3, 4, 5.

superiors in the central government without question: the Department of Trade and Industry (DTI).¹¹³ In addition, the Western Cape Property Development Forum (the Forum), the official association of private planning companies, are a part of this network.¹¹⁴ It is tight-knit consisting of professional planners.¹¹⁵ This network thus fits squarely in Rhodes' professional network category. Rhodes states that 'professionalized networks express the interests of a particular profession and manifest a substantial degree of vertical independence whilst insulating themselves from other networks.'¹¹⁶ In fact, the SPD itself includes the Spatial Planning and Urban Design department, which also consists of professional planners.¹¹⁷ This department, however, had no involvement in the SWHB process. In the view of the PBDMD, the direct national department should dictate the broader framework of the laws concerning planning and municipalities should add to that which has already been set out by the national sphere.¹¹⁸

The extent of their professional network extends beyond the state, with collaborations with the Forum.¹¹⁹ On a quarterly basis, this department, as well as the Spatial Planning and Urban Development Department, along with the director of the SPD, meet with the forum.¹²⁰ The aim of such meetings is to discuss policy developments, practices and process regarding planning in Cape Town.¹²¹ In addition, it plans to deliver a code of conduct for the industry.¹²² This demonstrates the extent of the professional network. Even though Jacobsen's model concerns bureaucrats, the idea of autonomy relating to professionalism can be seen with this network too.¹²³ There does seem to be a strongly integrated network of professionals who rely on one another to set standards, practices and processes applicable to their industry. However, the PBDMD does admit to collaborating with other departments insofar as

¹¹³ Interviewees 6, 7, 9.

¹¹⁴ Interviewees 2, 4, 6, 7.

¹¹⁵ Interviewees 6, 7, 9.

¹¹⁶ RAW Rhodes 'Policy networks: a British perspective' (1990) 2 (3) *Journal of theoretical politics* 293.

¹¹⁷ See 'City Management Organogram' accessed at www.capetown.gov.za/management/cct_management_structure_feb_2010.pdf (accessed on 15 October 2010).

¹¹⁸ Interviewee 6, 7, 9.

¹¹⁹ Interviewees 2, 3, 6, 7.

¹²⁰ *Ibid.*

¹²¹ <http://www.wcpdf.co.za/index.htm> (accessed on 7 February 2012).

¹²² *Ibid.*

¹²³ DI Jacobsen 'The role of the public manager: Loyalty, autonomy or advocacy?' (1996) 19 (1) *Scandinavian Political Studies* 45 at 50.

the services they provide and receive inputs from them in the form of decisions premises, complaints, and so on'.¹³³ This network tries to avoid costly disputes in the form of litigation or otherwise.¹³⁴ Through anticipating how clients will respond to the policy, they insist on driving policy in a manner that would ensure greater compliance and avoid non-compliance.¹³⁵ According to those in this network, the greater the resistance to a policy, the greater the chance of non-compliance is.¹³⁶ The SWHB in the eyes of those in the network was problematic as, *inter alia*, the risk of non-compliance was too high.¹³⁷ In addition, it would be too burdensome on the clients, as it would require them to do something that was not required by the national building regulations framework.¹³⁸ The reaction that those in this network had to the draft by-law it did not take the impact on the clients into account to a sufficient degree.¹³⁹

It comes as no surprise then that the PBDMD are the typical bureaucrats that they are assuming the appropriate professional role they fulfil within this network. Of course, they also take on such a bureaucratic role because they are just that, bureaucrats. Most importantly they are professional planners.

VII CONCLUSION

On top of the various nodes, there were networks too, through which this draft by-law had to navigate. Whether involved in the process, or shaping the nodes that were involved, the networks were players in equation too. The political instability and adversity to change that shape the CCT network meant that a by-law mechanism was preferred. The ERMD's did not make use of enrolment, which is the only tool for pushing a matter from the bottom upward in the CCT context. The establishment of PETT within the SPD after the SWHB saga was an attempt to address issues of trust and communication despite the physical distance compounding these problems. The environmentalist network is clearly a shaper of the characteristics of the ERMD. Also, they played a fundamental role in the SWHB process. Finally, the planners are clearly a professional body that take the business of regulating their industry quite

¹³³ *Ibid.*

¹³⁴ Interviewees 6, 7.

¹³⁵ Interviewees 6, 7, 9; <http://www.wcpdf.co.za/index.htm> (accessed on 7 February 2012).

¹³⁶ *Ibid.*

¹³⁷ Interviewees 6, 7, 9, 10.

¹³⁸ *Ibid.*

¹³⁹ Interviewees 6, 7.

seriously. The PBDMD bureaucrats have a clear function within this network: the local government representatives. Exploring these four networks has added yet another dimension to the tapestry that makes up the narrative of this process. Exploring the networks, allows us to appreciate the extent of the complexities of governance, power and implementation.

CONCLUSION

I BACKGROUND

Here begins the end. I have looked in depth at one case and taken a perspective on the various narratives. Through breaking down these various stories using theories on plural governance, I have shown the complexity that is governance. In so doing, the aim was to have answered the research question: Why did the SWHB in the CCT fail? This main question has several sub-questions:

1. What are the defining characteristics of the nodes involved?
2. What are the defining characteristics of the networks that these nodes constitute if any?
3. What constraints relevant to the SWHB do these networks face?

This sheds light on the hypothesis developed out of the findings, which follows.

The Environmental Resource Management Department did not fully appreciate the complexities of governance in choosing the solar water heater by-law to reach their aims without sufficient consultation of the department they had designated as the implementers, namely the Planning and Building Development Management Department, and in so doing sealed the fate of the SWHB.

This hypothesis hints at the complexities of governance and power relations between nodes in the age of the Network Society where plurality characterises governance arrangements. Theories regarding governance and power in this context have been the most informative in reaching conclusions regarding both the research questions and the hypothesis developed. In this chapter, I shall summarise the findings espoused in chapter four. Then, I shall make clear the various conclusions reached in the chapter following that one. The penultimate focus is on the various contributions that this thesis has made to the literature. Finally, I shall identify those areas relevant to this area of research that needs more attention. All this is informed by the overarching questions posed and the foundational hypothesis developed.

II SUMMARY OF FINDINGS

Although an endless number of findings could have been made relating to an endless numbers of theories, it was the two main theories that restricted the focus, and thus

the findings too. These are network governance theories and theories of power based the Foucauldian tradition. Other relevant theories that aided in the process of picking out findings that could be made, included policy implementation theories, as well as those municipal climate change action theories. Once these findings had been made, I could turn to really using the various literatures to analyse these findings and reach conclusions regarding these. Before doing this, I need to emphasise that this study has really highlighted the relevance of mentalities and how different world views can ultimately determine the outcome of an initiative. This should be kept in mind. Furthermore, the relationship between mentalities and technologies is flexible. In other words, I have not meant to imply in this thesis that mentalities determine technologies, as they do not.

(a) The green bulls

As was discovered during the nodal analysis of the ERMD, their mentality is like that of environmental activists. They emphasise quick-wins, international-learning contexts and are driven by their passion for environmental causes. Their mentalities demonstrate top-down constructions of governance and power, with little exception. The ERMD do not appreciate the difficulty involved in implementing even the simplest of policies or laws. Despite being open to various technologies to achieve their aims, they nonetheless wish to push the resolution of the SWHB to the political level instead of attempting to enrol the PBDMD. In this case, they did resort to a hard-mechanism of a by-law. Furthermore, their proposals involve the use of hard-mechanisms such as constitutional mandates and scorecards as opposed to trust and building relationships with other departments. To a narrow extent, the use of resources from nodes external to the CCT arguably demonstrates an appreciation for alternative conceptions of governance. All other evidence points in the opposite direction. To some extent then, in the SWHB, the ERMD did not fully appreciate, the great complexity of governance and power relations.

(b) The typical bureaucrats

In short, the PBDMD fit the mould of the typical bureaucrats in the Weberian sense of the word. These characteristics include adversity to change, emphasis on technical soundness of initiatives and respect of the decisions of their professional superiors. This node's preferred procedure for advancing a new initiative is in effect a

combination of the top-down and bottom-up approaches to implementation. Despite this, the PBDMD emphasise the need for open engagement when proposing potential policy initiatives necessitating relations of diplomacy and trust between nodes. Interestingly too, this node prefers softer incentive mechanisms to that of harder coercive mechanisms like the draft by-law. These approaches demonstrate a nuanced understanding of to governance and power. Thus, they form a contradiction of the typical bureaucrats, since they appreciate that governance is more complex than Westphalian understandings would have one believe.

(c) The various networks

Networks, made up by nodes, are part of the complexity of the governance mix. As much as nodes constitute these, they are shapers of the various nodes as well. The nodal assemblage, the CCT, sets the broader context within which the two nodes work. Characterised by political instability and adversity, the draft by-law mechanism has become the preferred means of entrenching a change, hence the SWHB. Enrolment is thus the only tool available to officials at the bottom to push matters up. It is a tool that the ERMD officials did not successfully or fully make use of in the SWHB process. The SPD is characterised by distrust and lack of communication aggravated by the physical distance between the nodes.

Establishment of PETT was an unsuccessful attempt to address these issues as well as reconstitute power in the directorate. The environmentalist network is clearly a shaper of the characteristics of the ERMD and played a fundamental role in the SWHB process. Finally, the professional planners network takes the business of regulating their industry seriously. Thus, the PBDMD bureaucrats' emphasis on professionalism makes sense and this node has a clear function within this network: the local government representatives. Exploring these four networks has added yet another dimension to the tapestry that makes up the narrative of this process, governance and power.

III CONCLUSIONS

Here I will deal with the various conclusions that I have reached in relation to the research question and three sub-research questions. In doing so, I will deal with the hypothesis generated in answer to these questions. The research question asked why the ERMD SWHB. In breaking down this question, the sub-questions concerned the

defining characteristics of the nodes; defining characteristics of the networks and about the constraints that these networks face that are relevant to the SWHB. Through engaging with the literature in combination with the empirical data, I generated a hypothesis that dealt with the various elements of the questions in an attempt to posit an answer to the hypothesis through engagement with the literature in combination with the empirical data. This essentially hypothesised that it was the fact that the ERMD did not fully appreciate the complexities of governance and power in choosing SWHB, to reach their aims, without sufficient consultation of the department they had designated as the implementers, namely the PBDMD that sealed the fate of the SWHB.

The findings largely confirm this hypothesis. In the process of reaching conclusions on the hypothesis, I was able to reach conclusions on the research questions as well. This was so since the two are related after all. The ERMD, for the most part, did not fully appreciate the complexities of governance and power. Of course, exceptions to this conclusion can be shown. There is evidence that they have some nuanced understandings of both. Stepping back from the SWHB and looking at the aims, which inform its choice, there is a clear argument to be made that there were many and varying approaches that could have been taken that would have been more strategically sound. This node is passionate about the sustainability initiatives and this passion often blinds them to being strategic.

As highlighted in the hypothesis, and a major factor that led to the stalemate situation with the draft by-law, was the fact that the ERMD simply chose the draft by-law and the PBDMD as implementers for it without sufficient consultation with the PBDMD before making any decision. They perceived of the PBDMD as simple 'intermediaries' who would simply implement the draft by-law. This clearly demonstrates their insufficient appreciation of the complexities of power and enrolment of other players. Their approach in pushing the initiative forward displayed narrow understandings of governance, implementation of policy and power as simply top-down. I conclude that the hypothesis in relation to the ERMD is mostly true.

Although the hypothesis generated through engagement with the literature and empirical data essentially focussed on the ERMD's lack of understanding, it did

mention the PBDMD. In order to answer the main research question and the first sub-question regarding the characteristics of both nodes, I will have to deal with the PBDMD and conclusions reached regarding this node. After all, in reaching conclusions on the PBDMD, it will aid in understanding what went wrong. In stark contrast to the ERMD, the PBDMD did appreciate the complexities of governance and power in most instances. The fact that they were typical Weberian bureaucrats with years of experience working in the CCT contributed to this factor. The ERMD did not fully appreciate why the PBDMD would not simply be intermediaries or 'just implementers'. They could not see that the PBDMD are in fact mediators or freethinking agents able to make decisions about initiatives especially in their own area of expertise. Nothing obliged the PBDMD to implement the SWHB as the ERMD wished them to do. It is thus concluded that the PBDMD, in recognising the ERMD's shortcomings in understanding, refused to play the role expected of them to play.

To demonstrate empirically that governance, power and implementation of policy are in fact complex it was necessary to unpack the various networks in which the nodes found themselves during the process. Assumptions regarding such complexities cannot be made simply. Although the literature spoke to the intricacies of each, this was not sufficient. I was able to make conclusions regarding the complexities of governance, power and implementation of policy in the context within which these two nodes work. I conclude that there were indeed networks within which these nodes found themselves, and multiple ones at that. As a consequence, the terrain of governance through which the SWHB had to move is an intricate one that posed many challenges. This touches on the final two sub-research questions. Namely these involve identifying the characteristics and the complexities of the networks involved in the process.

The essential point that must be taken from exploration of the various networks is that there are several governance settings each with their own characteristics, perceptions and understandings. Some are more dominant than others. The power relationships are not always simply top-down and are not determined by the office held, but by the ability to successfully enrol the node or actor one wishes to enrol. This ultimately has consequences for a node's, or network's, ability to implement an initiative. This is ultimately the inter-relation of power, governance and

implementation that became apparent in this case. The PBDMD seemed to grasp this, however, it seemed to escape the ERMD somewhat. On the point of power, this case demonstrates that indeed power is dispersed as Foucault argues it. Furthermore, that though power is everywhere it is not always exercised by everyone. In addition, there is still evidence of top-down constructions of power, which is in line with Rhodes' argument that the governing structure of bureaucracies is still in existence today. In essence then, power is both hierarchical and dispersed in this complex governance web. Neither the Weberian nor the Foucauldian perspective can claim primacy, therefore, as each have their relevance in explaining the different power configurations that can be observed in governance structures today.

In sum, two basic points must be made regarding the driving of policy. Firstly, there are several requisite understandings one needs to have when driving a policy. These are the need to appreciate the complexities of governance and power, as well as to understand the context of the policy regime within which one works. One can see that the ERMD did not sufficiently appreciate each of these requirements if one observes the manner in which the ERMD drove the SWHB. This first leg is a *sine qua non* of what is required. In other words, it is necessary but not sufficient. Secondly, therefore, an implementation strategy that fits this context needs to be made. Again, this was lacking in the way the ERMD chose to go about pushing the SWHB initiative. Essentially, they did not understand the need to take this approach. Their actions demonstrate that they, the ERMD, do not have a sophisticated enough understanding of the terrain in which they have worked.

I will now turn to a summary of the contributions that my research and conclusions have made the literature. The implications of these contributions will too be highlighted.

IV SUMMARY OF CONTRIBUTIONS

The contributions I have made in this dissertation will be dealt with in this section. Firstly, by quite comfortably applying nodal analysis to state nodes and nodal assemblages, I demonstrate that nodal governance in fact makes no presumptions regarding the importance of a particular node. Contrary to what Loader and Walker assert regarding this theory, nodal governance proponents do not advocate dispensing of the state. The theory uses the Foucauldian perspective on power to

demonstrate the plurality in governance arrangements. This is a rare application of this theory specifically to state actors, outside the police of course, alone. True to the core philosophy of this theory, no assumptions were made regarding the important actors and the data itself lead me to discover that in this initiative there were both important state and non-state nodes. Given the main focus of the research question, focusing particularly on the ERMD and the PBDMD, that together created the stalemate situation, was necessary.

What this study has revealed is that in line with what Betsill and Bulkeley understand, the state is not a unitary actor. In fact, it goes so far as to show that one sphere of government is not a unitary actor either. The CCT as a municipality is a network of various nodes and nodal assemblages. Thus, I arrive at a second contribution of this study. This is namely that plurality in governance and the networked nature of governance is not only seen through relations between state actors and others, and not simply within the state, but within spheres of the state too. In addition, I take the idea of 'disunity' in state actors to a finer degree than the literature may suggest. In other words, there it is not simply an 'inter-governmental relations' between spheres that can be evidenced. This study shows an intra-governmental perspective where departments within government spheres are networked and relations are just as complex as evidenced between spheres.

The network of environmentalists and their collaboration through the SEED programme demonstrate an alternative transnational governance arrangement where the initiative is pursued within one country and funded by an agency of another. This is an unusual resource-exchange situation with a non-governmental organisation providing funding to the government to take an initiative forward. This challenges the Westphalian or Hobbesian idea that the state is the sole holder of common pool resources. In this instance, the exact opposite is demonstrated. A state department had to rely on the resources of a node outside of government to provide it with funding to undertake a government initiative that it should ordinarily have funding to undertake.

With regard to contributions to theory, I have made use of theories of network governance and nodal governance as well as power and enrolment, which are usual culprits in a discussion on new governance theories. The twist came with my

addition of implementation theory. The combination of the theory really allowed me to show the common ground. It was a fruitful exercise as the three compliment each other in a case where I had to consider elements of each theoretical area.

Implementation theory is a neglected theory, but has much to offer. Simple matter of how the various perspectives of implementation are articulated ties in neatly with governance theories. For instance, the top-down perspectives really do fit neatly within Westphalian understandings of governance.

On the other hand, the bottom-up perspective acknowledges that alternatives are possible by demonstrating that street-level bureaucrats also influence policy and that networks of actors exist. The parallels between these theories made it easy to integrate them. Simultaneously, the detail of dealing with a particular policy initiative was lost in the context of governance and power theories. Having a complimentary theory such as implementation theory to turn to on the issues of the details of the SWHB really filled a gap that otherwise would have persisted had I not made use of this approach. In doing this, I have contributed by showing that implementation theory, networked governance theories and theories of power as enrolment are complimentary. In addition, I applied each of these theories in combination to a case and thus demonstrating the possibility of doing this.

I shall now turn to consider the future research relevant to this thesis that need be made.

V FUTURE RESEARCH

There are a number of areas of research that need be pointed out briefly. Further research on municipal governance arrangements, particularly within the global South, need be done. The aim of such research would be to reveal the kinds of arrangements found and make proposals on manners in which initiatives can successfully be taken forward. This is particularly important for climate change action, which is a major concern for now and the future. In addition, this research could involve the further application of nodal governance techniques in order to aid in understanding the full extent of the complexities that exist. This will allow for empirical arrangements to be revealed through the process of research rather than making assumptions about those configurations that may exist.

VI CONCLUDING REMARKS

The SWHB represents a look into one municipal climate change governance initiative. It demonstrates the great complexity of initiatives, even within the smallest sphere of government. Governance and power today no longer fit mainstream Weberian and Hobbesian understandings. Governing is complex. Power is everywhere. Implementation does not just happen. There are no easy answers. Climate change and municipal action require careful thought and planning prior to implementation, especially since many are new and go against the grain of embedded norms. Ultimately, they require the careful navigation around complex configurations of power and governance that characterise the Castell's Network Society.

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UNIVERSITY OF CAPE TOWN

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**QUANTIFICATION OF THE EFFECT OF AIR TRAFFIC ON TERMINAL
PRECINCT GROUND TRAFFIC AND THE CORRESPONDING GROUND
TRAFFIC EFFECT ON KERBSIDE AND PARKING INFRASTRUCTURE
REQUIREMENTS AT O.R. TAMBO INTERNATIONAL AIRPORT**

In partial fulfilment of the requirements for the Degree of MSc (Civil Engineering)

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31 August 2008

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TERMS OF REFERENCE

The primary purpose of this thesis is for the author to show the ability to work on an individual research project and to display ingenuity, originality, effort and initiative in solving the problems encountered in the research process.

The brief of this thesis has been prepared with the approval of the supervisor, Dr Marianne Vanderschuren.

The objective of the research is to:

- To find a relationship between travel demand created by flight activity (Air Traffic Movements (ATMs)) at O.R. Tambo International Airport (ORTIA) and terminal precinct ground traffic generation, specifically terminal frontage road and parking facility demand. This relationship should define:
 - The number of person trips produced and attracted by flight activity; and
 - The mode-split and occupancy of these trips, so as to determine the number of vehicle trips per mode produced and attracted by the flight activity. This will, in turn, provide an indication of the demand for parking and kerbside facilities; and
- To utilise the established parking and kerbside traffic demand information to determine the corresponding landside infrastructure required to satisfy the terminal precinct traffic demand at ORTIA. The infrastructure requirements of this study specifically aims to determine:
 - The number of kerbside pick-up and drop-off bays required by the various modes utilising the frontage roads; and
 - The number of public parking bays required by air travellers and visitors to the terminals.

The submission date for this thesis is the 31st August 2008.

DECLARATION

I know the meaning of plagiarism and declare that all the work in this document, save for that which is properly acknowledged, is my own.

A handwritten signature in black ink, consisting of a stylized name and a horizontal line extending to the right.

SIGNATURE: _____

DATE: 29 August 2008

EXECUTIVE SUMMARY

RESEARCH OBJECTIVES

The sharp increase in travel demand at ORTIA in recent years has been translated into frequent parking supply and kerbside pick-up/drop-off bay shortages, particularly during peak periods. This often results in long delays and increased frustration amongst those using these facilities. In an attempt to solve the terminal precinct congestion problems currently experienced at O.R. Tambo International Airport (ORTIA), a need exists to understand parking and kerbside drop-off/pick-up bay demand, so that infrastructure investment corresponds to this demand.

In light of this, the objective of this study is twofold, namely:

- To find a relationship between travel demand created by flight activity and terminal precinct ground traffic generation, specifically terminal frontage road and parking facility demand. This relationship should define:
 - The number of person trips produced and attracted by flight activity; and
 - The mode-split and occupancy of these trips, so as to determine the number of vehicle trips per mode produced and attracted by the flight activity. This will, in turn, provide an indication of the demand for parking and kerbside facilities; and
- To utilise the established parking and kerbside traffic demand information to determine the corresponding landside infrastructure required to satisfy the terminal precinct traffic demand at ORTIA. The infrastructure requirements of this study specifically aims to determine:
 - The number of kerbside pick-up and drop-off bays required by the various modes utilising the frontage roads; and
 - The number of public parking bays required by air travellers and visitors to the terminals.

Having determined the kerbside and parking infrastructure required at ORTIA, this study also aims to determine the effect of future external influences such as oil depletion (Peak Oil),

and the introduction of a Gautrain station at ORTIA, on these infrastructure requirements. This is established through the testing of various future scenarios.

RESEARCH METHOD

The following method has been undertaken to meet the objectives of this study:

- Undertaking of a literature review of international methods used to determine parking and kerbside demand and infrastructure requirements at major airports, as well as a review of future external influences such as the Gautrain and Peak Oil, that could affect the findings of this dissertation;
- Application of part of the four-step model as the theoretical basis for meeting the objectives of this study. The first step of the model, the Trip Generation step, determines the number of travel and non-travel related person trips generated by flight activity. The second step, the Mode-split step, applies the mode-split, in which these person trips are made, and the corresponding vehicle occupancies, to determine the vehicle trips generated by flight activity. Typical vehicle turn-around times are then applied to the established vehicle trips, to determine the number of kerbside and parking bays required at ORTIA;
- Development of a software model, to be used as a tool to determine the effect of air traffic on terminal precinct trip generation, kerbside private and public transport drop-off/pick-up and parking infrastructure requirements. The software model is interactive, which allows the model to be modified for use by other airports, by resurveying certain parameters and adjusting the inputs accordingly.
- Scenario testing, where the case of aviation growing as per previous years is compared with scenarios where future external influences may affect operations. The first scenario tested is the effect of the diversion of land-based modes to the Gautrain. The second scenario investigated is the change in trip generation due to Peak Oil. An adaptation of the software model allowed for the easy testing of the scenarios that determine the effect of future external influences, by simply adjusting certain input parameters.

DATA COLLECTION

A wide variety of traffic and travel behaviour-related data, which forms part of the input to the calculations to determine kerbside and parking demand and infrastructure requirements, has been required for this study.

INTERVIEW BASED SURVEYS

The majority of travel-related data required for this study has been obtained from interview based surveys, conducted amongst departing passengers at ORTIA during the survey week. A statistically significant total of 2 044 surveys were conducted, resulting in a confidence interval of 2.16%, at a 95% confidence level.

The data required from the interview based surveys is:

- The average occupancy of vehicles that park (occupancy of travellers only);
- An indication of the trip frequency of meeters and greeters that use their own transport, thereby creating additional trips;
- The occupancy and turn-around time of meeter and greeter vehicles;
- An indication of trip-frequency to the airport for reasons other than flying or visiting passengers, to understand the importance of general non-travel-related visitor trip generation;
- The mode-split of passengers arriving at and departing from the airport per hour, to establish person trips per mode and per hour;
- An indication of the potential diversion amongst passengers to the Gautrain Rapid Rail Link, once operational. An understanding of when passengers are willing to use this mode, where applicable, has also been determined; and
- The origin of traveller trips to the airport, to create an origin map and also to assist in determining the potential diversion to Gautrain. The destination of traveller trips from the airport is required for the same purposes.

TRAFFIC SURVEYS

Apart from the largely travel behaviour-related data obtained from the interview based surveys, vehicle occupancy and turn-around time information for all modes, forms the second important type of data required for calculations in this study. While vehicle occupancy

of parkers have been determined from the interview based survey, the remaining vehicle occupancy and turn-around time information has been obtained primarily from traffic surveys, conducted at ORTIA for a period of a day. Turn-around time data, from surveys conducted by other consultants and from the analysis of ACSA's parking databases, has also been used. The kerbside modes for which vehicle occupancy and turn-around time information has been determined, from a combination of the traffic surveys and information from other consultants are:

- Private vehicle drop-off/pick-up;
- Minibus taxi pick-up;
- Metered taxi pick-up;
- Hotel shuttle pick-up and drop-off; and
- Coach pick-up and drop-off.

FINDINGS OF THE RESEARCH

The findings of the research, with specific reference to its objectives, are described below.

PERSON TRIP GENERATION

An average daily flight capacity of 76 337 trips per day and a trip generation of 54 861 person trips occur at ORTIA. Furthermore, arriving and departing flights result in a daily trip generation of 6 120 trips, made by meeters and greeters that arrive at the airport independently, to visit travellers. Table A provides an overview of the detail.

Table A Summary of Person Trip Generation

	WEEKLY ARRIVALS	WEEKLY DEPARTURES	TOTAL DAILY AVERAGE
Flight Capacity	267 232	267 124	76 337
Person Trips Generated	190 053	193 974	54 861
Independent Meeter and Greeter Trips	28 677	14 165	6 120

VEHICLE TRIP GENERATION

Application of surveyed mode-splits and corresponding average vehicle occupancies to the 54 861 person trips generated, results in a vehicle trip generation of 19 964 travel-related trips. In addition, 2 248 vehicle trips are generated by independent meeters and greeters that park. Table B summarises the detail.

Table B Summary of Vehicle Trip Generation

	ANOTHER FLIGHT	LONG-TERM PARK	SHORT-TERM PARK	DROPPED-OFF	RENTAL VEHICLE	LIMOUSINE	MINIBUS TAXI	METERED TAXI	URBAN BUS	TRAIN	SHUTTLE/COACH	TOTAL
Mode-split	30%	9%	10%	33%	7%	2%	2%	3%	2%	0%	3%	100%
Person Trips Generated	16876	3958	5017	20694	3396	685	750	1051	770	0	1668	54861
Travel-related Vehicle Trips Generated	-	2233	3028	14050	-	-	104	350	146	0	54	19964
Meeter and Greeter Vehicle Trips Generated	-	-	2248	-	-	-	-	-	-	-	-	-

KERBSIDE BAYS REQUIRED

Application of typical turn-around times of each kerbside mode to the vehicle trips generated, results in the number of pick-up or drop-off bays required to meet the demand, as summarised in Table C.

Table C Summary of Kerbside Bays Required

FLIGHT TYPE	PRIVATE VEHICLE	MINIBUS TAXI	METERED TAXI	HOTEL SHUTTLE	COACH
Domestic Arrivals	70	4	31	2	1
Domestic Departures	34	0	0	1	1
International Arrivals	68	6	29	4	2
International Departures	30	0	0	2	2
<i>Total Bays Required</i>	<i>202</i>	<i>10</i>	<i>60</i>	<i>9</i>	<i>6</i>

The quantity of bays recommended in Table C, is required to meet the ultimate peak demand. Therefore, while the bay recommendation for private vehicle drop-off and pick-up appears high, this is the number of bays required to avoid double parking at any moment in time. Metered taxi bay requirements also appear too high to be provided along the kerbside, but the full quota of bays do not need to be provided here, as the majority of vehicles can hold in the remote facility provided.

PARKING BAYS REQUIRED

Application of turn-around time distributions of long and short-term parkers to travel-related and independent meeter and greeter vehicle trips generated, results in a total parking bay requirement of 6 393 bays. Table D provides an overview of the detail.

Table D Summary of Parking Bays to Meet Travel-related and Meeter and Greeter Demand

PARKING BAYS	ARRIVALS	DEPARTURES	TOTAL
TRAVEL-RELATED BAYS REQUIRED			
Long-term Generated	0	1 877	1 877
Long-term Background	0	2 070	2 070
Short-term	686	863	1 549
INDEPENDENT MEETER AND GREETER BAYS REQUIRED			
Meeter and Greeter	607	290	897
Total	1 293	5 100	6 393

The recommendation of 6 393 parking bays, is effectively the number of bays required to meet the demand of vehicle trips generated as a direct result of flight activity. An indirect demand for parking bays as a result of flight activity also exists. This includes staff, service personnel, people attending meetings or visiting offices at the airport, and so forth. The infrastructure recommendation in Table D has, therefore, been calibrated to establish the parking infrastructure required to meet the direct and indirect demand created by flight activity. The number of daily entries into the parkade has been used for the calibration. The final conclusion is that 12 787 bays are required to meet the all-encompassing demand at ORTIA.

SCENARIO TESTING

Three scenarios have been tested in this study, to determine their effect on infrastructure requirements at ORTIA, namely:

- The effect of a change in the ground-based mode-split at ORTIA, due to the diversion to the Gautrain;
- The effect of a reduction in trip generation, due to increased fuel and ticket prices, caused by Peak Oil; and
- The combined effect created by the simultaneous occurrence of the Gautrain and Peak Oil scenarios.

The testing of scenarios reveal that the low-impact Peak Oil and Gautrain scenarios do not have a significant effect on kerbside infrastructure requirements, when compared to the infrastructure to be provided if traffic grows are per normal. However, with respect to parking, even if low-impact changes occur in person trip generation due to Peak Oil, and changes in mode-split occur, due to the Gautrain, significantly lower amount of bays are required.

The combined Peak Oil-Gautrain high-impact scenarios result in severe reductions in kerbside and parking bay infrastructure required to meet the demand. This occurs to the extent that the kerbside and parking infrastructure supplied to meet current demands will be under-utilised in the medium-term, should the combined scenario have a high-impact on the current person trip generation and mode-split.

While the combined scenario is unlikely to occur in the short or medium-term, the calculations illustrate that, while infrastructure should ideally be provided so that it meets the demand at any point in time, the required supply may be under-utilised in future. If trends begin to show that person trips are constantly being reduced due to Peak Oil, or that diversion to the Gautrain is increasing continuously, more consideration should be given to the supply of infrastructure with respect to the future utilisation of that infrastructure. It is, thus, recommended that future trends, regarding parking and kerbside infrastructure demand, be monitored so that the corresponding supply of infrastructure is optimised, without wasting financial resources. The developed software model can assist in further analysis of changing trends.

RECOMMENDATIONS OF THE RESEARCH

RECOMMENDATIONS OF INFRASTRUCTURE PROVISION

This study establishes the number of kerbside and parking bays required to meet the ultimate peak demand (worst-case scenario) at ORTIA. With reference to kerbside bays, this implies that by supplying the number of bays recommended in Table C, no double parking or queuing should occur along the kerbside, by any mode and at any time. Furthermore, by providing the 12 787 bays recommended, no queuing or shortage of parking bays should occur at any time.

However, the number of kerbside and parking bays to be provided, is a policy decision, by ACSA, taking into account the investment required to meet the ultimate demand. By supplying the full quota of recommended bays, it stands to reason that a number of kerbside and parking bays will remain unoccupied for long periods of time outside peak periods.

ACSA may, for financial or other reasons, elect to provide, say, 85% of parking or kerbside bays required. By making this investment decision, the bays that have been supplied, will be better utilised. However, ACSA would need to accept that during certain extreme peak periods, queuing and parking shortages may occur. An analysis of the expected time of under supply is recommended.

RECOMMENDATIONS FOR FURTHER ANALYSIS

Additional studies have been identified, which, if undertaken and incorporated into the findings of this study, will add further value to the infrastructure recommendations made.

Long-term vs. Short-term Parking

In general, hourly rates at parking facilities situated nearer to the terminal are more expensive than those situated further away. Short-term parkers prefer to park nearer to the terminal, as it is convenient. Further analysis is recommended to optimise infrastructure utilisation, using alternative fee structures.

Distribution of Parking Turn-around Times

In this study, a turn-around time distribution has been applied to long-term parkers, to determine the parking bays required to meet the demand created by them. Various assumptions were made affecting parking bay requirement estimates, particularly for background parkers. It is, thus, recommended that further studies into more representative turn-around times, be undertaken.

Diversions to the Gautrain

An estimation of the impact of the diversion of passengers to the Gautrain from ground-based modes, occurs in this study. This impact is based upon the three possible rates of diversion, namely a low, medium and high diversion rate, based on available literature and survey results. The diversion to the Gautrain can also be determined by studying the origin and destination of airport trips. The findings of an origin-destination analysis combined with the findings regarding diversion, creates a more conclusive understanding of the effect of the Gautrain station at ORTIA on kerbside and parking bays requirements.

RECOMMENDATIONS FOR ADDITIONAL SURVEYS

There are a number of instances in this study where input parameters for calculations have been assumed, as actual information was not available. These parameters are generally related to interview based information required from arriving passengers and from independent meeters and greeters. It is, recommended that further interview based surveys are undertaken amongst arriving passengers and amongst meeters and greeters, to determine the necessary survey data specifically related to them.

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- B. Mode-splits Determined from Interview Based Survey**
- C. Software Models and User Manual**
- D. Scenario Testing Results**

1 INTRODUCTION

1.1 BACKGROUND TO RESEARCH

In the early days of aviation, the airport or aerodrome was situated on the periphery of the town it served. The comparatively high cost of air travel resulted in only a few individuals using this mode, whilst large numbers used the railroad for intercity travel. These few travelers could easily reach the airport by car, as roads were lightly travelled (Ashford and Wright, 1992). Parking and kerbside drop-off/pick-up requirements at airports were, therefore, low.

After World War II, access to airports was affected by the separate impacts of rapid urbanisation, increased car ownership, and the fall in air travel costs due to the introduction of aircraft of an advanced technology (Ashford and Wright, 1992). These trends have been exacerbated in recent years by almost universal car ownership and the introduction of Low Cost Carriers (LCC) that have made flying possible for many who could previously not afford it.

Upon arrival at the airport, the traveller is now confronted with parking shortages and major congestion along the terminal frontage roads, bearing little resemblance to the informal air terminal of previous days. At O.R. Tambo International Airport (ORTIA) in Johannesburg specifically, the increase in travel demand has been translated into frequent parking supply and kerbside pick-up/drop-off bay shortages, particularly during peak periods. This often results in long delays and increased frustration amongst those using these facilities.

1.2 RESEARCH AIMS

It is clear from the foregoing section that, in an attempt to solve the congestion problems, with specific reference to ORTIA, a need exists to understand parking and kerbside drop-off/pick-up bay demand, so that infrastructure investment corresponds to this demand.

The objective of this study is thus twofold, namely:

- To find a relationship between travel demand created by flight activity (Air Traffic Movements (ATMs)) and terminal precinct ground traffic generation, specifically terminal frontage road and parking facility demand. This relationship should define:
 - The number of person trips produced and attracted by flight activity; and
 - The mode-split and occupancy of these trips, so as to determine the number of vehicle trips per mode produced and attracted by the flight activity. This will, in turn, provide an indication of the demand for parking and kerbside facilities; and
- To utilise the established parking and kerbside traffic demand information to determine the corresponding landside infrastructure required to satisfy the terminal precinct traffic demand at ORTIA. The infrastructure requirements of this study specifically aims to determine:
 - The number of kerbside pick-up and drop-off bays required by the various modes utilising the frontage roads; and
 - The number of public parking bays required by air travellers and visitors to the terminals.

Having determined the kerbside and parking infrastructure required at ORTIA, this study also aims to determine the effect of future external influences such as oil depletion (Peak Oil), and the introduction of a Gautrain station at ORTIA, on these infrastructure requirements. This is established through the testing of various future scenarios.

1.3 RESEARCH METHOD

A systematic research method is required to address the afore-mentioned research aims successfully. While Chapter 2 describes the research method in detail, this section summarises, in brief, points the procedure employed in conducting the research. These points are further illustrated in Figure 1-1.

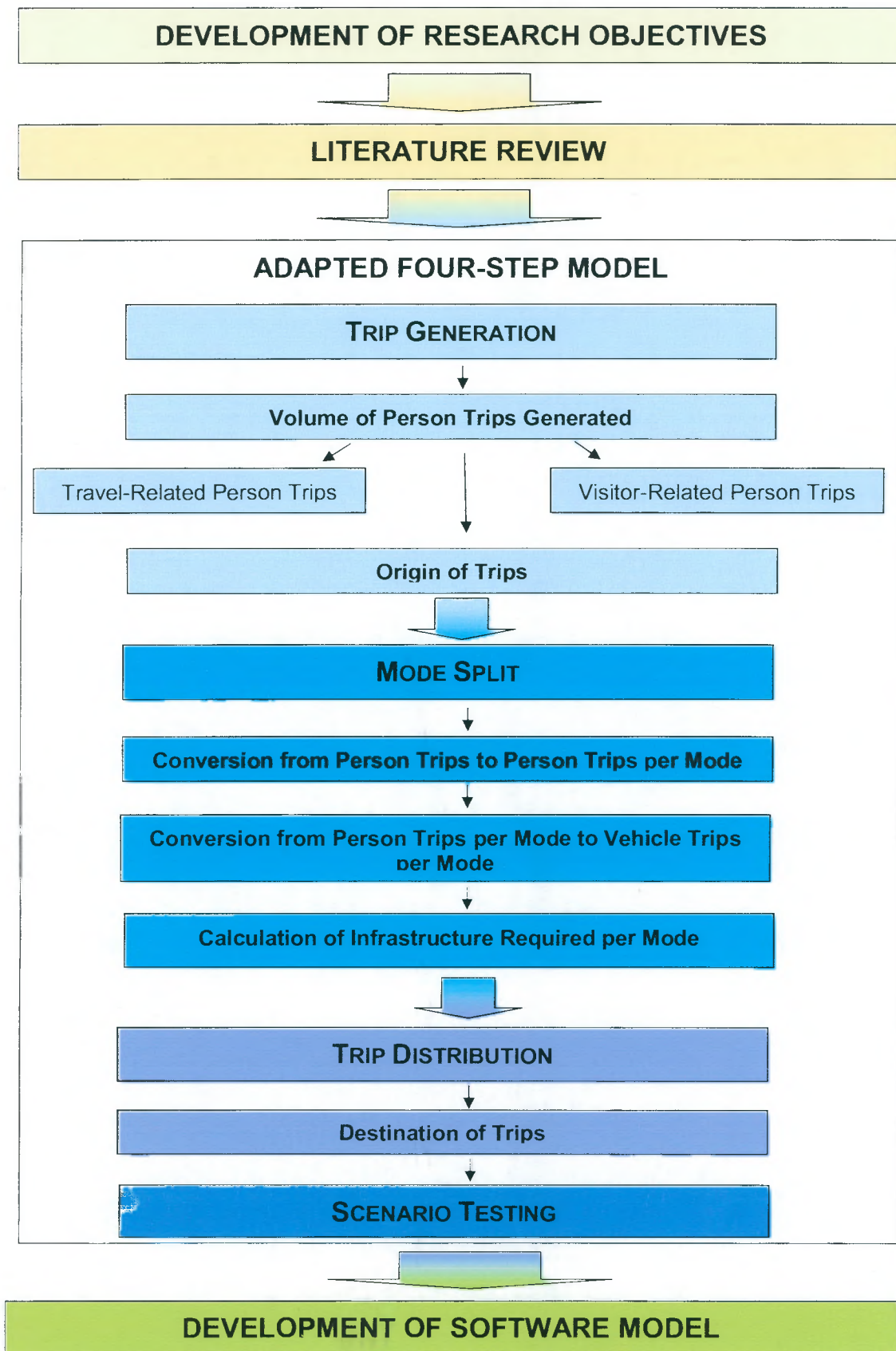


Figure 1-1 Summarised Research Method

The steps undertaken in this study are:

- Defining the objectives of the study to focus the research and to enable the researcher to work towards a specified goal;
- Undertaking of a literature review of international methods used to determine parking and kerbside demand and infrastructure requirements at major airports, as well as a review of future external influences, such as the Gautrain Station, currently under construction at ORTIA, and Peak Oil, that could affect the findings of this dissertation;
- Application of part of the four-step model as the theoretical basis for meeting the objectives of this study. The proposed tasks to be undertaken in each step and how these will meet the objectives are:
 - *Trip Generation Step:* The aim of this step is to determine the number of travel, visitor (meeter and greeter) and other non-travel-related person trips produced and attracted by the airport as a result of flight activity. In this step, the initial requirements of the first objective of the study, namely to determine the number of person trips produced and attracted by flight activity, is met. This step also determines where these trips originate from, and plots them on a map, so that an understanding of the trip origin locations relative to the surrounding road network, can be obtained. Origin information will further assist in determining trip origins relative to the Gautrain Rapid Rail Link stations, to create a better understanding of diversion to this mode;
 - *Mode-split Step:* The objective of this step is to determine the mode-split in which people arrive at or depart from the airport. This information is used to convert the person trips determined in the previous step into person trips per mode. Thereafter, vehicle occupancy data is used to convert the person trips per mode to vehicle trips per mode. This satisfies the second requirement of the first objective of this study, namely, to determine the number of vehicle trips produced and attracted by flight activity. This step also determines the infrastructure required in terms of the number of private and public transport drop-off/pick-up lay-byes and parking bays required, thereby satisfying the second objective of this study. This is calculated by applying typical bay turn-around times per mode to vehicle trips per mode;

- *Trip Distribution Step:* In this step, the destination of the trips produced by the airport is determined and plotted on a map, to understand their locations relative to the surrounding road network. This will also assist in obtaining an indication of the potential diversion of passengers to the Gautrain; and
- Scenario testing, where the case of aviation growing as per previous years is compared with scenarios where future external influences may affect operations. The first scenario tested is the effect of the diversion of land-based modes to the Gautrain. The second scenario investigated is the change in trip generation due to Peak Oil.

1.4 RESEARCH DELIVERABLES

It is envisaged that two deliverables be submitted as part of this dissertation, namely:

- *A report containing:*
 - A literature review detailing the method employed by other international airports in determining the effect of air traffic on parking and kerbside requirements. The literature review will also address issues, such as the effect of the Gautrain station at ORTIA and the Peak Oil phenomenon on infrastructure requirements;
 - An explanation of the methods undertaken to collect the data required for this study;
 - An analysis of the relationship between air traffic activity and kerbside and parking demand, as well as the effect of this demand on parking and kerbside infrastructure requirements at ORTIA.
 - An analysis of the findings of the effect of future external influences, particularly the Gautrain and Peak Oil, on infrastructure requirements;
 - Maps depicting the volume of airport trip production and attraction relative to the surrounding road network as well as to the proposed Gautrain rail network; and

- Recommendations regarding the current kerbside and parking infrastructure requirements at ORTIA, as well as recommendations of future requirements as a result of the impact of external factors.
- A *contextualised software model*, which can be used as a tool to determine the effect of air traffic on terminal precinct trip generation, kerbside private and public transport drop-off/pick-up and parking infrastructure requirements. The inputs to this model will be hourly air traffic passenger volumes i.e. a flight schedule, a few surveyed parameters (determined in this study from interview based and traffic surveys) and empirical data analysis findings (e.g. determined in this study from analysis of ACSA's parking database). The process described in the Trip Generation, Mode-split and Trip Distribution steps, will be programmed into the model as a series of calculations, to determine the relationship between the flight schedule and the infrastructure required. The software model will be developed concurrently to the process described in the previous steps and it will be totally interactive. This will also allow the model to be modified for use by other airports, by resurveying certain parameters and adjusting the inputs accordingly. In addition to determining the current infrastructure requirements, an adaptation of the software model will allow for the easy testing of the scenarios that quantify the effect of future external influences, by simply adjusting certain input parameters.

1.5 SCOPE OF RESEARCH

Obtaining an understanding of the relationship between flight activity and terminal precinct trip generation, and the associated kerbside and parking infrastructure requirements, is as an aspect of airport planning that has not received in-depth attention at many airports, to-date. Rather than plan well ahead for kerbside and parking infrastructure provision, it has been common practice to increase infrastructure supply when the existing supply proves to be inadequate. This has resulted in ad-hoc upgrade projects as the need arises.

The Airports Company South Africa (ACSA) have recognised the need to plan ahead, and staff of the Airport Planning division have, therefore, suggested the topic of this thesis. The intention is to use the findings of this thesis and the accompanying software models, to inform future planning decisions regarding parking and kerbside infrastructure provision.

Furthermore, while passenger forecasts have been commissioned by ACSA, these have focused mainly upon the relationship between the South African GDP and air traffic growth, growth expectations of airlines and a review of worldwide passenger growth. No emphasis has been placed upon obtaining an understanding of the effect of Peak Oil on future passenger generation. This thesis, therefore, also aims to determine the impact of Peak Oil on passenger growth, in an attempt to provide airport planners with an alternative scenario to currently utilised passenger forecasts.

1.6 LIMITATIONS OF RESEARCH

Two limitations were experienced while undertaking the research required for this thesis. The first limitation experienced, is related to physical location of the author. The author of this thesis relocated to Jeddah, Saudi Arabia, during the beginning stages of the research. Communication with the supervisor and other experts in the aviation industry was, thus, limited to the telephone and email. With no local expertise to call upon, this resulted in challenging circumstances.

The second limitation experienced by the author is related to financial circumstances. Two surveys were commissioned for this thesis, namely a traffic survey and an interview based survey. The results obtained from these surveys serve as input to the calculation steps of this thesis. The data needed from the interview based survey was required from both departing and arriving passengers, as well as meeters and greeters. However, limited financing entailed restricting the interviews to departing passengers. To compensate for this, information obtained from departing passengers has been assumed to be applicable to arriving passengers. Moreover, departing passengers were asked to respond on behalf of their greeters. This resulted in limited accuracy of certain surveyed parameters used in calculations.

1.7 STRUCTURE OF REPORT

Chapter 2 provides a description of the method undertaken to meet the objectives of this study, in greater detail than is explained in Section 1.3. Chapter 3 reviews the pertinent literature studied, the recommendations of which is applied, where applicable, throughout the report.

Chapter 4 describes the modes of private and public transport that are operational at ORTIA, as well as their method of operation. An understanding of the manner in which the various modes operate at ORTIA is necessary so that infrastructure requirements can be calculated independently for each mode later on in the study, thereby ensuring that the specific operational needs of each mode is taken into account.

The data collection process for this study is a complex one, as a wide variety of data is required from various sources. The source from which most of the required data is obtained for this study is interview based surveys. Chapter 5 describes the data required from this survey, the sampling and administration procedures, as well as the outcomes of the survey.

From the summary of the method guiding this study, it is evident that vehicle occupancy and turn-around time data for all modes are two additional and important types of data required. For the majority of modes, the data has been collected from observation rather than the interview based surveys, but other sources have also been used where necessary. Chapter 6, discusses the sources from which the data for the various modes has been collected, the primary source being traffic surveys, and also presents the findings of vehicle occupancy and turn-around times for each mode.

Chapter 7, entitled Trip Generation, presents the volume of travel-related, visitor (meeter and greeter) and other non-travel-related trips produced and attracted by the airport. The data presented in Chapters 7 to 10 have been determined using a software model, termed *Base Model*, which is presented in Appendix C. Maps showing the origins of airport-terminating trips and the destinations of airport-originating trips are also presented in Chapter 7.

Chapter 8 reports the findings of the mode-split analysis of this study. In this chapter, the mode-split and vehicle occupancy findings presented in Chapter 5 and 6 are applied to the person trips presented in Chapter 7, to obtain the vehicle trips per hour and per mode.

Chapter 9 then presents the results of applying the turn-around times of kerbside modes, presented in Chapter 6, to the vehicle trips per mode, presented in Chapter 8, to obtain the kerbside infrastructure required.

Similarly, Chapter 10 presents the results of applying the turn-around times of those who park, presented in Chapter 5 and 6, to the vehicle trips of those who park, presented in Chapter 8, to obtain the parking infrastructure required.

In Chapter 11, scenario testing of the effect of future external influences such as the Gautrain station at ORTIA and Peak Oil, on infrastructure requirements, is determined. An adaptation of the *Base Model*, has been used to test the various scenarios. The adapted *Scenario Testing Model* can be found in Appendix C, along with the *Base Model*.

Chapter 12 concludes the report by summarising the main findings of the study and by making final recommendations regarding the relationship between flight activity and terminal precinct traffic demand, as well as recommendations regarding parking and kerbside infrastructure requirements. Any constraints of, and any implications for, further research is also made in this chapter.

2 RESEARCH METHOD

Section 1.3 provides a brief description of the method undertaken in meeting the objectives of this study. This chapter describes in greater detail the steps described in Section 1.3, namely:

- Defining the objectives of the study;
- The literature review, and
- The adapted four-step model.

The method undertaken in conducting the research is also illustrated in more detail in Figure 2-1.

2.1 DEFINING OBJECTIVES

All research should begin by developing a clearly defined set of objectives, as this focuses the study by allowing the researcher to work towards a specified goal. In order to define these objectives, however, it is often necessary to gain broader insight into the subject at hand. This assists in the determination of available data and relevant best practices, so as to avoid duplication of research objectives or data collection, as well as to avoid the use of obsolete methods of research or calculation. This insight is best obtained from a literature review.

2.2 LITERATURE REVIEW

The literature review for this study focuses on international methods, standards and best practices used to determine parking and kerbside demand and infrastructure requirements at major airports. In addition, a review of future international and local trends (such as the Gautrain station at ORTIA) and events (such as the Peak Oil phenomenon) that could affect findings of this thesis, is necessary to ensure that the outputs are applicable for use in coming years.