

[INTRODUCTION]

University of Cape Town

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“On Earth — when there had been an Earth, before it was demolished to make way for a new hyperspace bypass — the problem had been with cars. The disadvantages involved in pulling lots of black sticky slime from out of the ground where it had been safely hidden out of harm’s way, turning it into tar to cover the land with, smoke to fill the air with and pouring the rest into the sea, all seemed to outweigh the advantages of being able to get more quickly from one place to another — particularly when the place you arrived at had probably become, as a result of this, very similar to the place you had left, i.e. covered with tar, full of smoke and short of fish”.

Douglas Adams, *The Restaurant at the End of the Universe* (1980)

INTRODUCTION

The mechanisation of society in the twentieth century, while offering relief to lifetimes’ worth of hard labour, also set the world on a course that is rapidly leading to disaster. Climate change, skyrocketing inequality, water shortages and the rapid depletion of oil reserves all promise to change the world as we know it. The car - and the entire car system that is engendered by it - is an intrinsic part of this problem; one that is ignored at our peril. Perhaps most alarmingly, car-domination in the developing world is only just beginning to take off, with China now being responsible for about 25% of the world’s annual car sales and India following shortly behind (Chamon, Mauro, & Okawa, 2008, pp. 247-8).

“The automobile has not merely taken over the street, it has dissolved the living tissue of the city. Its appetite for space is absolutely insatiable; moving and parked, it devours urban land, leaving the buildings as mere islands of habitable space in a sea of dangerous and ugly traffic”

James Marston Fitch, *New York Times*, 1 May 1960

The private car has been responsible for far more than distortions to the urban fabric - how it has exacerbated inequality and eroded public space; how it has impacted on people’s health, livelihoods and opportunities in the city while simultaneously destroying the environment. The problem is not simply the opportunity cost of investing in one form of transport over another. The very act of promoting car travel by making it quick and seamless causes trip-distances to grow. “Motorized vehicles”, writes Illich, “create remoteness which they alone can shrink. They create distances for all and shrink them for only a few” (1974, p. 42 – cited in Jain & Guiver, 2001) - thereby ensuring that the drive-nots become trapped in a cycle of decreasing mobility and access, while opportunity is increasingly reserved for those with the vehicles to reach it.

At the same time, the issue of car domination is extremely difficult to address. It is a global system, and a global problem. Yet action will not - and, at this stage, cannot - be taken at a global level. Unlike greenhouse gas emissions, which, theoretically, can be controlled and dictated by

international accord, the car system is simply too complex for change to be imposed from the top down. As Buckminster Fuller famously said “You never change anything by fighting the existing reality. To change something, build a new model that makes the old model obsolete” (quoted in Dennis & Urry, 2009:9). The only way that ‘automobility’ can be made obsolete is by changing the underlying system that promotes car travel above all others. Unlike system change as a whole, this is a shift that can be driven by local and national governments: through deprioritising the extensive public infrastructure on which car travel is based and instead emphasising public and non-motorised transport, a relatively simple policy shift can have far-reaching results.

Accordingly, transportation, and the choices made in relation to it, can be seen as a starting point in addressing some of the most critical difficulties faced by the twenty-first century. However, these are choices that will be determined predominantly at the scale of the city-region, with some dependency on national policy directions.

Cape Town, like South Africa in general, is particularly badly afflicted, with infrastructure investment historically focused on private vehicle travel in a city where the vast majority do not own cars. The severe spatial distortions inflicted by Apartheid planning has made a exacerbated the problems of automobility, so that large swathes of the population are located at the remotest fringes with minimal transport options - options that without money, are rapidly diminished to no options at all. This version of the poverty trap - a trap that, more than anywhere else, is spatialised - cripples the economy as well as society.

While this has been recognised at both the national and local levels, and public transport has enjoyed renewed attention in recent years, the most commonly used form of transport - walking - is still almost entirely neglected. Overwhelmingly, where interventions aimed at promoting non-motorised transport (NMT) are implemented, the conviction and support that would enable them to comprehensively address the problems they are supposed to alleviate, are lacking. This not only compounds the original problems, but also contributes to a perception that NMT is not worth the effort and resources. Yet the problem is not NMT, but interventions that are ill-conceived, impractical and in the long term unworkable, through being either badly planned or badly executed.

Even the public transport interventions that are planned - the Integrated Rapid Transit system, the Metrorail upgrade, etc. - do not directly address

the problem of the car-based city. They merely seek to offer alternatives, while leaving the system itself unchanged.

What is needed is a reimagining of the city - as a place where people, rather than cars, have unrestricted freedom of movement, and where access is available to all rather than being restricted to an auto-mobile minority.

This plan is that reimagining - it takes non-motorised transport (NMT) as the starting point for restructuring and reinventing a livable Cape Town - a city that is sustainable, equitable and integrated.

NMT, while by no means a cure-all, nevertheless is ideally placed to spearhead the kind of change needed to address some of Cape Town’s most severe spatial problems. It promises to offer solutions at many levels - at times as a short-term interventive fix (such as taking people to the resources until the means can be found to take the resources to the people) and at others a long-term strategic shift (such as a move away from private motorised transport towards more sustainable methods).

Instead, it seeks to create a new vision of Cape Town - a city committed to a new order that puts its people first. that could be; with the right kind of thinking and imagination and political will, in terms of mobility, public space and access, . It suggests a series of strategic projects that could begin to build such a city. Instead, it seeks to create a vision of a Cape Town that, through focusing on mobility, public space and access, could be achieved with the right kind of thinking, imagination and political will. Ultimately it suggests a series of strategic projects that could begin to build such a city.

VALUE STATEMENT

Planning and policymaking is not and can never be neutral – the opportunity costs of every action determine the potential range of future actions.

If one seeks to solve a lack of mobility by building a highway or by rehabilitating the transit system, that choice shapes a specific kind of city. If one cares not only about how efficient a transport system is, but also how equitable it is, that suggests some solutions over others. If one values sustainability over growth, that favours one strategy over another.

In seeking solutions, it is therefore essential that decision-makers are clear on what values influence their answers - and that those values are not only explicitly communicated to the public, but thread clearly and visibly through the policies, plans, programmes and projects that are the outcomes of those decisions.

The values informing this plan are a reversal of the historic valuations of most modern cities - mobility over access and time over space . This plan reverses that rationality: it seeks to **Reprioritise Space** by focusing on **Access over Mobility**.

In reformulating the decision-making process thus, outcomes will be oriented towards creating a more **Sustainable, Equitable, and Integrated** society; three further values that are both guiding principles and goals to strive towards.

Together, these values seek to achieve a city where resources and opportunities are equally accessible to all; where quality of life is prioritised over consumption, daily mobility needs can be met without warming the planet, and the zero-car household is the norm rather than the exception.

PROBLEM STATEMENT

The private car has come to be the centre of a way of life that values the consumption of stuff over the quality of life; the economy over society or the environment. In the spatial realm, this plays out as a value system that puts time over space, mobility over access and private over public. Not only does this impoverish the experience of life for the hyper-consuming, hyper-mobile class engendered by this system, but it leaves those who cannot consume and are of limited mobility unable to participate fully in society and the economy.

In practical terms, this social order is leading humanity to the edge of an abyss: climate change, pollution, ecological destruction and resource depletion threaten to alter our environment in ways we do not yet fully understand. Coupled with skyrocketing inequality and poverty, these meta-level issues threaten our way of life. While the car on its own is clearly not solely or even primarily responsible, the car system is nevertheless a key driver of the social and economic structure that is.

In addition to the distortions it imposes on the socio-economic make-up of society, automobility also manifests itself in problems that, while globally connected, is in each place locally expressed: a sprawling and fragmented urban footprint that consumes land and resources at an unprecedented and unsustainable rate; rapidly differentiating mobilities that put the majority of people outside of the range of opportunity, 1.2 million traffic deaths a year and between 20-50 million more permanently maimed and disfigured. It is also a powerful influence a burgeoning global health epidemic that now sees more people suffering from obesity than from hunger.

The question is:

What role can spatial and transport planning play in shifting this system? How can planners - whose sphere of influence is inevitably limited to the local, or at most, the national - hope to impact on a global problem?

The absence of a global planning body means that intervention will inevitably be at a local, or, at most, a national scale - a limitation that with one reading can seem disappointingly piecemeal. Yet the cumulative effort of local interventions can have far-reaching consequences: cities are already the source of close to 80% of global CO2 emissions, and as the world continues to urbanise that number will increase. City authorities and citizens therefore have a crucial role to play in shaping future social, ecological

and economic wellbeing. Collectively, cities have a unique opportunity to make a big impact as planners and engineers rush to catch up with the backlogs wrought by the last thirty years' prodigious influx of people - an estimated US\$350 trillion to be invested in urban infrastructure over the next thirty years. Despite the urgency of these measures, it is crucial that the mistakes of the past are not repeated, and that this new infrastructure lay the foundations for a more sustainable future. Cities - and their planners and engineers - are thus as much part of the solution as they have been part of the problem.

This 'problem' is acutely manifested in Cape Town; a city of great inequality, spatial segregation and fragmentation, with a highly differentiated mobility for poor and rich, and a spatially distorted lack of resources. It is a city that denies opportunity to all but the rich; a city that is rapidly becoming one of the unhealthiest cities in the world, and that, in its current form, is entirely unsustainable. Yet while these problems have not gone unrecognised, there has been no official response adequate to addressing them.

The next question, then, is:

How can system change - away from the car, towards sustainability - be brought about by local interventions? Can planning influence the local manifestation of a global problem, and, if so, what would such a plan look like?

This document is an exploration of what such a response should be. From a theoretical analysis through to a policy statement to the outline of a strategic project, it seeks to establish both the policies and the projects that are needed to change the system.

METHODOLOGY

The methodology employed in addressing these issues primarily revolves around secondary data review of the global theoretical literature, complemented by a precedent review/case study approach to inform the practical application of the theoretical ideas.

Within the Cape Town context, the literature review was augmented by a visual reconnaissance of the city and an interrogation of local plans and policies.

These were used to compile the policies and plans, which were additionally informed by extensive use of public and non-motorised transport within the city.

CHAPTER OUTLINE

This document is divided into three parts. Part I forms the analysis, Part II the policy and Part III the strategic project.

■ PART I: [ANALYSIS]

Chapter 1 comprises the analysis. Chapter 1 is a theoretical analysis that explains how the car system is a self-perpetuating complex adaptive system that is currently outcompeting humans in their own cities. It describes how ‘rational’ transport planning has helped create that system, how it has itself been focused almost exclusively on cars and how this is the outcome of a discourse that has been unaware – or has wilfully persisted in being unaware – of the ways in which automobility has created its own ‘truth’, often with the help of planners’ methodologies of analysis. It shows how cars have come to shape the spatial realm of the city, how this has impacted on the public realm and even the private lives of individuals, and how negative these impacts really are in both the short and the long run. Finally, it argues that the solution lies in reconfiguring our cities to a human scale, and applying principles of ‘transport equity’ to all new infrastructure decisions.

Chapter 2 looks at two cities - New York and Bogotá – that have tried, in quite different ways, to buck the current motor-centric system and initiate a different path of development. Both have had significant, albeit not flawless successes, and while their ideas are not directly transferable, they show how original thinking, creative strategising and firm but resourceful implementation are essential to any plan that is to be successful in achieving meta-level change.

Chapter 3 looks at how Cape Town compounds the perversions of Western automobility through exacerbating the structural inequality of Apartheid and distorting post-Apartheid attempts at reconstruction. It shows the severe failure to date of policies and plans aimed at addressing the fragmentation, inequity and lack of sustainability that is crippling Cape Town’s society, economy and environment. Policy reactions to this situation have also been wholly inadequate. Broad-based plans such as the Spatial Development Framework (SDF) and Integrated Transport Plan (ITP) do not have the capacity to leverage strategic projects to create wholesale change, while single-focus policies and plans such as the NMT Policy Framework lack vision and political clout. All lack adequate implementation measures.

■ PART II: [POLICY]

Part II is an attempt to address these issues and reimagine the city, using NMT as a starting point for restructuring and reinventing a livable, integrated Cape Town. It sets out the policies that are needed to shift the system to prioritise people over cars, accessibility over mobility, and space over time. In doing this, it looks at two levels of intervention: metro-scale initiatives, and street-based interventions. Its implementation plan a primary conclusion is that there needs to be space for experimentation, adaptation and even occasionally failure, and that plans like these only succeed when they respond specifically to local circumstances and capture the imagination of the people they are aimed at.

■ PART III: [PROJECT]

Part III lays out the strategic projects that are to drive the plan and serve as simultaneously sites for experimentation and exploration. The Central City is the focus of the pilot project described here, and covers four areas of focus: the City (land); The Natural Spaces; Movement; and Public Space, from which it produces a strategic development framework.

■ CONCLUSION

Concludes and discusses the outcomes and findings of this thesis.

A red square is positioned to the left of a black crosshair. The crosshair consists of a vertical line and a horizontal line that intersect. The text '[PART I: ANALYSIS]' is located to the right of the vertical line, centered vertically relative to the intersection.

[PART I: ANALYSIS]

CHAPTER 1:

CAR-CENTRIC PLANNING AND THE RISE OF AUTOMOBILITY



Urban systems are so intrinsically intertwined with transport systems that it would be very hard to determine where the one ends and the next begins. Each have had powerful formative influences over the other, so that it can be difficult to tell which came first. However, together they have created an urban mobility environment that is devastating to its living inhabitants. Urban policies, transport policies and human self-interest have unwittingly conspired to thrust our cities in deep, terrible trouble.

The evidence for climate change is, to any reasonable mind, irrefutable. Even if all CO₂ emissions were cut to pre-industrial levels tomorrow (itself an impossible prospect), processes have already been set in motion that are going to change our life systems as we know them (see (IPCC, 2007). Cities are both exceptionally threatened and exceptionally culpable; their energy intakes, waste outputs, and resource consumption is astronomical and growing, even while the cities themselves are expanding at a prodigious rate. That expansion is not just driven by population growth but also by decentralization – in fact, cities have “spread out faster than they have grown in population, with rapid growth in suburban areas and the rise of ‘edge cities’ in the outer suburbs...requiring a rapid increase in personal vehicles and a declining share of transit” (Kahn Ribeiro, et al., 2007). This shift in city pattern, together with the host of factors explored below, has meant that in 2004, transport was responsible for ‘23% of world energy-related greenhouse gas (GHG) emissions with about three quarters coming from road vehicles’; a fact that sounds dramatic but only tells half the story: transport has been the fastest growing GHG emitter and it would appear that this is just the beginning for this juggernaut.

Between 1950 and 1997 the world auto fleet grew from 50 million to 580 million vehicles; five times faster than population growth (Kahn Ribeiro, et al., 2007, p. 329). Yet the “threshold per capita income level where a major take-off in car ownership tends to occur is [only now] being attained by [many] emerging market countries, including China and India” – a fact that projects the global number of vehicles to increase by 350% (up 2.3 billion from a current 700 million vehicles) by 2050 (Chamon, Mauro, & Okawa, 2008, pp. 247-8). Of that, China alone is expected to have 573 million vehicles – and that is still only at half the rate of US per capita car ownership. Cars, in short, are currently a problem and are set to become dramatically more so. Dennis and Urry, in contemplating likely post-carbon scenarios (with such happy titles as ‘Regional Warlordism’ and ‘Digital Networks of Control’) conclude that “there are...no good outcomes after the car. It and its high carbon friends would seem to have done their best to leave little standing even as they themselves disappear from view” (2009, p. 164).

The need to come up with an alternative is pressing. This chapter will explore how we got here, what we’re doing about it, and how we can get out. But first, we try to understand the nature of the problem more closely. For that, we turn to complexity science; for only by understanding the problem on a holistic level can we hope to understand how we can influence it.

A COMPLEX SYSTEMS APPROACH TO TRANSPORT AND CITIES

Complexity has emerged in recent years as a new scientific approach that focuses on how the relationship between individual elements give rise to the collective behaviours of a system, rather than on the elements themselves (the old reductionist approach). This thesis will use a complex-systems approach in order to frame the current transport reality and make sense of the relationship between it and future attempts at reshaping that reality. As will be shown throughout, complexity thinking promises to enhance understanding of the behaviour of a complex system such as transport, and is invaluable in aiding comprehension of how such a system can be managed and guided – which is exactly the role of the planner. Furthermore, it helps understand and explain how, why and when real-world, large-scale change occurs, and how certain small actions, under the right conditions, can be amplified so as to bring about the kind of big changes that are needed to address the problems listed above.

If you try and take a cat apart to see how it works, the first thing you have on your hands is a non-working cat – Douglas Adams

Firstly, it is important to draw a distinction between complex and complicated. Complicated refers to something that might be extremely intricate – for example, a Boeing engine – but that can nevertheless be reduced to a number of separate and distinct parts that can be disassembled and reassembled at will. Complexity, on the contrary, is irreducible; it is the emergent behaviours of a system, constituted through the interactions between its elements, and cannot be taken apart without destroying it. A living body, a city, an economy and an ecosystem are all examples of complex

systems. Thus, when we look at complexity, our focus shifts from the individual element(s) to the overall structure and behaviour of the system. The interactions between the parts become more fundamental than the parts themselves, and complexity emerges as a result of the patterns of interaction between the elements (Dennis & Urry, 2009; Urry, 2003; Cillier, 1998).

The key properties of complex systems, for the purposes of this thesis, are thus:

- They consist of a wide variety of interacting elements that together give rise to emergent properties, and can adapt and evolve over time
- They are self-organising and self-structuring, yet have no central hierarchy or inherent 'governance'
- Perhaps most importantly, complex systems do not change gradually or linearly over time. Instead, the system will remain superficially 'stable' even as that stability is eroded (what is dubbed in the complexity lexicon 'self-organised criticality'), up to the point where a threshold, or 'tipping point', is reached that suddenly and abruptly transposes the entire system to a new 'order'.

(adapted from (Dennis & Urry, 2009; Cillier, 1998).

Dennis and Urry (2009) make the case that the transport system, in both its globalised form and its localised variants across regions, countries and cities, is such a system. Far from being just roads and vehicles, tracks and trains, transport patterns emerge as the product of a vast variety of decisions made and actions taken by everyone from individuals to governments; from small businesses to multinationals, and from sectors ranging from oil to agriculture to retail to food. Moreover, they go further and define that system as the 'car system'. This term encompasses the entire set of sub-

sidary industries, actions and cultures that support or are engendered by it – oil companies, cars and parts manufacturers, gas stations, shopping malls, lift clubs to school, rush hours, parking garages, private driveways, suburbia, hotels and motels, advertising and marketing, etc. Indeed, they argue, "unlike the bus or train system, [the car system] is a way of life, an entire

culture. It has redefined movement, affect and emotion in the contemporary world" (2009, p. 41). As such, the 'car system' defines not only our transport system but, to a large extent, our social system. This view is supported in various forms by a host of other articles and authors (Urry, 2004; Urry, 2003; Featherstone, 2004; Richardson, 2001; Mumford, 1958; Böhm, Jones, Land, & Paterson, 2006) and forms a central tenet of this thesis.

Transport planning, on the other hand, is not in and of itself a complex system, although it is a key actor within the transport network. Accordingly, it would be very useful for the planning profession to familiarise itself with complexity science and utilise the analytical tools it has to offer. At the same time, this requires a recognition that planning and policy-making is but one part of a greater system, which requires both greater humility from planners and far more strategic thinking in terms of how change is brought about, especially with the current predominance of neoliberalism, that has largely negated the power of government to lead change.

Firstly, it is important to understand that the ascendancy of the petroleum-based steel automobile was not the inevitable result of a superior machine, but, as Dennis and Urry (2009) explain in detail, the precarious consequence of a series of small, chance events occurring around the automobile's formative years at the turn of the last century. Yet these 'small, chance events' resulted in setting the private petroleum-based automobile onto a 'path-dependency' that would eventually 'lock' all of society into a car system that, "together with high energy production and consumption, has generated extraordinary levels of carbon consumption, resource depletion and peaking of oil, and transformed human settlements and, in a way, humans themselves" (Dennis & Urry, 2009, p. 46). While Dennis and Urry focus on the broader socio-economic and technical influences in shaping this system, an important role was played – and continues to be played – by the car-struck field of transportation planning that emerged to manage and indeed spread the 'car system' throughout the rest of the world (with the great aid of car-centric city planning). This is so-called 'rational' transport planning, a philosophy of planning that, despite many 'swings of the pendulum', continues to lie at the heart of transport planning almost everywhere.

"What's transportation for? This is a question that highway engineers apparently never ask themselves: probably because they take for granted the belief that transportation exists for the purpose of providing suitable outlets for the motorcar industry. To increase the number of cars, to enable motorists to go longer distances, to more places, at higher speeds, has become an end in itself." (Mumford, 1958)

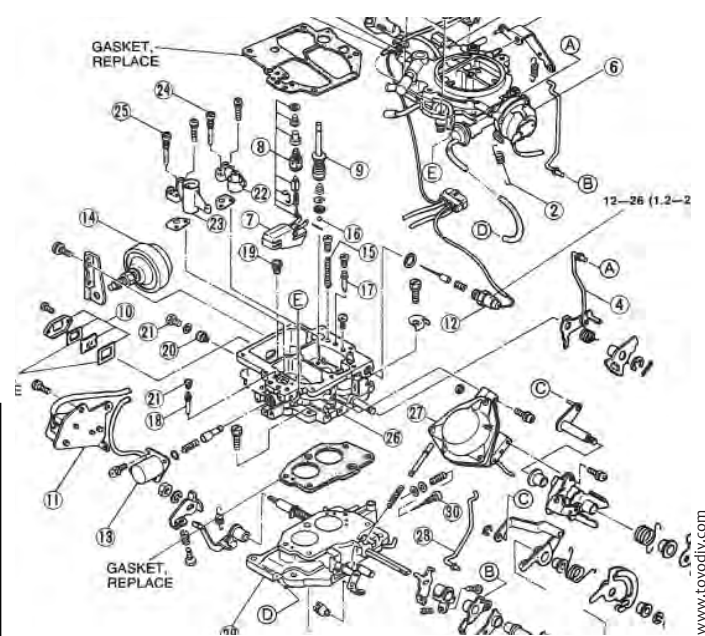


Figure 1.1: 'Complicated' is like a machine, or an engine - it can be disassembled and reassembled at will.



Figure 1.2: 'Complex' is like a brain - take it apart and you will forever have a non-working brain...

Source: Mercedes Benz Advert, 2010

RATIONAL TRANSPORT PLANNING

Deeply enamoured of the vision of modernity as embodied by the private automobile, planners saw improved mobility – with the flexibility, freedom and speed that can only be enjoyed through a car – as the ultimate purpose of transport planning, with the principle yardstick of success being the reduction of travel time. Accordingly, transport policy focused increasingly on facilitating ease of travel for the car, while subordinating all other forms of transport, and indeed often all other facets of society, to its needs.

This perspective saw the role of the transport planner defined as someone who “deals with traffic demand, engineering feasibility, and construction, maintenance, and operating costs” (Healey, 1977, p. 203) rather than making value-based decisions about transport policy; it created ‘technical’ experts who used mathematical and economic models to irrefutably forecast traffic demand (generally in the form of private motor vehicles) and implement plans to meet those demands (usually in the form of more roads, freeways and parking). Justifying these car-oriented policy decisions was the clear and – at first glance – incontrovertible evidence produced by the primary ‘rational’ analytic and planning tool, the Urban Transport Planning System (UTPS – also known as the UTP process – see Box 2.1) UTPS is a prime example of how ‘techniques of analysis’ can ‘construct particular forms of knowledge’, thereby legitimising “particular spatial strategies while marginalising other ways of understanding policy problems” (Richardson, 2001, p. 305).



Figure 1.3: Highways entering the realm of the surreal (ONLY TWO ARE ART)

“Foucault’s view of the relationship between truth and power is one which refocuses inquiry. It suggests that questions about the ultimate truth of arguments are misplaced. We should instead ask how, why, and by who, truth is attributed to particular arguments and not to others. This insight is of particular relevance to the understanding of the policy process as a political, rather than rational, form of decision-making. It also helps us to understand why Foucault is not condemning rationality outright, but simply saying that rational and/or irrational arguments may be appropriated as ‘truth’ through the exercise of power.”

– Richardson, 1996

To make sense of how rational planning could have the disastrous outcome it did, a Foucauldian analytical approach to understanding and framing the problems is instructive. Essentially, this approach is based on the idea that “‘rationality is penetrated by power’, and the dynamic between the two is critical in understanding what policy is about” (Flyvberg & Richardson, 2002). Thus we can see how policy planners and, indeed, vast swathes of society became caught up in the thrall of the private motor-vehicle, while the social, economic and environmental costs of this new paradigm, as well as the needs of the non-driving population – the young, the old, the poor, the handicapped, and everyone else for whom a driving license or car ownership was impossible – were completely overlooked. It was – and in places still is – considered a universal truth that more cars, greater road capacity and better car facilities are unequivocally better. However, the legitimacy of the kind of rationality that brought about these views has increasingly been questioned. We need to recognise that policy “is shaped by arguments, or discourses, based on knowledge claims which may be rational or irrational, reasonable or unreasonable” and that the shaping of policy depends on a “deeper dynamics of power and knowledge within and between discourses” (Richardson, 1996, p. 280). Accordingly, critical enquiry should be aimed not at establishing some ‘ultimate truth’, but at establishing ‘how, why and by whom’ truth is attributed to some arguments and not others, and ties in with understanding the policy-making process as a political rather than a rational form of decision-making (Richardson, 1996). It was through ignorance or disregard of these mechanisms of ‘truth’ that the transport planning field and indeed, society as a whole, was able to so blindly prioritise the car over all other forms of transport for such an extended period of time.

In the decades following the global roll-out of UTP, it has become clear in many quarters that transport planning is anything but a neutral, rational ‘science’. Critiques of the model began almost immediately after its inception, although mainstream questioning of transport planning and methodologies only really begun in the 70s – at the exact time that it started being broadly exported to the very different circumstances of the rapidly-urbanising developing world, where it is causing new magnitudes of havoc (Vasconcellos, 2001; Dimitriou, 1992). Some of the more pertinent

ways in which the methodology shaped the original discourse were identified in the following critiques:

- Studies by Domencich and McFadden show how UTPS serves “existing needs at the time of the survey” (1975, p. 21), without evaluating the current systems themselves, or whether there might be better systems and/or options. This is one of the great criticisms of UTP – it has absolutely failed to consider alternatives to the car system, and indeed is geared towards indicating an ever-escalating road need.
- The methodology itself skews the plan-making process – e.g. by assessing manifest demand, as captured through the UTP methodologies of origin-destination surveys and trip generation models. In terms of this process, only ‘possible’ scenarios are shown and the modelling “does not admit that the existing transport system affects travel demand” (Hook 1994, cited in (Vasconcellos, 2001, p. 99; also argued in Behrens (2005; 2004). This means that the needs of people who have no access to transport and hence do not travel (known in transport parlance as suppressed demand) are completely ignored, and their condition perpetuated (Behrens, 2005).
- ‘Modal-split’ assessment often leads to pedestrian and NMT data being completely omitted, through only the main mode being captured and/or NMT trips of short duration or distance being excluded (Vasconcellos, 2001; Behrens, 2005, 2004). This has led

BOX. 1.1 RATIONAL TRANSPORT PLANNING

While various variations of the model exist, all follow the roughly the same pattern as the UTPS, which was developed in the US in the 1950s and exported to the rest of the world in the 1970s (Vasconcellos, 2001). Its key steps are summarised here from Vasconcellos (2001, pp. 96-98):

1. Definition of the system itself (setting the boundaries and specifying the environment)
2. Definition of the problem (traditionally setting the objective as reducing travel time)
3. The generation of alternatives (limited to private motorised transport or rail mass transit, and occasionally bus transit. NMT is almost always excluded owing to the difficulty of modelling such forms of transport).
4. Modelling and analysis of the alternatives – a four-stage process that forms the core of the UTP process. Dimitriou (1992, p. 20) defines it as:
 - Trip generation (whether to make a trip)
 - Trip distribution (where to go)
 - Modal Split (which mode of transport to use)
 - Trip/traffic assignment (which route to use)
5. Evaluation and selection of alternatives – based on future charges on transport infrastructure and the supply of facilities to cope with them. Evaluated according to cost-benefit principles.
6. Project – the selected alternative is worked out in detail
7. Implementation
8. Fundamentally, it is underpinned by the idea that the ‘right’ solution can be objectively determined, and that transport policy should continue “existing trends [private automobile dominance] as projected into the future, rather than seeing it as a policy question to be addressed by the planning process”

(Vasconcellos, 2001, pp. 98-99).

to a massive under-representation of the importance of NMT, and an accordant under-facilitation for NMT users.

- Trip assignment assumes that people “select a route based on minimum total travel time”, thereby ignoring the complex nature of the ‘trip decision process’ (Vasconcellos, 2001, p. 100), and the complex ways in which people make their choices.

Thus, in practice, the methodology of UTPS (and all the other variations of rational transport planning) is inherently geared towards creating a system of predict-and-provide that is analogous to “the story of the man who took another piece of bread in order to finish his butter, then another piece of butter in order to finish his bread, and so on till he burst” (Shoup, 2005, p. 57). New roads are built to accommodate forecasted traffic increases which themselves increase traffic which then require new roads – creating an ever-rising number of motorists followed by ever-grander road-building plans for building more, wider, and faster roads. Mumford described this as the “remedy that actually expands the evil it is meant to overcome”; and predicted that eventually all business and industry would abandon the congested city centre, “leaving a waste of expressways and garages behind them...a tomb of concrete roads and ramps covering the dead corpse of a city”(1958, p. 180).

“Widening roads to ease congestion is like trying to cure obesity by loosening your belt”
(Roy Kienitz 1998, Executive Director of Surface Transportation Policy Project)

Critiques of the system – while not always as dramatically voiced – attacked more than just its technical failures. Both UTPS and traditional transport planning is underpinned by a neoliberal ideology whose basic assumption is that “the market method is effective, and indeed just, in the identification of social needs, and justifies planning decisions on the grounds of aggregate community welfare” (Healey, 1977, p. 203). This allows the transport planner to see his role as that of ‘an objective functionary’ whose job it is to “fit revealed community aspirations to resource limitations through the application of objective technical expertise” (Healey, 1977, p. 203), thus “freeing the process from political arguments over value concerns and ideological manifestations” (Vasconcellos, 2001, p. 100) and ignoring entirely any political and/or social discourse about power relations, underlying ideologies or value concerns (Banister, Turner, & Richardson, 2000, pp. 8-9). The transport perspective is that politicians and planners set the goals; traffic engineers merely facilitate them – but that is a facile approach at best. The reality is that, as with traditional city planning, power relations play a significant role in shaping and steering the discourse. “Both knowledge production and exchange are infused with

ideological and political practices that protect the powerful and confuse the powerless” (Healey, 1992, p. 10) – and transport planning, more than most, is based on knowledge production and interpretation.

This state of affairs has been exacerbated by the fact that, post-1945, transport policy has generally splintered across a range of processes that have traditionally operated and made decisions regarding each transport mode in isolation and in traditional organisational silos (Richardson, 2001). Decision-making, funding and regulatory frameworks inform each mode, with different combinations of private and public involvement and different spheres of government competencies applying to different modes and different levels. This fragmentation occurs against a background of a broader ‘splintering urbanism’- the rapid privatisation and customisation of networked infrastructures across all levels (Graham & Marvin, 2001).. All of this together has created a ‘perfect climate’ for dominant forces in society (private, public and business) to converge around a single transport mode; especially one as potentially lucrative and empowering as the private vehicle’ (Richardson, 2001, p. 311).

This is even more true in the developing world than in Richardson’s Britain, with Dimitriou (1992) and Vasconcellos (2001) exploring in detail the ways in which UTPS has had even more disastrous (and definitively more lethal) consequences in the developing world. In that environment the extreme poverty of the urban majority as well as rapid and chaotic urbanisation of societies make a focus on automobility all the more absurd. This is reflected in the South African context, with Behrens (2005; 2004) showing in a number of studies and papers how non-motorised forms of transport and non-commuting trip patterns were systematically under-represented, under-counted and under-planned-for from the 1940s onwards. Indeed, the chief assumption underlying both town and transport planning during the apartheid era was the “inevitability of majority, if not universal, private car ownership and use, and the availability of financial and environmental resources to continually match the demand growth in private car use places on road space with roadway construction and cheap fuel supply” (Behrens, 2005).

In terms of complexity, this can be expressed through the notion of the ‘fitness landscape’, a term originating in evolutionary biology but also applicable to complex systems owing to their inherent adaptive capacity. It is used to describe the idea that within a certain set of constraints (represented as the fitness landscape) a small number of optimal responses exist, and organisms or systems inhabiting that ‘landscape’ will, over time, evolve to fit that niche. When the set of constraints changes, the organ-

isms adapted for that landscape would either adapt to the changes or go extinct. Accordingly, the current outcomes can also be understood through the emphasis placed by transport policy (and in conjunction, society) on ‘time over space’ and mobility over accessibility (Richardson, 2001, p. 315). This has created a ‘landscape’ where cars (machines of speed) are favoured over cyclists and pedestrians (the inhabitants of space), where moving traffic is favoured over parked vehicles, parked vehicles over public space, and travellers over non-travellers (Richardson, 2001, p. 315). Thus, ‘as time is saved for one group of travellers, car dependency is increased, making alternatives less attractive and reducing accessibility for those who do not have access to a car’ (Richardson, 2001, p. 315). This becomes a positive feedback loop serving to stabilise and entrench the ‘car system’, and further subordinate space to time and convenience. Change, in this regard, can only come from a dramatic transformation in the fitness landscape – a return to ‘space over time’ or at least, a system that gives equal weighting to both.

A MULTI-DIMENSIONAL PROBLEM

The modern city – South African cities and Cape Town in particular – has thus been shaped as a place above all for the private car and its driver, and the arguments above have sought to show all the ways the car system has been expressed through the design and form of the transport network. Yet it is not simply the proportion of roads vs. sidewalks and bicycle lanes, or the kind of transport infrastructure that is thus influenced, but the very space that makes up the city. Richardson (2001, p. 315) argues that these spatial conflicts “extend beyond the physical boundaries of roads, affecting spaces occupied by other modes of infrastructure as well as other land uses, causing a range of effects including blight, bisecting communities, channelling new development and creating shadow and corridor effects”. It can be argued that those spatial conflicts extend even further, shaping the social, public and even the mental realms of the city, extending its influence into the privatization of public space, the sustainability of our society (and thereby our future), as well as interweaving itself with issues of health, development and education, and indeed defining to a large extent how citizens identify themselves in relation to the city.

It is a discourse that has produced a particular ‘space time’ that prioritises personal freedom and mobility above all else, and that rejects any barriers to freedom of movement (Richardson, 2001). Thus, the “pattern of daily life adapts to the opportunities of increased mobility, and land-use patterns shift to accommodate the new trends” (Richardson, 2001). Social life, especially, “came to be irreversibly connected to the mode of mobility that **automobility**, both generates and presupposes. This mode of mobility is neither socially necessary nor inevitable but seems impossible to break from” (Dennis & Urry, 2009, pp. 57-58).

AUTOMOBILITY is “a set of political institutions and practices that seek to organize, accelerate and shape the spatial movements and impacts of automobiles, whilst simultaneously regulating their many consequences. It is also an ideological or discursive formation, embodying ideals of freedom, privacy, movement, progress and autonomy...and through which its principal technical artefacts – roads, cars, etc. – are legitimized. Finally, it entails a phenomenology, a set of ways of experiencing the world which serve both to legitimize its dominance and radically unsettle taken-for-granted boundaries separating human from machine, nature from artifice and so on. Together these apparently diverse strands comprise an understanding of automobility that is irreducible to the automobile.”

- Böhm, Jones, Land, & Paterson, 2006, p. 3

Lefebvre (1974, p. 10) defines hegemony as “more than an influence, more even than the permanent use of repressive violence. It is exercised over society as a whole, culture and knowledge included, and generally via human mediation: policies, political leaders, parties, as also a good many intellectuals and experts. It is exercised, therefore, over both in-

stitutions and ideas”. If it is conceded, as by this point it should be, that current transport policies have allowed the private vehicle to become hegemonic within the transport policy field, it leads to the question “Is it conceivable that the exercise of hegemony might leave space untouched? ... The answer must be no” (Lefebvre, 1974, p. 11). In terms of this particular hegemony, then, one can track the influence of automobile domination to its impacts on public space, social interaction, health and overall sustainability. Automobility, Dennis and Urry write,

“divides workplaces from homes, producing lengthy commutes into and across the city and stimulating the growth of suburbs. The system splits homes and business districts, undermining local retail outlets to which one might have walked or cycled, eroding town-centers, non-car pathways and public spaces...Members of families can more easily live apart and out of town, knowing that the car can connect such ‘distant places’ and rethread family ties” (2009, pp. 41-42)

In short, automobility, while facilitating the flexibility required by modern life, is in fact responsible for engendering the need for it in the first place,, “forc[ing] people to juggle fragments of time so as to deal with the temporal and spatial constraints that it itself generates” (Urry, 2004, p. 28) – and in doing so, it coerces the rest of the world into behaviours, choices and actions that perpetuate it – a perfect autopoietic system.

“Motorized vehicles create remoteness which they alone can shrink. They create distances for all and shrink them for only a few”

- (Illich 1974, p. 42 – cited in Jain & Guiver, 2001)

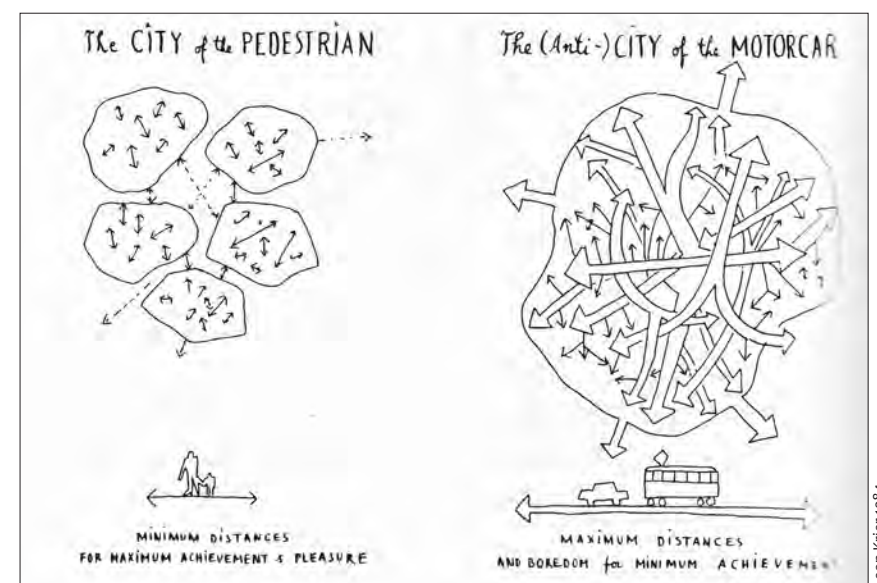


Figure 1.4: A critique of zoning and automobility by Leon Krier

Yet it is not just time and space that is bent to the automobile’s needs. Cars have had a significant role to play in the shift away from the public realm towards privatization (Ellin, 1996), and as such have had their part in shaping an aesthetic that Ellin labels ‘Form Follows Fear’. This is an idea explored in more detail by Jacobs and Appleyard, who write that cities themselves “have become privatised, partly because of the consumer society’s emphasis on the individual and the private sector...but escalated greatly by the spread of the automobile. Crime in the streets is both a cause and a consequence of this trend, which has resulted in a new form of city: one of closed, defended islands with blank and windowless facades surrounded by wastelands of parking lots and fast-moving traffic... the automobile has virtually destroyed cities as they once were” (1987, p. 114). Cars allow people to separate themselves from society; they become ‘cocoons’ from which to filter out the perceived dangers and unpleasantness of modern life – a “module in a chain of modules: house, shopping mall, office, leisure facilities and ‘safe’ parking” interspersed with “unpleasant voyage[s] through an inimical metropolitan jungle” (Kooijman, 2007, p. 4). Yet it is exactly this withdrawal from the public realm that feeds its deterioration; a positive feedback loop with disastrous consequences.

These consequences can also spill over into the deeply personal realm of our physical bodies, with automobility impacting on health and life in many different ways. Traffic deaths are directly attributable to cars and drivers, and yet the 1.2 million people who die in them every year (and the millions more who are injured and maimed) are labeled ‘accidental’, as if they were unexpected and unforeseen. In fact, it is just the ‘who’ and the ‘when’ that is unknown; the total number grows annually; showing a “a fatalism and acquiescence of societies to the accidents of consumption even after conclusive proof of harm” (Dauvergne, 2005, p. 44). These deaths and injuries are the logical outcome of the car system; to label them accidents is disingenuous.

Imagine, one day, that a Boeing 747 crashes in the United States, killing 135 people. Imagine the same day another Boeing 747 goes down somewhere in the European Union, killing another 135. Now imagine Boeing 747s begin crashing, like clockwork, every hour all day long—a few over the Pacific and Atlantic, a few into mountainsides, the rest into everyday neighborhoods—that day killing 3240 and injuring as many as 137,000 people. Finally, imagine this continues every day all year long. The technology would seem suicidal. No rational frequent flyer would ever fly again. Yet these are the global figures for traffic for 2002. - (Dauvergne, 2005, p. 42)

Lifestyle diseases are another way through which automobility impacts on our bodies. A number of studies (Sallis et al., 2004; Frank et al. 2006; Booth et al., 2000 – all cited in Smit, et al. (2010); see also Plantinga & Bernell (2007) showing a link between car-oriented sprawl and obesity,

which in turn links to a plethora of associated lifestyle diseases. Indeed, one study found that “individuals who move to denser counties lose weight and the greater the change in density the greater the weight loss” (Plantinga & Bernell, 2007). While these studies have not been replicated in the developing world (Smit, et al., 2010), and there is reason to suspect that causes and effects might differ significantly, common sense and empirical evidence would suggest that the car system correlates with obesity – not to mention the myriad of health problems arising from vehicle pollution and the lack of easy access (through insufficient transport system) to healthy food sources and medical care.

Thus one can see how, in conjunction with other major socio-economic influences, the private car becomes a significant force in (and profound outcome of) a dialectical process originating with the move to modernity and the increasingly all-encompassing hegemony of capitalism. Factors at play within this are the suburbanization of the 1950s (and in South Africa, the forced removals and dramatic segregative policies that enforced a mockery of ‘suburbanisation’), a discourse of ‘personal freedom and mobility’ (Richardson, 2001) and of ‘convenience’, ‘speed’ and ‘safety’ (Dennis & Urry, 2009). But perhaps the strongest factor has been the rapid spread and uptake of neoliberalism, underpinned as it is by ideals of free trade, deregulation, privatisation, an increased reliance on markets rather than on government, and a greater concern for efficiency than equity (Reich, 2007) – all of which have had the overall effect of shifting power from ‘citizens’ to ‘consumers’. Instead of voting at the polls, we vote through consumption – and the car, as perhaps the ultimate symbol of personal freedom and (upward) mobility, bestows on its owner the ultimate in voting power, thereby completing a self-reinforcing system that seems, from the outside, utterly unassailable.

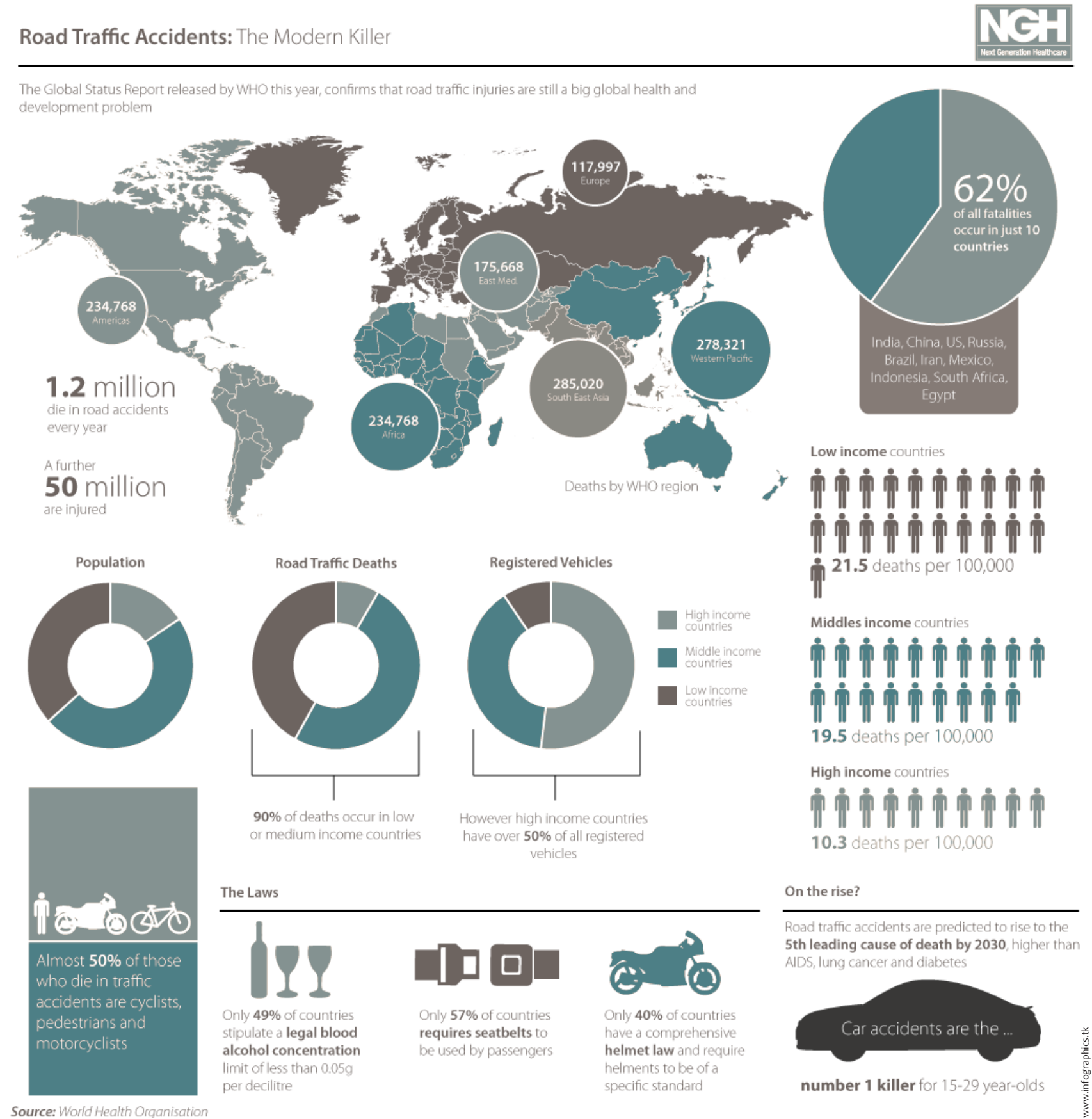


Figure 1.5: Death by Car - the term ‘accident’ becomes dubious when 1.2 million people die of them per year. ‘System failure’ might be a more accurate description.

TOWARDS A SOLUTION.

Yet how to alter this state of affairs has, as can be seen in the discussions above, been the focus of many great minds, with proposed solutions ranging from place-making to a ‘new urbanism’ to sustainability, and a host of variations in between. ‘Smart growth’ and transit-oriented development (TOD) are some of the most popular proposed solutions, and are touted by a wide variety of sources (Duany, Plater-Zyberk, & Speck, 2001; Kunstler, 1993) as a solution to car-dependency, our lack of sustainability, and the degradation of social/public life. Although the specifics vary among authors, the prescriptions are mostly tailored to the wealthy North, with the notable exception of the Curitiba TOD paradigm (which then is held up as a perfect paragon – practically the only one – for the entire developing world). Furthermore, they are often propagated at more simplistic levels than would be necessary to truly impact on behaviour and consumption patterns, often continuing to operate within the current paradigm of voluntary corrective behaviour and market-first. The other major solution-model is the ‘technology fix’, whereby it is believed that some dramatic new technological breakthrough will be cleaner, greener, safer and cheaper – but this can be discounted as neither a dependable nor indeed a probable solution.

Dennis and Urry (2009), while laying out a strong argument for how the car system is ‘neither fully secure nor fully insecure’ and is ‘ripe’ for the tipping, rather disappointingly also discuss mostly high-technology, high-investment models as a solution – places being built from scratch in zero-carbon developments that are either commercially driven in places like Britain, or showpieces by powerfully autocratic countries, like Abu Dhabi and China. While these might guide the way for future developments in rich countries, this does not give any indication as to how current cities are to be fixed and/or how these issues are to be addressed in the low-capital environments of the developing world.

But what would such a plan look like? We have explored in detail the many layers of problems, contentions and paradoxes within our transport system and their intersections with the problems of our cities. We have also looked at the many different perspectives on these problems from a wide variety of sources. What are the solutions they propose, and how can those solutions be amalgamated in a plan that can truly change the relationship between transport and people? At the same time, it has to be recognised that the transport systems – like any other major formative system – cannot simply be imposed from without but need to resonate with the society – the social system – they are intended to meld with. In a post-

communist world, essentially all major spaces across the world express the markets-first capitalist ideal of an ever-expanding economy, an ideal which, as has been shown, is so intrinsically linked to the very car system we are contesting.

However, initiating this change would require a clean break from the old rationalities that saw transport strictly in terms of statistics, models, and figures. Simply obtaining a new toolset and new assumptions is not enough; planners and policy makers need to break away from seeing the transport problem as a ‘new set of problems to be analysed and modelled’; and instead focus on inclusionary policy-building that creates space for the broader public to be heard and also ensures that marginal voices are expressed (Richardson, 2001). A new emphasis on “accessibility, rather than mobility for its own sake” should reinforce a ‘new treatment of space’ that integrates an ‘understanding of spatiality into policy-making’ (Richardson, 2001). By this means a new rationality of transport policy can be constructed.

Vasconcellos (2001), with his exclusive focus on the developing world, offers a very useful starting-point. He argues for the idea of a ‘right to transport provision’, with the core of his proposal being centred around principles of equity, progressiveness and accountability. This parallels the idea of environmental justice, which seeks to address cost-shifting from the rich to the poor in an environmental perspective (pollution, destruction of livelihoods, etc.), and, when applied from a transport perspective, would similarly seek to eliminate the externalities from the car-system and ensure that no cost-shifting (from cars to public transport and NMT users, or even non-travellers) is tolerated. This would, amongst a host of other changes, require the immediate cessation of all the indirect car, road and parking subsidies, and, dovetailing with Vasconcellos’ argument, entail an immediate and large-scale investment in transport facilities for the poorer sectors of society i.e. in public and non-motorised transport, where necessary through shifting funds from auto-oriented budgets.

The truth is, a transport system simply cannot equally facilitate pedestrians and private vehicles at the same time; ‘in a landscape and timescape still based on car mobility’ a change to personal mobility, even by individuals keen to change, is practically impossible – “The problem is bigger than individual actions” (Jain & Guiver, 2001). To know where to start, it is useful to go back one step further and to ask: ‘What is the purpose of transportation?’ Mumford answers this question by arguing that it is

“to bring people or goods to places where they are needed, and to concentrate the greatest variety of goods and people within a limited area, in order to widen the possibility of choice without making it necessary to travel. A good transportation system minimises unnecessary transportation; and in any event, it offers a change of speed and mode to fit a diversity of human purposes”(1958, p. 178).

This is a very useful definition to keep in mind as we look for a new transport (and, concomitantly, urban) paradigm. It pulls us away from the kind of goals set by the high personal flexibility brought about by automobility, and keeps a strong focus on access over mobility. It requires integrating different transport modes and planning land use around these transport modes in the form of mixed-use, high-density development, as well as putting the “pedestrian at the centre of all its proposals” and treating him “with the respect and honour we now accord only to the automobile” (1958, p. 186). After all, “no public life can take place between people in automobiles” (Jacobs & Appleyard, 1987). In many ways this echoes the smart growth arguments. However, if such arguments are to succeed in developing context, they will have to be a lot more innovative, affordable and pro-poor.

This chapter has attempted to review the myriad of causes, influences and forces that has shaped the current car-based transport system, as well as beginning to look at how that might be changed. All these authors point to different aspects and layers of change; however, there are significant gaps around how this ‘new rationality’ in transport would look when it is being formulated for a real-life, context-specific situation. That will be the ultimate purpose of this thesis – namely, to attempt to combine the best elements of all these theories, ideas and proposals into a coherent package that is sensitive to the particular local conditions of the site, the city and the cultural, institutional and environmental contexts. With this in mind, the next chapter will look at other practical attempts to bring about wholesale change. Serving as precedents, these case studies will afford crucial insights into how theories come to life.

NEW YORK



CHAPTER 2: A TALE OF TWO CITIES (A CASE STUDY)



BOGOTÁ

The previous chapter explained how the car system is a self-perpetuating complex adaptive system that is currently outcompeting humans in their own cities. It has described how 'rational' transport planning has helped create that system, how it has itself been focused almost exclusively on cars and how this is the outcome of a discourse that has been unaware – or has remained wilfully unaware – of the ways in which automobility has created its own 'truth', often with considerable help from the methodologies of analysis used by planners. It has shown how cars have come to shape the spatial realm of the city and how this has impacted on the public realm and even the private lives of individuals, as well as how negative these impacts really are in both the short and the long run. Finally, it argued that the solution lies in reconfiguring our cities to a human scale, and applying principles of 'transport equity' to all new infrastructure decisions. But what would such a plan actually look like?

This chapter looks at two cities that have, with varying degrees of success and very different strategies, attempted to create and implement just such a plan. In doing so we shall try to replace 'best practice models with realist critique', and attempt to learn as much from their failures as from their achievements. As Roy argues,

"international planning today is constituted through models and best practices. These blueprint Utopias are seen to be the key to the universal replicability of 'good' planning...[however] there is also quite a bit to be learned from what goes wrong. Confronting the failures and limitations of models provides a more realistic sense of politics and conflicts, and also forces planning to face up to the consequences of its own good action. Such outcomes must be seen as something more than simply "unintended consequences." This vocabulary of planning...also implies the inability to think about the complex social systems through which plans must be implemented." (2005, p. 156).

Both New York and Bogotá are often held up as international 'best practice', yet the implementation of both sets of plans have had considerable unintended consequences, positive and negative, as well as important issues interacting outside of the spatial. It is far more valuable to consider the complexity of their operations and implementations than to merely take away technical 'blueprints' to implement elsewhere. Furthermore, it is crucial to recognise the social and institutional contexts within which these plans were implemented, and the effect they had on how the plans materialise into fact and continue in practice. Not only does this approach allow us to learn from those cities but it also sensitises us to the impacts of specific contexts –social, economic, political or institutional – on the way plans play out in the 'real world'.

Both case studies have special relevance, albeit in different ways, for the South African context. New York, despite its location within the Global North, is, as one journalist sums up the statistics, 'the most unequal city in the most unequal state in the most unequal developed country in the world' with a gini-coefficient of 0.543 – substantially higher than most African countries and approaching that of South Africa's (Lubin, 2011). It is also highly multi-cultural, with large numbers of very poor people migrating to the city from all over the world, with conflicts between the needs of poor (over a million dependent on food aid) and the equally large numbers of more conservative working and middle-class people in the outer suburbs. At the same time, the city

centre (Manhattan) attracts the vast majority of both private and public investment, to the detriment of the outer boroughs. Negotiating the kind of large-scale change that is outlined below in such a large constituency requires political ability that was not quite mustered in the case of the new transport plan, as will be shown below.

At quite the other end of the spectrum, Bogotá, as the capital of a country that was practically a failed state in the '90s but has now transformed into one of the most widely-studied 'best practices' in sustainable transport, is a city that seems to hold out hope that rapid change is possible. It is especially tempting for South Africans to draw parallels between the high levels of crime and violence, high levels of inequality and extreme segregation and poverty, and to hope that a similar roll-out could create a 'quick fix' in South Africa. However, merely ticking a 'checklist' of infrastructure development neglects the bigger picture of social and political change within Bogotá, and any understanding that omits the complexity of those social shifts are bound to lead to failure.

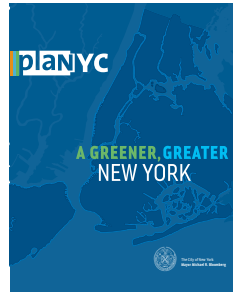
NEW YORK CITY – AN EMPIRE STATE OF MIND
Few cities exert such power over the world's imagination as New York; few, if any, have re-imagined themselves so spectacularly and yet so constantly. From its iconic rectangular grid laid out in the Commissioner's Plan of 1811 to the success of Olmsted's Central Park in 1873, to creating the first zoning laws in 1916; from Robert Moses creating the first superhighways and 'hack[ing his] way with a meat ax'¹ through the Bronx, to the celebration of the Greenwich sidewalk ballet in Jane Jacobs' *Life and Death of the Great American Cities*; from its collapse into a Gothamite wasteland in the 70s to its revival under Giuliani's Broken-Window policies in the late 90s to the cataclysmic vacuum left by the World Trade Centre in 2001 – New York has in many ways been the city of the twentieth century and seems set to remain so well into the twenty-first. In the words of Marshal Berman, New York's construction and development has been "conceived and executed not merely to serve immediate economic and political needs, but, at least equally important, to demonstrate to the whole world what modern men can build and how modern life can be imagined and lived" (1982, p. 289).



His own words; cited in Berman 1982:290

SUSTAINABLE NEW YORK - *PlaNYC*

In 2007 the New York Mayor's office launched *PlaNYC* and thereby initiated yet another reincarnation; this one envisioning New York "as the first sustainable 21st century city". However, it claims to be



"more than just a vision. *It is a plan to get there.* The 127 new initiative detailed here will strengthen out economy, public health, and quality of life. Collectively, they will add up to the broadest attack on climate change ever undertaken by an American city" (NYC, 2007, p. 141)

This bold initiative strategically uses infrastructure development to shape a new spatial and social imagining of the city that is followed through with intensive research, consultation, and implementation frameworks. The integrity of this plan is that it links together all the major infrastructural actors (Land, Water, Transport, Energy, and Air) and sets up a single framework to guide their efforts so that each strategy builds upon and reinforces the other, rather than, as so often happens in government silos, negating or undermining each other. It is underpinned by the understanding that infrastructure is crucially important in shaping the 'spatial form of cities, their sustainability and their inclusiveness'(Todes, 2009), and seeks to intelligently use infrastructure development to improve livability within the city without involving itself directly in social matters. As such, it states upfront:

"This is not a plan that supplants other City efforts, such as those we are making on crime, poverty, education, or social services. Here we have focused on the physical city, and its possibilities to unleash opportunity. We have examined the tangible barriers to improving our daily lives: housing that is too often out of reach, neighborhoods without enough playgrounds, the aging water and power systems in need of upgrades, congested roads and subways." (NYC, 2007, p. 3).

However, the choice not to address social and economic issues has, according to its critics, been one of its biggest failings (Cowett, 2008; Fuentes, 2011; Applebaum, et al., 2011), with Cowett positioning it as there being "no discussion of race and economic disadvantage in a city that is one of the most segregated in the U.S., has over a million people requiring some form of food assistance, and is losing affordable housing at an unprecedented rate"(2008, p. 3) – an omission that has backfired in places, as shall be explored below. At the same time, *PlaNYC*, unlike many that came before, is explicit about choosing the values that underlie these infrastructure choices – values based on opportunity-through-growth, diversity, and the right to a clean, healthy environment. It also recognises that all choices have profound consequences that will shape the city one way or another, and such choices are therefore explicitly made (NYC, 2007, p. 10).

SUSTAINABLE STREETS



A significant focus of *PlaNYC* is transport – the maintenance of existing facilities, congestion management, and the expansion of transit and NMT. To chart the course for achieving *PlaNYC*'s objectives (and in many cases to expand on them), the New York City Department of Transport (NYCDOT) released *Sustainable Streets* (2008a); a strategic plan that sees transport as a way to 'promote our economy, environment, and quality of life' through initiatives ranging from 'bus rapid transit to improved pedestrian paths and biking lanes' (pp. 2-3). To this end it has set itself impressive targets for drastically increasing road safety and mobility (especially through BRT and NMT) and investing in infrastructure. However, where it sets itself apart from most other transport plans is in its 'World Class Streets' policy – an ominous title, which in city-planning parlance usually translates into a neoliberal focus on integration with the global economy instead of social and spatial integration within the city (Miraftab, 2007). However, in this case these misgivings are unfounded and the term is used for an inclusionary and visionary policy that emphasises the street as public realm:

"The best cities in the world today approach streets as vital public places that foster social and economic activity, in addition to their more traditional role as corridors for travel. In New York, with some of the densest development in the world, the streets are literally our front yards. Walking in New York need not be simply a utilitarian matter of getting from subway station to office building – our streets have great recreational, social and economic potential as well. NYCDOT is the steward of 6000 miles [9600km] of streets and some of the most valuable, in-demand public space in the nation. We are committed to creating more varied and lively streetscapes to make our streets great destinations"

(NYCDOT, 2008a, p. 19)

A key element of this plan is identifying and transforming underutilized road space into 'compelling public spaces and walkable destinations', with the ultimate aim of ensuring that all New Yorkers live within a 10minute walk of public open space (POS) through the creation or enhancement

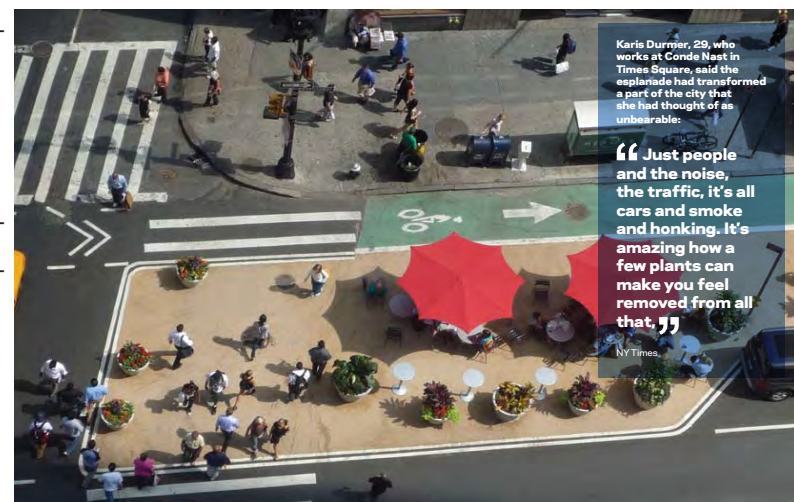
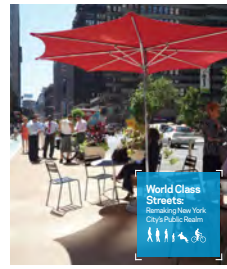


Figure 2.1: The new Times Square, New York

of neighbourhood plazas in 'every community' (pp. 20-21). Central to this is the idea of the 'complete street'; a street that serves a variety of transportation needs with a focus on safety for those on foot or bike, while still ensuring that the environment is interesting, stimulating and pleasant for the passerby,

NYCDOT 2008b

WORLD-CLASS STREETS



While 'World-Class Streets' first appears as a section of the *Sustainable Streets* plan, it gave rise to a freestanding policy document of its own, *World-Class Streets: Remaking New York's Public Realm*. *World Class Streets* is based on an analysis commissioned from Gehl Architects/Urban Quality Consultants and developed further by the NYCDOT team. Mayor Bloomberg sets the imperative for this strategy very clearly in the policy's introduction:

"New York has the most famous streets in the world. Now, we're working to make them the most attractive streets in the world for walking and cycling - and that other great New York sport, people-watching".

(NYCDOT, 2008b)

Gehl's analysis serves not only to inform NYCDOT of how streets and public spaces are currently being used but also creates that crucial baseline against which future changes can be measured. Establishing baselines is an oft-overlooked strategic requirement within NMT and public space planning, the absence of which makes the impact of interventions almost impossible to measure, especially since unlike with motorized transport, official records for foot and bicycle counts seldom exist. Some key findings from this study were: heavily overcrowded sidewalks exacerbated by the inequitable division between walking and driving space (see fig. 2.4, below); a dire lack of public seating spaces or even sidewalk cafes (while again, cars are amply provided for in on-street parking nearly everywhere and unsafe and unfriendly sidewalks discouraging the very young and very old from getting on the streets at all - see Flushing Ave cross-section below). Furthermore, many public spaces are hard to get to - public space is not naturally integrated into public streets and rights-of-way; instead, New Yorkers have to actively decide to travel to public space,



Figure 2.2: New Yorkers enjoying an entirely new activity - catching a tan on Times Square

often needing to negotiate complicated and busy crossings to get there. Few public spaces have 'active edges' bordered by buildings; instead, the only influence is often a street full of traffic (NYCDOT, 2008b).

In response, NYCDOT has chosen a multi-pronged plan for improvement, based around these initiatives:

- **A PUBLIC PLAZA PROGRAMME** - creating new public spaces from underused roadspace, the chief pilot project being a series of such plaza/pedestrianisation projects in Times Square and along Broadway, one of New York's main thoroughfares.
- **THE 'COMPLETE STREETS' PROGRAMME** - to set up design standards etc to make streets safe and hospitable to *all* road users, especially pedestrians, cyclists and transit riders.
- **SAFE STREETS FOR SENIORS AND STUDENTS** - special programmes looking at safety measures around schools and to accommodate very young and very old street users.
- **WEEKEND PEDESTRIAN AND CYCLING STREETS** - removing traffic from large streets and avenues over weekends to promote walking, cycling and other public activity.

PUBLIC PLAZAS AND THE PEDESTRIANISATION OF THE 'CROSSROADS OF THE WORLD'

The public plaza program is probably the most visually impressive (see below and right) with a number of spaces formerly given over to cars (often not even particularly usefully so) transformed into people-centric plazas, generally with planters, seats and even tables transforming the spaces from auto-havens to people's places. While projects have been implemented across all five NY boroughs, the headline act was the transformation of Times Square (and various other sections of Broadway) into a pedestrian mall under the *Green Light for Midtown (GLM)* project. Debuted under a trial period in May 2009 amidst semi-hysterical anticipations of traffic chaos and the imminent collapse of civilisation, it nevertheless quickly received positive feedback in the press and in blogs (Ouroussouf, 2009; Dunlap, 2009; Naparstek 2009, in Streetsblog.org; Chung 2009, in Gothamist.com; amongst others), and was confirmed as a permanent fixture less than a year later. The *GLM Evaluation Report* (NYCDOT, 2010), which details its successes, thoroughly refutes the doomsday prophecies of its opponents, showing how traffic improved somewhat, pedestrian numbers improved significantly, and safety (for motorists and pedestrians) improved dramatically, while a separate report revealed that air quality has improved by up to 41% around the plazas (NYCHealth, 2011). Most telling, however, is the 74% of New Yorkers who when surveyed agreed that Times Square has improved dramatically over the last year (NYCDOT, 2010).

These successes are noteworthy not just for their numbers but also for their symbolic imagery: as so many articles and blogs trumpeted in the days after the change, 'New York City has banished motor vehicles from the Crossroads of the World' (Naparstek, 2009) - and indeed, many another American city has followed suit (see SF Pavement to Parks - Box 2.1).

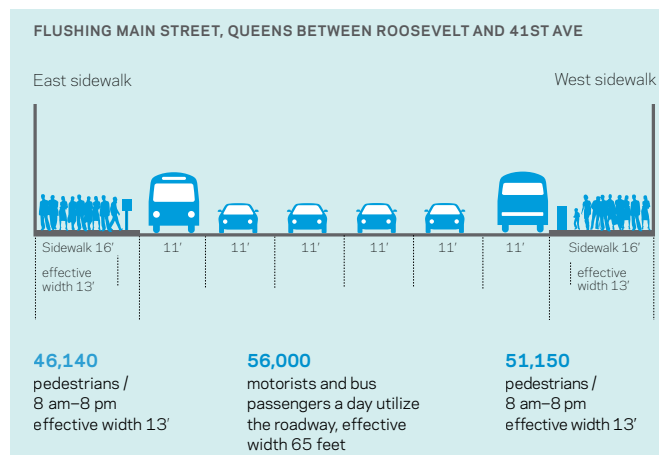
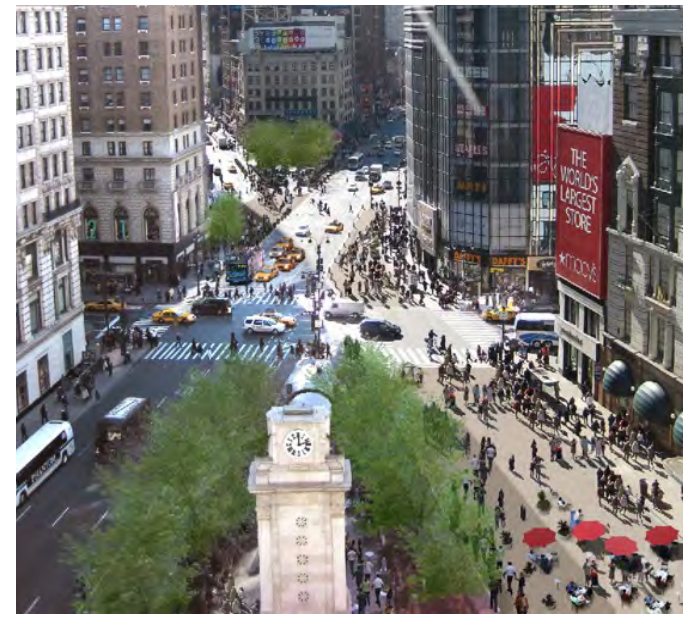
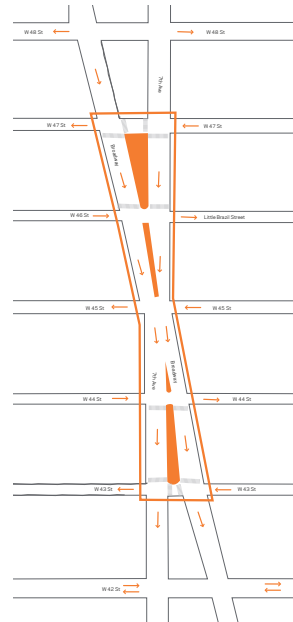


Figure 2.3-2.7 from left to right: Flushing Main Street Cross-section, showing inequitable division of space; Diagram of the Broadway Plaza plan; The plan in action: converting car space into people space at Madison Square; Broadway Plaza - view from Times Square; Showing how improved pedestrian facilities can change the pedestrian experience.





Nick Perry flickr.com



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PAVEMENT TO PARKS (BOX 2.1)

an initiative within San Francisco to (re-)claim unused or wasted space and turn them into desirable little areas with benches and plants (see before/after below). First came PARK(ing) DAY, where San Franciscans decorated parking spaces as they saw fit (see right). This movement turned into Pavement to Parks, inaugurated by the “Castro Commons” at 17th and Castro, which took an awkward stretch of pavement (oddly angled intersection and a trolley car stop) and made it a welcoming respite. The success of the Castro Commons trial (below) encouraged the City of San Francisco to support a broader initiative, which has built parklets all over San Francisco – so far nine have been built in total.

A crucial feature of Pavement to Parks is that mutability of the design—the parks must be easily changeable (and, if necessary, removable), with the idea that they can evolve to suit the city’s needs.

- Adapted from Merholz, 2011

Locations for Pavement to Parks projects are selected based on the following criteria:

- Sizeable area of under-utilized roadway
- Lack of public space in the surrounding neighborhood
- Pre-existing community support for public space at the location
- Potential to improve pedestrian and bicyclist safety via redesign
- Surrounding uses that can attract people to the space
- Identified community or business steward

- Adapted from SF Planning, 2011



SF Planning 2011



Seth Boor flickr.com

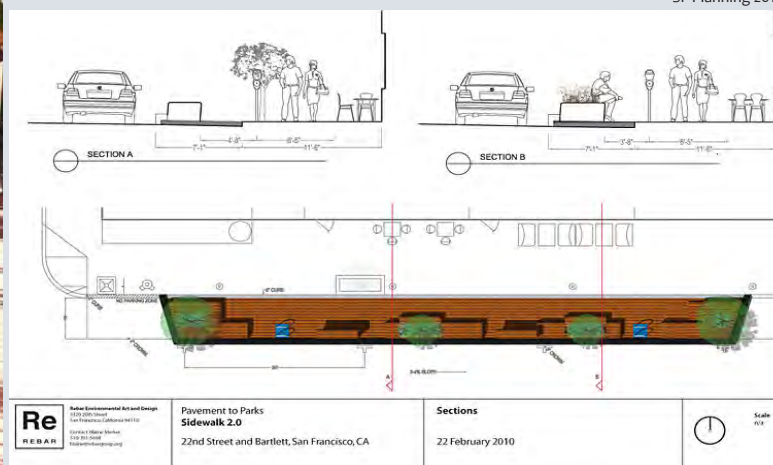
PARKLETS are a new type of Pavement to Parks Project. Instead of reclaiming a piece of underutilized roadway at an intersection, Parklets repurpose two to three parking stalls along a block as a space for people to relax, drink a cup of coffee, and enjoy the city around them. Parklets do this by building out a platform into the parking lane so that the grade of the sidewalk gets carried out into the parking lane. On the platform, benches, planters, landscaping, bike parking, and café tables and chairs all come together to provide a welcoming new public space.



SF Planning 2011



SF Planning 2011



Re

Pavement to Parks Sidewalk 2.0

22nd Street and Bartlett, San Francisco, CA

Sections

22 February 2010

Scale

1/8"

SF Planning 2011

SUMMER STREETS – PROMOTING LIFE ON THE STREETS

A significant part of the success of these programmes has been NYCDOT’s concerted efforts to not only construct physical infrastructure but also to rebuild the kind of street culture that would support and be supported by both World-Class and Complete Streets. A significant thrust of this ‘hearts-and-minds’ campaign has been the Summer Streets programme, a New York adaptation of Bogotá’s Ciclovía programme where roads are closed to cars and people are encouraged to walk, cycle and otherwise enjoy their city (see Bogotá case study for more details). Unlike the sometimes mixed reactions of the plaza programmes, Summer Streets has been met with unreserved enthusiasm – as this New York Times editorial gushed the day after the first such event;

“Without honking horns and speeding taxis, the streets became serene parks, open to throngs of cyclists, in-line skaters and strollers. Yoga and fitness classes added to the therapeutic feel. Cyclists and walkers mostly seemed to respect each other, and people found themselves doing something decidedly un-New York: meandering... If Saturday was any indication, New Yorkers are voting with their feet — in favour of more chances to displace the cars, trucks and taxis for a day, and go for a stroll.”

(New York Times Editorial, 2008)

The lesson here is one that many enthusiastic planners worldwide forget far too often – that the best plans, designs and schemes can fall flat if they do not capture the imagination of the public they are aimed at. Summer Streets has been an example of not only successfully changing the mindset of the people who use the streets, but also of mustering them in enough numbers to show policy-makers the political value of the plans themselves.

EVALUATION

The success of *World Class Streets* is evident in the public and the media’s response and is reflected in NYCDOT’s own assessment – the 2009 ‘Update’ that impressively seeks to measure the plan’s achievements and failures just one year later. Both paint an overwhelmingly positive picture, especially given the extremely tight timeframe for both implementation and monitoring. Indeed, the speed with which these projects have been happening is one of the most remarkable aspects about it – in the transport commissioner’s own words, “we are implementing functional and visible change on our streets in months rather than years or decades” (NYCDOT, 2009, p. 4). This is both a strength and a weakness – on the one hand, it allows DOT to push through changes that, were they subject to full community participation procedures, would have been vociferously opposed. Instead, when faced with the *de facto* existence of what generally really are huge improvements to the public realm, the public is often won over by the changes, as with the Times Square project.

In other areas, however, a backlash has been brewing, stemming from the broader public’s alienation from what are often entirely unilateral actions by the Transport Department. The speed and scale with which these changes happen is part of this alienation, as people hardly have time to adjust to the changes before more are implemented. This

creates deep-rooted feelings of insecurity within communities, who often feel that their neighbourhoods are being transformed without them having a say in it, or even seeing where the changes will be taking them. The rather authoritarian approach taken by NYCDOT has not helped:

“Even if one appreciates some of Janette [Sadik-Kahn, the transport commissioner]’s goals, it’s clear the approach has been very alienating all over the city,” said Bill de Blasio, the city’s public advocate. “There is a needless level of conflict. A lot of communities have become distrustful of the approach that the mayor and Janette have taken.” (Grynbaum, 2011a)

At the same time, as Ouroussouf (2009) notes, these forceful actions “reasserts the positive role government can play in shaping the public realm after decades of sitting by and watching private interests take over” – a decisive stroke in remaking a transport system and public realm for people instead of cars, and indeed many have been won over despite initial misgivings. This makes the nature of the changes – inexpensive and impermanent – a mixed blessing, as while the affordable price tags and makeshift nature encourages experimentation, the lack of high capital investment and minimal infrastructure development makes the programmes easily reversible.

For those without access to cars, *Sustainable Streets* constitutes a landmark shift in the right direction. It puts NMT and transit riders at the forefront of its mobility strategy, claiming to ‘roll out the red carpet’ for them while providing more opportunities for commuting by BRT, bicycle and on foot. A significant part of this strategy revolves around cycling and the expansion of New York’s bicycle routes and lanes, a position the commissioner has been adamant about and for which NYCDOT set itself some highly ambitious goals:

- To double bicycle commuting between 2007 and 2015 and tripling it by 2020
- To build 200 new lane-miles of bicycle facilities by 2009 and 15 miles of protected bike lanes by 2010
- To work towards the completion of the city’s 1,800 mile bicycle master plan
- To install 5,000 new CityRacks (bicycle racks) by 2011
- To pursue legislation that will require large commercial buildings to provide indoor bike parking
- To raise awareness of cyclists both through street design and media campaigns.

(NYCDOT, 2008a, p. 15)

Similarly to the public plaza plan, roll-out started immediately – and indeed, in 2009 NYCDOT installed an ‘unprecedented’ 90 miles (144 km) of new bicycle lanes ‘at a faster pace than any other big city in the nation’. In

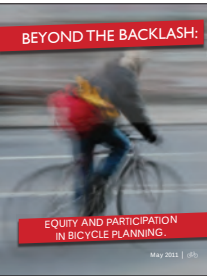
addition, 619 wayfinding signs were installed to guide cyclists to the entrances to East River bridge paths as well as 88 extra bike parking spaces for city employees, 20 sheltered bicycle parking stands and 1,211 new outdoor bicycle racks for the public (NYCDOT, 2009, p. 22). The successes, NYCDOT claims, have yielded ‘tremendous results’:

“The bike lanes are filled with lines of cyclists moving down the street. DOT’s 2008 bicycle counts (taken at selected entry points into the central business district) show a 35% increase from 2007 to 2008, and that bicycle commuting has more than doubled since 2000 (a 116% increase). At this rate, we will meet and significantly surpass our goal of doubling bicycle commuters by 2015 and tripling their number by 2020” (NYCDOT, 2009, p. 22).

This very rosy picture, while true in fact, does not tell the whole story: outside of lower and midtown Manhattan a bicycle backlash has been brewing that has seen protests, lawsuits and even political campaigns riding on an anti-bicycle sentiment that has gone from disapproving to openly hostile. “When I become mayor, you know what I’m going to spend my first year doing?” a political contender asked Mayor Bloomberg at a 2010 official dinner. “I’m going to have a bunch of ribbon-cuttings tearing out your [expletive] bike lanes” (quoted in Grynbaum, 2011a).

This kind of hostility cannot be ignored, and confrontational counteractions do not help either. Instead, any plan that hopes to successfully bring about change needs to understand and address such concerns. Fortunately, the City University of New York’s Hunter College produced an in-depth study investigating on this issue, *Beyond Backlash*. While the study is painstakingly detailed, the lessons it offers are surprisingly applicable to a broader context and resonates deeply with the South African experience. As such, their findings and recommendations will be discussed in great detail.

BEYOND THE BACKLASH: ANALYSIS



The flurry of opposition to the bicycles lanes has exploded into a divisive political issue that threatens to reverse all the gains made for NMT over the Bloomberg years (Grynbaum, 2011a). This is indeed largely a problem of framing, as the statistics around safety, traffic and even popular support are definitely in favour of the lanes – and yet the publicity surrounding it has largely been negative.

Two issues in particular underpin the host of issues that bicycle lanes have brought to the forefront:

- The inequitable roll-out of new cycling and transport infrastructure has fostered hostility from people who feel their needs are being

neglected; and

- Implementation has been a top-down, largely exclusionary process that has made the gains made highly vulnerable to future political action to remove them

(Applebaum, et al., 2011, p. vi)

In many ways, transportation justice lies at the heart of both these issues. The absence of any kind of equity values in the original *PlaNYC* (an absence carried through in each of its specialised subsidiaries) here comes to play in full force – the vast majority of new infrastructure has been laid out to complement the already-existing infrastructure, all of which is located in the dense and generally wealthy, white and often gentrified neighbourhoods of central Manhattan and north-west Brooklyn – thereby creating the impression that a) NYCDOT is mostly concerned with catering to wealthier constituents; and b) that bicycle lanes are for “white yuppies in spandex” and are themselves a cause of gentrification. And indeed, it is easy to see where these perceptions come from – while the *New York City Bicycle Master Plan* map out lanes all around the city, DOT has “largely followed an operative policy of building where it seems most possible, or where enthusiasm is high and resistance is low” (p. 27) – which are mostly high-income or rapidly gentrifying areas with high numbers of creative professionals (see fig. 2.8). Furthermore, NYCDOT’s data collection practices are inherently skewed towards counting commutation to the CBD: cyclists are counted at various entry points to Manhattan and along 50th Street (also in Manhattan) – thereby providing a “picture of CBD commuter cycling, but omit[ting] the thousands who bicycle entirely within the outer boroughs” – the same thousands (millions, in fact) who are also those worst-served by all other forms of transit (p. vi). Even the proposed bike sharing programme is skewed towards tourists and CBD workers, ignoring the many outer-borough cyclists who have “expressed a great deal of enthusiasm for bike share in their neighborhoods” (Applebaum, et al., 2011, p. 27). This is one of NYCDOT’s most acute failings: failing not only to correct already-existent transport inequalities, but to actively exacerbate them.

“As the city is gentrifying and many long-time New Yorkers fear for the stability of their neighbourhoods, many perceive cyclists to belong to one of two threatening classes: people who are richer than them (“white yuppies in spandex”); and people who are poorer than them (commercial cyclists, immigrants, people of color and punks). This “donut-hole theory” suggests that middle class citizens are furious with the city for helping everyone around them, while seeming to ignore their outer borough auto and transit needs... they imagine the city prioritises [everyone else] before the middle class”. (Applebaum, et al., 2011, p. 22)

A further failing has been the unilateral way in which bicycle infrastructure has been implemented. This has manifested both in the way that such developments have been presented as a *fait accompli*, with NYCDOT pre-

senting plans to the community boards as little as one week before construction begins, and through the Department failing to a) understand the needs of, and b) mobilize the people within affected communities who stand to benefit most from the projects, such as low-income cyclists (for whom cycling is often the only means of transport), transit-oriented cyclists (who use bicycles to get to and from mass-transit stops), and the large number of people using cycling for non-work related trips (children, students, seniors, etc.).

To this end, *Beyond Backlash* proposes three areas of solutions – overhauling the data-gathering methodology, focusing on packaging the cycling



Figure 2.8 The NYC Cycling Map shows clearly the discrepancy between midtown and the outer boroughs; an ironic twist because it is often the poorer, outer neighbourhoods who are most in need of cycling infrastructure.

strategies as a holistic approach to transport problems embedded within the Complete Streets initiative, and ensuring communities are not only on board but actively involved with new plans, in ways that will strengthen those strategies rather than detract from them.

From the data collected by the Hunter College group, two chief recommendations were drawn:

1. The primary need is to build neighborhood-based bicycle networks that correspond to the most frequently used routes, ensuring that infrastructure matches local needs (as opposed to traditional commuter-based to-CBD-and-back routes); and
2. There is a significant unrecognized need for bicycle connectivity parking in and around transit stations. Commuters want and need to cycle to subway and train stations, safely leave their bicycles at these transit hubs, commute to their jobs, and then return to cycle home.

(Applebaum, et al., 2011)

PLANNING TO CONFRONT THE BACKLASH

Another intrinsic finding has been that the long-term viability of bicycle paths hinge on truly participatory planning. A key argument here is that DOT should “redefine success, not in physical terms (e.g. how many bicycle lane miles exist at the close of the year), but rather by the degree to which communities and neighborhoods develop a stake in the viability and expansion of bicycle infrastructure throughout New York City” (pp. 64-65). At the same time, this requires educating and sensitizing the representative community members to “consider the rights of all users of the street and apply those considerations to the treatment of streets as public space” (p 10). To this end, the following recommendations can be considered widely applicable in pitching any new bicycle scheme:

- Demonstrate a local need for bicycle infrastructure (ties in with the revised methodology)
- Develop an integrated transportation plan for each neighborhood that provides the context for increased bicycle infrastructure. This means placing cycling projects in the context of multimodal plans for improvement, primarily through the vision of *Complete Streets*.
- Partner with community-based organizations (CBOs) and bicycle advocacy organizations to gather data on cyclists and cycling conditions.
- Create a travel and transportation education program: e.g. distributing wallet-sized bus time-tables, local maps of bike-route access and pedestrian friendly walking routes, and providing free “test tickets” to try out transit.
- Bring allies to community meetings. Cyclists from particular community districts should be invited to attend community board meetings when cycling infrastructure is on the agenda.

KEY LESSONS

- Successful transport planning is thoroughly integrated with all aspects of both street infrastructure and street life and underpinned by principles of transport equity; any plan that ignores these connections is either doomed to failure or will, through its success, create inequitable streets.
- The format of PlaNYC – a meta-level plan that creates an overarching vision for the city – can be incredibly useful in that it allows all city agencies and departments to work together towards achieving broad goals (sustainability, integration, etc) rather continually contradicting each other with individual actions. At the same time, it is important that social concerns and values are included in any such plan.
- Leadership has played a very strong role from PlaNYC down World-Class Streets to the bicycle lanes. PlaNYC comes straight from the Mayor’s Office, and Mayor Bloomberg has thrown his full political weight behind it. Similarly, Transport Commissioner Sadik-Kahn has been a very strong political figure-head fighting for the cause, but even so, when the controversy about the bike lanes started to boil over the Mayor took a strong position in the debate – to the extent that the City Hall has started ‘Promoting Bicycle Lanes as if They Were on the Ballot’ – the title of a recent New York Times article. Indeed, when it comes down to the wire, the City has proved its willingness to go all out:

“City Hall has turned to its savviest political strategist, Deputy Mayor Howard Wolfson, to lead a stepped-up public-relations blitz aimed at strengthening support for the lanes...The city, the aides concluded, had not been aggressive enough in making its case...Mr. Wolfson followed up with a round of radio and television appearances, and he used his Twitter account to issue quick ripostes to critics”(Grynbaum, 2011b).
- On the other side of the spectrum, community participation simply cannot be neglected. However, it is essential that participation should not just be premised on citizens sharing their views – participatory events should be knowledge sharing from both sides, both through the City using the opportunity to educate the populace about the issues it is trying to intervene on, (such as the benefits of cycling and the idea of transport justice and complete streets), and also for it to gather knowledge from the people who know those neighbourhoods best. The end product has to be something that the community has a stake in and can take ownership of.
- While building infrastructure is very important, it can easily come to nothing if the broader public’s perspective is not also shifted. Accordingly, a proper media campaign and publicity events (such as Summer Streets or Ciclovías) is an invaluable part of any new transportation plan.

In terms of more practical issues, the following lessons are critical:

- NMT routes need to be focussed on neighbourhood networks before long-distance/commuter networks, as this is responsible for the vast majority of NMT trips. NMT routes to transit facilities are also of crucial importance, as are safe storage facilities for bicycles at any point where they need to be parked for a long period of time.
- There are vast amounts of underutilised roadspace (or inequitably distributed roadspace) in every city, and it is relatively cheap and easy to, with a minimum of interventions, reclaim that space for the public realm. It simply requires a shift in priorities – placing people above cars. Once that shift has been made, it is easy to find creative solutions to urban wastelands.

BOGOTÁ

Bogotá, until very recently known as the 'kidnap and murder' capital of the world, is today widely held up as a poster child for sustainable transport to the Global South and North alike. Its BRT system, TransMilenio (up and running within two years of first being proposed), carries 72,000 people per hour and about a million passengers per day. It is credited with a 40% drop in air pollution levels, a 93% drop in bus accidents and a 32% decline in average commuting times, "all achieved without operating subsidies" (Cervero, 2005, p. 26). A 300km network of bicycle paths (*ciclo-rutas*), also built within a couple of years, have increased cycling by an estimated 900% by 2001, with approximately 300,000-400,000 trips made by bicycle every day, while about 2 million people cycle, socialize and generally 'integrate' on the *Ciclovía* every Sunday. It is possibly the first city to build fully pedestrian and cycling arterials and in 2000 the city even voted for an annual weekday car-free day (UNDP, 2007). Traffic congestion was reduced 40% daily through the *pico y placa* system ('peak and plates'). Like New York, it was recognized that public space went hand-in-hand with transport and streets, and a Department of the Defense of Public Space² [DADEP] was created both to recover illegally-occupied public space and to reclaim and improve space for pedestrians. Parks (recreational, linear, and ecological) were built, rehabilitated, and 'greened'. Libraries were built, and schools improved. By 2006 the murder rate had dropped 71% from 80+ murders per 100,000 in the mid-90s to 18/100,000³ (Comunidad Segura, 2007) and traffic fatalities from an average of 1,300 per year to about 600 (Caballero, 2004). To the rest of the world, the transformation seemed miraculous.

However, as so often happens when cases are set up as 'best practice', the finer details get lost in translation. Thus one sees a UNDP report (Best Practices in Non-Motorized Transport Planning, Implementation and Maintenance, 2007) fondly recounting every detail of infrastructure investment and design without once mentioning the vast amount of social change that accompanied the project. Other cities, Cape Town amongst them, are frantically trying to emulate the scale of infrastructure roll-out, copying the principles but without taking into account that the changes around transportation and public space were just one component – albeit a big one – of a much broader transformation, and that other changes lay the groundwork for the successes that are now so widely celebrated. Which does not mean, of course, that there aren't valuable lessons to be learnt from Bogotá. However, that those lessons are far less simplistic than is

CICLOVÍA SUNDAYS

Every Sunday and holiday over a 120km of main streets are closed off in Bogotá, and runners, skaters and cyclists take over the streets. Vendors line the routes selling fruit, fresh juice, and other healthy concoctions. Bicycle stalls run by the city offer free bike repairs and free rentals, so that no-one is excluded. Stages are set up in the city's parks, and public exercise classes – aerobics, yoga and dancing – run through the morning, open to all who want to join (the 'Recrovía'). Approximately 2 million people participate every week – 30% of the total population of the city – and many claim that it is 'the best part of living in Bogotá' (<http://www.streetfilms.org/ciclovía>). But the benefits are not only social – studies by Wright and Montezuma (2004) show that the economic advantage of the *Ciclovía* is huge: 2,506 municipal jobs are created for its management, as well as some 2,000+ informal vendors for whom Sunday *Ciclovía* are often their only reliable source of income. This is compared to the 274 persons who are employed by automobile-related businesses during the rest of the week – a 16,500% difference!



Nathaa flickr.com

PICO Y PLACA - PEAK AND [LICENSE] PLATE

is traffic congestion mitigation policy that was set in place in the year 2000 in Bogotá, Colombia by then mayor Enrique Peñalosa to help regulate traffic during rush hours. The system restricts vehicles with license plate numbers ending in certain digits from travelling the streets between certain times. The system restricts traffic between 6 and 9 am, and between 5 and 8 pm, Monday through Friday. However, starting 2009, mayor Samuel Moreno extended the restriction from 6 am to 8 pm, Monday through Friday

commonly presented. Nevertheless, given the similarities between South Africa and Colombia – high levels of inequality, rapidly growing populations living in absolute poverty on the inaccessible outskirts of cities, erstwhile low levels of access and mobility, and high levels of ethnic diversity – they are certainly lessons worth taking note of.

CLONING BOGOTÁ (Box 2.2)

- Number of international awards given to Bogota recognizing its transformation: **7**
- Number of cities with BRT systems inspired by TransMilenio: **26**
- Number of cities with pedestrian public space systems inspired by Bogota: **4**
- Number of cities with cicloruta systems inspired by Bogota: **3**
- Number of cities with ciclovías inspired by Bogota: **3**
- Number of cities with car-free days inspired by Bogota: **6**
- Countries that have visited Bogota to study the TransMilenio BRT system: **41**
- Total number of study visits: **300**
- Total number of study visitors: **1785**
- Number of countries where Colombians are consulting on transportation: **18**

(Berney, 2011)



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CHANGE – A POLITICAL DAISY CHAIN

Enrique Peñalosa is today widely credited with the transformation of transport that occurred under his period in office (1997-2000). However, a great many of the projects he carried out were already in the pipeline (albeit not acted upon) when he took over. Indeed, Montezuma characterises the previous administration as having "excessive reflection and too little action; and Mayor Peñalosa for too little reflection on his many actions" (2005, p. 9). Probably the biggest political change in Bogotá that decade occurred with the previous two mayors, who moved away from ideologically-driven party politics to issue-driven problem-solving, with every subsequent administration building on the strengths and legacies of the one before, and acting where necessary "as right, left, and center, and at times to extreme positions" to solve the issues at hand (2005, p. 9). Similarly, the much-touted rehabilitation of public space had its origin in Colombia's 1991 Constitution, which "obligated the state to protect the integrity of public space including natural and constructed open space and protected public space as a right for all people, laying down clear rules for recuperating hundreds of hectares of public space that had been co-opted by private interests" (Berney, 2011, p. 20).

Thus, in many ways, 1992 can be seen as the starting point of Bogotá's road to reinvention. The 1991 revision of the Constitution had emphasised decentralisation, devolving powers to local governments (Berney, 2011)⁴. These changes that were expanded on by Bogotá's then mayor, Jaime Castro (1992-1994). Under a 1992 law that came to be known as the 'Organic Statute of Bogotá' (*Estatuto Orgánico de Bogotá*), he drastically changed the power dynamics within local government. Under this law, the mayor was given far greater independence from the city council, which had traditionally acted as 'co-administrator of the city government' but was in fact deeply entrenched in party politics and bureaucratic machinations (Montezuma, 2005). This meant that the Mayor's Office was now more accountable to voters than to political parties, which in turn allowed candidates to campaign on the basis of their vision for the city rather than on political favours and power blocs (Pizano, 2003, p. 30). Not only did this create a situation of greater accountability between governed and governors, but it also gave Bogotanos the opportunity to choose between competing city visions, a shift that would have far-reaching effects in the years to come.

⁵ Until 1986, Bogota's mayors were appointed by the President - between 1958 and 1973 the average duration of a mayor's administration was three years, between 1970 and 1982 it was two years, and between 1982 and 1986, it was one year. (Martin and Ceballos 2004: 329 – quoted in Berney 2011:31).

² Departamento Administrativo Defensoría del Espacio Público

³ Compared to Cape Town's 60+ murders per 100,000

In addition, Castro got the city into good fiscal shape for the first time in many years, a process that continued over the decade and would eventually provide the funds for the massive capital expenditures of Peñalosa's office (Montezuma, 2005). At the same time, he was already identifying the issues that would form the base of the next mayor's platform – the idea that the city is “without citizens, that is to say, without citizenship; skeptical and unpredictable... The city has become heterogeneous, without identity”⁵ (Pizano, 2003, p. 34). The antidote, he felt, lay in promoting a new kind of citizenship and a new public space to match it – which was exactly what his successors set out to build.

The next mayor, Antanas Mockus, was an independent candidate (as was now possible under Castro's reforms), and came in on a platform of 'No P's' – no publicity, no politics, no party and no 'plata' (money). With total campaign costs amounting to US\$8000, he kept his word. His campaign promise was '*Formar Ciudad*' (Literally 'Create the City', but translatable as 'Educate the City'), and the theme of his office (1995-1997) was to build

5 “...sin ciudadanos, es decir sin civismo, escéptica e imprevisible... La ciudad se ha vuelto heterogénea, sin identidad.”



SUPER-CITIZEN SAVES THE DAY (BOX 2.3)
Mayor Mockus sought to reinstate a culture of 'self-regulation, consideration, and urban citizenship - not a particularly unusual goal for a mayor. His methodology, however, was somewhat unorthodox - starting by dressing up in a superhero outfit (SuperCitizen, to be specific - see left), he initiated a series of humorous but educational group 'games' and other activities that despite their offbeat nature nevertheless had extraordinary results.

- These included:
- Cards, red on one side and white on the other, were distributed among citizens and used as in soccer games for citizens to express their approval or disapproval of others' behaviour and actions — particularly of car drivers;
 - To address women's fear of going out in the streets at night, he launched a "Night for Women" and asked the city's men to stay home in the evening and care for the children; 700,000 women went out, flocking to free, open-air concerts. They flooded into bars that offered women-only drink specials and strolled down a central boulevard that had been converted into a pedestrian zone.
 - He had a star painted on every spot - in total around 1,500 - where a pedestrian had been killed in a traffic accident (see right)
 - He used mimes to improve both traffic and citizens' behaviour. Initially 20 professional mimes shadowed pedestrians who didn't follow crossing rules: A pedestrian running across the road would be tracked by a mime who mocked



a 'culture of citizenship', which he defined as “the sum of habits, behaviors, actions and minimum common rules that generate a sense of belonging, facilitate harmony among citizens, and lead to respect for shared property and heritage and the recognition of citizens' rights and duties” (Montezuma, 2005, p. 3).

“In a society where human life has lost value, there cannot be another priority than re-establishing respect for life as the main right and duty of citizens” Mayor Mockus (quoted in Caballero, 2004).

This was a two-pronged approach – one focused on building mutual respect amongst citizens (through often quite humorous but nevertheless effective means (see Box 2.3) and the other on improving institutional legitimacy - for example by rooting out corruption, restructuring ineffective institutions and building accountability.

It was Mockus who really started formalizing the idea of 'public space as expression of citizenship', making it his 'political project' to link public space to elements such as heritage, cultures of citizenship and collective memory so that “civic culture becomes visible respecting the public

- his every move. Mimes also poked fun at reckless drivers, and taught them to respect pedestrian crossings, to use seatbelts, and to minimize the honking of horns. This worked so successfully he was able to dispense entirely with the corrupt municipal traffic police and employ more mimes instead.
- Taxi drivers in Bogota are notorious for taking their customers to the wrong places and giving back short change when they drop them off. To address this, Mockus started the “Zebra-Knights” programme, asking people to call in if they encounter a taxi driver who would greet people, take them where they need to go and give them back all their change. Such a taxi-driver would receive a sticker marking him as a 'Zebra-Knight'. The programme started with 120 taxis, the next week it was more than 1 000 and at the end of his term, 35 000.
 - He also asked people to pay 10 percent extra in voluntary taxes. To the surprise of many, 63,000 people voluntarily paid the extra taxes. A dramatic indicator of the shift in the attitude of “Bogotanos” during Mockus' tenure is that, in 2002, the city collected more than three times the revenues it had garnered in 1990. (Montezuma, 2005; Caballero, 2004)

space and, in turn, recovery of public space tends to promote changes in citizens' attitudes”⁶(Pizano, 2003, p. 41). While the most visible result of these efforts were the 'group games' mentioned earlier, there was a vast amount of civic strengthening going on below the surface. Mockus created a new department of 'Security and Coexistence', strengthened social services, promoted voluntary disarmament and created locally-based 'security fronts' (at this point Colombia was still riddled with guerrilla violence). He drastically increased educational programmes aimed at preschool level as well as strengthening public education at the institutional level and launching a network of citizen participation in the school system. Furthermore, it was Mockus who initiated the feasibility study for a proposed alternative transportation network, a 'Model of public space pathways' (*Vías modelo de espacio público*), and strengthened the Urban Development Institute within the City administration in preparation for building it (Pizano, 2003, p. 45).

Thus when Peñalosa took over in 1997, he was taking over from five years of citizenship building and fiscal strengthening, and the time was ripe for taking action in the physical realm, an opportunity he would seize with gusto. His particular vision – of public space as 'social equalizer' – is manifested in *The Development Plan 'For the Bogotá we want' (El Plan de Desarrollo 'Por la Bogotá que queremos')*, the strategic plan that covers Bogotá's development from 1998 to 2001. The plan formulates its chief objective as “to generate a profound change in citizens' way of life, restoring confidence to all Bogotanos in their ability to build a better future and galvanise social, cultural and economic progress”⁷ and moreover to do so with a distinct focus on equity, ensuring as a priority “the coordination of public investment resources in addressing the needs of the poorest population groups”⁸ (Pizano, 2003, p. 48). To achieve this goal, it lays out seven development priorities and five mega-projects, all to be underpinned by stringent citizen-participation principles (Pizano, 2003, p. 47). The seven priorities were:

6 “En el proyecto político de Mockus, el espacio público se concibe ligado a elementos como el patrimonio, la cultura ciudadana y la memoria colectiva. Esta visión parte del supuesto fundamental según el cual “la cultura ciudadana llega a ser visible respetando el espacio público y, a su vez, la recuperación del espacio público tiende a promover cambios en las actitudes ciudadanas”

7 “...generar un cambio profundo en la manera de vivir de los ciudadanos, devolviendo la confianza a todos los bogotanos en su capacidad para construir un futuro mejor y dinamizar el progreso social, cultural y económico. Se trata de proyectar y hacer viable a Bogotá para enfrentar los retos y aprovechar las posibilidades que impone una nueva era, trabajando con miras a mejorar significativamente la calidad de vida para las presentes y futuras generaciones”

8 “determinando como eje central la concertación de recursos de inversión pública en la atención de los grupos de población más pobre”

All image sources: El Tiempo

- demarginalisation (as regards infrastructure, management community and local investment);
- social interaction (as regards education, health and coverage of services);
- mobility and transport;
- urban services;
- institutional efficiency;
- security and coexistence; and
- building a human-scale city.

The five strategic mega-projects designed to kick-start this plan were the formulation and construction of

- an integrated mass transit system;
- a land bank;
- a district system of parks;
- a county library system⁹; and
- the construction and maintenance of roads.

Peñalosa saw physical public space as crucial in the “process of identification and appropriation of the city, the creation of collective memory, and of respect for heritage, culture, social equity and equality”¹⁰(Pizano, 2003, p. 51). This process of appropriation is identified by Berney (2011, p. 21) as a ‘spatial logic’ comprising three chief elements – equalizing networks, hybrid hubs, and educational spaces:

- ‘Equalizing networks’ are the transportation networks that (equitably) increase mobility and access. These projects aim to both modernize and to integrate the city, eg. through TransMilenio, the *ciclorutas* and the pedestrian *alamedas* (avenues), all of which facilitate the mixing of different social classes.
- ‘Hybrid hub projects’ are exemplified by three metropolitan libraries built throughout the city to “improve equity of access to cultural and educational resources and increase community and civic pride”. The libraries are carefully linked to bike, pedestrian, and bus networks, and are also designed to be places of social integration.
- ‘Educational spaces’ comprise “new or remade public...parks and plazas that are the site of citizen formation created through such strategies as interactions between different types of people and the learning and practice of sociable behavior through opportunities such as casual encounters and programmed offerings such as free exercise classes”.

⁹ It is not just the transport and spatial elements of the plan that were carried off so successfully; because of its libraries Bogotá has been named ‘World Book Capital’ by UNESCO and even been dubbed the “Athens of South America”.

¹⁰ “Por la ciudad que queremos”, el espacio público es determinante de los procesos de identificación y de apropiación de la ciudad, de creación de memoria colectiva, de respeto al patrimonio y de equidad e igualdad social.”

Public space thereby becomes, above all, a symbolic investment:

“When you put a library in a poor area, you are saying that you believe in them.... People get to know reality through symbols.... every detail in a city should reflect that human beings are sacred... Parks are symbols; sidewalks are very important symbols”

(Peñalosa cited in (Berney, 2011)

The physical infrastructure thus comes to embody the values held by (or imposed upon) society:

“We created hundreds of pedestrian-only streets, parks, plazas, and bike paths, planted trees, and got rid of cluttering commercial signs. We constructed the longest pedestrian-only street in the world...[it] goes through some of the poorest neighbourhoods in Bogotá...we chose not to improve the streets for the sake of cars, but instead to have wonderful spaces for pedestrians. All this pedestrian infrastructure shows respect for human dignity. We’re telling people, “You are important—not because you’re rich or because you have a Ph.D., but because you are human.” If people are treated as special, as sacred even, they behave that way. This creates a different kind of society.”

(Peñalosa, 2004)

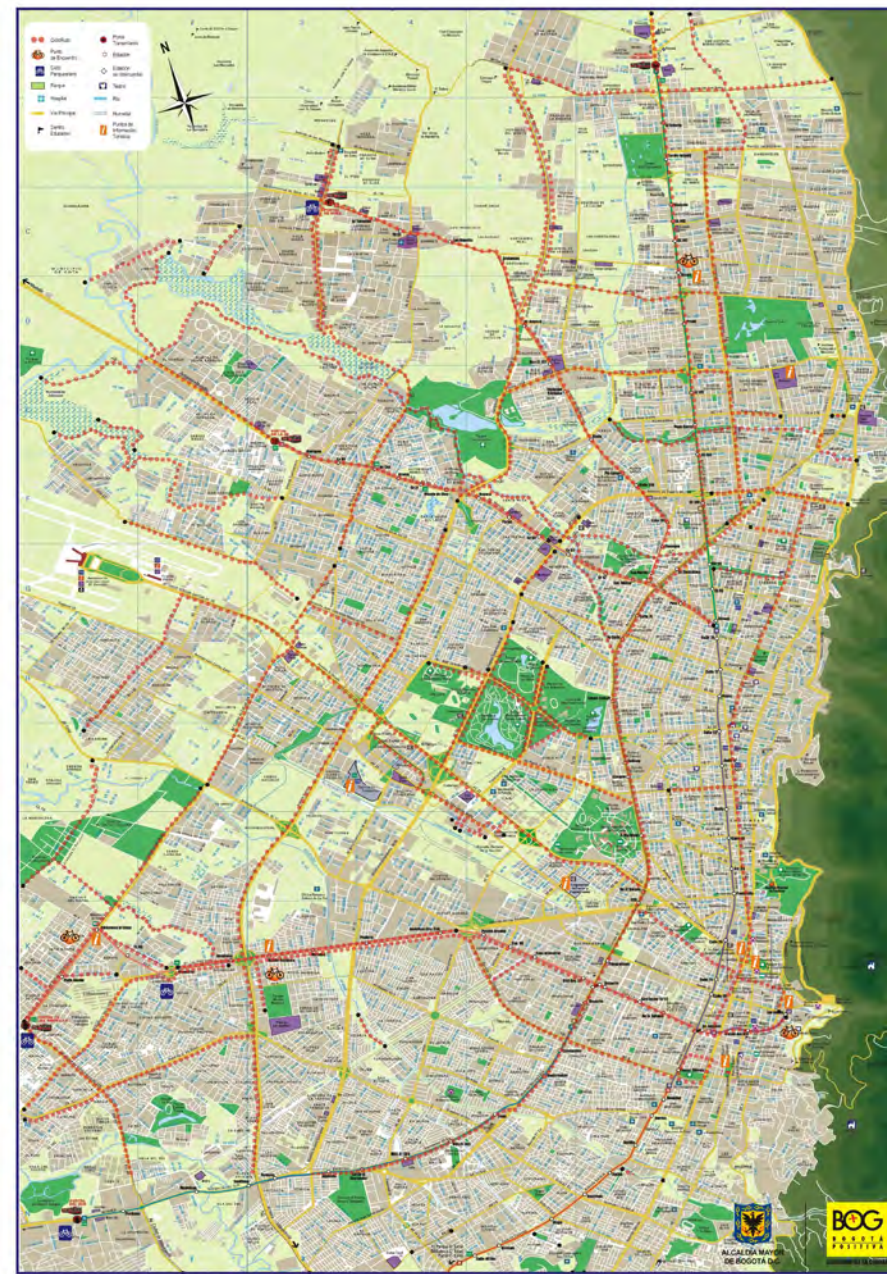


Figure 2.8: Bogota cycling routes

Which begs the question – has a different kind of society been created? Certainly, the infrastructure has been rolled out as promised – practically all of it, in fact. Peñalosa’s opinion (2004) is that

“If we in the Third World measure our success or failure as a society in terms of income, we would have to classify ourselves as losers until the end of time. Given our limited resources, we have to invent other ways to measure success, and that could be in terms of happiness.”

Measuring happiness, however, is no easy task, and it is not one that will be attempted here. But even a brief glance shows that despite all its improvements, Bogotá is still no Utopia. Even if one goes along with the mayors’ understanding of public space ‘as a fundamental point of encounter of the other’ (Berney, 2011, p. 30), it still has to be recognized that the notion of ‘public’, however, broadly intended, is still a constructed notion; one that not everyone has a place in. The ‘recovery’ of the plazas often involved the expulsion of thousands of informal vendors (Cervero, 2005), while not all spaces are equally maintained and the prohibitive costs of creating public space where there are none (such as in the slums) has meant that there is still a wide disparity in the quality and distribution of such space. Similarly, Berney reports that in many parks and plazas, homeless people and vendors are often quickly chased away. In a twist on this typical neo-liberal phenomena, however, the people doing the chasing are mostly self-appointed ‘volunteer caretakers’ – low-income people running an informal stall in or next to the space, who felt they were “were keeping order by doing so and helping to build a positive image of the city” (2011, p. 31) – showing to what extent the ‘lessons in citizenship’ have been internalized.

“The fact is, upper-income people have always had access to nature and recreation. They go to country houses, golf clubs, restaurants, hunting preserves. What do the poor, especially in the Third World, have as an alternative to television? All poor people have are public spaces, so this is not a luxury. They are the minimum a democratic society can provide to begin to compensate for the inequalities that exist in society”

Peñalosa, 2004

Yet despite the tentative and negotiated equality that has been established within public space, in material terms, inequality and poverty have been increasing in Colombia, with the 2004 mayoral campaign for Bogotá being run and won on a platform of “caring more about the bicyclist than the bikeway.” That administration, and the subsequent one, have been channeling funds into social expenditures such as education, health care, and social programs, swinging the pendulum from investing ‘heavily in physical capital to focusing on human capital’ (Cervero, 2005, p. 28). While this is perhaps a natural progression along the gradual evolution of the city’s notion of citizenship, a lot of the very valuable earlier gains are being unmade, as funds for maintaining the extensive *ciclo-rutas* are drawn away into other projects and facilities are slowly deteriorating. The rapid expansion of TransMilenio since 2001 has also led to a deterioration in services, which, in conjunction with the global trend of skyrocketing car-

ownership, has again seen traffic approaching permanent gridlock.

Indeed, the most recent mayor campaigned and won on a promise to build both a subway system (which would effectively destroy the BRT) and a set of elevated highways – with the then Secretary of Mobility, Villegas, declaring “We will have similar roads as those in Mexico City, Los Angeles or Detroit” (Despacio, 2008, p. 16). Fortunately, the financial and social reality of such a plan has begun to sink in and the Mayor recently replaced Villegas with the former general manager of TransMilenio, as well as promising to build new bike lanes – an indication that the transport policies “are becoming the common heritage of Bogotá’s citizens” (Despacio, 2008). With civil society groups mobilizing to protect and defend those policies, they will not easily be repealed.

KEY LESSONS

- Although it can be tempting for planners to focus on the physical dimensions of infrastructure, the social, political and institutional contexts are equally important. The architects of Bogotá’s transformation recognised that, and spent many years building the kind of social context that would support their physical plans. They also chose one chief arena of engagement – public space – through which they “meant to engender a new city capable of teaching residents to be citizens” (Berney, 2011, p. 21) and on which they focused their full attention until it paid off.
- In any society with widespread inequality, equity needs to be a primary focus of any campaign that would be considered legitimate by society as a whole. Bogotá chose an unusual path towards equity, whereby investments in public space and transit were seen “as social equalizers. The poor, [Peñalosa argues], don’t drive; rather they walk, bike, and take transit” (Cervero, 2005, p. 27). Furthermore, highly-functional transport systems, both NMT and BRT, are used to ensure that all levels of society have access to public resources including not only public space but education facilities, libraries, etc - a ‘spatial logic’ of “strategic redevelopment of the city center and development in the periphery, linked by new networks of access” (Berney, 2011, p. 21).
- Visionary political leadership – and the concomitant independence of party politics – has been tremendously important both in shaping these plans and in allowing voters to actively choose a vision for their city. Between 1992 and 2004 there was also a strong continuity in that vision, with successive administrations building on the work of the previous lot, rather than tearing it down. The lack of party involvement within these administrations also allowed for an issue-based discourse aimed at solving practical and social problems rather than promoting specific ideologies.
- Another characteristic of the political leadership in Bogotá (and indeed, across South America) has been the willingness to try something new (often taking quite a political risk in the process), to experiment, and to think laterally about problems. (After all, it is South America that gave us BRT and cable cars for public transport). An important component is partly the independence of candidates (their freedom to take those risks would be severely curtailed by a national political party) as well as the willingness of voters to ‘experiment’ with new candidates, such as with Mayor Mockus’ ‘No P’s’ campaign.

OVERALL LESSONS

While both cases have their own peculiarities, strengths and weaknesses, five overall points can be identified that are essential to making a plan successful. These are not the points that are generally built into the ‘blueprints’ that are taken away by ‘policy tourists’ and in ‘best practice’ studies; instead, they are procedural points necessary for ensuring the viability of a plan, irrespective of what the planned outcomes are:

Consistency

Both *PlaNYC/Sustainable Streets* and the series of Bogotá plans show a consistency of thought and purpose across very divergent sectors and silos. They set up frameworks that enable each strategy to build upon and reinforce the others rather than - as so often happens in government silos - negating or undermining each other. In *PlaNYC* that message is sustainability, a message which is consistently upheld throughout all the sectors and silos of infrastructure and beyond, while in Bogotá it is the idea of ‘public space as expression of citizenship’; a message of civic culture and responsibility that gradually evolves over the years to keep pace with public needs and sentiment.

Leadership and Imagination

Both these plans owe a large part of their success to extraordinary leadership. In Bogotá’s case it has been political leadership – indeed, the plan came directly from the mayor – while in New York the plans were formulated by officials with strong support from the mayor’s office. Yet even within officialdom personal leadership plays a large role, with *Sustainable Streets* being pushed hard by the transport commissioner herself, who in the process became a very public figure. At all times, however, she has had the vocal backing of the Mayor’s office.

Comprehensive Communication

Good communication is critical. Plans, and the reasoning behind them, need to be clearly and explicitly communicated; any drastic changes to the status quo need to be comprehensively justified, and community buy-in achieved, or a backlash will build. At the same time, the plans themselves, as well as all extraneous information, need to be easily and widely accessible. The bike lane backlash in New York exemplifies the consequences of bad communication, but the Mayor’s response to it – a pro-bike PR campaign launched on television, radio, and twitter - also demonstrates an appropriate response (rather than, as would often happen, giving up the project altogether for fear of political damage). In Bogotá, communication lay at the heart of the plan itself – it was about communicating the responsibilities of citizenship to the broader population, and all of Mockus’ projects were essentially about communicating that message effectively

(albeit unusually). Peñalosa’s NMT-based plans similarly communicated a message of public space with concomitant public responsibility.

Persuasive Incentivising

Understanding how and why people change their behaviour is generally an utterly neglected component of planning. Bogotá’s mayors, however, show a fine grasp of the subject, with Mockus’s plans operating almost entirely in the psychological realm. Most of his projects were about changing mindsets by incentivising civic behaviour; be it through fear of mockery from a passing mime or through rewarding taxi drivers with the Order of the Zebra Knights. Peñalosa, too, showed this understanding in his conception and planning of the BRT – from the name to the station design, he recognized that it would have to be perceived as a status-worthy form of transport to get the necessary ridership. At the same time, the *pico y placa* congestion rules forced 40% of cars off the road every day (and its owners into the new bus system), while car parking was gradually reduced in the city and the dedicated bus lanes eased the way for buses while increasing congestion for private vehicles. At the same time, a disincentive such as a toll or congestion charge should only ever be put in place once there are alternatives available, otherwise it merely serves to anger the public and make them more resistant to change.

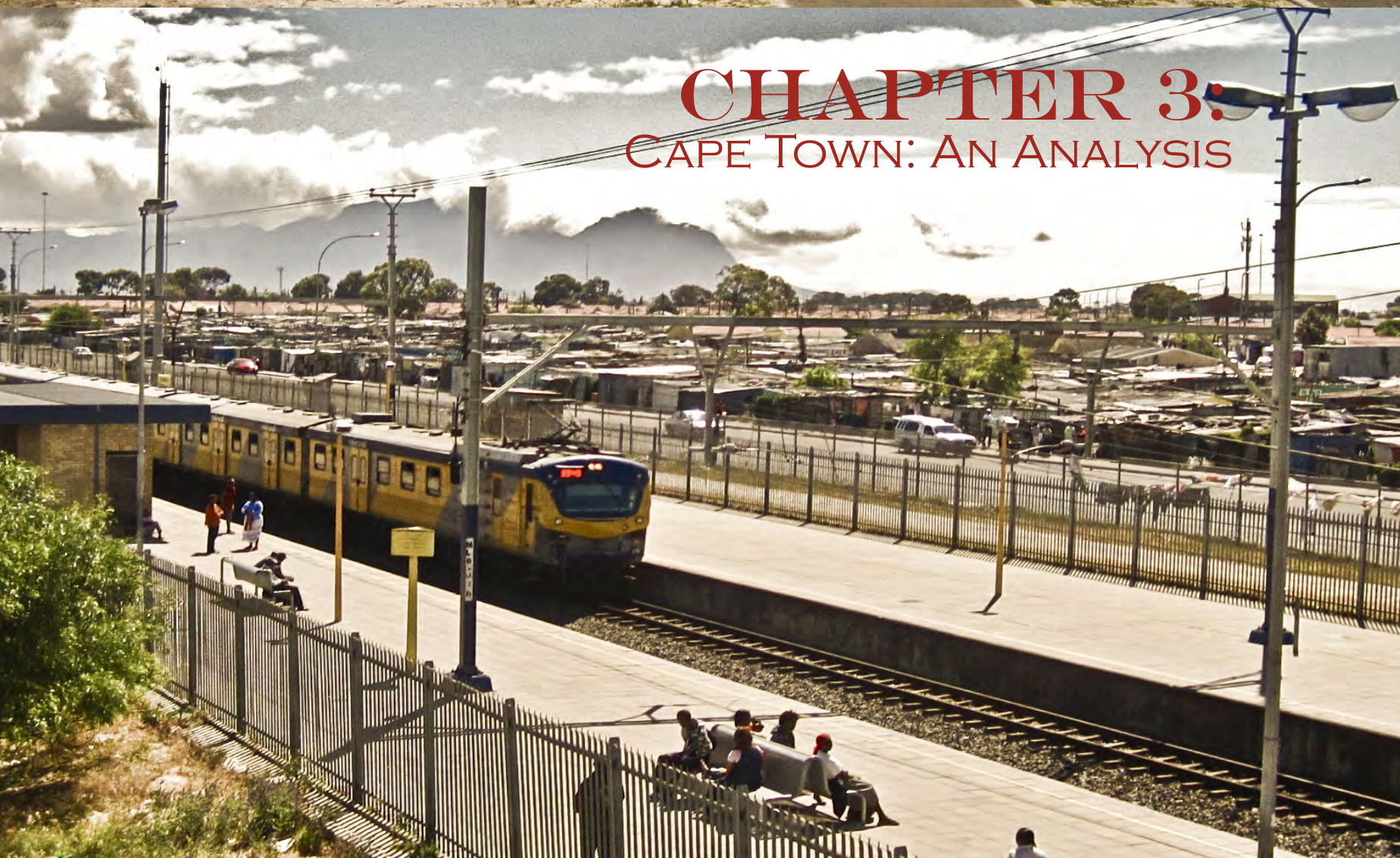
Attention to Detail

While neither the New York nor the Bogotá plans required everything to be fully calculated and anticipated beforehand, both however show a logical reasoning through of all measures and plans before they are implemented. If there is a small but decisive (and usually invisible) technical or practical failure that prevents the plan from being fully realised, it risks gutting the idea of a project even though the failure is a technical or a practical one. For instance, bike lanes with major disconnections, or public transport that doesn’t link up to popular locations, risk alienating both the public and politicians from the ideas behind the plan (eg. bike lanes or public transport), despite the problem being not the idea but the execution.



Simone Lilliefeld

CHAPTER 3: CAPE TOWN: AN ANALYSIS



Simone Lilliefeld

Cape Town is currently a car system, but one where fewer than one in five have access to a car. Chapter 2 showed how transport planning globally prioritised time over space, private over public transport, and cars over people, and how this has had a profound impact on how life is lived and experienced. However, whereas automobility in the developed world excludes those too old, too young and (the few) too poor to drive, in a developing city like Cape Town it is the majority that is excluded, and old inequalities and spatial fragmentation – the legacy of Apartheid planning – that is entrenched. Low-density urban sprawl, car-oriented transport planning, minimal investment in public transport and the Apartheid prerogative of “carrying large volumes of black (African, Coloured and Indian) commuters as cheaply as possible across considerable distances from peripherally located ‘townships’ to more centrally located zones of employment” (Behrens & Wilkinson, 2003, p. 9) have combined to create a transport/land-use system that divides society and undermines the economy, with disastrous consequences.

This chapter looks at the current state of transport systems in Cape Town today, their broader contexts, and the response of the City to the highlighted problems. It evaluates the current status quo according to the values underpinning this plan – sustainability, equity and integration – and suggests an urgent need for the upgrading and prioritization of public and non-motorised transport. The City’s existing policies are assessed, as are its responses to the challenges. Finally, the City’s approach is evaluated, and recommendations made for future courses of action.



Map 3.1: Cape Town Context: the radial nature of Cape Town’s transport system and the socio-economic segregation it entrenches

PERFORMANCE EVALUATION

While there are many potential points of departure from which to critique the transport and particularly the non-motorised transport situation in Cape Town, the approach taken here will be to evaluate current conditions according to the overarching values of this plan: sustainability, equity and integration. This is followed up by a visual exploration of some of the conditions Capetonians face in day-to-day mobility.



Figure 3.2: One way rush hour traffic - ‘the single most significant inefficiency’ in Cape Town’s transport system

Source: Simone Lilienfeld

Mode of transport	Energy source	Energy use (MJ)
		per passenger-km
Private vehicles	Petrol	2.912
Private vehicles	Diesel	2.621
Public rail	Electric	0.222
Public bus	Diesel	0.454
Minibus taxis	Petrol	0.581
Minibus taxis	Diesel	0.523

Source: Integrated Energy Plan 2003 DME

Table 3.1: Energy use across different transport modes

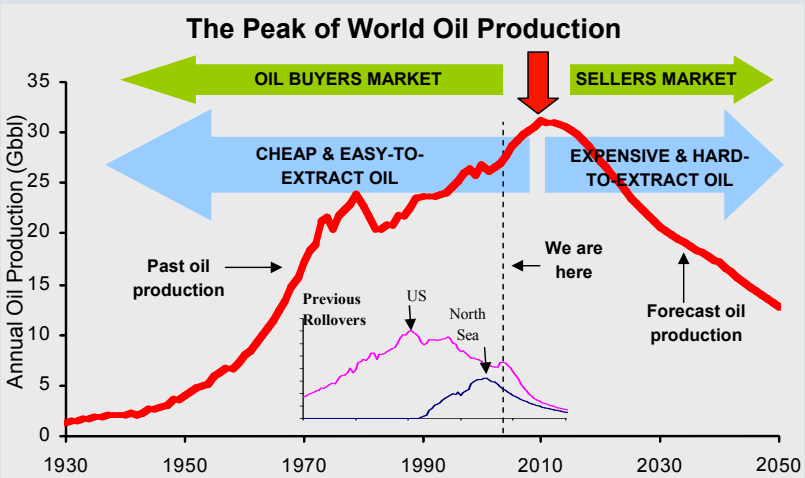


Figure 3.3: Peak Oil: Any day now

Source: Del Mistro 2010 p. 3

SUSTAINABILITY

“The massive and rapid urban growth of Cape Town has not been coupled to investments in the kinds of urban infrastructure, like energy and transportation systems, that are appropriate for a world that is running out of atmosphere, water, oil, and sinks for liquid, solid and airborne pipes” (Swilling, 2010, p. 7).

For a developing-world city, Cape Town is an unusually high polluter – a recent study puts its per capita GHG emissions higher than London, Barcelona or Beijing (Hoornweg, Sugar, & Lorena Trejos Gomez, 2011). In many ways, this is a structural outcome of the city itself – a structure compounded by a myriad of bad systems and bad decisions. As is shown on Map 3.1, Cape Town’s road and rail systems are radial, with very few connections between the spokes, with the result that commuters generally have to travel miles out of their way through the city centre (which for many commuters is more of an out-of-the-way bottleneck than a centre), or via other detours to get to their destination, causing cumulatively millions of wasted man-hours and enormous contributions to Cape Town’s carbon footprint. These ‘tidal flows’ in commuter traffic, which cause peak period congestion and overcrowding in one direction and empty and unused road and public transport capacity in the other (see fig. 3.2), reflect “the single most significant inefficiency imposed on the operation of the passenger transport system”(Behrens & Wilkinson, 2010, p. 188).

From an environmental perspective, this inefficiency is devastating. Transport is responsible for a full 47% of total energy consumption in Cape Town (Behrens & Wilkinson, 2010) making it responsible for between 33% and 45% of GHG emissions (Kennedy, et al., 2009). However, as can be seen in Table 3.1, actual energy use and emissions differ substantially across transport modes. Middle-class, car-oriented transport consumes more than thirteen times the amount of energy than rail users do, and even minibus taxis are almost six times more efficient, while of course NMT is entirely emission-free. This places transport at the critical centre of “any attempt to place the city on a sustainable path” (Behrens & Wilkinson, 2010, p. 190), of which NMT, as a zero-emission mode, would have to be a crucial component together with public transport.

Furthermore, the imminent prospect of depleted oil reserves and the associated rise in energy costs will have catastrophic impacts on our structurally wasteful society. While exact dates are unknown, the consensus is that oil supplies have already peaked or will peak over the next decade (see fig. 3.3; also see Wakeford, (2007) for more details).¹¹ While the wealthy

11 It is also relevant that the already-critical effects of GHG-caused climate change dictates that if we want our planet to remain habitable, we cannot use the full remaining oil stocks, no matter how much is left.

might be able to bear the increased costs for the foreseeable future, middle-income households would find it increasingly difficult and it is likely that the poor “might not be able to afford to travel at all” (Del Mistro, 2010, p. 6).

From both an environmental and an energy perspective, it is clear that Cape Town’s transport system is unsustainable in its current form, and a dramatic transformation of both transport and land-use patterns is needed. Wakeford argues that “given petroleum’s high energy density compared with alternatives, transport will have to be scaled down and made much more energy-efficient. Cycling and walking will have to replace cars for short journeys, particularly in urban areas,” while public transport will have to be vastly expanded (2007, p. 18). Furthermore, Del Mistro concludes that “authorities will need to find ways to shorten distances between home and work and other urban activities” (Del Mistro, 2010, p. 13).

Economic sustainability is also of crucial importance. A society cannot function at full capacity when the working class spends up to 48% of its income on transport while having to sit through some of the longest commutes in the world (Behrens & Wilkinson, 2003, pp. 7-8), and the unemployed are cut off from jobs, education and all other opportunities and services. Promoting access – through land-use planning, densification, public transport and NMT – has to be a fundamental part of any attempt to remake the city.

Another crucial socio-economic concern is Cape Town’ extremely high accident rate – one of the highest in the world – that costs R2.7 billion (CCT, 2005, p. 35) annually. The high accident rate takes a particular toll on pedestrians, who constitute up to 60% of the total number of victims (Behrens, 2005). However, as discussed in Chapter 2, road accidents are not simply ‘accidental’ – they are part of a car-system that values speed and mobility over human life. In Cape Town, the unusually high proportion of pedestrian deaths and injuries (no statistics are available for cyclists) are indicative of a particularly distorted car-system.

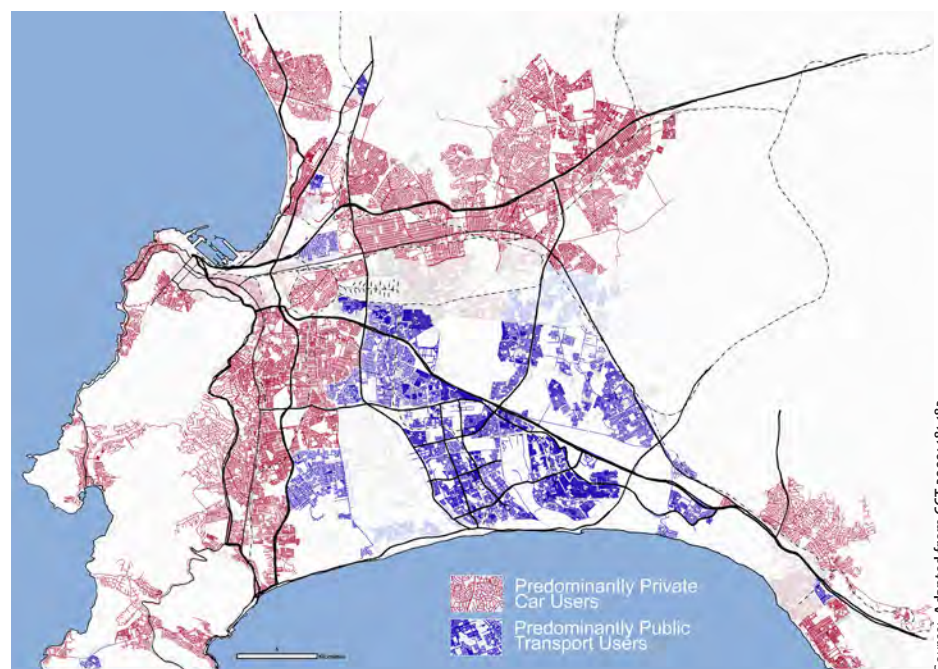
“Traffic collisions typically cost 1–3 percent of a state’s gross national product: globally, about US\$18 billion per year. Of this, US\$100 billion is in developing states - about twice total annual development assistance”
- Dauvergne, 2005, p. 41

EQUITY

“Transportation justice is the concept that transportation infrastructure should aim to equally and equitably address the needs of all people, regardless of economic class, race, sex, age, ability or any other kind of social distinguisher.”

(Applebaum, et al., 2011, p. 9)

Cape Town’s transport system is anything but equitable. Its inequality is expressed most acutely through what Behrens and Wilkinson (2010, p. 187) call ‘systemic duality and differentiated mobilities’ – low-mobility, low-access, and low-income ‘captive’ public transport users on the one hand and a high-mobility, high-access, middle to high-income class using private transport on the other – two separate segments of the population, reflecting ‘significantly different mobilities’. Map 3.4 shows the extent of this divide; it is not only socio-economic but intensely geographical.



Map 3.4: The division between private versus public transport users

This is largely a reflection of the differential levels of investment in private roads and public transport systems. Vast amounts are ploughed into private-car interchanges (the Hospital Bend upgrade cost R263 million, the new Koeberg interchange is expected to come in at around R610million – CCT, 2010), while public transport is systematically underfunded and under-maintained. This results in the poor subsidising a private transport system while sharing almost none of its benefits, while suffering more intensely from the long-term damage done to the environment (air pollution levels are worst in the Cape Flats). Simultaneously, urban opportunities are reserved for those with private transport, thus widening the inequality gap.

This pattern of investment is beginning to change with the large-scale investment in Cape Town’s new Integrated Rapid Transit (IRT) system, and

if the IRT project is completed as planned it will go a long way towards putting in place the kind of public transport infrastructure that can get people out of their cars and provide proven safe and efficient public transport between major destinations. However, distribution beyond public transport stops, for those who cannot afford even the R10 bus or train trips, or for short-distance neighbourhood trips is being severely neglected.

Transportation Injustice: A Structural Perspective

The discrepancy between spending and usership is extreme in the case of NMT. As has been explained at length in Chapter 2, NMT has been systematically ‘under-represented, under-counted and under-planned for’, so that “very little is currently understood of non-motorised, off-peak and non-work trip making” (Behrens, 2005, p. 163). Yet at the same time, “walking, more than any other mode in South African cities, rivals the motor car as a means of transportation, and for many young and elderly members of poorer households it is the only available mode of travel” (Behrens, 2005, p. 163). However, while the old city centre and many of the earlier suburbs were built for pedestrians and transit, and can still largely accommodate them, post-1960s developments were molded entirely with the car system in mind.

As Behrens (2005) explores in detail, in South Africa the design of local area movement networks (the street layout, which to all intents and purposes shapes the neighbourhood itself) followed two basic approaches, both institutionalized by the South African Institution of Civil Engineers’ (SAICE) book of guidelines. This was Perry’s ‘neighbourhood unit’ concept (from 1920s America) and the ‘environmental area’ theory, pioneered by Buchanan in the UK in the 1960s. Both models sought to protect ‘private’ streets from heavy and dangerous levels of traffic: one through internalizing public facilities to form a ‘self-contained unit’; the other through creating a functional hierarchy of roads that delineated neighbourhood ‘areas’, restricting the number of access points and thereby preventing through access for passing traffic.

Two assumptions underlay these development patterns: first, that universal private car ownership and use is inevitable and that financial and environmental resources would continuously be able to match the demand for new roads and cheap fuel – an assumption that has by now been proved entirely mistaken. Second, that the spatially-isolated ‘local neighbourhoods’ would be able to satisfy the daily needs of local residents, that the needs of local residents remain constant over time, and therefore “that relatively short walking trips into surrounding neighbourhoods to satisfy

daily needs would be unnecessary” (Behrens, 2005, p. 169). A further assumption was that the maximum acceptable walking time for a single trip was 10 minutes (around 800m), which, together with the above principles of keeping neighbourhood trips internal, led to a ‘neighbourhood width’ of around 2km, which in turn meant the spacing of arterial roads at 2km intervals (see fig. 3.5).

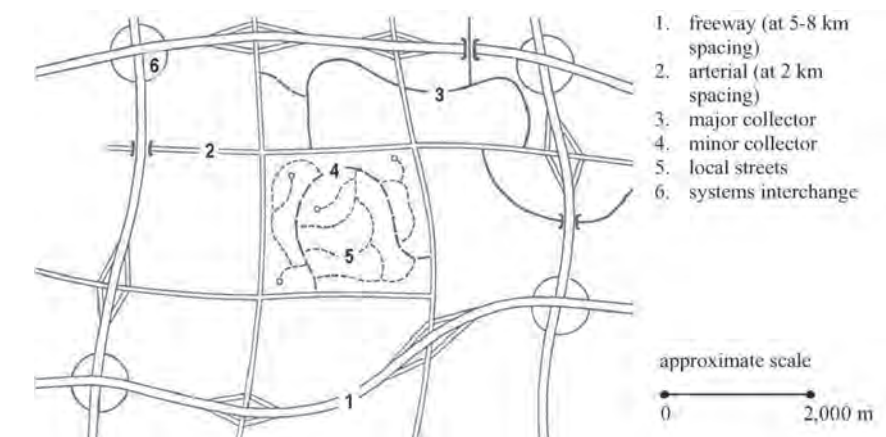


Figure 3.5: Network configuration in the South African Institution of Civil Engineers’ guidelines

For many reasons, the second assumption also proved false. Families do not always want to enroll their children at the local school while big-box retail and supermarkets have eroded the institution of the neighbourhood grocery store and other local shops. High and middle income inhabitants responded to this by embracing automobility and driving everywhere but low-income households did not and could not match the suburban ideal of multiple cars per family and a stay-at-home mom who could shuttle children between activities. Instead, the mostly poor and working class inhabitants of these neighbourhoods were saddled with an urban model utterly incompatible with their means. Post-1994 RDP development has exacerbated matters, with single small houses on single small plots in locations ever further from the center, at densities that cannot support public transport and that make walking distances punitive.

The fundamental problem of this mismatch is a car environment for a population that largely does not own cars (only 3% of low-income households do) (Behrens, 2005, p. 170). The number of walking trips as well as the distances people are willing to travel by foot increase rapidly when private transport is unavailable and public transport unaffordable (Behrens, 2005, p. 170), and while the data on walking trips is very limited, studies indicate that low-income individuals regularly walk as far as 1,950-4,500m on single trips, while main-mode walking trip times in Cape Town are around 42 minutes (2,800m). Clearly, then, people are not staying within their ‘ten-minute-walk’ neighbourhood units, which means that large numbers are

crossing the same arterials that were designed on the premise that pedestrians would never need to encounter them – a mistaken assumption that has had devastating consequences. Statistics show that high-speed arterials and distributors represent “the most hazardous locations for pedestrians” (Behrens, 2005, p. 175), and are largely responsible for Cape Town’s extraordinary pedestrian fatality rate.

Informal settlements, while entirely different in terms of neighbourhood layout, face an even more precarious predicament, as they are often located next to arterials and even freeways with few or no barriers between shacks and speeding cars. Inhabitants have to cross these dangerous roads at all times of the day and night (often the only toilets or taps are on the other side of the road), with very little in the way of official pedestrian crossings and other pedestrian-oriented infrastructure. Children especially are at extreme risk – studies have shown that below 10 years of age, children are incapable of making safe judgements regarding crossing, and that that capacity declines even further as vehicle speeds exceed 55kph (Connelly, Conaglen, Parsonson, & Isler, 1998) – yet settlements are often next to roads where the speed limit is 60, 80 or even 120kph.

“Globally, road traffic injuries are the leading cause of death for 10-24 year olds”
- WHO, 2009

Inhabitants of informal settlements are acutely aware of the dangers they and their children face, with numerous incidents being reported of frustrated communities, after years of requesting traffic calming measures, taking direct action and digging up roads, stoning cars and burning tyres (Obose, 2011; Steyn, 2011; Mtyala, 2011; Koyana, 2011; Phaliso, 2011). Despite a traffic-calming policy that purports to place ‘People First and Vehicles Second’ (CCT, 2003), these ‘killer’ roads are often deemed unacceptable for traffic calming measures, with the result that the hit-and-runs and other traffic accidents remain an extraordinarily regular occurrence (see Box 3.1 right). Yet the City continues to place the needs of traffic first, at times laying blame on the victims themselves, rather than on the speeding drivers and the social and urban conditions that require people to live directly next to high-speed highways and main roads. Furthermore, it should be recognised - and compensated for - that low-income communities are more at risk not just because of the physical environment but also because law enforcement is often practically non-existent within these areas, whereas similar behaviour by drivers simply would not be tolerated in middle-class suburbs.



Map 3.6: Cape Town roads with the highest pedestrian fatality rates

As can be seen on Map 3.6, pedestrian fatalities are predominantly located in lower-income communities. Furthermore, poor-quality, non-existent and overcrowded sidewalks, high levels of air pollution, and the risk of crime and violence are also far higher in these areas, creating an NMT system that is actively detrimental to users’ health, but with no alternatives for its captive audience.

At the same time, rising obesity levels (a recent study by GlaxoSmithKline (2010) identifies Cape Town as one of the most overweight cities in the world, with 72% of people overweight or obese (2010) means that the exercise provided by using NMT is sorely needed, and should be incentivised instead of discouraged (the same study shows 48% of South Africans do not exercise at all). The lack of safe and pleasant walking experiences makes any hopes of a shift in current trends unlikely.

“We want speed humps and road signs before the cars hit us all” (Box 3.1)

The rate of traffic accidents have hit epidemic proportions. However, in most poor areas, the fate of pedestrians are still not getting the attention and measures they so urgently need., with the City repeatedly putting the needs of motorvehicles over that of people. The following reports are but two extracts from a host of City/ community conflicts:

“**Enraged Philippi** residents barricaded a busy road with tyres, cement blocks and rubbish, and threw stones at passing cars, following another hit-and-run early on Sunday evening. Residents said a ‘cockroach’ taxi had sped off after knocking down a teenage girl who had been walking with friends on the pavement, making this the third such incident in eight days...

“City of Cape Town spokesperson Charles Cooper condemned both the residents for barricading the road and the motorists for speeding. He said speed humps were not the solution as Sheffield is a major road, and that would create major disadvantages such as slowing police, ambulances and fire trucks during emergencies...

He said if the community felt something needed to be done they should approach their ward councillor “for investigations on what could be done”. **“Resorting to violence is a punishable offence. Parents must look after their children at all times and start teaching them about road rules.”** (Phaliso, 2011)

“**Samora Machel residents** were so desperate to put an end to vehicles speeding on Weltevreden Road and Oliver Tambo Drive, that they dug up part of the road on Wednesday calling for speed bumps and pedestrian crossings to be put in place. Residents say children, who have to cross the road to get to school, are particularly

in danger. They say five children have already been run over, while one was killed by a speeding vehicle.

“[The City] does acknowledge that there is a problem but they never attend to it...A lot of the children will keep dying if the City of Cape Town is not doing anything about this. We will not stop until they listen to us,” Ndima said...

Noluthando Mabutho, who lives in Kosovo, which is located along the road, said residents had previously demonstrated with the same demands about two years ago “We have to cross this road every day because there are few taps here, so we have to go to the other side and it’s very risky...”

The city’s head of transport network development, Sean Glass, said they had received an application for Oliver Tambo Drive. **However, he said speed bumps were not appropriate for that road. He said they were not permitted in terms of the City’s Traffic Calming Policy.”** (Koyana, 2011)

“DISHEARTENED mothers in Cape Town’s Kosovo informal settlement say the elections are nothing to look forward to unless whoever wins erects speed humps to save their children’s lives.

They told Sowetan that since last year five children had been injured and one killed by speeding cars that raced through the informal settlement in Philippi. Two concerned mothers of car accident victims lashed out at the city, accusing it of negligence.

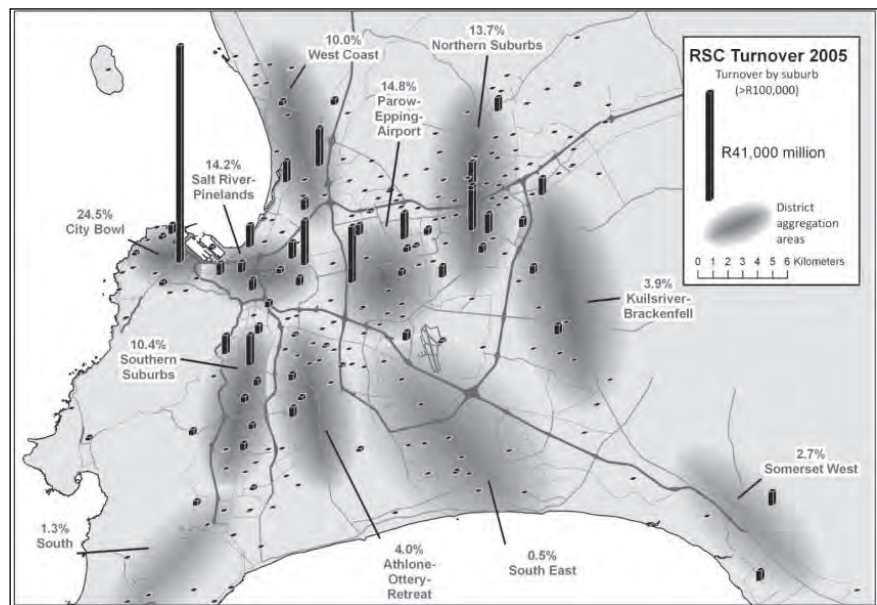
Nomzingisi Boyana, 30, said her 4-year- old child’s leg was amputated after he and a friend were hit by a speeding taxi. The friend was badly injured and died. Nosipho Laho, 35, said her 5-year-old daughter was on her way to school when she was knocked down by a speeding car. She was critically injured.”

Source: Adapted from CCT 2005: 19

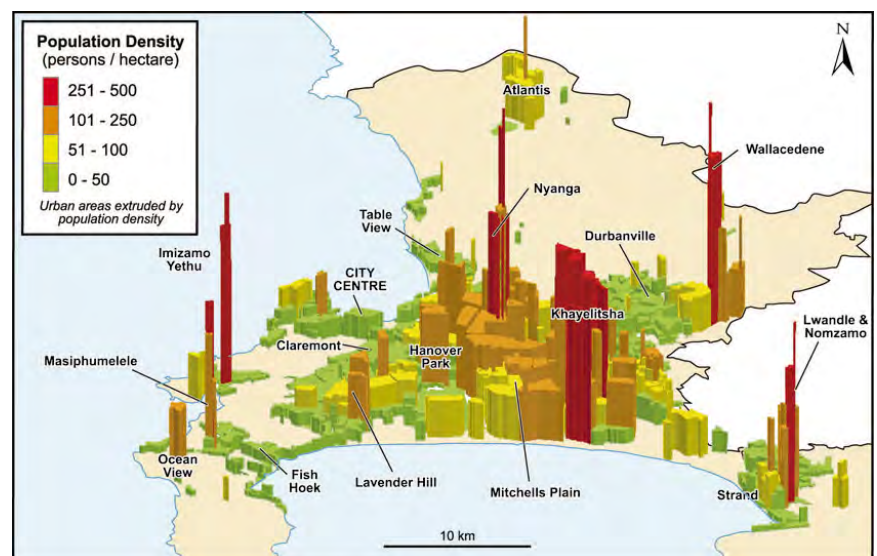
INTEGRATION

While all other South African cities (and indeed almost all developing cities) have stark socio-economic divisions, seldom is that socio-economic divisions are as closely aligned to geography as in Cape Town. The axes of development to the South and North have captured nearly all post-apartheid investment (as can be seen in Map 3.8 while the South-East has, if anything, experienced deterioration of services and further overcrowding at its furthest outskirts. Maps 3.8 and 3.9 show this discrepancy.

It is widely acknowledged that the biggest failing in terms of South African urban investment – and the most significant obstacle to spatial integration – has been that the private sector “has not followed the government’s wishes in terms of where urban investments are targeted” (Pieterse, 2009, p. 2). What compounds the problem is the poor level of transport that spans this gulf; an aggravating factor that can also be pointed to as a potential solution. As Williams points out, it is important to consider integration not only in terms of “physical proximity, but also effective distance. If access to



Map 3.8: Distribution and Size of Economic Activity



Map 3.9: Distribution of Population

opportunities is measured in terms of travel time and cost, then improved transport systems can increase the distance people can travel, resulting in improved effective integration” (Williams, 2009).

For this kind of ‘effective integration’ to be realised, a two-pronged approach would have to be followed. One focus would have to be centred on strengthening public transport systems for rapid long-haul sections (and indeed there is a renewed focus on achieving this through rail and BRT). The other would be on creating effective distribution networks on either end. At the moment, distribution occurs purely through taxis and/or walking. Taxis, while flexible and pervasive, are expensive and often, with the current lack of regulation, potentially very dangerous. Furthermore, while they are fairly dependable along main transport corridors, it is very difficult to reach out-of-the-way or after-hour destinations with them (the furthest outlying public housing developments are particular victims). Walking networks are very poorly designed and implemented and often unsafe, and cycling networks are practically non-existent.

The lack of integration impacts all aspects of life, not just employment and education opportunities. Thus, while Cape Town is internationally recognized for its extraordinary natural beauty, these world-class recreational areas (with their concomitant access to relaxation, exercise and fresh air) are far from the lower-income areas in the South-East and for the most part only accessible by private motorized transport (and very occasionally, and then quite arduously, by NMT). With most high-quality sport facilities (parks, complexes, fields, stadiums and swimming pools) located in middle-class areas, the poor are virtually excluded from all access to recreation and relaxation.

Institutional Integration

Institutional integration, or rather the lack of it, is also extremely important within the Cape Town context. One of the biggest obstacles to an effective and integrated spatial and transport plan is the institutional fragmentation of the many different authorities, bodies, municipal, provincial and national departments responsible for rail, buses, taxis, roads, urban planning and land use management. Rail (about 66 train sets across 97 stations) is managed by the Passenger Rail Agency of South Africa (PRASA) at a national level. Buses (some 852 vehicles on 736 routes) are managed by Golden Arrow Bus Services (GABS), a subsidised private company, taxis (some 7,500 vehicles on 555 routes with 112 terminals and 61 ranks) are owned by numerous individuals and small-scale operators¹² and the MyCiti bus IRT system (operating two routes and a number of feeders) is run directly by the City. Roads are maintained and new projects planned by a range of different

¹² All figures dating from 2004; cited in Behrens, R., & Wilkinson, P. (2010). ‘Sustainable Transport Options: Passenger Transport in Cape Town’ in M. Swilling, *Sustaining Cape Town* (pp. 183-195). Stellenbosch: Sun Media.

government departments at the local, provincial and national level while spatial planning and land use management are equally dispersed. However, a concerted effort is being made to combine the management of all public transport services under a single body and to create a single-fare system. Together with the rollout of the IRT, these new directions have the potential to transform Cape Town’s public transport system.

Non-motorised transport, however, continues to be fragmented and neglected within policy-making. Sometimes implemented as part of a new transport programme (such as with the IRT), sometimes as a spatial planning initiative such as Dignified Places; sometimes simply the *de facto* implementation of a new RDP housing scheme, NMT has no real home or organizing body. While there is a department of Universal Access & Non-Motorised Transport within the Transport, Roads and Major Projects Directorate, it does not have any kind of regulating authority outside of its own projects. Amongst many other failures, this creates a system where everyone is responsible but no one accountable, and the little that does get done is neither cohesive nor really usable.

Physical Integration

Transport is itself a significant barrier to integration, in terms of both the natural environment and of communities. While many roads and railways that block our access to mountain and sea today (see below) were ‘accidental’ to the pursuit of modernist ideals, others were exploited as segregators by Apartheid planners wishing to construct ‘natural’ barriers between different racial groups. This too has helped contribute to the high numbers of traffic accidents resulting from people crossing busy roads, freeways and railway tracks on ‘desire lines’ that were deliberately thwarted.



Figure 3.10: Roads and rail act as barriers throughout the city, cutting neighbourhoods off from each other and from the broader resources of the city

A NEED FOR NMT

It is clear from the above analyses that transport lies at the heart of Cape Town's many problems, and that it is also intrinsically intertwined with the necessary solutions. There is a need for a new transport rationality; one focused on public and on non-motorised transport that offers not only solutions to access and mobility but a new way of experiencing and living the city; one that promotes the economy, environment, and quality of life as well as civic integration. This has to involve a deliberate and forceful shift away from the car-system. However, while there is a new engagement by government with public transport, NMT remains a missing component - in some parts missing the pedestrians and in others the infrastructure to support the many existing pedestrians. Cycling is 'missing' everywhere, in cyclists, infrastructure, and every other way possible.

Indeed, in most cases, NMT is "just an add-on to the final road design and continuity or quality of NMT movement is rarely considered" (CCT, 2005a, p. 31). The poor quality of NMT infrastructure is particularly noticeable and problematic in

areas of high NMT activity, such as around public transport facilities, which are primarily geared towards vehicles rather than passengers, with infrastructure around interchanges or terminals "mostly designed to improve the efficiency of public transport vehicles, rather than support boarding and alighting passengers" (CCT, 2005a, p. 31). Information and signage is focused on guiding motorized vehicles, and there is little to no guidance for foot traffic. Cycling information is even harder to come by, with few directions to the few bicycle paths that do exist, and zero legibility in terms of how the routes should be followed. Bicycle paths often end abruptly in the middle of busy intersections and 'no-cycle zones' are enforced along what are marked bicycle routes. Large amounts of land in the city center and beyond is set aside exclusively for cars in the form of parking lots, roadside parking and double, triple or even quadruple lanes for motorised transport while pedestrians, cyclists and public transport riders are required to fit in as best as they can.

This section takes a brief look at NMT conditions across the city.



Simone Lillienfeld

Mew Way, Khayelitsha: fast road, front yard.



Simone Lilienfeld

M9 and Link Road interchange, between Crossroads and Sheffield Road informal settlements



Simone Lilienfeld

Khayelitsha Station



CCT 2010

Koeberg Interchange upgrade boosts Century City

“The nearing completion of the Koeberg Interchange represents the last leg in unlocking Century City’s accessibility to the entire Peninsula, and has been greeted by increased inquiries from corporates that want to relocate to the precinct, says John Chapman, a director of Rabie Property Group. He says the opening of Ramp B, which connects the M5 with the N1 going towards Century City... has shaved off an average 20 minutes of travelling time for motorists coming from the southern suburbs to Century City.

‘Previously you would hit traffic jams even over weekends and off peak periods, but now there is free flowing traffic no matter what time of day you use the road. It has really been a life changing experience and makes driving from the southern suburbs to Century City or the northern or western suburbs of Cape Town an absolute pleasure.’ “

(SA Property News, 2011)

R696 million interchange



SEP 81



SEP 81



SEP 81



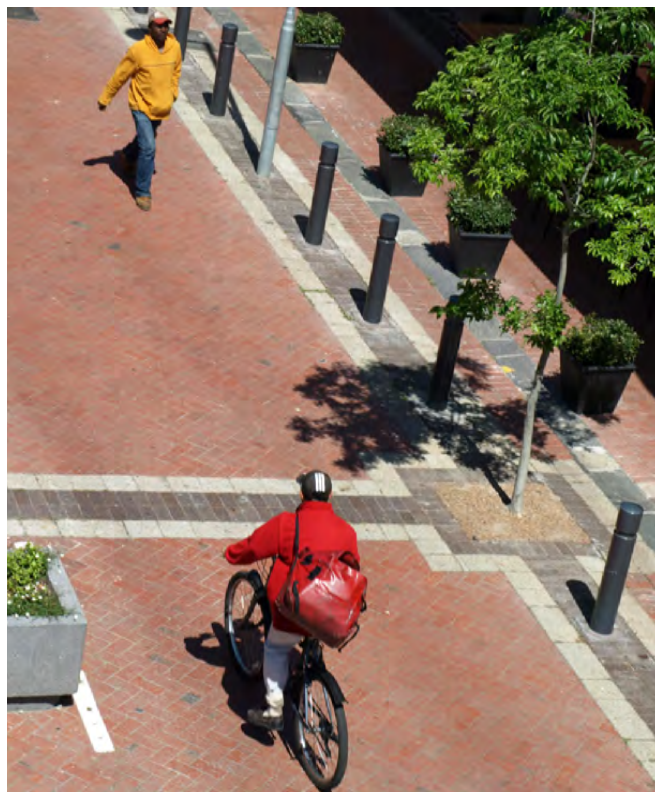
SEP 81

Simone Lillenfeld



Simone Lilienfeld

Closest pedestrian crossing: 3.3km in either direction



Simone Lillenfeld

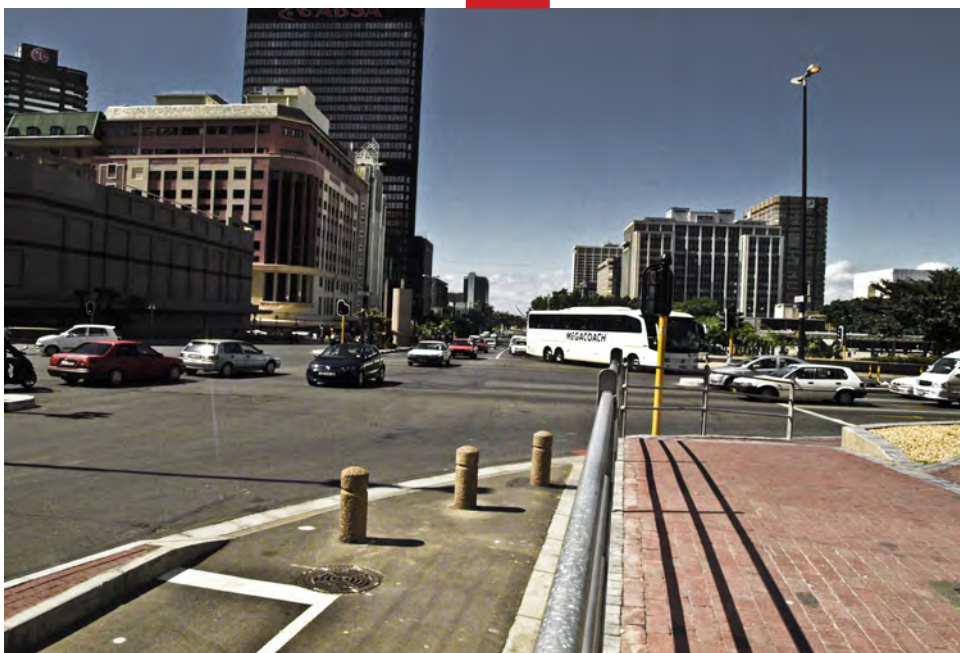
Non-Motorised Vehicles (NMVs) across the city



Google Earth

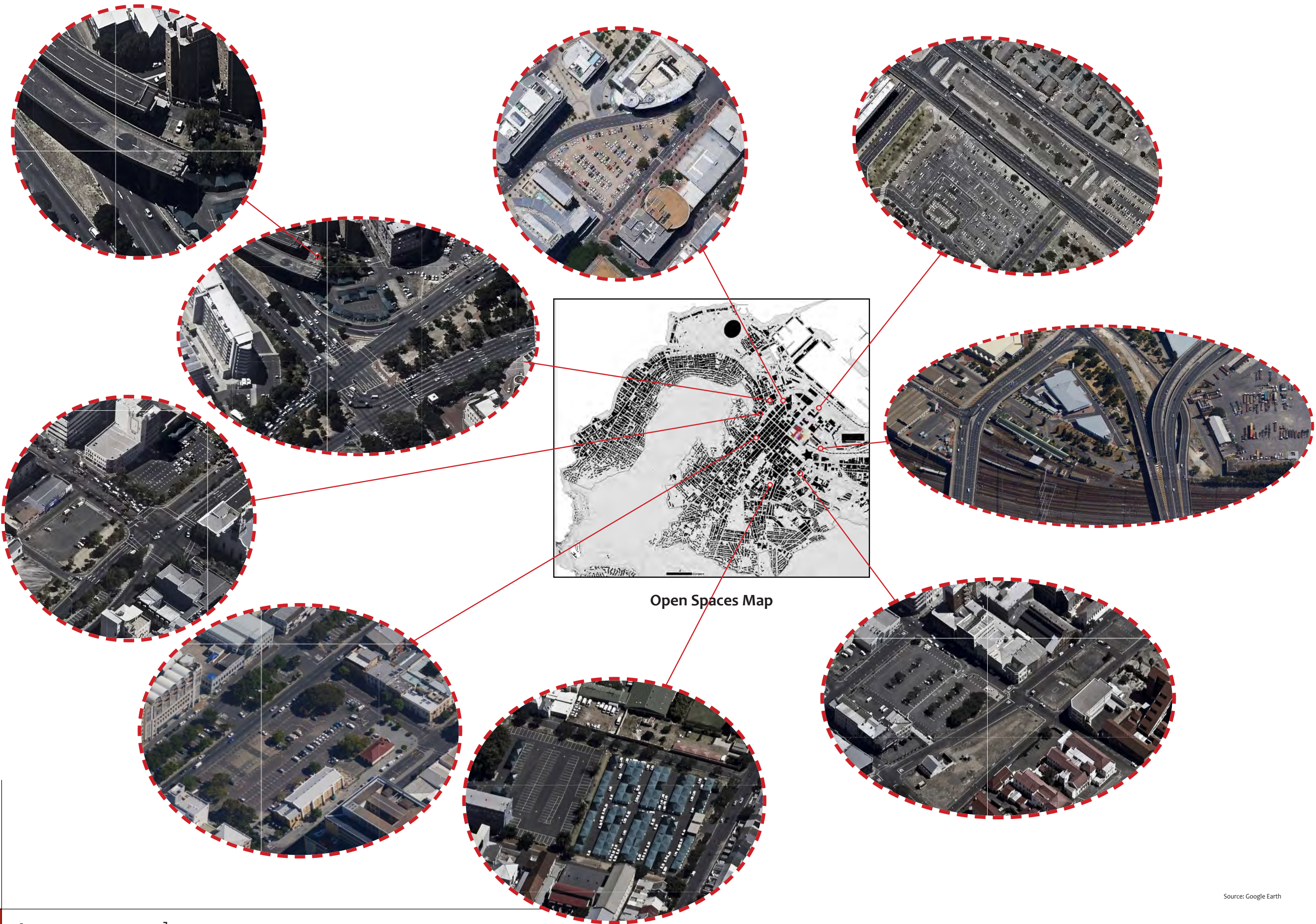


Simone Lilienfeld



Simone Lilienfeld

Adderley Street: A 400m bike path to nowhere



There are a host of policy documents from national down to local level that addresses the need for an integrated transport policy and, to a far lesser degree, non-motorised transport. In considering this 'plethora of Green Papers, White Papers, laws and policy frameworks' and juxtaposing it with the current, substandard performance of transport in the city, it is illuminating to keep in mind Pieterse's assessment of post-1994 institutional dynamics:

While dealing with this effect is clearly outside of the ambit of this plan, the 'inertia' and 'paralysis' recounted above clearly need to be taken into account as any plan hoping to be successful would have to find a way of mobilizing action and inspiring real change.

- The City of Cape Town's *Integrated Transport Plan (2006-2011)* – gives an overall vision for transport within the City, as well as the main strategies to realize this vision
- The *City of Cape Town NMT Policy and Strategy* (2005) – an assessment of the status quo of NMT in the city and an expression of a new vision for it in the future,
- The *City of Cape Town City-Wide NMT Network Plan* (Northern, Southern, Eastern and Western Regions, all 2010) – four area-based plans for how to realize the policy set out in the *NMT Policy and Strategy*
- The *Bicycle Master Plan* (2010) - a plan for a city-wide bicycle path network

Closely correlated with the SDF, the ITP (also sectoral plan of the IIDP) is very bold in its envisioning of an alternative future for Cape Town; indeed, significantly more so than the somewhat watered-down 2009 SDF. It covers the whole gamut of progressive values (see right), and its goals are also well-directed – it seeks a “compact city in which land use and transport effectively support sustainability”; to “provide for basic mobility for the economically disadvantaged but also to provide a competitive alternative to the private vehicle” while ensuring “coordination across the various modes to maximize service coverage and promote comfortable transfers between them”. Furthermore, environmental sensitivity and triple-bottom-line sustainability are key goals, to which end actively discouraging unsustainable transport modes such as single-occupancy vehicles (SOVs) and supporting universal design to cover all categories of passengers is proposed (CCT, 2009, pp. 15-16).

[illegible]

Created on www-958.ibm.com with data from CCT 2009

NMT does not fare well either. While it would have to play an extremely important role in achieving the numerous values, goals and objectives outlined in the plan, it is never identified as a critical sector and indeed, hardly features in the report: its assessment runs to one page and the NMT 'sectoral strategy' to one and a half (out of 375 pages in total). Statistics are not up-to-date and the report itself admits that they 'need reviewing'. This is despite the conclusions in almost every other area of analysis pointing to (but never explicitly identifying) NMT as a crucial area of intervention. NMT is almost totally neglected on the budgetary front – the capital expenditure (capex) budget allocates it 7% of the roads budget (0.07% of the total transport capex) – which serves to perpetuate the entrenched marginalisation of NMT as a subordinate and expendable subsidiary to motorized transport.



Created on www-958.ibm.com with data from CCT 2009

City of Cape Town NMT Policy and Strategy

The *City of Cape Town NMT Policy and Strategy* (CCT, 2005a; CCT, 2005b) consists of two volumes; the first a status quo report, the second a policy framework, both prepared by consultants. It is the first attempt by the City to formulate an explicit strategy to 'guide the planning and implementation of programmes and facilities to respond to the multiple needs of NMT users' within its range. It is a strong document, making an excellent case for why NMT is crucial for the success of the city, as well as formulating how it should be conceptualized within the overall city and transportation strategy, within which it is given a dominant role. The role carved out here for NMT is multifaceted; it is recognized as being an integral part of transportation, public space, and the streetscape, and the requirements for and benefits of success in each of these areas is outlined here.

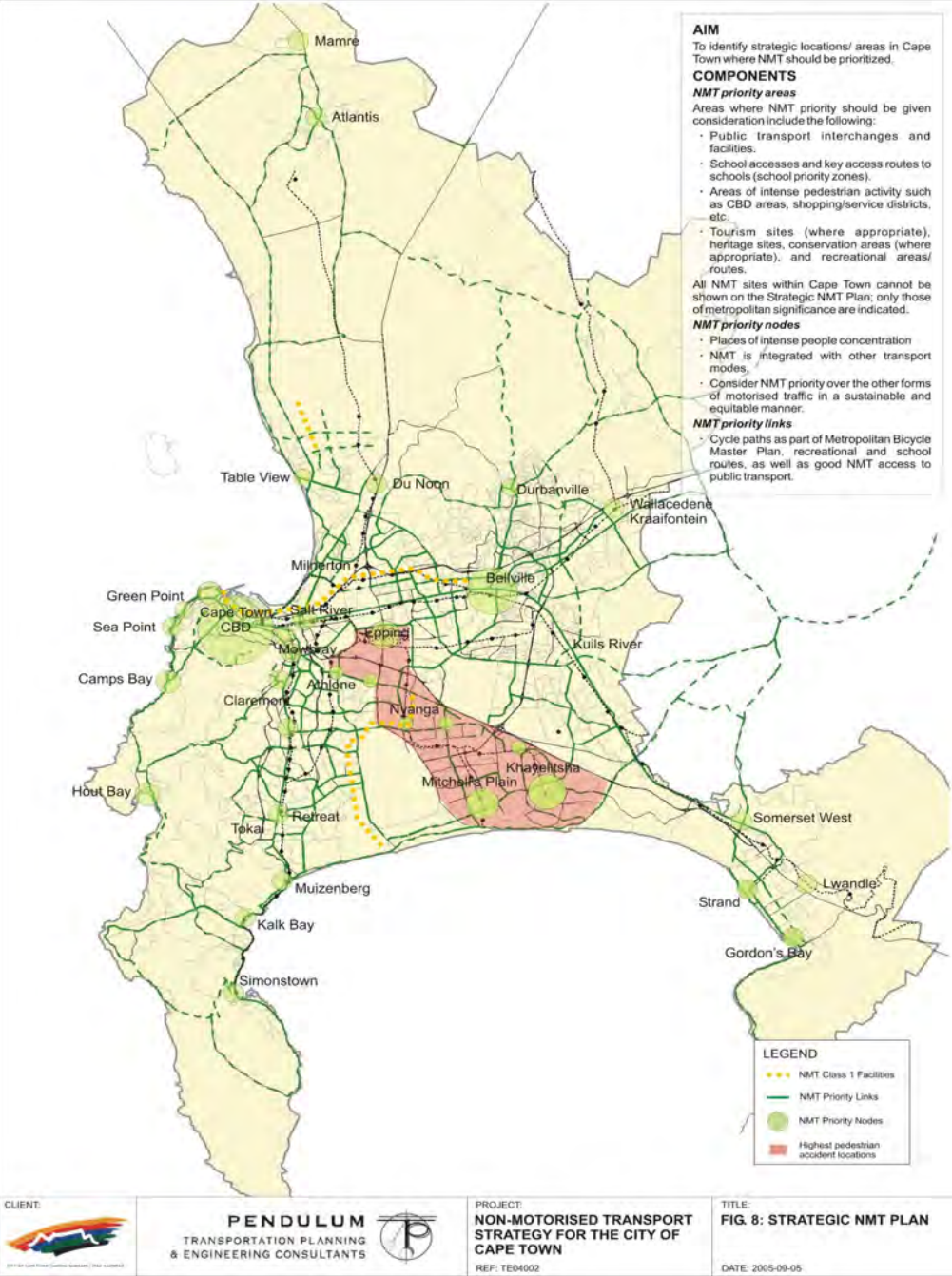


Figure 3.14: Non-Motorised Transport Strategy for the City of Cape Town

While being somewhat hamstrung by the lack of available data, this text identifies many of the key issues, problems and opportunities for NMT in a concise but comprehensive analysis that leads to an equally concise and comprehensive problem statement. The policy framework responds very well to this problem statement, selecting six policy 'themes' on which to focus: access; people and communities; social and economic transformation; environmental sustainability; integration; and awareness. These form the base for six NMT strategies; each focusing on a specific theme but at the same time are "are cross-cutting and may impact across a number of themes" (CCT, 2005b, p. 15). Unlike the ITP, there is a rough implementation framework, indicating the sector responsible for each policy element, as well as whether it is high, medium or low priority. It includes a 'sector response' section in which NMT-related duties are assigned to each sector of government as well as the public sector; however, there is no indication of how these 'responses' are to be enforced within other government silos. It ends with a set of conceptual and design guidelines, which are translated into a metro-level strategic plan (see fig. 3.14), which adeptly and strategically identifies zones of 'NMT priority' embedded within neighbourhoods (although it is left to subsequent local area plans to design these nodes). However, this plan does not address the problems inherent in the car system, and as such cannot bring about real or lasting change.

Taken as a whole, the *Status Quo Report* and the *Policy Framework* do a good job of laying out both the argument and the foundation for a strong NMT plan to be created. A significant problem, however, is that the vision is not entirely clear, and the framework fails to set itself any specific and/or measurable goals. This is compounded by the lack of a solid implementation plan, and indeed, six years later, virtually none of the policy goals have been realized nor does it appear that NMT use has increased (the dearth of data means this cannot be measured).

A fundamentally problem here is one of political buy-in – in a city with many urgent concerns, there are inevitably high levels of competition for political and capital resources. In addition, as a policy document without any powerful political or official advocates, it is unlikely to capture the imagination of a potential backer, nor does it propose any agency which would take on the implementation. Accordingly, it was perhaps inevitable that it would disappear into the 'hurricane of reform'.

City of Cape Town City-Wide NMT Network Plan

After the 2005 policy document, NMT was returned onto the backburner, as can be seen from its near omission in the ITP of 2006 and subsequent revisions. The World Cup, however, served to bring it back as a priority, and 2009 saw the CSIR and Department of Environmental Affairs jointly publish the *Pre-feasibility Study on NMT in the Fifa WC 2020 Host Cities: City of Cape Town* (DEA/CSIR, 2009), again prepared through consultants, and drawing heavily on the 2005 *Policy and Strategy*. While not containing any bold new ideas, it was nevertheless the first step in a World-Cup driven initiative that delivered perhaps the boldest NMT project seen in Cape Town in many years – the Cape Town Fan Mile – and fanned a new interest in NMT (See Box 3.2).

The City took up the idea of a metro-wide, comprehensive NMT plan during this period, again outsourcing it to consultants. This time, however, the outcome was not as favourable as the *Policy Framework*. For the purposes of assessment, the city was divided into four regions (see fig. 3.15) with different

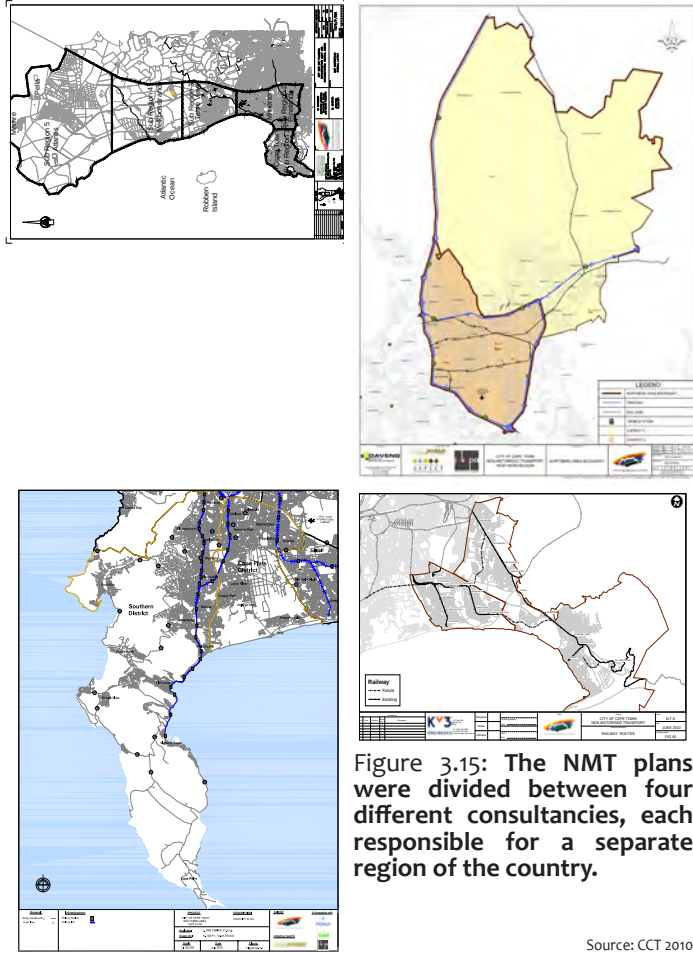


Figure 3.15: The NMT plans were divided between four different consultancies, each responsible for a separate region of the country.

consultants taking responsibility for each of the regions. The quality and focus of the four reports vary widely, there is a lot of repetition, and, worst of all, by dividing the city into regions (regions that are moreover closely correlated with socio-economic conditions), the proposed plans focus inward, thereby further entrenching the structural segregation and division that transport – NMT and MT alike – are meant to try and combat. Furthermore, due to severe time constraints, public participation was limited to "formal engagement at Sub-Council level along with consultation with primary stakeholders, such as the bicycle NGOs" (CCT, 2010b, p. iii), meaning that no real public involvement was amassed nor was the public in any way notified or invited to give input – a flaw that proved near-fatal in the New York case study.

Two of the four reports (the Northern and Southern regions) are strong, taking into account a full range of issues, building a strong argument, and doing so imaginatively and compellingly, albeit without the advantage of public consultation. This depth of analysis is translated into a fine-grained network of cycle routes, and a comprehensive integration between pedestrian routes and public space and activity. The other two reports, however, do not fare as well. The Eastern Region report – arguably the region most in need of an effective NMT plan – is largely focused on technical aspects and, outside of the area plans, makes few locally-specific assessments or recommenda-

tions. It is laden with data but very little of that is translated into proposals for action specific to the region. The Central Region plan is even more broad-brushed, and both show a disappointing lack of understanding of the physical requirements for success, with cycle paths seemingly arbitrarily placed, often on the steepest slopes or on otherwise unsuitable routes.

The Bicycle Masterplan

From these four reports a bicycle Master Plan has been compiled (see fig. 3.16); however this document shows even more acutely the disconnect between

were scheduled, these were inadequate for the large numbers of fans. Safe, efficient and reliable public transport can form the backbone of a major events transport plan, provided that sufficient capacity is available. This positive public transport experience may increase the use of this travel mode in the future.”

Initially, the fan walk was conceptualised as a back-up to the shuttle service. However, after two matches, it became the preferred option. The fan walk concept was incorporated into the City’s 2010 transport planning process from January 2007, thus allowing ample time for design, planning and implementation. The City committed sufficient capital budget to make the route permanently pedestrian-friendly. Measures included the provision of pedestrian priority areas and cycle lanes, lighting, dual-bin waste receptacles, outdoor furniture, trees, and directional and interpretive signage. The two most significant improvements were the pedestrian bridge over Buitengracht and the Green Point circle underpass, which both ensured a safe crossing over two of Cape Town’s busiest roads.

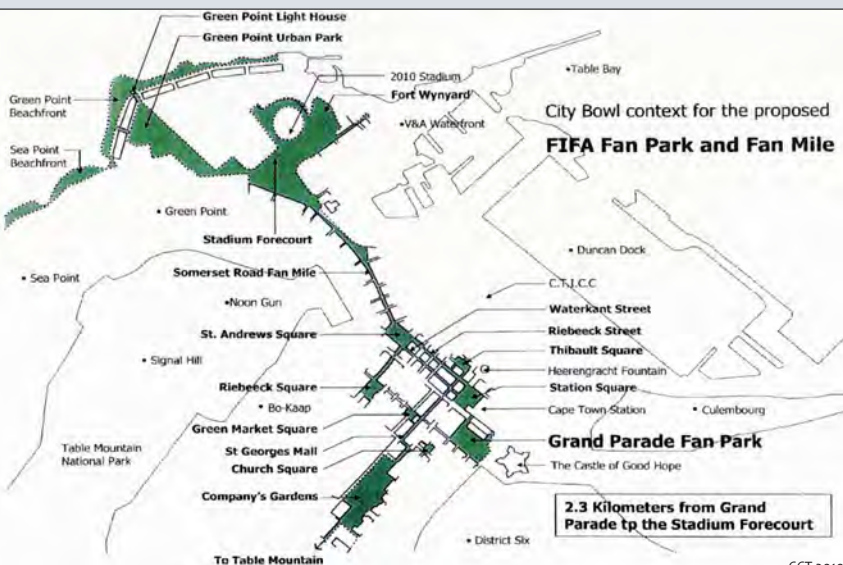
CCT-2010

A year later, the Fan Mile is regularly reinstated for special Stadium events, while the route itself has become increasingly popular with cyclists and pedestrians.

(Adapted from Rink, 2011 and CCT, 2011)

THE CAPE TOWN FAN MILE - AN UNEQUIVOCAL SUCCESS FOR NMT (BOX 3.2)

Inspired by the highly-successful Berlin Fan Mile from the 2006 FIFA World Cup in Germany (City of Cape Town 2011), Cape Town’s Fan Walk is a ribbon of red clay brick that runs 2.6 km through the CBD linking Cape Town Stadium to public transport hubs at Cape Town Station (for trains, mini-bus taxis and long-distance bus services) and the Grand Parade (for local bus service). The route includes pedestrian bridges over busy Buitengracht Street and continues past the Stadium to link Green Point Urban Park.



More than simply a means of feeding fans to their Stadium seats, the Fan Walk got many South Africans walking again, experiencing the city from a pedestrian point of view. The route, which the City promised fans would be “abuzz with local street theatre and street vending activities giving fans a glimpse of the cultural and gastronomic delights of the city” (City of Cape Town 2010a: np), was one that took pedestrians through districts filled with clubs, restaurants, hotels, and particularly during the event street cafes that brought performance in literal and figurative senses to street-level.

Not only did the fan walk overcome the spatial barriers that would under normal circumstances encourage visitors to use their private cars, it also helped us to overcome the temporal barriers that govern the movements of many South Africans at night—when the fear of crime and violence is heightened. As Cape Town’s Host City Green Goal Legacy Report (2011, p. 72) states,

“During the 2010 FIFA World Cup™, many South Africans for the first time switched their mode of transport from private vehicle to bus or train. Although additional event train services



planners’ perspectives and the experiential reality on the ground. What is most urgently lacking in this plan is an understanding of how important neighbourhood networks are to supporting cycling as a viable way of getting around. This was clear not only from the review of the literature and the case studies, but also from the conclusion of the 2005 *Policy Framework* – yet in its current form, the Master Plan seems intent on creating a system that would serve long-distance commutes (the least popular use for urban cycling) to the exclusion of everyone else. There is no focus on integrating cycle ways with the public transit system, nor are they located so as to offer advantageous access to local shops or schools. Furthermore, someone located far from a cycle route would easily be required to travel up to 2-4 kilometers in traffic before being able to access any kind of cycling facilities. In current traffic conditions this might be enough to discourage cycling altogether. In most cases, cycle paths skirt the edges of neighbourhoods, merely following the arterials and established MT routes. In the city centre, one of the few locations already in possession of the kind of density and functional uses that could easily make cycling practical and popular, the plan amounts to a series of disconnected dead-ends, with no consideration for routes start and end destinations. This Master Plan is contrary to the findings of every policy and strategy document commissioned by the department, and it is very disappointing that this should be the outcome of the immense amount of work put into the many other documents.

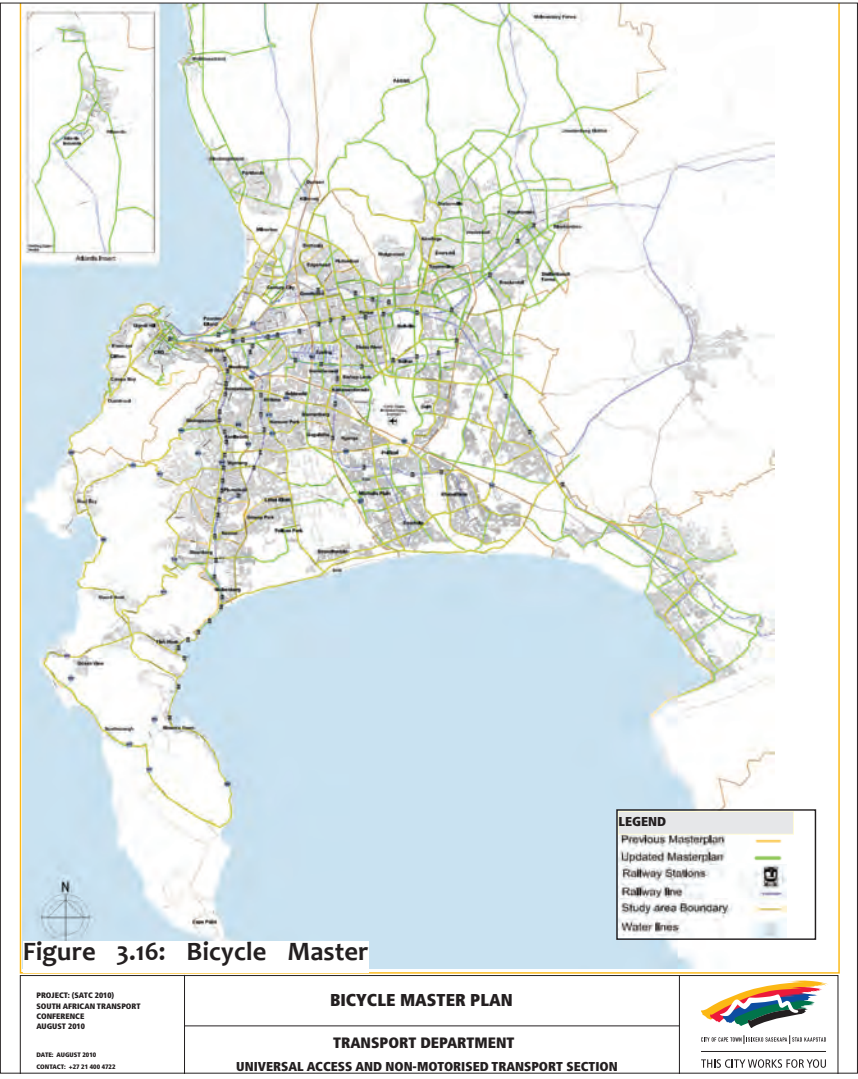


Figure 3.16: Bicycle Master

CCT 2010

EVALUATION

The policy documents and the visions outlined here show that the City is, at a conceptual level at least, moving in the right direction. It wants a transport system based on universally accessible and affordable public transport, integrated with land-use policies and the built environment. While NMT is not directly integrated with this vision, the NMT policy that does exist picks up on many of the right points and is indeed well matched to the public transport policy that is being discussed. The overwhelming problem is that of translating these policies into reality. What the ITP is essentially calling for is system change, but none of its strategies or implementation plans give an indication of how the system is to be changed, nor does it call in any direct fashion for such an action plan to be made.

To understand the how and why of this it is useful to return to Pieterse's comment on the plethora of progressive new policies and the concomitant institutional paralysis. Any policy or plan that is to be successful within that 'hurricane of reform' must stand out above all the others, have a crystal-clear implementation framework that spells out the required steps, spheres of responsibility and accountability, and show how it slots in with other city initiatives. However, above and beyond this, it also needs to be 'marketable' to the broader public, in many ways approximating an marketing campaign as much as a traditional plan.

To this end, it is useful to look at the five 'lessons' drawn from the case studies in Chapter 3 – how does the City of Cape Town and its plans weigh up in those five procedural fundamentals?

Consistency

While the post-1994 formulation of the planning structure is designed to promote the kind of consistency displayed in *PlaNYC*, the reality has been a far cry from the ideal. While visions and goals often hazily overlap, the strategies pursued by every sectoral plan are often widely disparate and, even when aiming for the same purpose, do not cooperate to achieve that goal. This is particularly true in the transport sector – the strategies pursued by the ITP, while conceptually in tune with the SDF, are not coordinated across sectors and silos with the result that projects, programmes and plans are very fragmented and many opportunities for taking decisive action are missed. The City sorely lacks an 'umbrella plan' or theme that can coordinate all the many initiatives and actions and synchronise them for maximum effectiveness; yet even if this horizontal integration is achieved there would still have to be considerable work done to ensure vertical consistency. Currently, most plans still deliver regressive infrastructure and decision-making on the ground, despite espousing the most progressive visions and goals.

Leadership and Imagination

The nature of the political climate in Cape Town and South Africa puts the focus on basic services and housing delivery. However important, these cannot by themselves deliver sustainability, integration, and economic and social development. However, the energy expended on those sectors leave very little for other spheres of urban development, and while the private sector largely fills the gaps for middle-class needs, areas that should be within the public realm are often left entirely neglected and without champions. This has been the case with NMT. While public transport has enjoyed renewed attention nationwide (from the Gautrain to Rea Vaya to MyCiti), NMT still has no champion. In the absence of strong political leadership, it is up to officials and planners to inspire and lead with their plans, and the inability to secure such support has been a fundamental part of the problem.

In order to secure the kind of leadership that would be required to propel these plans to the foreground, the plans need to do more than envision a Cape Town where "all people feel safe and secure to walk and cycle, NMT is part of the transport system, public space is shared between all users and everyone has access to urban opportunities and mobility" (the NMT Vision Statement). No-one could disagree with this vision, but it attracts neither public nor political attention. In the current competition for resources, a plan needs to be big, bold and beautiful to attract the kind of support it needs to remake a city. The IRT achieved that buy-in because it

promised to deliver something tangible, while the Fan Mile is an example of an NMT project that can capture that kind of political support. The NMT plan in its current form, however, is doomed to stay below the radar if it cannot sell itself.

Comprehensive Communication

A second significant failure on the City's part has been communication – a failure stemming from every level. From the public participation process to communicating planned interventions and even the existence of such interventions after they exist, the City has proved itself terrible at getting ideas and plans across, appearing to rely predominantly on word-of-mouth. Very often, the first an affected party knows about a new project is when the construction crews arrive at their doorstep, while people who might be interested in using the new facilities might never know about their existence. This is not to say that the law is not followed; public notices go up in newspapers and plans are lodged in libraries; however, this has proved to be an ineffective method of communication. The City's website is practically unnavigable, and there are no effective community structures in place through which information can be dispersed. This creates frustration at many levels; like the bike lanes in New York, a backlash can quickly build against new projects that are seen as undesirable. Here the failure of the City's densification programme is a prime example - a symptom of poor communication and the inability of the City to explain and justify itself to its constituency.

Persuasive Incentivising

Another significant failure, and perhaps a sign of the fragmentation within the City itself, is the lack of holistic planning and a broader understanding of what brings about behaviour change. Incentive (and disincentive) schemes are crucial. For example, a new public transport line should be accompanied by restrictions on private transport along that line (in the form of congestion charges, raised cost of parking or the reduction in parking places); a new bicycle lane should at the minimum be fully catered for along the way with parking, safe intersections, and completion.¹⁴ This is a point the City has not understood thus far, or perhaps not had the will to implement (disincentive schemes are generally not met with much enthusiasm, but are essential to creating significant shifts in behavior). This is often the result of not fully understanding the complexity of the system – why people make the choices they do, what brings about behaviour change, and how are these influenced.

¹⁴ It is essential that they are fully in tune with each other – implementing a disincentive strategy before the alternative is available is sure to provoke the public's ire

Attention to Detail

Attention to detail is utterly crucial. Far too many City projects, from bicycle lanes to public spaces to new public transport systems are well intentioned and generally well executed, but with one fatal flaw that means they simply cannot be used as planned (see Box. 3.3). While this attention to detail does not mean that ‘world class’ needs to be the standard, new systems and spaces need to make sense, otherwise they will not be used. Compromising on details for convenience sake cannot be tolerated; it translates into a system that is unusable and therefore will not be used. This does not merely destroy the project – it destroys the public’s faith in the City’s ability to work for them, and destroys the City’s willingness to take the initiative and try new projects. Yet it is a problem that can easily be avoided by thinking through the details, communicating the project properly, and, perhaps most importantly, by having the planners to imagine and then experience their plans first-hand on the ground. Half-measures and compromises cannot work when they gut the initial purpose of the projects.

BOX 3.3 - SOME CITY EXAMPLES OF INCOMPLETE PROJECTS

The Airport Shuttle

Much note has been made of often the airport bus travels empty to and from the airport – a significant loss for the city. However, for people arriving at the airport, there is no indication or advertising of the services, with taxis and shuttles easily picking up passengers before they even come into sight of the bus. Similarly, large numbers of airport passengers live closer to the airport than the Civic Center – for them to travel into the city to catch the bus is nonsensical. An extra stop in the middle – at the Liesbeeck/N2 intersection, or perhaps Observatory Main Road would easily obviate the problem.

Bicycle Paths in the City Centre

The City has recently and at great cost unrolled a network of pathways within the City Bowl, creating fury amongst the businesses who have lost parking space to bicycle paths. This anger is compounded – and from the outside seemingly legitimated - by the fact that there are practically no cyclists on these paths. Yet on closer inspection this is no wonder – the paths start nowhere and go nowhere. The Adderley Street path – a separated path that runs (4 blocks) ends abruptly in the middle one of the most dangerous intersections in the center (Strand St/Adderley St) leaving cyclists with nowhere to go. Another (marked!) bicycle path travels through Greenmarket Square, where security guards are quick to stop cyclists passing through, requiring them to dismount and push their bikes for 200m, completely defeating the point of a cycle way. Similarly, Government Ave, at the other end of the Adderley Street bike path, is also forbidden to cyclists.

Public Spaces

While Cape Town has some fantastic public spaces, many of them refurbished at great costs for the World Cup, most of them do not sport the kind of street furniture and amenities that allow these spaces to become truly livable. The new square in front of the Station is a prime example – a huge area with large amounts of foot traffic, it nevertheless offers practically no seating, let alone the kind of table and chair combinations that public-space activists are adamant create the right kind of environment for multifunctional use.

CONCLUSION

Cape Town’s car-centric system cannot be sustained into the future – indeed, the costs of sustaining it thus far have been crippling. This system transcends the issue of mobility, defining even the way we live our lives – where we live, where we work, where our children go to school, what opportunities are accessible to us. In envisioning an alternative future – one involving rising energy costs, significant limitations on carbon emissions and opening up access to opportunity for all – developing a new transport rationality with all its complex permutations – has to be a priority. The City of Cape Town has, in at least some parts of its organizational brain (arguably not at all in others), largely recognized many of these problems, and formulated policies intended to counteract them. However, those policies, even if fully implemented - and with current implementation schemes they will not be – will merely serve to alleviate some of the worst stressors and are not aimed at changing the system itself. As argued in Chapter 2, a new transport system cannot simply be overlaid onto the old one, but needs to accommodate and slowly incorporate a new ethic of space and society that is inclusionary, socially-oriented and human-scaled. Transport, through its integration with practically every other facet of society, is the ideal starting point for this shift away from a market-oriented public realm to something more humanistically focused.

The failure to recognize this and to structure policies accordingly has been one of the City’s biggest thus far. Business simply cannot ‘continue as usual’, and interventions cannot just involve laying out infrastructure, be it bicycle paths, BRT or public squares. Indeed, It has to target the mindset of the city and its citizens; simultaneously addressing the needs of the poor while explaining to the wealthy why these bold measures are necessary. However, change on this scale cannot be implemented from the top down – the focus needs to be on finding underlying circumstances that ‘shift’ the system into a new equilibrium; one where the car is ususally the least convenient and affordable way of getting around (but where acceptable alternatives are the order of the day). Access needs to be prioritized over mobility; space over time, and people over cars. Planners and policy makers need to break away from seeing the transport problem as a ‘new set of problems to be analysed and modelled’; and instead focus on inclusionary policy-building that creates space both for the broader public to be heard and for marginal voices to also be expressed (Richardson, 2001).

However, the only area in which some inroads are being made is, for better or for worse, the MyCiti IRT and the proposed overhaul of the public trans-

port system. Currently, however, this is envisioned as an add-on to the current roads-based system, rather than a definitive shift away from the car system. Good public transport by itself, however, cannot ‘tip’ the system. What is needed is a plan that will emphasise ‘accessibility, rather than mobility for its own sake’ (Richardson, 2001), and reintegrate mobility, public life and urban form. A broadly-defined NMT-based plan holds the potential to do just that, as long as it does not define itself too narrowly and broadens its mandate beyond infrastructure provision. What is needed, then, is not a plan (and implementation body) that will singlehandedly implement NMT infrastructure everywhere, but one that will coordinate efforts across sector and champion a new form of mobility, acting through programmes as much as infrastructure to cement walking and cycling as a practical and feasible way of getting around the city while at the same time promoting a new sense of civic integration and responsibility. Such a plan could work to address far more than simply transport issues, and be the driver for the kind of system change that is needed.

A red square is positioned to the left of a black crosshair. The crosshair consists of a vertical line and a horizontal line that intersect. The text '[PART II: POLICY]' is located to the right of the vertical line, centered vertically relative to the intersection.

[PART II: POLICY]



Part I showed the many ways in which the car has come to shape the spatial realm of the city and how this has impacted on the public realm and even the private lives of individuals and how negative these impacts really are in both the short and the long term. It demonstrated how Cape Town not only conforms to that model, but also compounds the perversions of Western automobility through exacerbating the structural inequality of Apartheid and distorting post-Apartheid attempts at reconstruction. Part 1 further outlined the severe failure to date of policies and plans aimed at addressing the fragmentation, inequity and lack of sustainability that is crippling Cape Town's society, economy and environment. Moreover, policy reactions to this situation have been wholly inadequate. Broad-based plans such as the SDF and ITP lack the capacity to leverage strategic projects that could to wholesale change, while single-focus policies and plans (such as the NMT Policy Framework) lack vision and political clout, and all lack adequate implementation measures.

Case studies are presented of two cities that have tried, in quite different ways, to buck the current motor-centric system and initiate a different path of development. Both have had significant, albeit not flawless, successes and while their ideas are not directly transferable, the changes brought about in these cities show that original thinking, creative strategising and firm but resourceful implementation are essential to success in achieving meta-level change. This kind of creative, holistic thinking coupled with strong implementation measures have largely been lacking in Cape Town. This has left a vacuum that this plan seeks to help fill.

NMCT is an attempt to reimagine the city, using NMT as a starting point for restructuring and reinventing a livable, integrated Cape Town. It recognises the city's transport/land use system as a complex adaptive system, with all its concomitant connotations, as opposed to the linearly-organised hierarchical organisation it has commonly been understood as in the past. In its current configuration, this system can be characterised as a car system, based intrinsically on automobility. The complex nature of this system means that change cannot be imposed in a top-down fashion with cause and effect operating on a one-to-one basis throughout. Instead, interventions need to be directed towards shifting the underlying 'fitness landscape'; the set of constraints that shaped it in the first place. Those constraints have been, broadly speaking, the planning of the city for automobiles (based on a premise of middle-class hegemony and unlimited resources and environmental sinks) and the emphasis on time over space and of mobility over accessibility. If these underlying conditions can be shifted so as to prioritise people over cars, accessibility over mobility, and space over time, the car-centric system would shift of itself as people started deciding that it was in their own interest to change their behaviour.

At the same time, in a self-organised society urban interventions can only

achieve widespread adoption when they respond to already-existing needs. In some cases, particularly where wealthy or middle-class citizenry have benefited in the past from undue preferential treatment, that means creating needs through disincentivising undesirable behaviour (such as the predominance of private motorised single-occupancy vehicles) while in the majority of cases it means unlocking suppressed demand.

It is not within the scope of this plan to comprehensively address the rehabilitation and restructuring of the public transport system, as essential as that is. Instead, some broad-based principles and guidelines for public transport will be outlined to integrate with this plan. For the most part it is assumed that the roll-out of the new IRT system will address the myriad of public transport problems. Instead, the plan focuses on shifting the system away from automobile dominance both at a metro scale (where some significant restructuring projects are proposed), and at the local, street scale. Both efforts are to be based on a new mobility hierarchy (see fig. 4.1). Such a new hierarchy would represent a shift that, if fully implemented, will have far-reaching impacts on land use, urban form, and transportation.

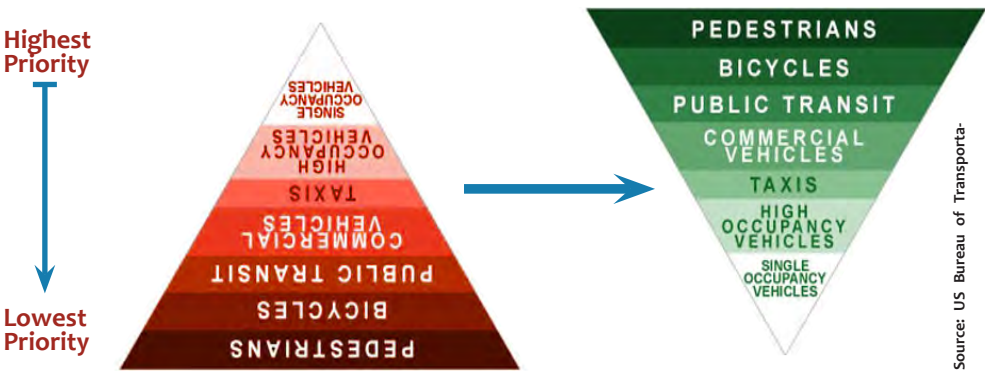


Figure 4.1: Towards a Green Transportation Hierarchy

While NMCT touches on all these issues, the main focus remains on that which has to date been mostly neglected - the non-motorised beginnings and ends of nearly all public transport trips; the non-motorised trips that form (or should form) the entirety of most local trips; and, last but not least, the reclamation of the vast reserve of public space that is currently given over to automobility and the private car. The latter is perhaps the most important point of all – as a number of urban theorists argue, “public urban space must be understood as not being simply the passive and innocent arena for the manifestation of predetermined social identities, but as being crucial in their formation and maintenance” (Berman 1982; Massey, 1995; Rose, 1993; Ruddick, 1990; Wilson, 1991; Young, 1990 – quoted in Nahnsen, 2003, p. 144). Cape Town, and indeed South Africa as a whole, is desperately in need of forming new social identities based on a ‘culture of citizenship’ where respect for life, for others and for the environment is driven by a recognition of citizens’ rights and duties, and permeates all public action and interaction.

The plan is premised on the idea that integration in the short to medium term hinges on promoting access rather than on impossible development. The bold schemes for large-scale economic investment in the ‘previously disadvantaged’ areas have failed to materialise and will continue to fail until the socio-economic characteristics of these areas change. The private sector, it has become clear, will not invest where it does not want to, and even if it does, it will take decades before the level of resources within those areas is equal to that of older economic cores. Yet the socio-economic situation will not and cannot change while the inhabitants of these areas remain isolated in their no-resource/no-access neighbourhoods. It is a Catch-22 situation, where what is required is a shift in principles: since resources cannot be brought to the people, people need to be brought to the resources. Only when education, employment, and other urban opportunities are easily, affordably, and safely accessible will the deprivations inherent in these areas begin to dissipate.

This plan does not seek to replace the current NMT policy of the city, which generally speaking has all the right values and ideas but has hardly been implemented since its inception in 2005. The plan also does not attempt to address the practicalities of how to roll out NMT infrastructure. Instead, it seeks to create a vision of a possible Cape Town, one that might be coaxed into existence by applying the right kind of thinking, imagination and political will to the issues of mobility, public space and access. The plan also suggests a series of strategic projects that could begin to build such a city.

The Plan

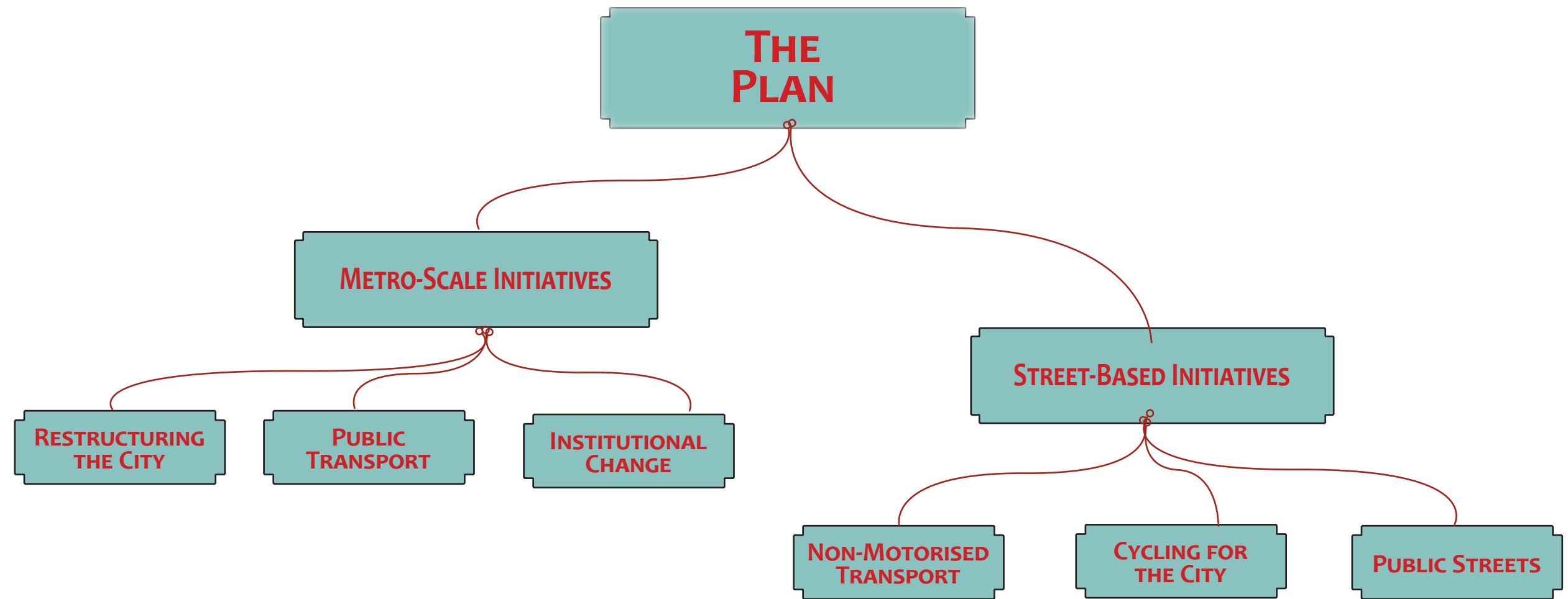
The current physical, social and psychological landscape of Cape Town is geared towards private cars and automobility. While actual usership is evenly split between public and private transport, it is nevertheless the aspiration of the vast majority to travel by car – a circumstance brought about by the pre-eminence of car travel within the Cape Town transport and land-use system, as well as the comfort and status associated with this mode of transport. People who can, choose cars because cars will get you where you want to be more quickly and more comfortably than any other mode of transport.¹

The overall strategy is focused on remaking this landscape to correct the massive imbalances and distortions that is the legacy of a half-century of car-focused planning.

Specifically, this means stripping the privileges afforded to private cars, and instead ensuring that streets are safe, comfortable, entertaining and attractive places for people to be.

There are two levels of operation for this plan – metro-scale initiatives, and street-based (or sometimes neighbourhood-based) initiatives. Both serve to inform the principles and ideas according to which future plans, programmes and projects must be directed, but both will rely on projects and programmes to take shape in the real world.

¹ (Yet this is not the case in the ‘world-class’ cities that Cape Town is so eager to emulate; instead, most major European cities and indeed many of the ‘great’ American cities are expensive and hostile habitats for cars).



A. METRO-SCALE INITIATIVES

These are the guidelines for ideas that need to find completion in other policies and plans. While *Restructuring the City* will in many cases find expression as part of the local area plans driven by Part B, the ideas underpinning the private and public transport guidelines need to be developed in full under their own policy plans. However, all are critical for achieving the ‘system shift’ that is pivotal for the success of this plan (and indeed, for the continued survival of Cape Town) so action needs to be initiated immediately and deadlines set for implementation within the next 4-10 years.

1. RESTRUCTURING THE CITY

TAKE DOWN THE N2 BETWEEN WOODSTOCK AND THE CITY CENTRE BY 2018 AND RECONNECT THE CITY TO THE SEA BY 2020

PUT THE RAILWAY UNDERGROUND BETWEEN CAPE TOWN STATION AND WOODSTOCK

RECLAIM CULEMBORG, YOUNGSFIELD, WINGFIELD AND OTHER WELL-LOCATED LAND FOR MIXED-USE MULTI-INCOME LEVEL DEVELOPMENT

INTEGRATE THE MAJOR ARTERIALS CRISS-CROSSING RESIDENTIAL NEIGHBOURHOODS INTO THE SURROUNDING URBAN FABRIC OVER THE NEXT FIVE YEARS

INTEGRATE THE ROADS BISECTING INFORMAL SETTLEMENTS INTO THE SURROUNDING URBAN FABRIC OVER THE NEXT FIVE YEARS

ENSURE THAT ALL RECREATIONAL PLACES ARE ACCESSIBLE TO THOSE WITHOUT CARS

These goals serve three purposes:

- To reform the connections that currently sever and fragment the city;
- To drastically reduce pedestrian injuries as the deadliest streets are calmed and made pedestrian-friendly.
- To shift the ‘fitness landscape’ away from car-centered mobility to mixed public and NM transport. Currently, the road system is configured to allow cars quick access through areas that in most cities would take long to navigate. Instead, the N1, N2, M3, M5, M7, R300, etc. all serve to funnel cars through at maximum speeds and with minimum interaction with their surrounds. Taking down and/or calming these funnels will serve both to shift favour to alternate, public forms of transport that can rapidly traverse dense urban areas, and encourage greater social and urban integration.

CREATE A NEW DENSIFICATION POLICY AND AN IMPACT-ZONING SCHEME BY 2015 TO CREATE A DENSE, MIXED-USE CITY

Density

Cape Town's current low densities are unsustainable, and high levels of sprawl at the urban edge are exacerbating the problem. Outwards development shall be halted until desired densities are achieved. Areas around activity corridors will be targeted for high-density development (upwards of 125 du/ha net), whereas other areas are expected to achieve net densities between 50-100 du/ha. Densities below 50 du/ha will be supported in some areas, such as those with deep heritage significance, and those that are contributing to conservation and/or agriculture.

Zoning

This will need to be supported by a new zoning scheme that governs according to bulk and impact, rather than the quite outdated notion of usage. Accordingly, the usual height, FAR, etc. would be determined (with the inclusion of ‘minimum’ setbacks, heights, etc, where appropriate), but instead of zoning categories being set out according to use (residential, commercial, etc), they are determined by impacts - noise, traffic, hours of operation, etc. This will further facilitate the kind of medium to high-density, mixed-use urban environment that is being sought.

2. PUBLIC TRANSPORT

CREATE AN INTEGRATED PUBLIC TRANSPORT SYSTEM THAT IS EFFECTIVE AND AFFORDABLE FOR EVERYONE

An enormous proportion of Cape Town's transport expenditure is on public roads designed for private vehicles. Yet the vast majority of Capetonians do not use private cars, and never will, while the many impacts of the car system are chiefly felt by this same car-less group. Accordingly:

BEGINNING IMMEDIATELY, ONE LANE OF ALL MULTI-LANE ROADS IS TO BE DEDICATED TO EITHER PUBLIC TRANSPORT OR BICYCLE LANES OR (PREFERABLY) A LANE EACH TO BOTH.

While an integrated public transport system is being worked on, delivery can be much enhanced and hastened through diverting capacity from existing (private) road space instead of adding new capacity.

EXPAND FEEDER ROUTES TO ENSURE THAT EVERYONE LIVES WITHIN 1KM OF A TRANSPORT STOP.

Effective feeder networks are a much-neglected aspect of the current transport system. Large-scale public transport networks like rail and BRT are only accessible through feeder routes, which are currently often non-existent, inaccessible and insufficiently addressed even in the IRT.

Yet this is a role ideally suited to minibuses, which are flexible and can permeate the dispersed urban form characteristic of Cape Town.

Accordingly:

ACCOMMODATE, REGULATE AND SUBSIDISE THE TAXI INDUSTRY TO ENABLE IT TO OFFER A SAFE, AFFORDABLE AND INTEGRATED SERVICE.

The BRT will not be fully operational until at the earliest 2020, a wait that is too long to ignore interim alternatives. Currently the two main problems with taxis are that a) the way the taxi system is structured incentivises dangerous and reckless driving, and b) they are expensive. By following the steps below, the taxi industry can help significantly with relieving the transport problem, and as the BRT becomes fully operational it can switch to operating as an extensive feeder service.

The proposed plan is thus to:

Make the Public-Transport-Only Lane (outlined above) available to minibus taxis, on condition that:

The City partially subsidises the industry with a basic amount paid out per kilometre travelled (with the subsidy varying per route, so that less lucrative routes can be more heavily subsidised and public transport can remain affordable everywhere), in exchange for which:

- taxis are fitted with GPS tracking devices that electronically monitor both the kilometers travelled (for payment of subsidies) as well as adherence to speed limits and traffic lights;

- transgressions are fined by automatically being docked off the subsidy amount;
- taxi fares are reduced accordingly;

While the exact mechanism of subsidy should be the subject of careful study and analysis, the basic intent would be to make public transport more affordable and safer, while maintaining profitability and encouraging responsible driving for taxi owners and drivers.

BRING TOGETHER THE TRAIN, BUS, TAXI AND NMT SYSTEMS UNDER A SINGLE ORGANISATIONAL AND MANAGERIAL STRUCTURE AND, WHERE APPLICABLE, A SINGLE FEE STRUCTURE, WITH TRANSFERS BETWEEN ROUTES AND MODES EASY AND EFFICIENT.

This goal is already in the process of being negotiated between the various levels of governments, authorities and other responsible bodies; the initiatives outlined here should help focus these efforts.

CREATE AN ENTITY RESPONSIBLE FOR INTEGRATING AND COMMUNICATING TRANSIT ROUTES AND TIMETABLES

Even where transit routes cover regions well, it is practically impossible for newcomers to the system to find their way and ascertain travelling times. There is a total lack of maps, route cards and timetables along transit stops, in central locations (such as stations or public places), and even on the internet. The entity proposed here would be responsible for collating information on where and when transit goes, how long trips take, and what interchanges are possible, and for distributing maps and timetables. It would also establish a wayfinding system at all transit stops and create a 'smart trips' website where origins and destinations can be entered and the full range of transit and NMT alternatives calculated, together with time and cost.

CONSTRUCT THE 'MISSING LINKS' IN THE TRANSPORT NETWORK: RAIL, BRT

While the bulk of public transport under this plan will co-opt the roads already in place, some new network links are required. For the BRT, these include the upgrading of the M7/N7 and the R300 as north-south links, as well as the downgrading of many highway-like roads in Mitchell's Plain and elsewhere to more pedestrian-friendly single or dual lane roads. For trains, there are three key interventions that will transform the radial format to a more circular, far more effective structure. These are: connecting the Khayelitsha line to the Somerset West line and - separately - to the Bellville line, and connecting the Southern Suburbs line to the South-East line.

3. INSTITUTIONAL CHANGE

SET UP A FORUM IN WHICH ALL RELEVANT GOVERNMENT DEPARTMENTS (AND OTHER INTERESTED PARTIES) CAN DISCUSS AND COORDINATE EFFORTS

Too often, measures are implemented in complete ignorance of what other departments are planning or building. A forum will be established in which all government departments will be required to float all new ideas, plans, and development. Private and non-governmental entities will be invited to participate fully.

EDUCATE TRANSPORT ENGINEERS ABOUT THE REASONS FOR AND IMPORTANCE OF AN NM-CENTRED TRANSPORT POLICY

Traffic engineers often resist changes that would impede the flow of motorised traffic. This is because their profession has posited fast and smooth traffic flow as the ultimate goal. It needs to be made clear that suboptimal traffic movement is acceptable provided alternatives (public and NM transport) are available.

EDUCATE LAW ENFORCEMENT OFFICIALS AND OTHER GOVERNMENT DEPARTMENTS TO BE SENSITIVE TO NMT NEEDS AND REQUIREMENTS

Decades of NMT neglect have left most institutions indifferent to the wants or needs of pedestrians, cyclists and other non-motorised vehicle users. Other agencies and government departments must be educated about and sensitised to the policies and plans outlined here, so that strong institutional backing can be secured from all involved.

ZERO TOLERANCE FOR VEHICLES NOT OBEYING TRAFFIC LAWS, ESPECIALLY THOSE ENDANGERING VULNERABLE NMT USERS

It should be clear that illegal behaviour that puts others at risk will not be tolerated. Accordingly, public campaigns combating antisocial behaviour (such as speeding in school zones or parking in a bike lane or on a sidewalk) should be backed up by doubling or tripling fines for such 'special transgressions'. Conversely, as NMT infrastructure becomes widely available, the same should apply for NMT-users who transgress road rules.

SET UP STRONG COMMUNITY PARTICIPATION INITIATIVES

This includes not only notifying the public about plans that can impact on them but actively engaging with them where necessary taking an educational approach to explain why certain actions are necessary and at others requesting and responding to stated community needs.

ESTABLISH CLEAR CHANNELS OF COMMUNICATION

Communication here refers not just to the participatory phase of planning (which is essential), but more broadly to putting the planning and mobility issues that form the heart of this plan onto the public agenda. It is not enough to have plans advertised in notices in newspapers or libraries; they should be communicated effectively to the people who will be impacted. This can be done through a variety of ways, including media coverage, events and, essentially, an open-door policy from the relevant departments.

Communication is also essential for the post-planning phase. New transport routes, bike lanes, pedestrian routes and public spaces need to be aggressively marketed not only through the media but by means of events, social networking and the full range of modern marketing techniques. Moreover, successful communication requires grassroots legibility – in other words, facilities such as: direction boards to public transport, bike lanes and bike share points; easy access to transport maps and schedules; and free maps of bike routes.

To coordinate these efforts a public "transport and planning" office should be created that will be the central locus where people can see what the city is planning for their streets and where they can comment directly on these plans and make suggestions. Such an office can conduct programmes to educate people about their alternative transport routes and disseminate information about why these efforts are necessary.



Figure 4.2: Like the Mayor of Vilnius, Lithuania - the man driving the tank - our officials need to get squarely on the side of pedestrians, cyclists and other non-drivers. Un-civic behaviour - such as this Mercedes driver who parked in a cycle lane - cannot be tolerated.

B. STREET-BASED INITIATIVES

The next section of the plan essentially consists of sets of principles and ideas to guide holistic interventions at the local scale, in terms of hard infrastructure provision, soft infrastructure provision and new communication/participation strategies. However, these can only be successful if they respond in detail to the very different circumstances on the ground – circumstances that vary wildly between Cape Town’s widely divergent neighbourhoods and districts – and as such cannot be explored in great detail at the meta-level. Accordingly, these guidelines are just that – guides – to inspire the project plans to greater expressions of creativity, innovation and resourcefulness with the aim of creating public streets that are safe, comfortable, entertaining and attractive places for people to be, be they on foot, cycling or simply relaxing.

Many of these measures will be perceived as being a direct attack on drivers. This misses the intention of the plan. The aim is to reshape the public realm so that it favours people above all. After all, drivers and other car passengers are free to enjoy these privileges if they abandon their cars, whereas captive public and NM transport users do not have the converse freedom to take up driving.

These street-based initiatives will find expression in a series of pilot projects, which will in many ways be the real output of this plan. As the pilot projects succeed, fail, adapt and evolve, the plans need to be adjusted and revised and rolled out more broadly.

1. NON-MOTORISED TRANSPORT:

REMAKE THE STREETS WITH PEDESTRIAN AND CYCLIST SAFETY AND COMFORT AS A PRIORITY

This strategy reconceptualises the role of roads and streets as places where people’s needs are at all times equal to or more important than the needs of cars and motorists. While this is primarily a technical exercise that requires detailed understanding of the local conditions, the following principles should at all times be held paramount:

Speed

REDUCE AND STRINGENTLY ENFORCE THE SPEED LIMIT ON ALL ROADS WHERE NMT AND MT INTERSECT.

Studies have repeatedly shown that higher speeds correlate directly with more severe pedestrian injuries and more pedestrian fatalities – indeed, only a 5kph drop in vehicle speeds can lead to 10% fewer pedestrian fatalities and 20% less severe pedestrian injuries. Accordingly, new speed limits need to be set on all roads where NMT is present in order to prioritise safety for NMT users rather than ease for private vehicles.

(RE)ENGINEER ROADS FOR MINIMUM CAPACITY AND MAXIMUM DESIGN SPEED (AS OPPOSED TO CURRENT MAXIMUM CAPACITY AND MINIMUM DESIGN SPEED).

Setting new speed limits is not sufficient in itself, as traffic authorities have not proved able to regulate existing speed limits and traffic rules effectively. New speeds should be additionally be managed through re-engineering and re-designing roads to enforce maximum speeds through design

IMPLEMENT TRAFFIC CALMING MEASURES WIDELY AND PROACTIVELY

Any roads with significant fatalities should immediately be targeted with traffic calming measures. In addition, any community request for such measures cannot be turned down out of concern for private vehicle traffic.

Intersections and Crossings

ENSURE SAFE CROSSINGS FOR ALL

Intersections and crossings form some of the most dangerous places for pedestrians and cyclists, with the only option (or sometimes the only practical option) for people to cross are to cross illegally, to walk far out of their way to a crossing, or to wait many minutes for a signal change. Crossings need to be reconceptualised to forefront the needs of pedestrians and cyclists rather than, as is currently the case, smoothing the experience of the motorist in terms of road speed and safety. This includes (but is not limited to):

- Radically expanding the frequency of pedestrian crossings;
- Ensuring they follow the desire lines of pedestrians;
- Putting in place physical safety measures (such as traffic signals, raised crosswalks, curb extensions, etc.)
- Reprogramme the signalling system to prioritise NMT needs (e.g. immediate signal change upon pressing the button, where that is not possible impose a maximum one minute wait for lights to change).

Shared Streets/Woonerwe

EXPAND THE NETWORK OF ‘SHARED STREETS’ AND RESIDENTIAL WOONERWE

‘Shared Streets’ are designed to be used by pedestrians, playing children, bicyclists, and low-speed motor vehicles, becoming a public place for people instead of a single-purpose conduit for automobiles. The concept blurs the boundary between ‘people space’ and ‘car space’, with the pedestrian space being extended from the sidewalk into the traffic zone. Vehicles are slowed to very low speeds through traffic calming, signage, and use of distinctive materials, furnishings, and other visual cues in the roadway that encourage drivers to travel with increased caution. Street users generally negotiate right of way cooperatively rather than relying on traffic controls, allowing pedestrians to dominate the street. The entire street thus effectively functions as a public space. Different forms of shared streets can be used in different contexts. (The Fan Mile section of Waterkant Str is an example in the Cape Town context).

Parking

ENFORCE NEW DRIVING RULES THROUGH PHYSICAL DESIGN

Parking (and even sometimes driving!) on the sidewalks and in dedicated bicycle lanes is currently widespread throughout the city. While law enforcement must take a zero tolerance approach to this behaviour, design elements can play an important role in preventing this kind of errant behaviour in the first place. Bollards, planters and trees should be installed immediately in locations in which this kind of behaviour is a problem.

Sidewalks

ADOPT A COMPLETE STREETS DESIGN TYPOLOGY TO AFFORD ALL USERS EQUAL ACCESS

Sidewalks are to be given a new prominence in the road hierarchy. While exact widths and rules cannot be decided at this level, access for NMT-users and public transport should at all times be assured (as opposed to the current practice of primarily ensuring access for cars).

A Complete Street is one that allows pedestrians, bicyclists, transit riders, and motorists of all abilities to safely travel between destinations. In addition to providing facilities for bicyclists, pedestrians, and transit users, Complete Streets encourage sound land use decisions and policies that foster environments that appeal to people traveling by foot and bicycle: minimal building setbacks, wayfinding signs, landscaped corridors, benches and other amenities, etc.

Complete Streets are Safe Streets



Complete Streets Logo

CREATE A NEW URBAN ROAD TYPOLOGY

Figure 4.3a: Transit Mall (NMT and transit only)



Figure 4.3b: Shared Street (All users, NMT receive priority)



Figure 4.3c: Complete Street - one lane for bus and bicycle, enhanced pedestrian facilities, one lane for cars; OR a calmed street



ROAD DESIGN PRINCIPLES

INSTITUTE DIFFERENT LEVELS OF PERMEABILITY FOR DIFFERENT MODES OF TRANSPORT

Currently, the vast majority of Cape Town's roads are technically open to all modes of transport (although other dynamics at play quickly mean that the majority of roads are effectively reserved for public transport). Yet to achieve the kind of sustainable, equitable and integrated city outlined here, a more differentiated system is required - all modes of transport do not require equal levels of access.

Accordingly, the urban fabric needs to be re-engineered so that there are differential networks of mobility.

At the top - with the finest grain - should always be NMT, as all other modes of transport will inevitably walk a small part of their entire trip, and this mode is accessible to all.

Whether the next 'level' network is private or public transport depends on the urban typology concerned:

Urban Centers

In dense urban centers, public transport requires a finer grain than private vehicle. indeed, private vehicles should be kept as much out of the centre as possible. Yet vehicle access cannot be limited entirely, as emergency services, delivery vehicles, etc. will still require access.

Private transport should not be shut out entirely, but their impact on the city should be limited. A 'superblock' approach is suitable here - enough to make city accessible by car in case of need but always ensuring that it is easier and quicker to access by public transport and NMT.

Residential Neighbourhoods

Most residential neighbourhoods will continue to consider car access a fundamental requirement, and until there has been significant densification and a drastic improvement in public transport services, this cannot be expected to change. However, two significant interventions should be implemented:

- *Differential Permeability* - grid layouts in residential neighbourhoods permit cars to travel at high speeds along them, even past schools and playgrounds. While traffic calming infrastructure needs to be brought to play here, on its own it cannot be enough. Accordingly, the selective barricading of roads at strategic intersection is required to prevent cars from travelling at high speed along long straight roads. However, these 'barriers' should allow pedestrians, cyclists and emergency vehicles access, while requiring private vehicles to make detours (see below for illustration on how this might be done).
- *Bus Routes and Bicycle Boulevards*: The expansion of the public transport system can be co-opted for improving pedestrian and cycling conditions. All public transport lanes within the feeder component of BRT should double up as bicycle lanes, while pedestrian facilities along these routes (and those leading off them) should be significantly enhanced, with traffic calming measures generously utilised. Bicycle boulevards will be discussed in more detail under the Cycling policy; however it is important to note that these should enhance conditions for pedestrians as well.

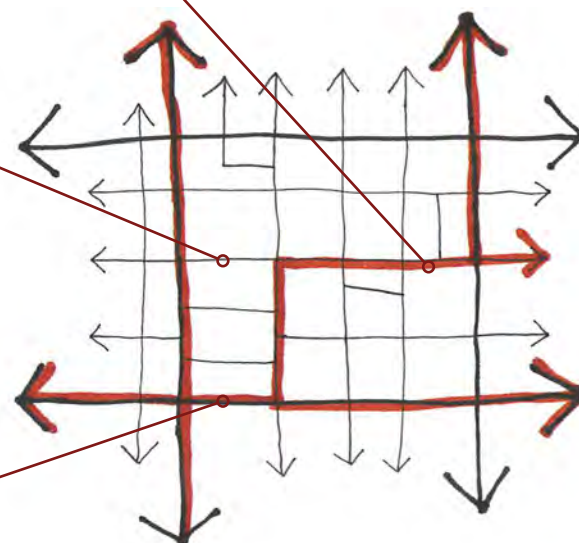
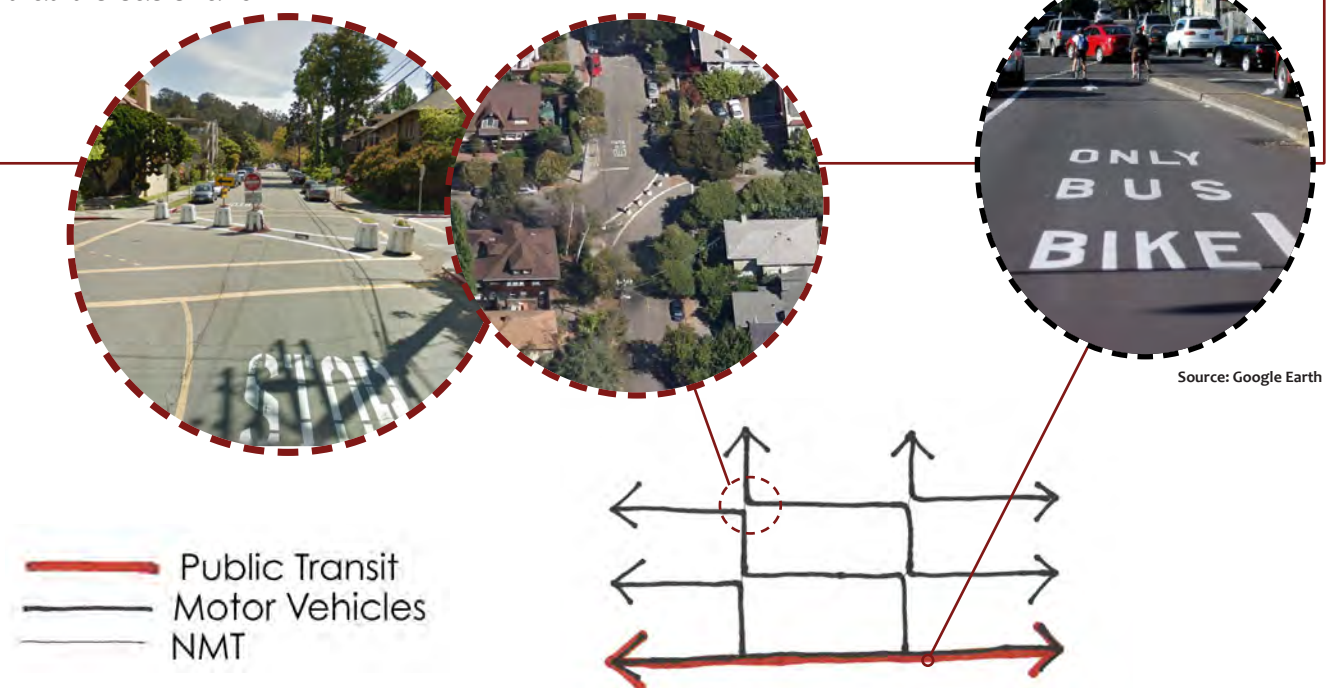


Figure 4.4: Differentiated movement hierarchy for urban and residential neighbourhoods



Source: Google Earth

CREATE NMT-ONLY NETWORKS AROUND CENTRAL ECONOMIC NODES

Initiate a shift towards car-free CBDs. While cars should not be wholly banned at this stage, the extension of shared streets and transit malls should be gradually expanded, with the extra available land that is freed up in this way used to promote informal and formal economic activity as well as expanding the public-ness of the space (seating space, tables and chairs, trees).

ENSURE THAT MAJOR PUBLIC AND PRIVATE INSTITUTIONS AND RESOURCES (EDUCATIONAL, ECONOMIC, RECREATIONAL, ETC.) ARE EMBEDDED WITHIN NMT NETWORKS.

Build NMT networks around existing public infrastructure and ensure that future infrastructure and institutions are located within such networks.

ENSURE THAT ALL PUBLIC TRANSIT STATIONS AND HUBS ARE FULLY, SAFELY AND CONVENIENTLY ACCESSIBLE BY NMT

Ironically, many public transport stations are difficult or dangerous to access on foot or on bicycle. Transit stations should be prioritised for immediate NMT intervention.

STREETS FOR KIDS – ESTABLISH A FUN AND SAFE ROUTES TO SCHOOL PROGRAMME

Establish a Safe Routes to School (SRTS) programme (see Box 4.1) that targets both children already walking to school in unsafe conditions, and children who are driven to school by parents who fear unsafe conditions. This involves identifying popular routes whereby children travel to school (whether on foot, bike or public transport) and maximising safety measures along these, as well as clearly marking the road for motorists as SRTS streets, as well as supporting programmes like walking school-buses, etc.

Furthermore, it should also be recognised that for many children travelling long distances between school and home, these streets are their playground. Accordingly, this should be recognised in the design of these streets – using street furniture as playground equipment, routing them through or past interesting locations, and otherwise enhancing both the element of play as well as the ‘eyes on the street’ factor. Wherever possible, these streets should be designated NMT-only or at least redesigned as shared-space.

Penalties for traffic transgressions in these areas should also be significantly more punitive than in ordinary areas of the city.

UNDERPIN NEW INFRASTRUCTURE WITH PRINCIPLES OF UNIVERSAL DESIGN

All new infrastructure will be rolled out under the principles of universal design to ensure that the new mobility networks are accessible to all.

UNIVERSAL DESIGN refers to broad-spectrum ideas meant to produce buildings, products and environments that are inherently accessible to both people without disabilities and people with disabilities - the concept of designing all products and the built environment to be aesthetic and usable to the greatest extent possible by everyone, regardless of their age, ability, or status in life.



IMPLEMENT A GREEN STREETS STRATEGY

Institute a ‘Green Streets’ policy to ensure that all new infrastructure roll-out is in keeping with sustainable design principles. This primarily involves minimising stormwater runoff and its associated pollutants, maximising the permeability of the street and incorporating green design elements wherever possible.

Box 4.1 - SAFE ROUTES TO SCHOOL is an international movement with a “goal of making it safe, convenient and fun for children to bicycle and walk to school on a daily basis. An increase in walking and bicycling improves community and personal health, benefits the environment, increases safety, and helps to decrease traffic and congestion around school. A Safe Routes to School program integrates health, fitness, traffic relief, environmental awareness and safety. It is an opportunity for schools, community, and local government to work together for a healthy, safer, and cleaner environment for everyone, as well as enhancing the health and learning capacity of children.” (National Centre for Safe Routes to School, 2011)



Left: The problem of ensuring safety for children is by no means new; Right: A Walking Schoolbus (a Safe Routes to School Project) in the Maldives

INSTITUTE ‘SOFT’ PROGRAMMES THAT WILL PROMOTE NMT AS A MODE OF TRANSPORT FOR ALL

Media

We are constantly being bombarded with media messages promoting all kinds of motorised transport - as a luxury, a convenience, a status symbol. While no government can spend the kind of money needed to counter that message entirely, some innovative media campaigns (perhaps associated with the Creative Cape Town/Design Bid) can go a long way towards encouraging perception and even behaviour shifts (the Fan Mile is again an example of successful - albeit unintended - initiative that has achieved significant behaviour change).

Education

Partner with schools to educate both children and parents about the benefits of NMT as transport, and how schools, parents and children can contribute to road safety for all.

Visibility and Safety Campaigns

The more pedestrians and cyclists there are, the safer the streets become. However, the converse is also true, and it is important that as more people start taking to the streets, drivers are prepared to look out for them. The City should initiate a visibility and safety campaign that makes drivers aware of pedestrians and cyclists and how their behaviour can impact on them.

Wayfinding

Cape Town's signage system is almost entirely aimed at cars, and outside of tourist locations maps are hard to come by. A new wayfinding campaign that makes it easier for people on foot and bicycle to navigate the city needs to be rolled out immediately. Public transit facilities provide no indication of the destination of a specific taxi, bus or even train, making it almost impossible to travel to an unfamiliar destination using unfamiliar form of transport. The NMT system should therefore be combined with the transit route map and ‘smart trip’ system outlined under the Public Transport policy (A.2).

More ‘soft’ programmes will be needed as NMT spreads as a favoured method of transport. As the City attempts to grapple with the issues this will create, it is important to remember the methods employed by Mockus, the Bogotan mayor - engage with people directly and honestly rather than talking down to them, and the ‘audience’ will respond accordingly.

INSTITUTE A PUBLIC OFFICE THAT WILL BE THE MAIN LOCUS OF INTERACTION WITH THE PUBLIC ON ALL NMT, TRANSPORT AND SPATIAL PLANNING INTERVENTIONS

One of the most significant problems within the City of Cape Town is poor communication and information transfer. This policy will spearhead the City's transformation to a new public orientation in all its forms of planning, by instituting a public office (ground floor and accessible off the street) with exhibitions displaying, in terms laymen can understand, current and proposed projects, educative materials explaining why specific interventions are necessary, and creating a permanently open forum for the public to comment and make suggestions.

This office would also be responsible for organising events to raise public awareness and participation in schools, colleges and universities; engaging with employers, unions and NGOs, and basically focusing on getting all sectors of society involved in actively planning the city.

ESTABLISH SUNDAY/PUBLIC HOLIDAY CAR-FREE ROUTES THAT TRAVERSE ALL AREAS AND DEMOGRAPHICS OF THE CITY

Establish a monthly 'car-free' event where roads are opened for walking, cycling, skateboards, etc., with events, foodstalls and fitness activities all along. The route itself should span the whole city and all socio-economic groupings. Over time, if it is successful, it should be expanded so that there is a car-free day every week.

It should be noted that one of the biggest sporting events in Cape Town, the Argus cycle race, started as a cycling awareness campaign - its runaway success - from 500 entrants in 1978 to nearly 30,000 - shows the demand for this kind of event. It can be expected that far more people would join if it was more relaxed (not a compulsory 104km!) and accessible to all income groups and all modes of non-motorised transport. The large and broadbased support for events like the Gun Run, Big Walk and similar also support this potential for success.

HELSINKI - A TRULY PUBLIC PLANNING OFFICE (BOX B.3)

As part of its Design Capital bid, the Helsinki planning office opened an office in the centre heart of the City. It has displays on past and current city planning efforts in the City; a full range of documentation on all current and proposed projects; displays documentaries on informational videos; exhibits student projects from the local architecture and planning schools; and provides a variety of ways in which ideas, suggestions and requests can be communicated. Visitors are also encouraged to draw, write and go online to make their suggestions or find out more.



The City Planning Department's meeting place on Narinkka Square provides you information about how Helsinki will develop.

Laituri is the Helsinki City Planning Department's information and exhibition space in the old bus station building at Narinkka 2. The location in the very heart of Helsinki near Lasipalatsi Square and Kamppi centre is superb; Laituri is easily accessible from all directions.



The City Planning Department's meeting place on Narinkka Square at Kamppi



LAITURI - TOWARDS TOMORROW'S HELSINKI
INFO • FREE EXHIBITION
OPEN TUE-FRI 10-18, SAT 12-16

Helsinki City Planning Department • Laituri
Narinkka 2 • P.O. Box 2103 • FI-00099 CITY OF HELSINKI
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2. CYCLING

GOAL: ESTABLISH CYCLING AS A VIABLE TRANSPORT MODE THROUGHOUT THE CITY BY 2018

Cape Town has great potential as a cycling city, with a generally good climate (far more hospitable than its European counterparts), a largely flat topography, burgeoning traffic problems that make cycling past the grid-lock attractive, and broad streets and roads that can easily be restructured to accommodate bicycles. What it lacks, however, are the bicycles; the grassroots cycling culture and the notion of cycling-as-transport that brings those bicycles into being. While such a culture cannot be created overnight, socio-economic conditions in the city are nevertheless ripe for such a transformation, as can be seen in the drastic increase in cyclists where conditions are right, such as along the Fan Mile and within the City.

The immediate benefits of such a programme, if it succeeds, would be enormous – reduced pressure on public transport, greater mobility for those who cannot drive or do not have access to a car, and a significant reduction in GHG emissions. The long-term benefits are even greater – significant improvements in health; more liveable, safe and secure streets; the informal and formal economic pay-offs of having more people in the streets; and an expanding cycling industry to name but a few (Portland calculates its bicycle industry adds 1150 jobs to the city, and leads to an extra \$90 million circulating through the local economy - (Portland Bureau of Transportation, 2010, p. 6). The economic benefits of the Bogotan Ciclovía were outlined in Chapter 2).

What is needed to achieve these results, however, is not the intermittent, fragmentary, uninformed and unilateral actions that have marked the City's NMT roll-out to date, but a series of focused, rigorous and participatory pilot programmes that go beyond simply addressing infrastructure issues and create a broad-based support system for cycling, with results meticulously measured and assessed to inform the longer-term scaling-up of projects.

While the following steps guide the outline of the plan, the complete lack of cycling data means that the programme as a whole will have to be intensely responsive to the lessons learnt in the pilot projects, and capable of adjusting rapidly as new information becomes available. Furthermore, plans and programmes must be responsive to local conditions, and will have to be individually adapted to each new area.

ESTABLISH A NEW CENTRE FOR NMT AND CYCLING DATA COLLECTION

Institute a data-capturing office with sufficient resources to take comprehensive measure of the current level of cycling and NMT throughout the City and to establish a foundation of knowledge on which future NMT interventions can be built (and also, crucially, to create the baseline data by which future interventions can be measured).

NMT is a victim of an extreme case of 'suppressed demand', where the lack of cycling facilities easily disguise the needs and wants of people who would want to cycle (or walk, or skateboard, etc) but refrain from doing so because of safety and other concerns. This data collection team therefore needs to extend its data-gathering to devising ways to uncover the needs and demands of *potential* cyclists as well as current cyclists and other NMT users.

WHO ARE CAPE TOWN'S CYCLISTS? (BOX 4.3)

Unfortunately, given the absolute lack of data collection within the City, we simply do not know. However, as a rough guide, it can be assumed that the population can be considered to fit into one of the following five profiles:

- 'Not interested in cycling' - those who are not going to ride a bicycle for transportation, either because they are uninterested or unable to do so.
- 'Strong and fearless' cyclists will ride anywhere, regardless of the bicycle facility or lack thereof. They are comfortable on busy roads without bike lanes and sometimes prefer to have no bicycle facilities at all.
- 'Enthusied and confident' cyclists are comfortable on busy streets with bike lanes, and are the ones who will respond most quickly to enhanced bicycle facilities.
- 'Interested but concerned' cyclists may occasionally ride on trails or recreationally, while on vacation or on an organized group ride, and would like to ride more, but are afraid because they do not feel safe near fast-moving traffic on busy streets, even when bike lanes exist. They would ride if they felt more comfortable on the roadways due to fewer and slower-moving cars or if more car-free alternatives were available.
- 'Bicycle-less cyclists' who would like to cycle but cannot afford invest in a bicycle or who, owing to informal or overcrowded living arrangements, would not be able to store it securely when not in use.

Adapted from (Portland Bureau of Transportation, 2010, p. 11)

Looking at other cities statistics where surveys have been done, it can be assumed that 30-50% of the population are 'not interested' under any circumstances. A relatively small number (under 1%; almost entirely men) are 'strong and fearless' and ride under any traffic and road conditions. The other 50% can be divided amongst the remaining three categories, all of whom might be interested in cycling but require aid and persuasion to get out there and do it. These policy actions should set about discovering what it is that is holding them back, and setting in place the kind of infrastructure and programmes that would enable people to cycle, walk, or otherwise use NMT.

DESIGN BIKE LANES WITH AN UNDERSTANDING OF THE CYCLING EXPERIENCE

As one cycling activist unhappily asks, "How would you feel about driving a car on a road designed by engineers who do not know how to drive and do not understand the rules of the road? Does this sound insane? This is the situation that faces people who drive bicycles" (Oswald, 2011).

Currently the city's bike network, where it does exist, often does more harm than good (see box). There are a host of common mistakes made, including (but not limited to):

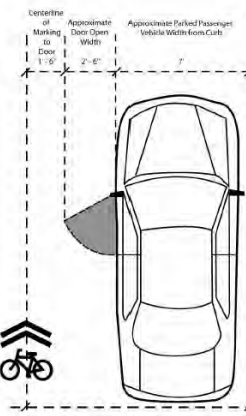
- Contradicting safe practices
- Failing to encourage (or even discouraging) cyclists to follow standard rules of the road
- Misunderstanding bicycle operation in traffic
- Building bike lanes in the door zone of parked cars
- Placing bike lanes on steep hills
- Routing bike lanes to the left of left-turning traffic
- Encouraging right turns from the left edge of road
- Encouraging cyclists to pass slow traffic on the right

Accordingly, all traffic and road engineers are to be educated in bike practices and, indeed, required to cycle the paths they have designed. Regular cyclists are to be consulted on all new projects, and designs are to be cleared before they go ahead to implementation.



THE DEATH TRAP OF A BIKE STRIPE

An ironic and tragic side effect of building bike lanes is that they often get forced into very narrow gaps next to parked cars. In fact, this is more dangerous than no bike lane at all, since the lanes create an illusion of safety that both encourage more inexperienced cyclists onto the road and lulls all into a sense of safety. When a door opens in front of them, this causes either a collision or a last-second swerve into traffic, both of which can easily be fatal. Car doors have been responsible for many cycling deaths, and injuries, and some studies have shown that 'door zone collisions' are disproportionately high in districts with standard bike lanes provided.



left: right: garry rides bikes flickr.com

ESTABLISH A BIKEWAY TYPOLOGY AND BUILDING METHODOLOGY SUITED TO CAPE TOWN

In Cape Town, traffic conditions are such that all but the 'strongest and most fearless' cyclists would feel apprehensive about sharing the road with cars. Accordingly the appropriate infrastructure for this city has to be based primarily on segregated or secured bike lanes and well-

marked, traffic-calmed bicycle boulevards. To date, such infrastructure development has been rolled out in a fragmented, splintered and incomplete fashion, with no broad-based support in terms of marketing, participation, or information-sharing.

The typologies identified here will, in combination with the next two actions, help with conceptualising and making legible the kind of network that has long been eluding planners.

Figure 4.5: Segregated bikeways

Segregated bikeways can either be combined with the sidewalk (if it is wide enough to accommodate both pedestrians and cyclists), or be inserted where there is more than one driving lane or an existing lane can be narrowed to accommodate a cycling lane. In the latter case, bike lanes are to be instituted between the sidewalk and the parked cars, with bollards and planters enforcing this layout (fig. a and b). This significantly lowers the chances of traffic and/or door collisions, and allow cyclists to feel completely safe and secure.



Figure 4.6: Road-based and bus-lane bikeways

Where segregation between bike lanes and traffic is impossible, it is absolutely crucial that if such a bike lane is next to parked cars, the 'door zone' - the 1.2m into which the car door would open - is incorporated into the design of the road (figs. a & b). An additional 'buffer' against traffic is also recommended. Where the width of the road does not permit this, a lane can be marked specifically for cycling (fig. c), or bus-only lanes can also be allocated to cyclists (fig. d).

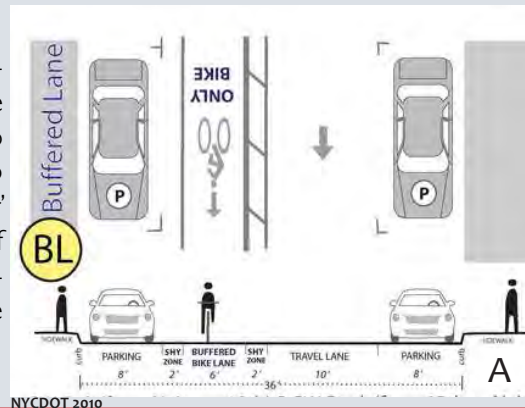


Figure 4.7: Bicycle boulevards

Where there is no extra available road space, as is common in residential areas, bicycle boulevards are proposed as a new class of road. These require somewhat more infrastructure development, as traffic calming measures should be widely implemented. Where possible, motorised traffic should be discouraged by regular diversions (see fig. a) but bicycles allowed through. Clear and frequent signage and street markings are also crucial for wayfinding and identification (figs. b, c & d). Bicycle boulevards are crucial for creating the 'feeders' through which cyclists can reach the bike network proper from their homes, and vice versa.



NMT District

These are areas with a dense concentration of commercial, cultural, institutional and/or recreational destinations where cycling and walking should be more attractive than driving. While cars will not be banned outright, NMT will at all times have the priority. 'Shared space' streets will form the core of this network.

PUT IN PLACE THE INFRASTRUCTURAL SUPPORT SYSTEMS NEEDED TO ENABLE CYCLING TO THRIVE

BUILD BICYCLE NETWORKS, NOT JUST BICYCLE PATHS

The focus needs to shift from building individual lanes to building holistic networks that connect important sites and are tied to a full range of supporting hard and soft infrastructure – bicycle parking, bicycle sharing, information systems, etc. Connectivity and clear signage are of vital importance in making bike lanes user-friendly.

KEEP INITIAL INTERVENTIONS AFFORDABLE AND ADAPTABLE

It is important that the price of pilot projects does not cripple future endeavours. Accordingly, the paint-and-planter approach of NYCDOT and the SF Pavement to Parks movement can go a long way towards trialling routes and designs without being irrevocably bound to them.

EVERYONE SHOULD LIVE WITHIN 500M OF A BICYCLE BOULEVARD AND 1KM OF A BICYCLE PATH.

An extensive network does not help if most people have to traverse heavy traffic conditions to get there. Since bicycle boulevards are relatively easy to set up, neighbourhood networks should be planned such that no-one lives more than 500m from a bicycle boulevard and no more than 1km from a bicycle path that links into the broader network.

ESTABLISH A BICYCLE-SHARE PROGRAMME

An affordable and easily accessible bicycle-share programme is crucial both for ensuring everyone has access to a bike and to promote cycling as an easy way to get around. Bike share is especially good for the latter as it allows people to experiment without requiring large initial investment; if they enjoy the experience it persuades them to follow up with acquiring a bicycle of their own.

However, a bike-sharing scheme cannot look the same in Cape Town as it does in the developed North. Safety and security is a far more urgent issue, and the fragmented and dispersed nature of the city means that a central-city based bike share would not reach the people who need it most. Careful attention needs to be paid to ensure the scheme fits local conditions and budgets, and does not rapidly degenerate into a middle-class/tourist-oriented programme.

Accordingly, any bike share scheme has to pilot in at least one lower-income area in addition to the city centre, and expanding it in those areas would remain a priority in the initial phases of the plan.

CHOOSE ROUTES WITH ATTENTION TO LOCAL CONDITIONS AND NOT OUT OF CONVENIENCE

Bicycle routes need to follow desire lines in terms of origin/destination choice, with places of public interest being embedded in the network. Route choices also need to take physical geography into account. Current plans often show proposed paths heading straight up steep hills or through no-cycle zones, unprotected/unsheltered open areas or bypassing major institutions or services. These need to be reworked to fit the above guidelines.

MAKE SECURITY AN ABSOLUTE PRIORITY

One of the chief obstacles to cyclists is the high rate of crime and violence. Accordingly, bicycle routes need to be located along main thoroughfares and activity corridors so as to build the security of ‘eyes on the street’. At the same time, secure bicycle storage needs to be provided in communities where secure storage on private property is impossible. Communities where crime is especially rife need to be equipped not just with bicycle parking at shops, schools and transit hubs, but with secure storage facilities, where applicable with a guard.

BICYCLE PARKING

INCORPORATE BICYCLE PARKING REQUIREMENTS INTO BUILDING REGULATIONS

Reduce the number of (car) parking units required for residential, commercial and office developments and replace with a generous quotient of bicycle parking (for new and existing buildings).

Make bicycle parking a requirement at all transport hubs and stations.

SET A MINIMUM STANDARD FOR BICYCLE PARKING

While bicycle parking holds potential for fun and engaging design, a minimum standard should be set out that protects bicycles and enable complete lockability. Shelter is preferable but not essential.

PUT IN PLACE **SOFT INFRASTRUCTURE** AND SOCIAL PROGRAMMES

INFORMATION, COMMUNICATION AND LEGIBILITY

Information and communication comprise another crucial yet oft-neglected area of bicycle promotion. Maps (as in New York or Bogotá) need to be freely and widely available, and directions to NMT routes need to be clearly indicated from neighbouring streets.

The historically low levels of cycling mean that most motorists and cyclists do not know how to relate to each other on the road. An educative campaign aimed at ensuring both are more aware of the relevant road rules needs to be launched in conjunction with the initial roll-out of infrastructure.

Wayfinding must be built into the system, with distances and directions to places of interest appropriately and legibly signposted.

GIRLS ON BIKES

A significant barrier to getting everyone cycling is a widespread cultural perception that it is inappropriate or even too difficult for women to cycle. Given the vast potential benefits of getting women on bikes, however, it is imperative that this be changed. China, Vietnam and other Asian countries succeeded in changing an almost-zero female ridership to over 50% between 1955 and 1970, so rapid change is possible.

A programme to promote girl-children cycling should be initiated at schools across the city, with special programmes promoting access to bicycles for girls.

FORM PARTNERSHIPS WITH LARGE EMPLOYERS TO PROMOTE COMMUTER-CYCLING

Negotiate with large employers to offer shower and locker facilities and bicycle parking at the workplace, and establish a ‘bicycle allowance’ (as opposed to a car allowance) to incentivise cycling to work. Businesses with over 30% of workers complying will be allowed to brand themselves appropriately and be offered other incentives by the City.

ENSURE THAT BICYCLES ARE AFFORDABLE AND ACCESSIBLE TO ALL

A city-subsidised programme (preferably based on local manufacture) is to be implemented whereby entry-level, affordable bicycles are made available at a subsidised/tax-free rate.

3. PUBLIC SPACE

Streets, while largely untapped as places of urban conviviality, are unique repositories of public space, and moreover already permeate all areas of the city. While the policies above outline the ways in which streets should be restructured to fully accommodate a complete range of mobile users, this policy area centres on how streets and other car-centred spaces can be restructured to support the more stationary expressions of public life – from informal trading to sidewalk cafes, from workers on a lunch break or the laptop brigade wishing to expand their repertoire. A new street culture can unleash unparalleled opportunities for social integration, public interaction, public education and the informal and formal economies. In short, such a new approach can reinvigorate the quest for a new, post-Apartheid, post-neoliberal, socially-centred society.

At the same time, this is exactly the kind of policy that cannot be exclusively decided at a metropolitan level. Instead, every redesign should creatively respond to the conditions on the ground, targeting specific local challenges and remaining open to recognising potential opportunities. Accordingly, the ideas and recommendations given here are meant as guidelines only, to be expanded and built upon as they are implemented on a neighbourhood-by-neighbourhood basis.

ESTABLISH A NEW STREET CLASSIFICATION DENOTING HYPER-PUBLIC STREETS ALONG WHICH TO PROMOTE STREET-PLAZA DEVELOPMENT

This level of street classification should automatically allocate the following rights and responsibilities to a street as well as require local government to roll out the necessary infrastructure. Where private action is dictated, it will only be enforceable against new development/renovations/land use changes, but the City should devise an incentive scheme to encourage non-compliant properties to voluntarily make the required changes.

Street infrastructure:

- Street to be reshaped as a 'shared street' - maximum one public transport OR car lane in each direction.
- Traffic calming to ensure full shared-street functionality
- A variety of street seating
- Regular bicycle parking
- Reallocation of driving and parking lanes to public space

Zoning rights:

- Increase of permitted vending space, with selected vending activities to fit in with the public nature of the street (i.e. a variety of street foods, cafes, fresh goods, etc.)
- Enable businesses to submit streamlined applications to build 'parklets' in the existing parking bays outside their premises
- Automatically give permission for businesses to spill over onto 2m of road space adjacent to their building

Zoning requirements for land use:

- Require active ground floor uses
- Maximum building setback
- Multiple ground-floor entrance (in big-block buildings)
- High levels of transparency (windows/store-fronts); in residential areas restrict wall heights.



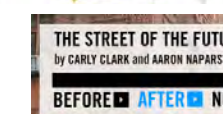
Team Levon



HUMUS = HUMAN



Team Levon



Roger Marvel Architects



Roger Marvel Architects

Figures 4.8-4.13: These images are from a competition that invited citizens to reimagine the '21st century street' for New York. While these designs respond to a NY-specific context, they are nevertheless useful for create a starting point for the revisioning of Cape Town streets by showing how the focus can be shifted into making truly public places out of ordinary streets.



ENSURE EVERYONE IS WITHIN EASY REACH OF A PUBLIC STREET

Using streets as public plazas unleashes great potential in low-amenity areas to ensure that everyone has access to quality public space. As much as possible, these need to be linked up to create a network of 'Public' Streets throughout the city; linear public plazas and parks that ensure everyone is within easy reach of one.

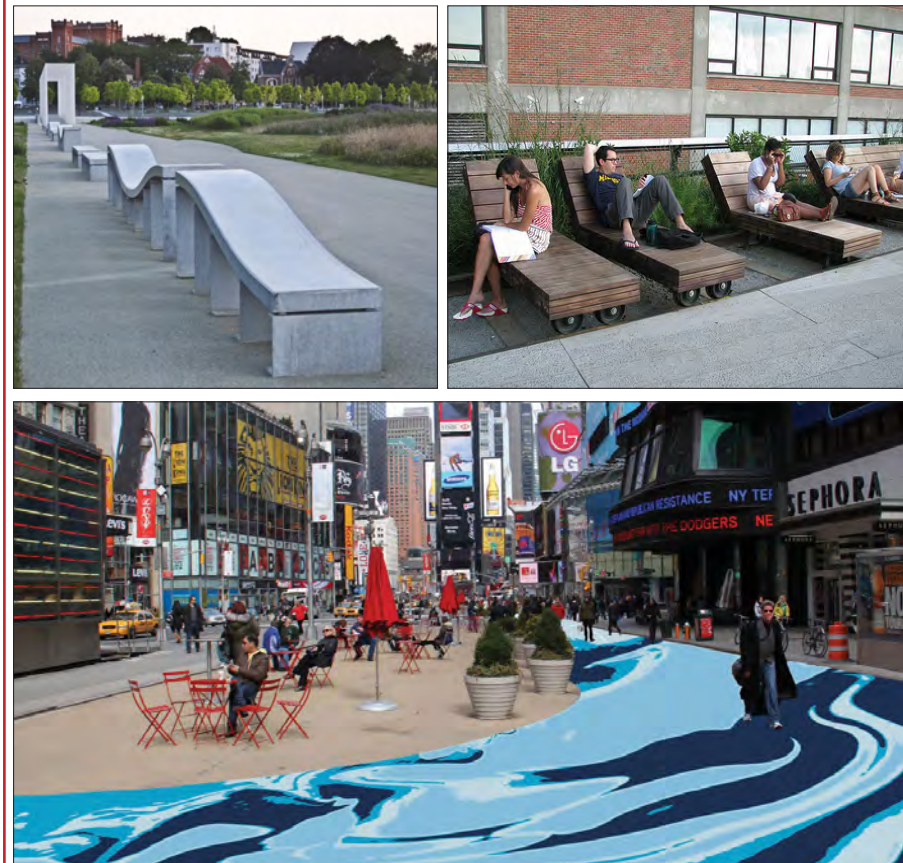
ESTABLISH NEIGHBOURHOOD STREET COMMITTEES FOR MANAGEMENT AND BUILDING OF LOCAL STREETS

Establish neighbourhood street committees both to give input to the design of local public streets and to ensure maximum benefit is derived from them.

INITIATE A SEATS-ON-STREETS POLICY THAT ROLLS OUT AN ARRAY OF PUBLIC SEATING OPTIONS

It is time to move beyond merely placing a few benches in public spaces and calling that street furniture. Seating spaces along these public plazas should take a wide variety of forms to match a wide variety of purposes (from freestanding chairs to tables-and-benches), and at times even doubling up for multi-functional uses.

Figures 4.14-4.18: Seats on streets and street eats



IDENTIFY AND DEVELOP UNDERUTILISED PUBLIC LAND (SUCH AS PARKING LOTS AND UNUSED LOTS) INTO PREMIER PUBLIC SPACES

Do a land audit to identify underutilised land in project areas and investigate potential for transforming such land into public space. Any size of plot can be considered; the San Francisco 'parklets' have proved how much difference even a small but well-designed and well-located 'parkification' can make to the quality of a street.

ENCOURAGE AN OUTDOOR EATING AND SHOPPING CULTURE

Encourage an outdoor eating culture that expands beyond the usual hot-dog and falafel stands to include a range of different foods, with a focus on healthy eating. Many other cities have fruit salad stands, smoothie stands and fresh juice stands, not to mention a range of other choices; with Cape Town's diverse mix of people this should be easy to roll out. Similarly, assistance should be offered to help informal vendors branch out beyond selling cheap chinese goods. Expanding the options on offer and ensuring a quota of healthy choices will not only contribute to the sociality of the space but boost the local economy and create jobs.



LANDSCAPE STREETS TO PROVIDE A FULL RANGE OF SHELTER AGAINST RAIN, WIND AND SUN

While Cape Town can have a harsh climate at times, trees, appropriate building heights and setbacks, and arcades can go a long way to making the streets hospitable year-round. Landscaping guidelines governing government actions and incentivising private development should be implemented with immediate effect.

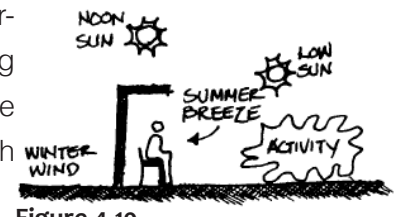


Figure 4.19
City of Vancouver 1998

INSTITUTE A TECHNOLOGY-FRIENDLY PUBLIC PLACE POLICY

Recognise the rapidly changing nature of the world economy and society by supporting 'outside offices' and learning spaces, through the establishment of widespread free public wi-fi and laptop charging connections (perhaps pay-per-use) in parks, plazas and other public places.

INSTITUTE CITY-WIDE COMPULSORY URBAN DESIGN GUIDELINES

A set of urban design guidelines should be drawn up to govern all new development within the City. These should be oriented around keeping an active and permeable street frontage.

Accordingly, some principles to keep in mind for urban areas are:

- Impose a maximum setback
- Make active groundfloor uses a requirement
- Prevent the amalgamation of separate plots into superblocks
- Where large buildings are constructed, require multiple street-level entrances
- Incentivise incorporating shading devices, colonnades and street trees
- Issue a blanket ban on building parking garages at street level (for a minimum of two floors up)
- Incentivise keeping ground floor facades permeable and transparent
- Require mechanical equipment (such as air conditioning, fans, etc) to be located away from public spaces
- Ensure that new building applications will mitigate intemperate climate patterns (such as wind or sun) rather than exacerbate them

IMPLEMENTATION

It is recognised that the policies outlined here could easily fall into the same trap as the City's existing NMT policy - good intentions without the teeth to ensure they get implemented. The single most important difference in this policy-plan is the strategy underpinning implementation. These differences are:

Firstly, it does not seek to alleviate specific problems, but to change the system altogether. Furthermore, this system change is not to be sought through top-down impositions, but through changing the underlying conditions that make car travel the most convenient and comfortable option available. It has been shown time and time again that despite their best intentions, very few people base their day-to-day decisions on long-term, intangible goals such as sustainability, greater equity, or even more immediate issues such as long-term health or savings. Instead, they make choices based on what makes the most immediate sense: what is easiest, most convenient, quickest, and/or most affordable.

Accordingly, this plan is aimed at creating a city where the choices around mobility and public space correspond to long-term goals of increased sustainability, equity and integration, and promoting public life in public spaces.

Secondly, it is recognised that the actions outlined here will only take form when they meet with the 'real' world; that whatever is said in policy documents, it is the on-the-ground execution that determines whether policies succeed or fail. Even the best plans and ideas will founder if they fail to speak to the people they are aimed at, if institutional support is insufficient or conflicting, or if what is implemented falls short of what was planned.

Accordingly, the plan aims to start small and gradually go big: to begin with two pilot projects, based on constantly adapting plans, to be gradually rolled out to cover the whole city.

In the process, policies may need to be calibrated, corrected or completely changed. While such adaptive change is welcome, the goals to which these policies respond are clear and absolute, and should not be adjusted. It is anticipated that there are a great many people and organisations who will fight this plan. Generally speaking these will be the benefactors of the current status quo - people who may mean well but who do not truly understand the costs incurred by automobility and the car system. Privilege has lain with motorists for so long that the idea of catering to the car has become ingrained; any lack of catering is liable to be seen as an imbalance and deeply resented.

Education has to be the answer. It is extremely important that the argument - of building a sustainable, equitable transport system in an integrated city by dispelling the inherent inequity of the car system - is comprehensively and intelligibly explained to everyone. This is important not only to counteract criticism and smooth the process, but also because the success of the plan ultimately lies with its ability to get everyone on board. Mass public participation - reaching every household and every business - is required to decide how the broader goals are achieved. This process of collaboration needs to be facilitated by the city. Deliberate delaying tactics and frivolous objections should not, however, be tolerated.

The pilot projects will allow plenty of room for experimentation, while being closely monitored and evaluated for all successes, failures and unforeseen consequences (of which there will surely be many). Failures are not as important as learning from them, and by the same token, initiatives must be planned and implemented so that no single failure can destroy the overall project. Accordingly, it is essential that initiatives and actions are not aimed at delivering the highest quality of infrastructure possible - instead, the NY public plaza/SF Pavement to Parks approach should be taken, whereby initial efforts are cheaply implemented (often simply with paint, cardboard planters, etc.) so as to be adaptable to changing circumstances or unexpected reactions, and so that they do not delegitimise the broader goals if they fail. This way, projects will remain flexible until a comprehensively successful solution is found, at which point the infrastructure can, where necessary, be formalised.

In practical terms, it is suggested that the pilot projects, as well as the metro-scale goals, are designed and managed by a specially created Special Purpose Vehicle (SPV) located between the City's Transport and Spatial Planning departments. While the SPV will be in charge of implementing the projects and goals outlined here, and will have its own source of funding (see below), its responsibilities will be a combination of coordinating the efforts of various government departments and private entities, as well as directly managing and implementing initiatives that fall outside the traditional government departments. At the same time, it will be responsible for championing the metro-level goals - major spatial restructuring, private and public transport overhauls, and institutional change - with the relevant government departments.

It will also be responsible for leveraging new value capture mechanisms (to be regulated by the City as soon as possible) to force developers capitalising on new transport developments and density patterns to contribute towards the building of new public facilities and spaces. At the same time, it is important that these projects are not developer-driven so as to ensure they remain inclusive and democratic spaces. Public-private partnerships can be encouraged in this regard to make real contributions across the board.

The SPV will also be responsible for driving the public participation process and for taking the discussion and design to the people. The policies relating to information and communication relate directly to the SPV - indeed, it is strongly suggested that the 'public office' mentioned under policy B.1 functions not only as the site of public interaction but also as the chief offices of the SPV.

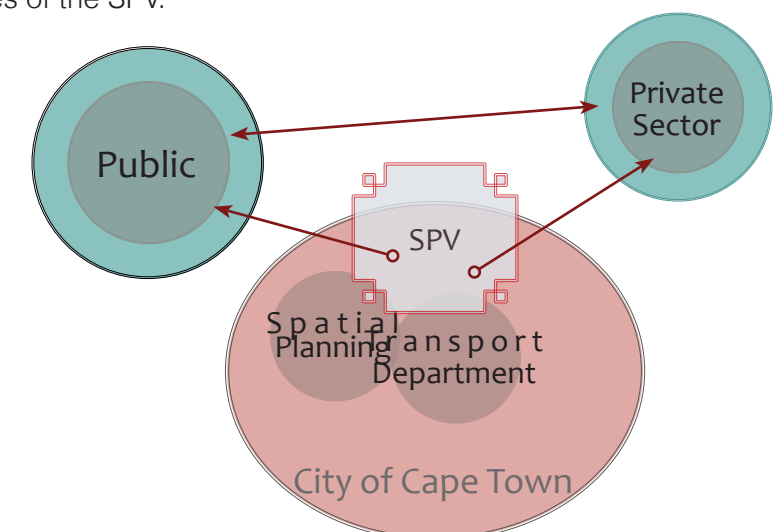


Figure 4.20: Relationship between the SPV and other entities

Funding

Funding for the pilot projects will have to come mostly from the City, and the different funding models will need to be explored in more detail. The transport and roads budget are significant, and the deprioritising of private cars will free up a lot of money in this budget that can be appropriated for the NM and public transport components of the projects. For the public streets component, some money could be found in the Urban Renewal funds and the Urban Restructuring Grants. However, a project of this scope will eventually need its own dedicated source of funding, and setting this up should be a priority. However, the nature of this project makes it highly bankable, especially in the light of the ‘green’ focus of the New Growth Path, and National Treasury should be very approachable in terms of obtaining funding.

However, private finance will also be a necessity, and this is where the City’s initial investment into project development will become essential to leveraging project finance for the whole (see fig. 4.2 below) Ultimately, it is envisioned that the costs can be more than recouped through the massive savings that will transpire from the giant leap in access that this plan will promote, and through value capture mechanisms (to be urgently legislated within municipal law) in the surrounding areas. Furthermore, the increased access and mobility of its workforce and indeed the population as a whole, together with the economic opportunities offered by the new public space programmes, will have an extremely significant impact on the city’s fortunes, both in terms of its rates base and its marketability.

CONCLUSION

The policies outlined here are designed to set out the broad ideas that will drive the shift to a public-oriented, sustainable city. There is rich scope for innovation, imagination, improvement and reinvention - it is up to the designers, engineers and officials in charge of the next phase to make the most of it and to make it work. This policy aims to provide the tools with which to do so; where it falls short, all parties must be ready and able to adapt and adjust and evolve.

If Cape Town is successful in implementing these changes, it will indeed become a leader in sustainable and equitable transport, and make significant progress towards mitigating the effects of, and pre-adapting to, a warmer, post-oil world. However, it needs to be kept in mind that whatever its larger benefits, the success or failure of the policy in the minds of the people - and therefore in reality - will be determined by its daily impacts on peoples’ lives. While great hostility to the above ideas and actions is inevitable in the short term, if the plan is executed in accordance with the principles and goals outlined here, that hostility will be short-lived as people begin see the huge benefits in a robust public transit system. Even more importantly, they will not only discover the pleasure to be derived from vibrant public streets and the tremendous social and health benefits of walking and cycling, they will also realise that *walking and cycling are more effective modes of getting around*.

Only when those condition are met will this plan truly have succeeded.

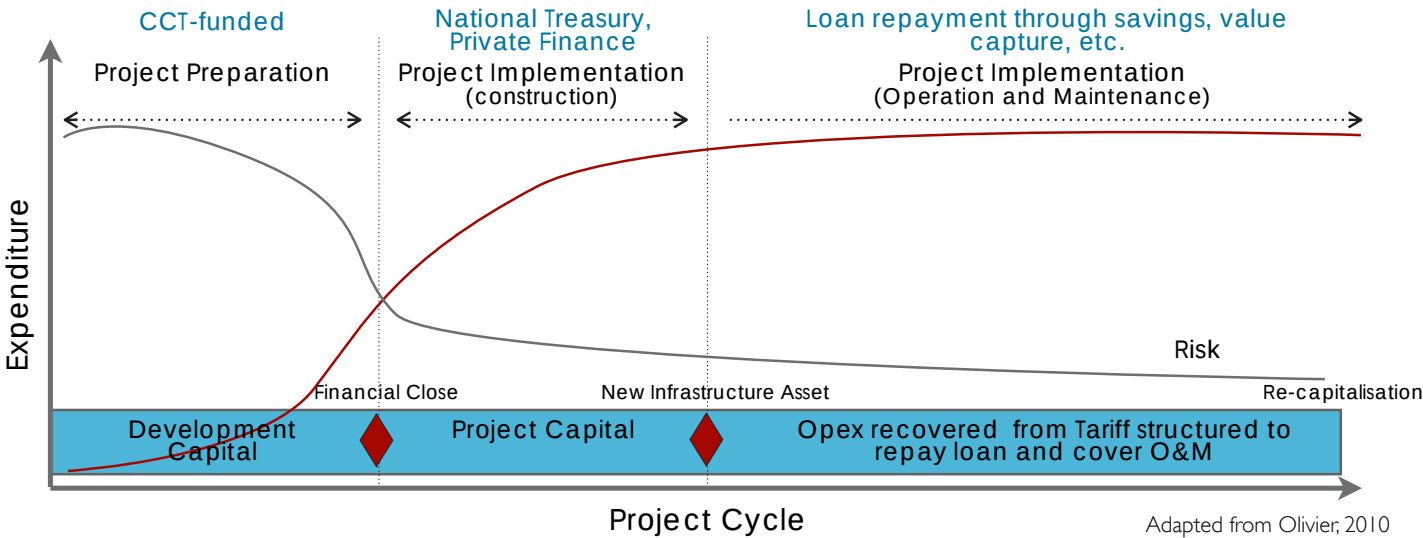


Figure 4.21: Funding Model for projects to be rolled out under this plan

	day 1	6 months	1 year	3 years	5 years	10 years	20 years	50 years
Phase 1								
SPV								
Discussions about Highways, Duncan Dock, Culemborg, Submerging Rail lines with relevant authorities								
Setting deadline for integrating transport under a single metro authority								
Pilot Project (Central City) Small-medium scale initiatives								
Initiating Community Engagement for the Khayelitsha Pilot Project								
Forming project teams								
Phase 2								
Pilot Project (Khayelitsha) - breaking ground								
Selecting next project area(s)								
Pilot Project (Central City) Medium-Large Scale initiatives - breaking ground								
Metro Projects - citywide								
Phase 3								
Pilot Projects expanded across entire City								
Most Metro-level goals achieved								

Figure 4.22 Schedule of Implementation

A red square is positioned to the left of a black crosshair. The crosshair consists of a vertical line and a horizontal line that intersect. The text '[PART III: THE PLAN]' is located to the right of the vertical line, centered vertically relative to the intersection.

[PART III: THE PLAN]

INTRODUCTION

While the plan as a whole will ultimately see the entire city reshaped for non-motorised and public transport, the decision of where to pilot the initial programmes are crucially important for later success. The selection has to consider the following:

The pilots will serve as 'show pieces' to persuade the broader public of its goals and ideals, and as such have to be places visible to and used by many, as well as being places that can complement the projects themselves.

Similarly, the districts have to be either successful and resilient to adaptation; or, alternatively, drastically in need of rebuilding/reimagining.

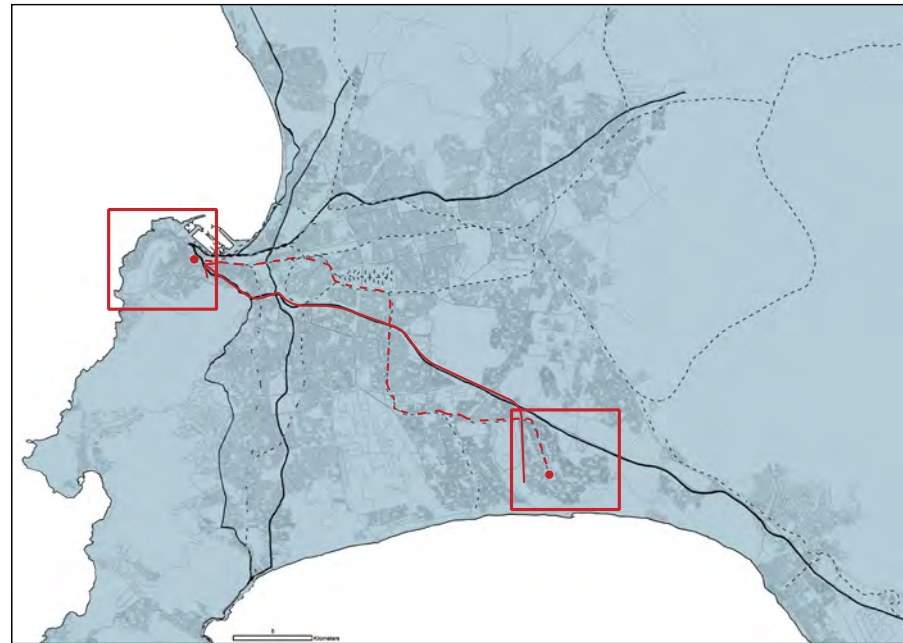
They should represent the two 'differentiated mobilities' outlined by Behrens and Wilkinson (2010), so as to be able to address the needs and concerns of both the driving and the non-driving classes.

Finally, they have to be structured such that, if in a worst-case scenario where the city-wide plan does not get implemented and the programme does not expand beyond the pilot stage, the projects can function independently and still bring benefit to the areas they have been implemented in.

Accordingly, the pilot projects are:

- The City Center and Atlantic Seaboard. This area is ideally suited to be the showcase for the new NMT - large numbers of people already pass through the city every day; it is easily accessible by public transport from all across the metro; it is disproportionately rich in resources of all kinds (so the rest of the city can only benefit from improved access within it); it has a highly diverse range of inhabitants, with people from all races, ages, and income levels; it is the central tourist hub, so that any NMT improvement would automatically also benefit the tourism industry; and finally, the original layout is ideally suited to NMT, so that it is in many cases an issue of restoration rather than beginning anew. The NMT interventions envisioned here would be sustainable even if they remain limited to this location.
- Khayelitsha. This is a neighbourhood representative of the other kind of mobility; where almost everyone is already NM and public-transport dependent; an area disproportionately devoid of resources, historically deliberately underdeveloped, overcrowded and almost uniformly on the lower end of the socio-economic scale. Khayelitsha will provide the opportunity to showcase what NMT can do to improve the lives of those without private transport; who already spend long distances and times walking in unsafe conditions. What is desperately needed in this neighbourhood is improved access to resources and opportunities and improved safety. Even if the plan does not expand beyond the border of Khayelitsha, any efforts to

address the mobility needs of this district will greatly enhance the livability of the neighbourhood.



Map 5.1: The location of the two strategic project areas, showing the major public transit links between them

A potential criticism of this choice is that any further investment in the city center is unjustified as there are so many areas that urgently require development in other parts of Cape Town; however, this issue is seen as part of the solution rather than part of the problem.

Certainly, building up that level of infrastructure within the South-East should be the long-term plan; however, given the lack of private-sector interest in the area, bringing it up to the standards of the historically 'white' parts of the city will not and cannot happen in the short term. Expecting people to wait decades as investment slowly builds up is simply not acceptable.

This plan addresses this issue at three levels:

- In the short term (1-5 years): ensure accessibility by all to all - while an essential part of this is improving public transport routes (currently being addressed by both Metrorail and the IRT), a fundamental part of the problem is a lack of distribution on either side of those long-haul lines. These are roles that NMT is ideally placed to solve.
- In the medium term (5-15 years) - drawing people off from the overcrowded conditions of the Metro South-East into densified and intensified central locations in and around undeveloped land in the Central City. The shift away from the car system will both engender and be supported by this strategy.
- In the long term (10-50 years)- the enhanced socio-economic status of people in this area (brought about in part by improved access to

resources and opportunity) will in and of itself start attracting the kind of investments needed to make the South-East a viable and attractive part of the city. As this develops, travel between the two nodes will begin to operate in both directions, and will begin to complement each other.

In this way, the promotion of access within the Central City, together with improved public transport links to it, will aid in improving equity and integration within Cape Town as a whole. Over time, the localised networks at the outside ends of the transport link will spread out from transit hubs until, finally, the entire city is covered with interlinked mobility networks, forming a single integrated mesh of access.

Phasing of the Projects

Given the rich amount of data and literature on the Central City, as well as the existing plans and proposed projects, it was possible to put together a strategic project whose implementation can begin immediately. The pages that follow will outline this plan, and implementation can begin almost immediately.

However, while data and information on the Central City exists in abundance, and the urban and social structures function in a way that is legible and understandable to the body of largely middle-class planners, engineers and other city officials who make these plans, townships in the Metro South-East are far less readily understood by decision-makers. A number of the City's planning interventions in these areas have failed because the planners' ideas of what communities needed did not correlate with inhabitants' actual needs or preferences - the Dignified Places Programme and the empty cycle routes are but two examples.

Accordingly, the planning process for this area needs to start off not with a plan, but with a comprehensive public participation process - one that first and foremost engages with the inhabitants on what their needs and preferences are, and what kind of urban area they want to build. This participation process should not be based on purely soliciting ideas and comments, but should entail a full educative programme that allows and encourages participants to think more broadly and holistically about the issues facing their communities. As that body of study is collected, a project plan that adapts the tenets laid out here to the very specific conditions of Khayelitsha should be built on it.

The document that follows, however, is a project plan for the Central City.

CAPE TOWN CENTRAL CITY

This document makes extensive use of planning ideas floating in the public ether. However, it will not extensively justify, explain or develop these ideas (although where possible it will suggest where such justifications, explanations or developments can be found) - instead, it attempts to see how these wonderful ideas, with a sprinkling of new ones, can be brought together into an **overall plan that inspires and supports a walking, cycling and transit-orient city center**; a city where anyone can get from anywhere to anywhere, regardless of their mobility level or mode of travel, and do so in a way that has a minimal impact on the environment. It seeks to create a city where this is not only possible, but desirable - where **travelling by transit, foot or by self-propelled wheels simply makes more sense and is more fun than taking a car.**

In doing this, the central city (from here on referred to as the 'city' - the whole will be referred to as the 'Metro') has to be transformed from being primarily an economic hub to being a lived place; a place inhabited by Cape Town's full range of diversity, and serving a diverse range of needs. The city needs to become a destination in its own right.

Imagine...

With a round-the-clock public transport service, a train, bus or taxi will whisk you from anywhere in the Metro to the Station District at the heart of the city, and if you were in a hurry or its raining, you can catch a connecting bus or taxi to your final destination.

However, if today you have a little more time, or the weather is good, and you just feel like stretching you legs; practically everywhere in the CBD is within walking distance and since the highways have been demolished, the streets have become much more pleasant to walk along. Even the taxis are better-behaved, what with having their own dedicated lanes. On the other hand, foot traffic has thrived, and there are some plazas that are a bit to crowded for your liking, lined as they would be on such a beautiful day with samoosa stands, smoothie stands and cupcake bars and thronged with afternoon sun-seekers.

Even more tempting is to just grab a bicycle - the bike-share stand in front of the station links up to over a dozen other destinations throughout the city, and with the first thirty minutes free, you can reach almost anywhere in town without having to pay.

But if it is a weekend day or after work, the odds are you have just come to the city to hang out. There's always something going on in many of the city's public squares and streets; live music, food fairs, public art displays; with Mzoli's having opened a branch in an East City square, there's even the opportunity for an outsourced braai. Then again, you've been having a bit too much braai and beer of late - perhaps a hike up Little Camissa to Platteklip Gorge and the top of Table Mountain would be a better idea - or maybe a 35-minute cycle to Clifton could be the perfect medium between exercise and relaxation.

As you're trying to make up your mind, your fellow train-riders are gearing up for the next leg of their journey. A gaggle of schoolchildren are making their way to the homework room at the Central Library; three adults are trying to find suitable bike-share bikes for seven children - from their attire it is clear that they are off to a beach or the Sea Point Pools. A group of teenage boys are heading off in the same direction with their skateboards - probably on their way to the new skate park at Moullie Point.

In the end, you decide to go visit friends living in one of the new walk-ups just behind Duncan Road at the docks - although it was all a bit new and stark at first, it's quickly becoming one of your favourite neighbourhoods. But only after a stop on the on the old high-ways, Cape Town's newest urban park...

KEY POINTS OF ACTION

LAND:

Integrate undeveloped parcels of land (District Six, Culemborg, Paarden Island and railway land up to Salt River Station) into the urban fabric of the city to allow more people to live and work within the city

GREEN + BLUE SPACE:

Use the natural systems of the city to inform its structure:

- reincorporate Duncan Dock into the urban fabric and reestablish linkages to the sea along two axes: a green corridor linking the mountain to the sea; and extend the Sea Point Promenade to link to the Table View beachfront
- Rehabilitate the major channelised rivers to become functioning natural corridors and welcoming pedestrian spaces
- Use the geography of the mountain as a key place-making element

MOVEMENT

Streamline the movement system for non-motorised and public transport:

- Demolish the freeways girdling the city and reestablish the underlying grid.
- Expand the network of pedestrian and cycle ways around public facilities, public spaces and transport hubs.
- Ensure every school is embedded in an NMT-oriented network (Safe Routes to School).
- Rededicate excess car and parking lanes to NMT and transit needs
- Roll out bicycle infrastructure - bike share scheme; adequate parking
- Build a funicular rail to connect the Sea Point Promenade with the top of Signal Hill.

PUBLIC SPACE:

Create a network of accessible open space through linking existing squares, green space and public places in an extensive matrix of public street-plazas.

Use informality to create activity along and around these spaces, with special focus on areas where the urban fabric itself is inhospitable.



Adapted from Bpoland@optonline.net



CCT 2010/Intersite

THE CITY

While geography has led to Cape Town’s centre being anything but central, it is nevertheless far more isolated than it needs to be. While most transport links connect through or close to the city, they serve to form barriers between the centre and its surrounds - the N1/R27 cutting it off from Paarden Island, Milnerton and the sea; and the N2 cutting it off from Woodstock, Salt River and the mountain. Large amounts of land stand idle - and form barriers of their own - in Culemborg and District Six, while the railway lines are a poor utilisation of some of the highest-potential real estate in the city. These barriers limit the extent to which development and wealth can spread outwards, and reinforce the cocoon-like nature of the CBD.

What is needed is for these barriers to be demolished and the land trapped between or underneath them - Culemborg, District Six, Paarden Island and the railway land - to be reintegrated into the city as high-density, mixed use and mixed-income develop- ment.

From...

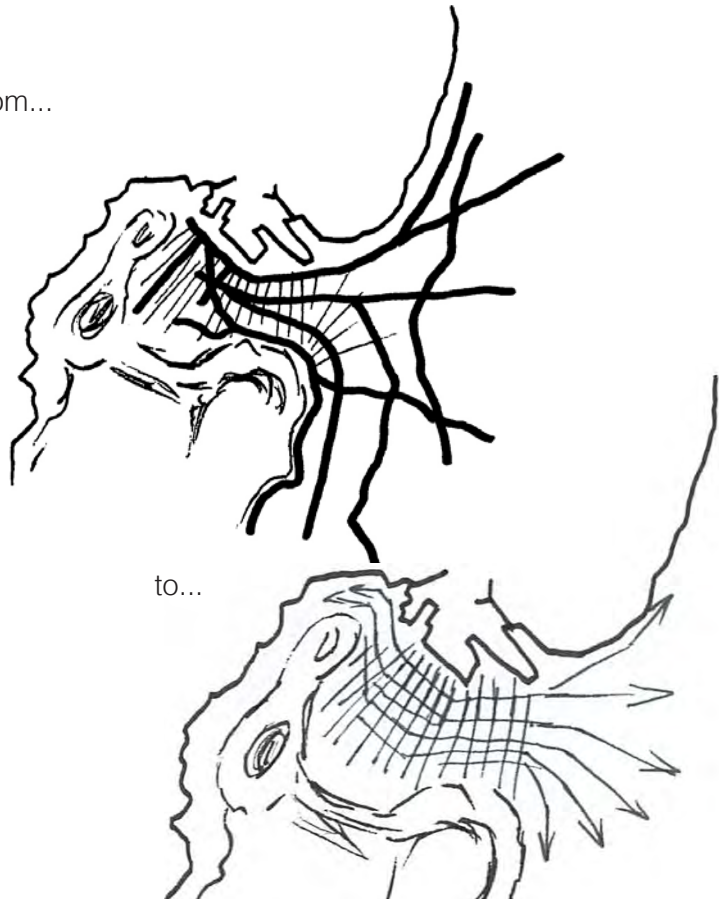


Figure 5.2: By taking down the barriers that fragment and divide the site, the centre can expand towards the east, accomodating more people, improving access for all, and increas the dynamism of the whole area...



Figure 5.3

With careful planning and additional densification efforts around the city, some 100,000 people should easily be able to be accomodated in or immediately adja- cent to the city centre. This alone will dramatically shift the structure and make-up of the city, increasing both the level and variety of amenity to be found there but also alleviating severe pressure on distant overcrowded or underserviced parts of the metro.

However, it recognises that despite the significant densification efforts set in motion by this plan, the majority of people will still not live in town. For them, their experi- ence of the city will begin at one of the four transport stations - train, bus, taxi or BRT stations ate the heart of the centre. This area - the Cape Town Station Precinct - thus forms the gateway to the city for local visitors, national visitors; and with the airport shuttle arriving here too, even international visitors. It needs to express a relation- ship to the broader city - all its constituent parts - so as to create a legible network through which to access the city.

WHAT IS THE CENTRAL CITY TO CAPETONIANS?

For an official description, this description by Helen Zille is captures the role the centre plays in terms of the broader city identity and the face it shows the outside world:

“The Cape Town Central City plays an important role within the economic, social, cultural and political life of the region. It rep- resents 40% of business turnover in the City. It is a destination for Capetonians and visitors, place of key education and training institutions, location of important sectors of the local economy, and the site of all three spheres of Government and the South African National Parliament. It is also the place where South Af- rica’s “Mother City” was born.

The Central City is part of Cape Town's iconography, with the image of Table Mountain rising up out of the sea and the city nest- ling beneath providing us with one of the most recognisable city- scapes in the world. For many visitors, the Central City creates ‘first impressions’, thus helping to define the image of Cape Town.”

(CTP, 2008: 4)

To Capetonians, however, the Central City plays a somewhat different role. For those who live there, it is indeed the Mother City - access to a full range of the city’s resources, with the stunning backdrop of the mountain behind and the sea ahead. The Central City/Atlantic Sea- board boasts Cape Town’s best beaches, premier public spaces like the Sea Point Promenade and Pools; vibey Long Street; the Waterfront; Table Mountain. For the car-owning middle-class, these amenities remain within easy reach, although with increased distances from the city, those visits become scarcer and more specialised.

To those outside, and without a car, the centre becomes either a place of work - a weekday commmute, no more - or an intimidating, exclusion- ary space hardly entered at all. Without nighttime and weekend public transport, it is entirely cut off as a place of habitation and recreation, and accessing its many resources in off-peak times becomes near- impossible.

The Central City plays a special role in education too - the changing demographic of the centre have led to situation where the majority of schools ‘import’ children from outside the centre. This means that twice a day, the city’s streets flood with children, all making their way from or to the station. Yet despite the thousands of children involved, the roads they have to walk along are often fast-moving, with narrow and over- crowded sidewalks.

SHOPPING



South African Tourism



BUSINESS



SEA



Figure 5.4: Role of the City

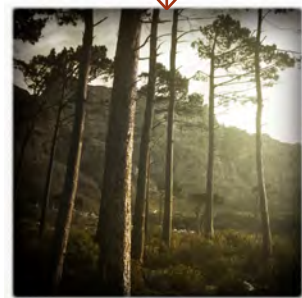
RECREATION



NATURE



Panoramio



Hilton T flickr.com



Bokaap Rebecca flickr.com



CULTURE



CREATIVE

CAPE TOWN STATION PRECINCT



CCI 2010

MyCiti BRT + Airport Shuttle



hooliejah.wordpress.com 2011

Cape Town Station (MetroRail + Spoornet)



Coda flickr.com

Cape Town Station Taxi Rank



www.gbus.co.za

Golden Acre Bus Terminal





Land gained, Sea lost...
top to bottom: Fishermen selling their catch on Strand Str (1900s); Woodstock Beach (1920s); the Adderley Street Pier (1911); Aerial shot as dredging for Duncan Dock is begun; Landfill completed - early 1950s.

STATE OF THE URBAN/NATURAL INTERFACE IN THE CENTRAL CITY

Cape Town is globally renowned because of its spectacular and unrivalled geography. However, since the 1950s, most of the city's development initiatives have disregarded that geography, seeking to bury it rather than celebrate it. The rivers that were the initial *raison d'être* of the city were buried underground (see the Reclaim Camissa project for full details); the large swathe of fertile land and green open space that had been Company Gardens has been cut up and fragmented; and the old shoreline has been filled in and despite a half-century's passage the area in between remains largely empty and exposed. The city is cut off from the sea not only by the freeways but also by the custom line, which continues to bar people even though the docks are too small to keep up with the expanding size of international ships. While the mountains continue to tower over the city, a lack of public transport and adequate pedestrian routes makes it impossible to actually experience them without a private vehicle or expensive taxi ride.

On the Atlantic Seaboard side, conditions are considerably better. The Fan Mile, Cape Town Stadium, Green Point Park and Sea Point Promenade form a continuous link between the most urban areas and , and the consequences are obvious - it is a space visited day, week, and year-round by people from all demographics, backgrounds and from all over the city. Indeed, it is reasonable to call this stretch one of the most democratic spaces in Cape Town.



The vast majority of recreational and open-space amenities are located along the north-south corridor; a corridor closely aligned with wealth and privilege

Yet despite the many problems, the Central City remains one of the the highest-amenity districts in Cape Town. Most of the residential suburbs fringe the mountains, the sea is never far away, and every residence is within walking distance of a neighbourhood park or public square. The Atlantic Seaboard, with the Promenade adjacent, has even more readily available public space. Sports-facilities are spread regularly through the city. Furthermore, these spaces are largely safe, secure, and very well-maintained.

While this is great for City residents, this condition is not replicated through the city. As can be seen below, the spread of public open space (POS) very closely follows the north-south axis - the same access along which the middle-classes and wealthy are located, and to which the poor have very little access. While more should clearly be done to raise the standard and levels of security of POS in the east, it should also be recognised that it will take decades to achieve parity within the built environment, and that no amount of investment could replace the mountains and the beaches of the Central City (while False Bay forms a long continuous strip of beautiful beach in the south-east, these beaches can be particularly dangerous, as is evinced by the numerous drownings every year. For a more equitable city, off-peak and recreational leisure options need to be enhanced.

BOX 5.1: THE STADTSFONTEIN -

One of twenty artesian springs in the City Bowl issues in excess of 2.5 million litres of water into the stormwater system of the city, daily.

The City's Bowl's current water resources once sustained 111 000 people and passing trade. The Stadtsfontein (Main Spring) produces almost enough (potentially potable) water daily to provide every person in the GCTMA with one litre per day. All of these resources are wasted through the storm water system and the city's water is piped in from the food-growing region, as the mountain run-off and the spring water are currently polluted and wasted. This is not sustainable. This water is a vital resource for the City of Cape Town and was scrapped from the asset resource register in 1994.

Reclaim Camissa (www.facebook.com/RECLAIMCAMISSA)



Strandfontein Spring on the slopes of Signal Hill

Water is invaluable not only for its practical uses, but as an aesthetic element it is an extremely powerful structuring element. Like the V&A Waterfront and the Sea Point Promenade illustrate, people gravitate towards the calming pleasant atmosphere of water; and natural waterbodies can be a defining placemaking feature.

Many cities' regeneration efforts have been driven by the rehabilitation, or more effective usage, of waterways: Seoul, South Korea, took out a highway to replace it with a rehabilitated river; reducing traffic drastically and breathing new life into the city center

By rehabilitating these rivers and streams we transform certain underutilised parts of the city into highly popular and populated places. As a placemaking tool, water is nearly unrivalled, and it is one we have ignored for too long now.



Figure 5.5: Open+Recreational+Conservation Green Space in the City, with the status of rivers (above or below surface) indicated. The red shows barriers to entry (physical barriers at the docks, and a lack of catering forming the barrier to the mountain)

KEY INTERVENTIONS

1. RE-'SURFACE' THREE MAJOR RIVERS BURIED UNDERNEATH THE CITY AND USE THESE AS STRUCTURING ELEMENTS FOR NEW PEDESTRIAN LINKS

While much of the groundwork for breaking in this idea has been laid by the Reclaim Camissa movement, this plan proposes to expand the idea beyond Camissa, the largest river in the Table Bay. Three such 'blue routes' will thus be established, each fulfilling a unique role of stitching together fragmented sections of the city and creating a haven for pedestrians and other NMT users:

- **Restore the 'Gracht' to Buitengracht:** This canal will go along one set of lanes in Buitengracht ; and will integrate with the Bo-Kaap on one side and the Centre on the other (see Movement section for more details on the revised street plan). Traffic will be greatly reduced and calmed, which will foster the integration process, and licensing will be issued for temporary food and drink stalls at suitable locations along the way. The wall that is currently a necessary barrier to 24-hour traffic noise will be breached in various places to make integrate it into the landscape.
- **Little Camissa:** The resurfacing of this river has been well documented by the Reclaim Camissa team - this project will emphasise the pedestrian linkage between the sea and the mountain.
- **The East City River Project:** This canal, still open in the upper reaches of Vredehoek, will be taken down Buitenkant, past Wembley Square and into the Fringe, where it will become the chief structuring element of the centre of the East City, passing by Harrington Square and feeding into the Castle's Moat.

All these river/path projects pass by numerous schools, and are ideally suited to form the key elements of the Safe Routes to School Programme (under the Movement Section).

2. MOVE THE CUSTOM LINE EAST AND INTEGRATE DUNCAN DOCKS INTO THE CITY

Opening Duncan Docks to the public will not only revitalise the foreshore and allow the city to reconnect with the sea, but will also re-establish a long-missing link between the Sea Point Promenade and the Milnerton Riverfront/Table View Promenade on the other. Rather than creating a white-washed space like the V&A Waterfront, Duncan Docks should continue operating primarily as a working docks; however, it should be accessible and user-friendly to the public. It will also become the termination point for the major streets like Adderley, Oswald Pirow and Buitengracht, so as to form a direct and visual link to the sea.

3. EXPAND THE SEA POINT PROMENADE TO CAMPS BAY

The Promenade creates an extraordinary and deeply inclusive space at the edge of the city. In contrast, the Blue Flag beaches

of Clifton and Camps Bay remain quite exclusionary spaces, with true diversity only really appearing around peak holiday seasons.

At another level, the three points of access are dedicated almost exclusively to private vehicle ways, resulting in a near-constant gridlock and a dire lack of parking in the summer months. The two roads connecting Sea Point and Camps Bay are to be reorganised (see Movement Section for details) so a dedicated NMT path can be formed between Bantry Bay and Camps Bay, and public transport can travel in its own lane.

4. BUILD A FUNICULAR RAIL TO LINK THE SEA POINT PROMENADE TO LOOKOUT ON SIGNAL HILL

Another crucial missing link within the natural spaces of the city is a link between the city and the upper mountains. While the new pedestrian corridors will allow enthusiastic and able-bodied people a selection of gateways to each of the city's three mountains, there are still significant barriers to those unable or unwilling to walk. Accordingly, a funicular railway linking Three Anchor Bay to the top of Signal Hill is proposed. This will form a continuous link from the heart of the city along the seafront and up to the mountain - truly the last link in unlocking the natural in the city.

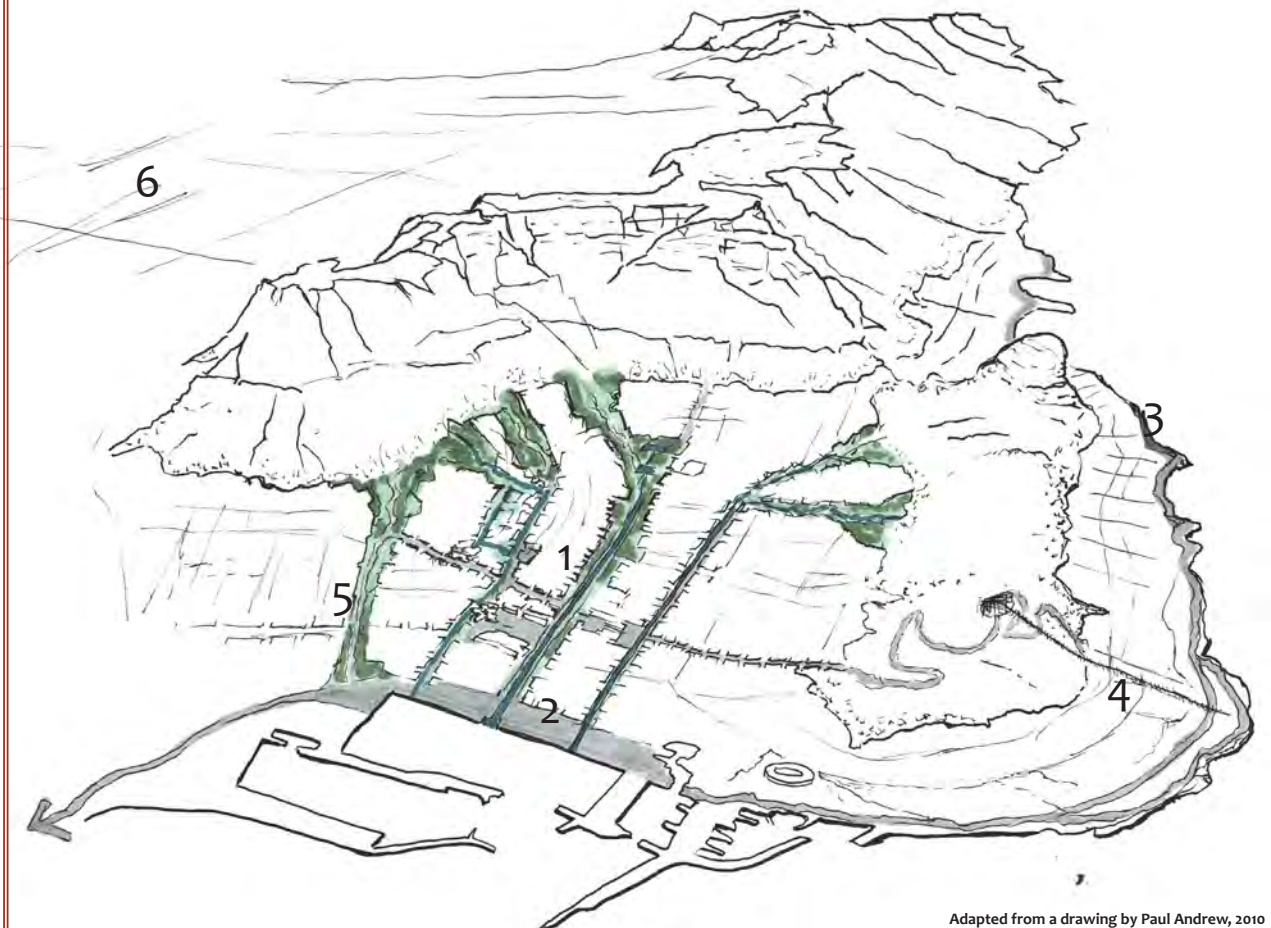
The funicular will also serve local transport needs, in ways that will be described under the movement section.

5. EXPAND TRAFALGAR PARK TO LINK UP TO THE MOUNTAIN AND DOWN THE SEA

Trafalgar park, the historic outer edge of the central city, will be refurbished and redesigned as an urban park that will knit the all four sides sides together. It will form the only continuous link from the docks up the mountain, restoring central heritage sites and rehabilitating natural corridors. Where it meets De Waal Drive, it link across the road to a foothill overlooking District Six, which will simultaneously be a memorial site and a fourth major point of entry to the mountain and a gateway into the city.

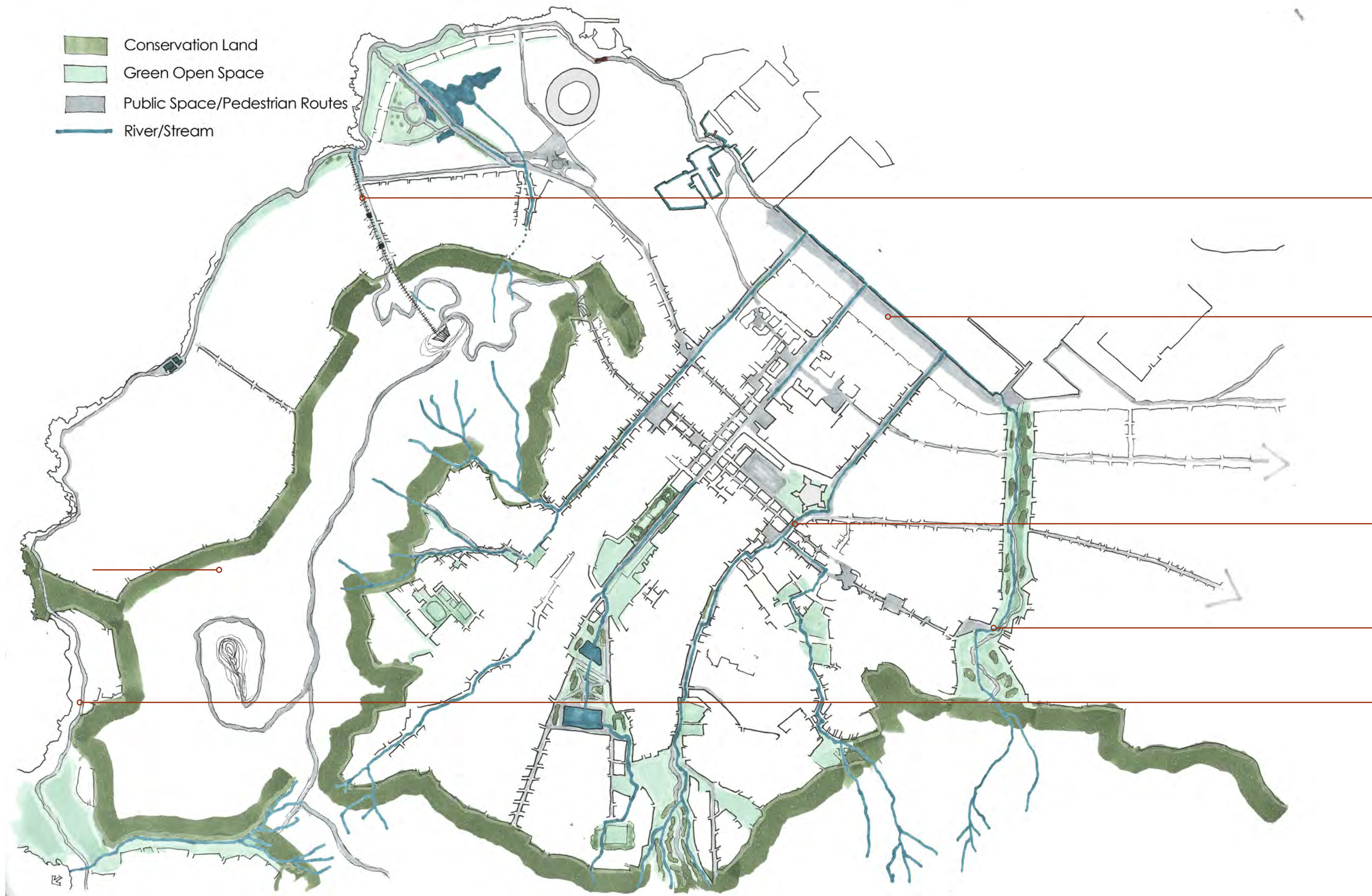
6. ESTABLISH A FREE WEEKEND 'GREEN' BUS LINE AND TRAIN SERVICE

All of the proposals suggested above are aimed at making the extraordinary natural spaces of the Central City and surrounds accessible to the city at large. This is premised on the idea, however, that transport into the city will be easy and affordable. Currently, outside of peak hours, this is not the case. In addition to the round-the-clock transport service that is an intrinsic component of the policy plan, a 'green' weekend transport schedule will be introduced that offera free transport to the Central City and to major recreational areas over weekend and public holidays.



Adapted from a drawing by Paul Andrew, 2010

Figure 5.6 The Six Points of Intervention



Map 5.7: Natural Spaces Development Framework



Compiled by Simone Lilienfeld



Compiled by Simone Lilienfeld



Compiled by Simone Lilienfeld



Compiled by Simone Lilienfeld



Compiled by Simone Lilienfeld



Compiled by Simone Lilienfeld

THE MOVEMENT HIERARCHY:
A HIGHLY DIFFERENTIATED MOBILITY SYSTEM

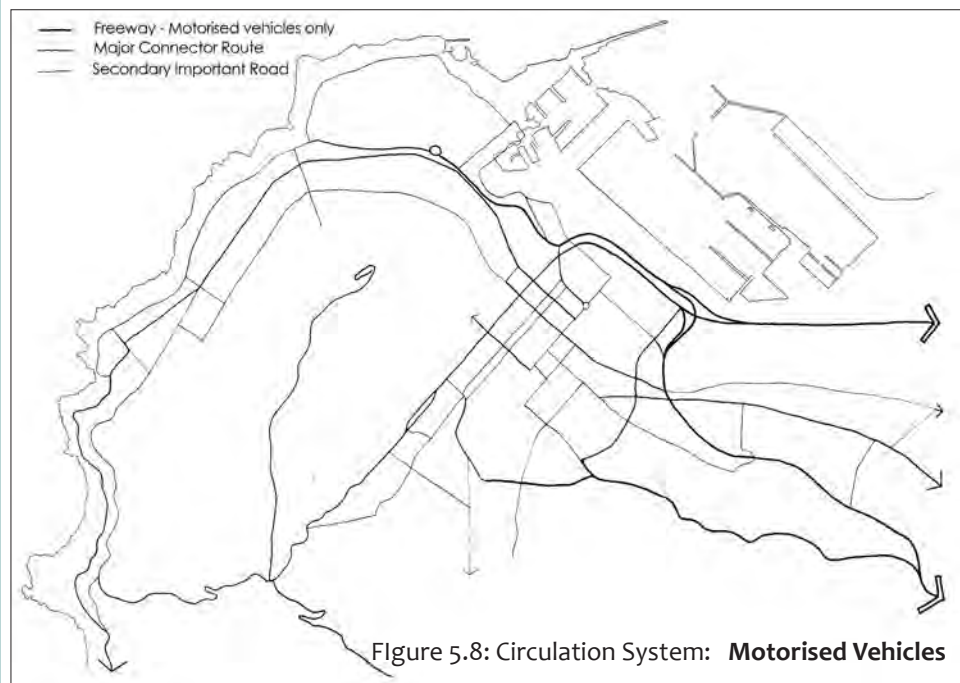


Figure 5.8: Circulation System: **Motorised Vehicles**

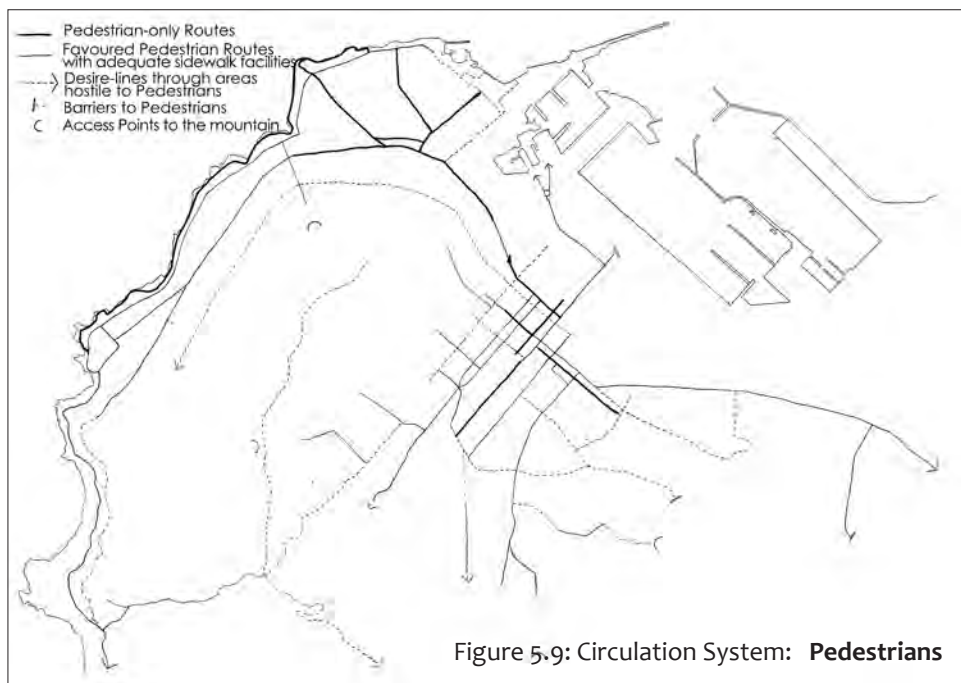


Figure 5.9: Circulation System: **Pedestrians**

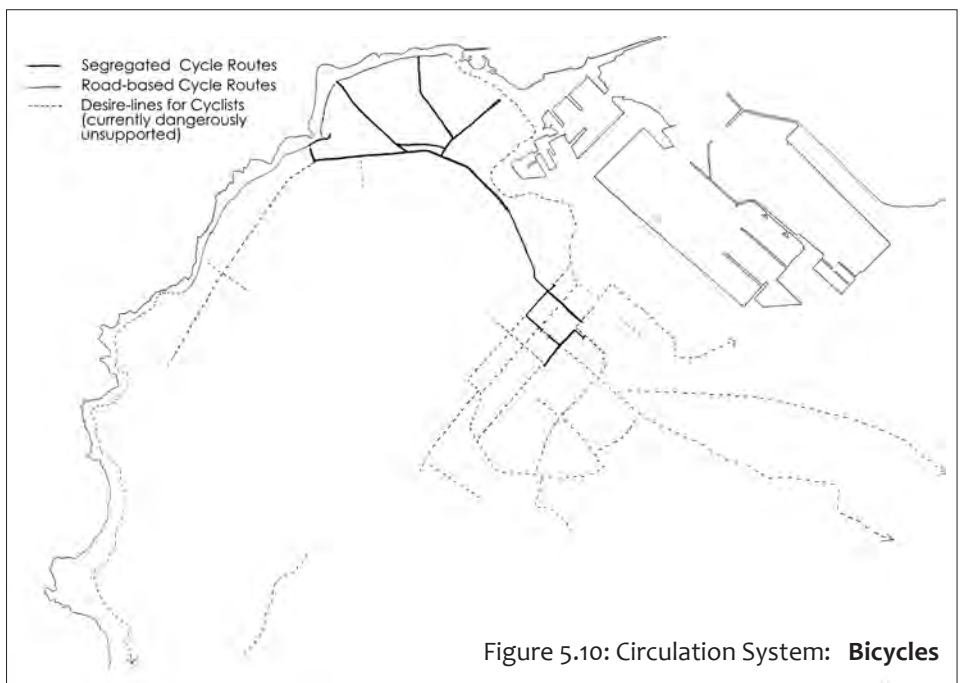


Figure 5.10: Circulation System: **Bicycles**

MOTORISED VEHICLES

The existing movement hierarchy is centered around motorised vehicles; with public transport largely on the same footing as private vehicles (beginning to change with the IRT).

Entrance to the city is predominantly based on the freeway concept - designed exclusively for high-speed vehicular traffic, with all traffic flow and ingress/egress regulated. Three freeways - the N2, the N1, and De Waal Drive - carry all the weight of daily traffic in and out of the city. The limitations on entrance and exit of these mean that flow into the city is compacted into streets that, while technically multi-modal, become so heavily occupied with cars that it is unpleasant or downright dangerous for other modes.

In terms of the balance between modes, the above three diagrams tell all: the extent of the pedestrian network is paltry compared to the motorised network; the cycling network is practically non-existent. This despite the fact that more than half of the Metro are regular pedestrians, whereas a large majority will never drive a car.

PEDESTRIAN NETWORK

While the city was originally built to be oriented towards pedestrians, much of that original system was remade to favour the car. Today, very few pedestrian-only ways remain, and while most roads have sidewalks, they largely cover the bare minimum to ensure safety for pedestrians - they do not encourage pedestrian activity. Where sidewalks accompany major traffic routes, there is seldom any landscaping effort made to screen pedestrians from the noise and noxious fumes produced by vehicles; cars very much take the dominance here.

Yet there is clearly a demand for greater pedestrian orientation - where pedestrian routes have been put in place, such as along the St George's Mall or the Fan Mile, foot traffic is far higher than on the surrounding streets. Recreational walking along the Sea Point Promenade is one of the most widely-enjoyed activities across the Metro.

In addition, as mentioned under the 'Green Space' section, there is very little pedestrian access to the mountains and the sea. While these are places that by their very nature are enjoyed outside of car, the current movement system makes them almost exclusively available to car owners.

CYCLING NETWORK

The cycling network is the least developed and most neglected mobility network in the city. Even the bike paths that do exist are fragmented. Aside from the Fan Mile stretch, no other bike path - segregated or based on the road - actually takes you from anywhere to anywhere. While large amounts of money was spent building the Adderley street link, it is traversed in under two minutes, after which you are left stranded at the Adderley-Strand intersection with nowhere to go. Whereas cycling in the road is not impossible, the lack of regard drivers have for cyclists make this a perilous enterprise at best. On the sidewalks, curbs are seldom dropped (a problem for handicapped and wheelchair users even more than for cyclists).

In addition, two lines ideally suited to cycling are expressly banned for bicycles: Government Avenue and St Georges Mall. Furthermore, the cycling route down Shortmarket has a strictly enforced bicycle ban as one travels through Greenmarket, with the results out of a mere 2350m of dedicated bicycle ways in the CBD (Fan Mile excluded), cyclists have to dismount and push their bikes for a 100m of that. This is not a network conducive to promoting cycling; money spent on efforts like these is money wasted. A better system has to be devised.

KEY INTERVENTIONS

1. DEMOLISH THE HIGHWAYS AND REESTABLISH THE GRID

The N2 will be transformed into a multifunctional boulevard from Roodebloem Road onwards and fed into Keisersgracht, with the underlying grid reestablished. The N1 will similarly be transformed into a multifunctional boulevard up to the R27 turn-off, and the bulk of traffic will be fed through an extended Oswald Pirow Rd (preferably by another name) through the centre of the new Culemborg development.

The remaining flyovers will be integrated into the new foreshore development - while exact usage is still to be determined, they hold great potential for adaptive reuse, in a similar vein to the High Line in New York (an old elevated railway line that has been redeveloped into a linear park). Development under, through and above could transform these pillars of modernism into a highly attractive modern ideal.

While the freeway linking Buitengracht to Sea Point will partially remain, it will be downgraded to a street (albeit an elevated street) accessing the development on the old unfinished flyovers.

2. CREATE A NEW MOVEMENT HIERARCHY

Currently, the city's movement hierarchy runs as follows:

Private Vehicles
Public Transport
Pedestrians
NMVs

This Plan proposes to switch that hierarchy around, so that it reads instead:

Pedestrians
NMVs
Public Transport
Private Vehicles

This means disaggregating the current grid - which in theory allows all users access everywhere, but in fact cedes control of everywhere to motorised vehicles - into separate grids for NMT, a public transport, and private transport.

In this new hierarchy, the finest grain will be allocated to pedestrians and NMVs. Intermediate will public transport, which at times will overlay NMT spaces in the form of transit malls. Finally, the grid will accommodate private vehicles only at a superblock level. Since the city as a whole is not a perfect grid, some fluidity to this system is needed. Accordingly, shared streets and transit malls will be utilised where cars or transit need limited access to NMT routes. Wherever all forms of traffic meet, a complete streets ethic will be followed.

Key to this new hierarchy will be the establishment of pedestrian-public 'arterials' - NMT-oriented corridors that are devel-

oped expressly as sterling public spaces. Four such projects will be initiated with this plan:

- The New Buitengracht
- Little Camissa
- The East City River
- The Camps Bay-Milnerton Promenade

These will also link to the next initiative, SRTS.

3. INITIATE A SAFE ROUTES TO SCHOOL (SRTS) PROGRAMME

In keeping with the idea of building embedded networks, linking schools to a broader NMT network will be a priority project. While the emphasis will be on ensuring safety and minimum contact with cars, the design and landscaping for these streets will in addition be guided by a spirit of playfulness, fun, and where possible, outdoor education.

4. EXPAND SUPPORT FOR BICYCLING THROUGH INFRASTRUCTURE AND A BIKE SHARE SCHEME

While the extension of bicycle networks will largely be covered under the NMT focus of the new movement hierarchy, this initiative will ensure that the new routes specifically take into account the needs of cyclists, in terms of safety, geography, and comfort.

It will also ensure that the subsidiary cycling infrastructure, such as bike parking, transit access for bicycles, and bicycle repair stops are put in place.

A bicycle share programme is an essential part of this initiative, as it will both greatly facilitate movement throughout the city and encourage people to try cycling. It is essential that bike depot points are thoughtfully placed throughout the city so as to ensure that they serve the maximum number of needs and people - around transit stops, near schools and recreational areas will be prioritised.

Finally, the funicular link at Three Anchor Bay will be required to have two stops at High Level Road and Ocean View respectively, which will be free as long as there is available capacity.

5. RESTRUCTURE THE SEA POINT/CAMPS BAY CONNECTION TO MAKE WAY FOR AN NMT AND PUBLIC TRANSIT CORRIDOR

The two roads linking Sea Point and Camps Bay - Victoria and Kloof Roads, currently both two way streets - will be redesigned to form two sets of single-lane one-ways; one for private vehicles, and one for public transport. The rest of the road reserve will be given over to create an NMT corridor.

TEARING DOWN THE HIGHWAYS

A freeway has only a few entry and exit points, and concentrates all traffic along a single line. A grid, on the other hand, is constantly dispersing and collecting traffic, thereby relieving the load off any single road. Furthermore, the freeway excludes non-motorised forms of transport, meaning that people have to take their car to get anywhere, whereas in a grid pattern you are more likely to walk or even cycle to a (usually closer) shop. Freeways also compact distance, so that people are more likely to live further from where they work and shop, as well as more easily choose distant destinations to drive to.

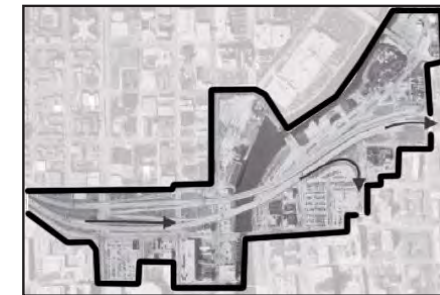


Figure 5.11 The freeway generated congestion by concentrating traffic on a few local streets.

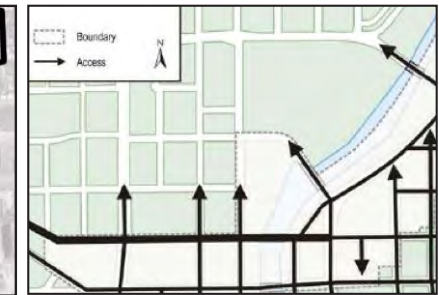


Figure 5.12 The restored grid disperses traffic on many streets.

The N2 will be turned into a pedestrian-friendly boulevard from the Roodebloem turn-off, and change its course so that after the Searle Street turn-off it joins up with Keisersgracht. The underlying grid can thus be restored, and traffic can be accommodated by dispersing into the grid at various points. The development of Culemborg and the removal of the railway tracks will facilitate this, since the development of this site will take some of the pressure off the current CBD.

The N1 will be removed up to the Milnerton interchange. It will remain as a multifunctional boulevard that will allow pedestrians, cyclists, public transport and private vehicles - a complete street - while encouraging the development of the route as an activity corridor. This will also relieve some of the pressure on traffic leaving the city, as it will have dispersed the pressure points while also spreading the area in which commuters are concentrated.

PAVEMENT TO PARK?

An interesting alternative to physically destroying the highways would be to decommission them as roads for cars (following the guidelines above) and to use them as elevated 'green routes' - the Cape Town version of New York's Highline; a linear park built on an old elevated railway track. The land underneath and to the sides could be developed while the bridges themselves are retained as public space. This idea has not been incorporated into this plan but it would be highly compatible with the principles outlined here, and should be investigated as an option when the decision of what to do with the bridges come to the fore.

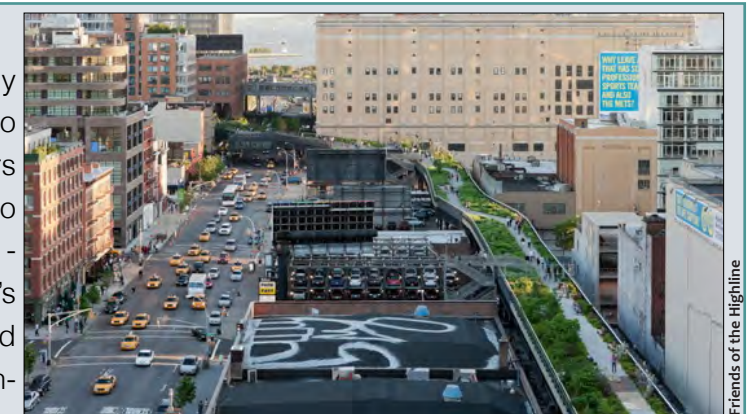


Figure 5.13 The Highline - an elevated park stretching through 1.6km of Manhattan's skyline. Could this work for the Foreshore Freeways?

Friends of the Highline

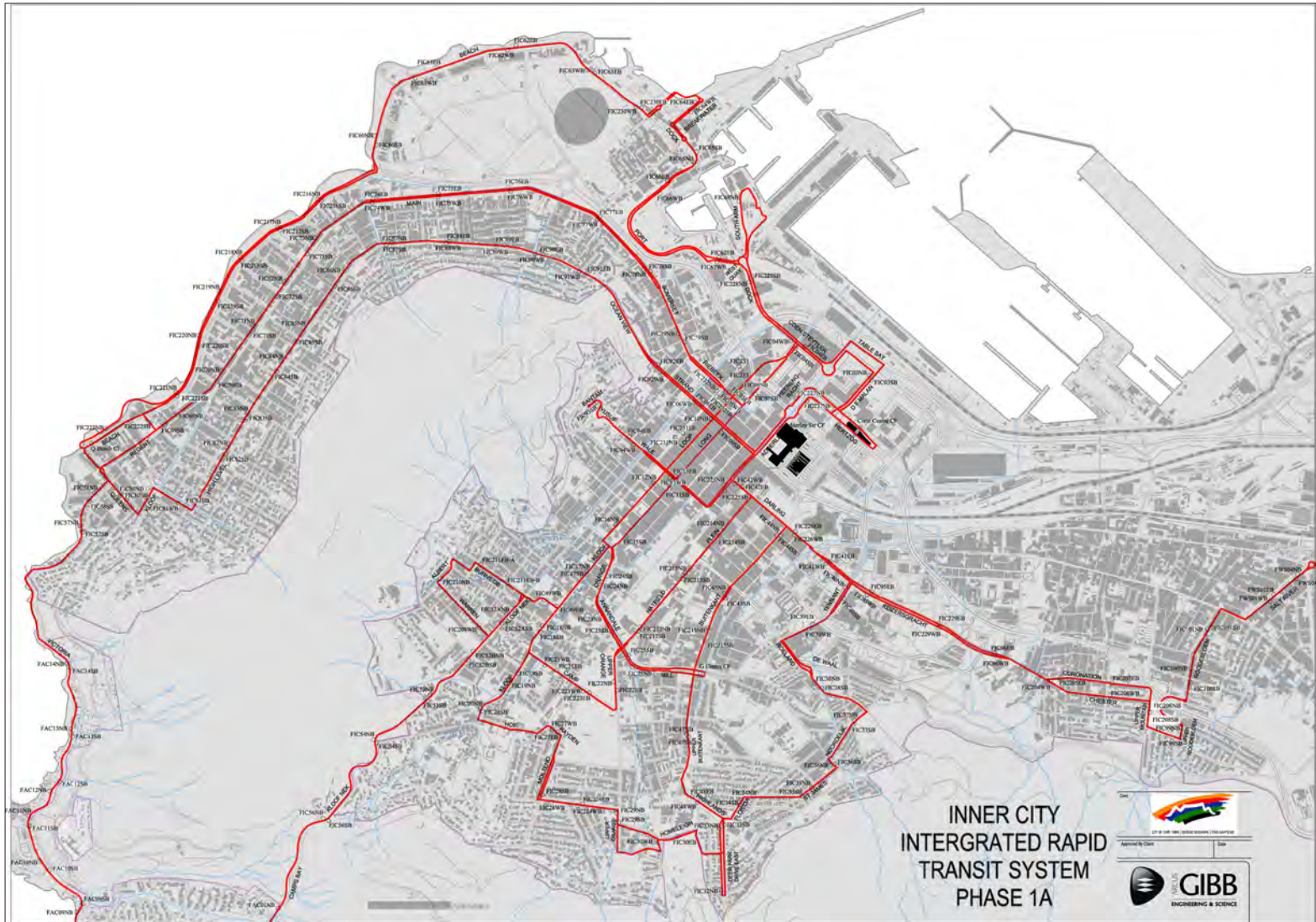
A NEW MOVEMENT HIERARCHY

A new mobility network cannot be established simply by imposing the differentiated grid onto the system; that grid has to be matched to local conditions on the ground. Accordingly, the following principles will be used in establishing the new system:

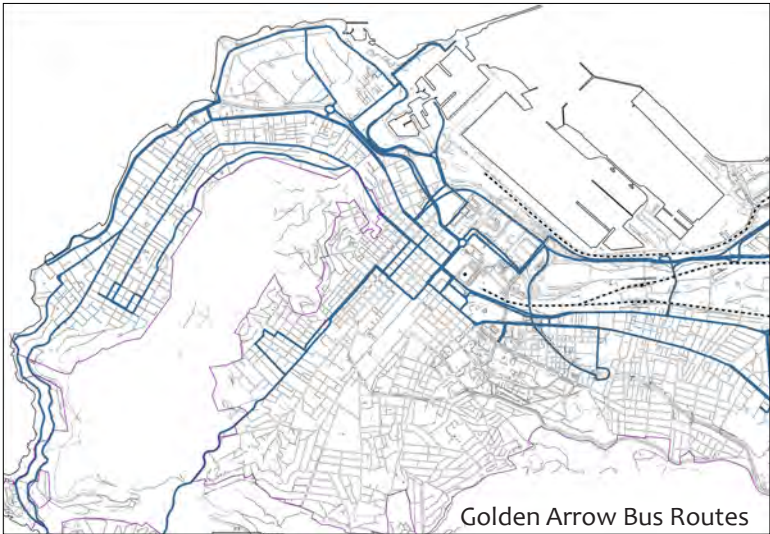
- **The Pedestrian Experience:** A good pedestrian way is not just a car-free place to walk, but offers the person on foot a rich and varied experience. It should consist of good public spaces connected by densely used, highly active and enclosed corridors, or alternatively, a rich natural corridor such as through a park or next to a stream. Prime pedestrian routes have to be established along such routes for them to be successful.
- **Access to Transport:** A large number of NMT users will use transit for at least part of their journey; public transport will therefore be key structuring elements of the NMT network. Specific attention has to be paid to ensuring that transit stations and feeder stops are embedded within the network. Conversely, the transit routes need to be planned so that everyone is within a 5-10 minute walk of a transit stop.

- **Green Corridors:** the natural corridors proposed under the green space section of the plan will form a second major structuring element, with the three river projects and the seafront promenade
- **Public Space:** In addition to the elements mentioned above, networks should incorporate all the major public spaces of the city, alternating them with enclosed active corridors to ensure an engaging experience of the city. .
- **Minimal Traffic Impacts:** While the era of planning for the convenience of the car is over, cars still need to be taken into account when planning. In a dense and active urban area, unnecessary delays and inconveniences should be ironed out where possible - links should be direct, although lane-widths etc. should be determined as much by other road users as by car needs. In residential areas, however, it is important that road designs don't allow cars to speed through neighbourhoods, and 'breaking up the grid' as discussed in the policy plan is therefore recommended.

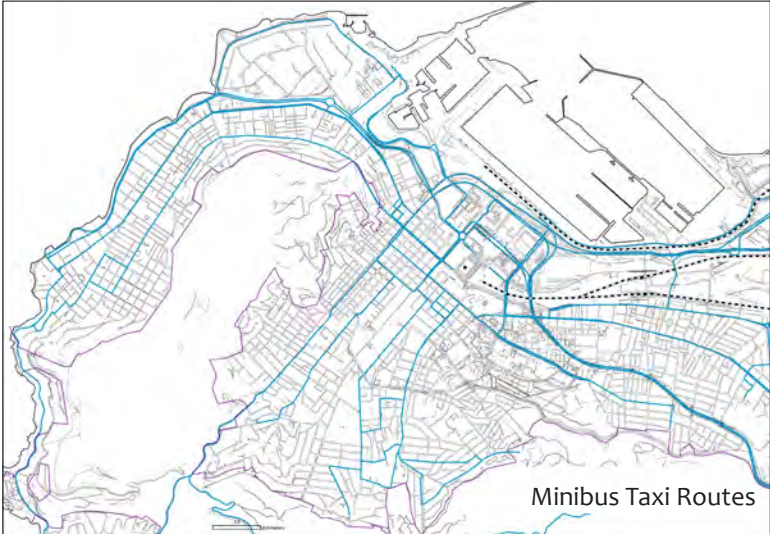
- **Constructive Sharing:** Where a dedicated NMT way follows a route that is essential for cars or transit to travel through, shared streets or transit malls should be employed. This will ensure that people stay prioritised along these routes, without impacting negatively on the needs of residents and businesses. Where all modes must be accommodated, or the context does not justify a shared street, the 'complete streets' philosophy will be followed.



Map 5.14



Map 5.15

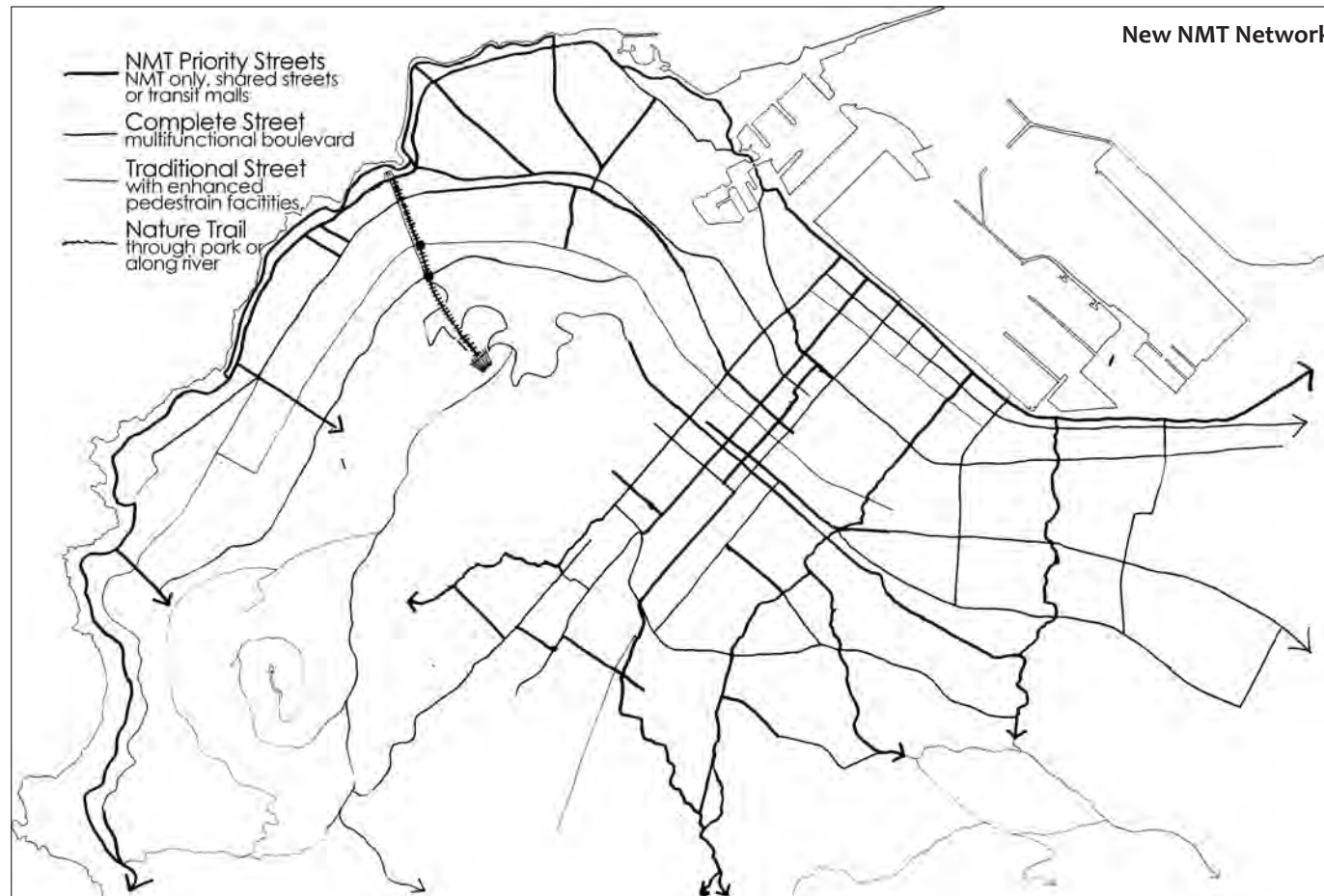


Map 5.16

These routes will need to be adjusted somewhat when the projects outlined here are initiated. While Golden Arrow and minibus taxi lines (left above and left below, respectively) are somewhat deceptive on less popular routes, since they do not run an all-day service there, these maps nevertheless give an indication of where need and demand has lain. The IRT feeder route (far left), with some minor adjustments, will form the spine of the NMT network, with feeder stops forming important nodes around which NMT routes will spread out from. At the same time, the bus lines will double up as bicycle boulevards, with buses and bikes being given priority

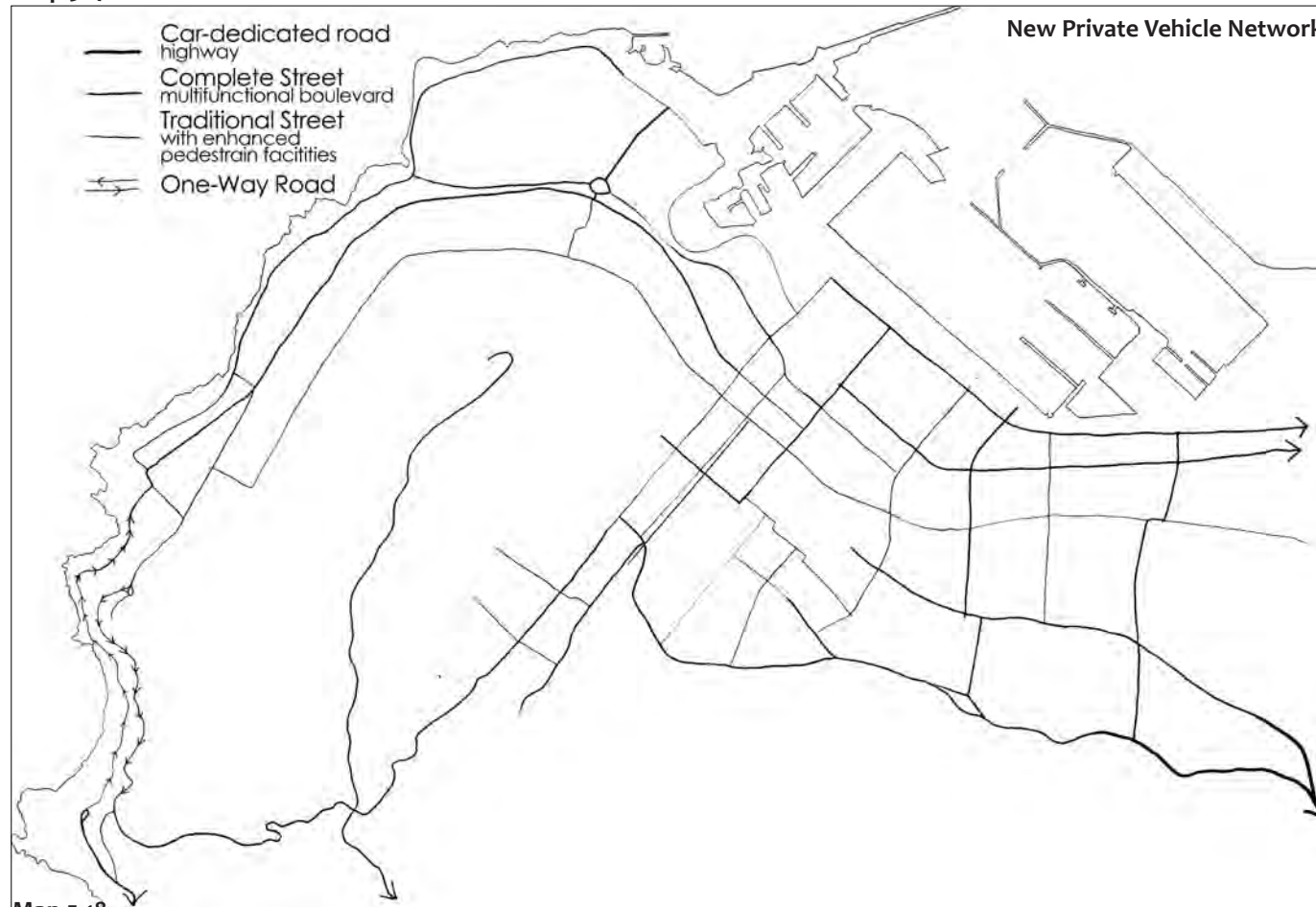
THE REVISED CIRCULATION SYSTEM

New NMT Network



Map 5.17

New Private Vehicle Network

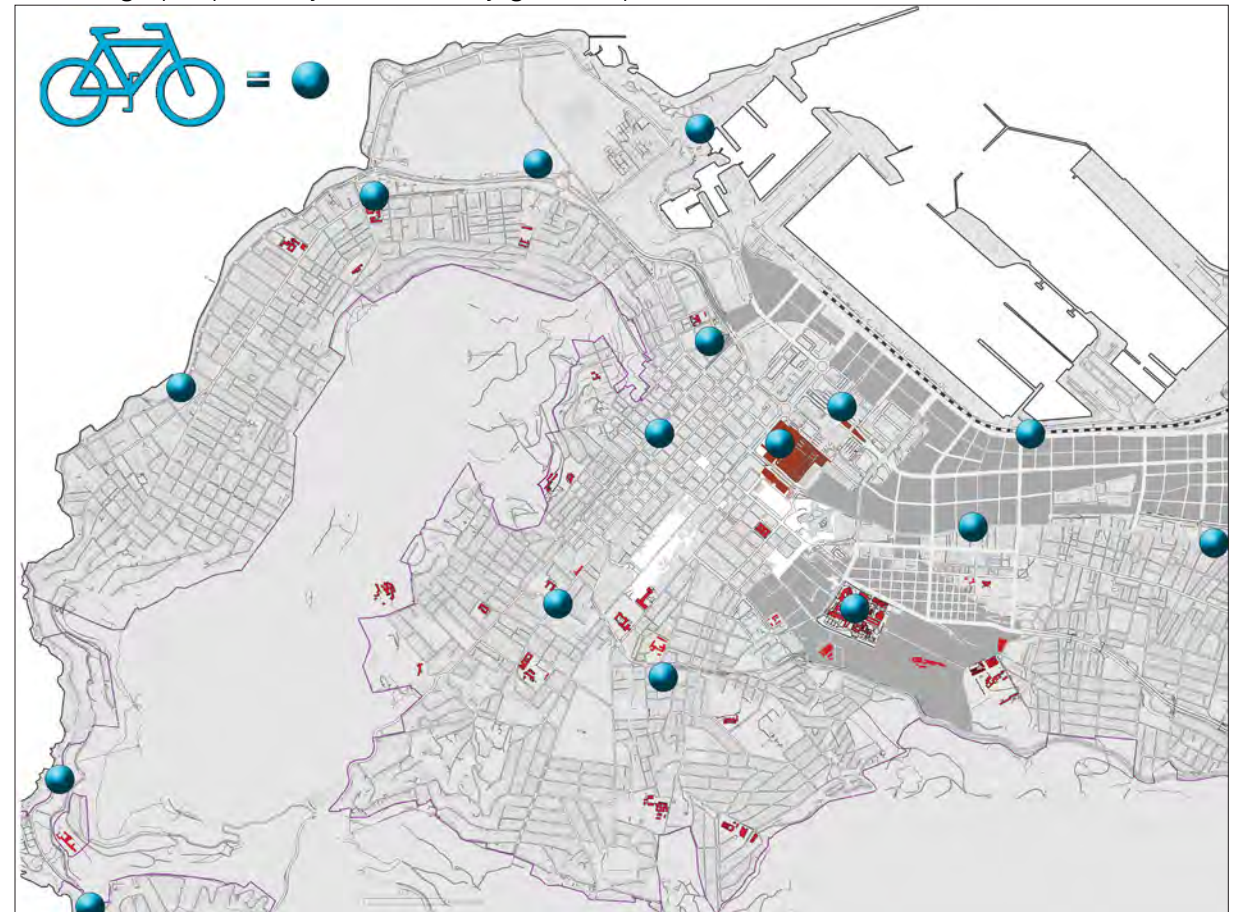


Map 5.18

BICYCLE SHARING

A Bike share programme is an essential part of the new mobility plan, offering a new form of transport to cars and in the process promoting cycling for all. It will have to start off as a subsidised system, as it is essential that it remains affordable to all. It is strongly suggested that the first thirty minutes are free. While the 15-station plan below might look too ambitious to start off with, it is essential that stations connect to enough places, and distant-enough places, to actually make the network viable. A share-scheme that starts too small dooms itself to failure.

Cycling infrastructure not only make it safer for current cyclists, but encourages the idea of cycling to those to whom it would not otherwise occur. In addition, the more people are seen to cycle, the more cycling will become perceived as an acceptable means of travelling. Bicycle share programmes are not only an extremely efficient way mode of transport, but can actively encourage people to cycle once they get to experiment with it.



Map 5.19: Bike Share Stations



Figure 5.20: Velib; the bike share system in Paris



Figure 5.21: Bike-share start-up in Wroclaw, Poland

PUBLIC SPACE

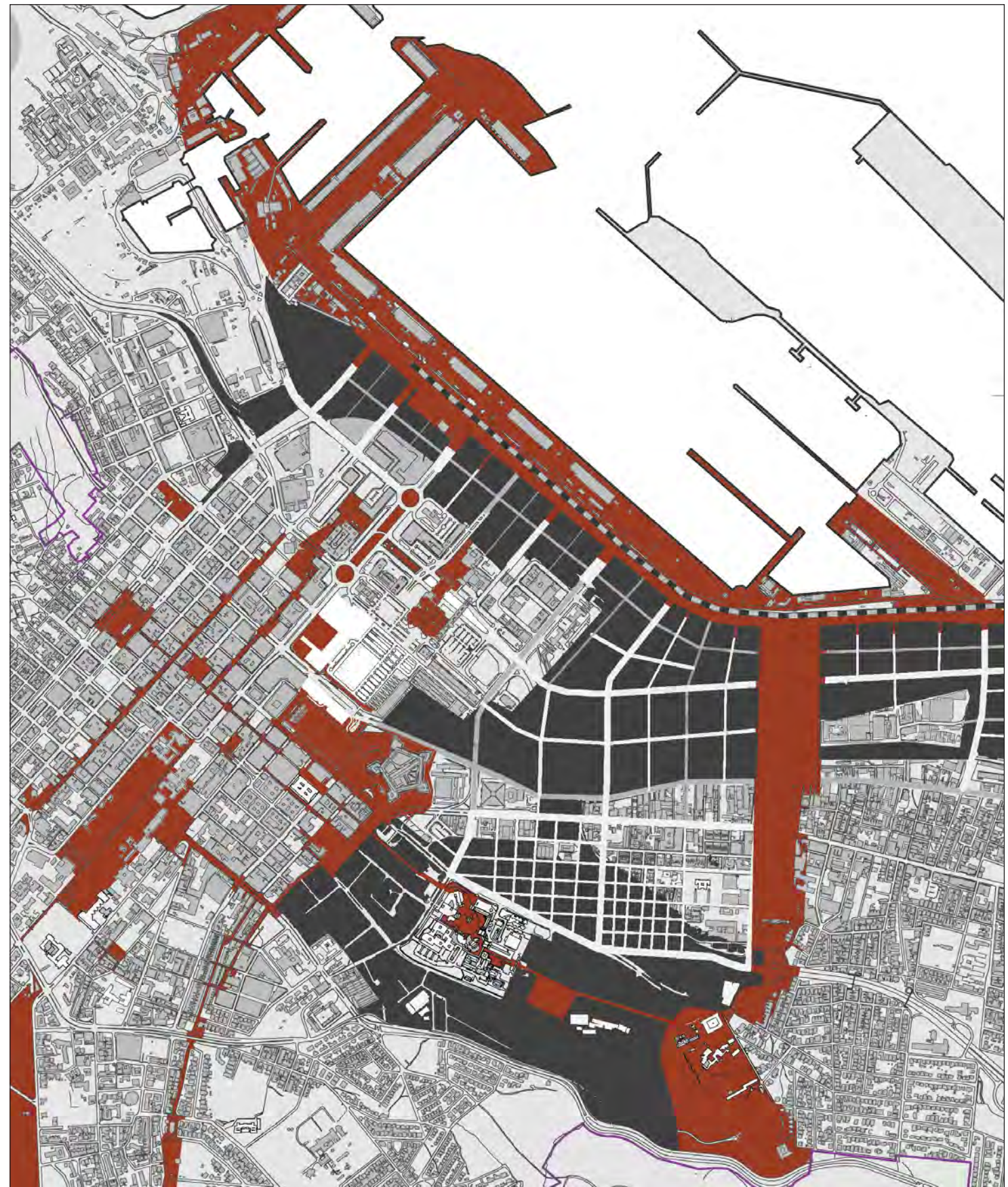
THE GLUE THAT BINDS IT ALL TOGETHER

The plans on the preceding pages have constructed a framework of corridors and openings that thread through the city, linking institutions, workplaces, homes, and shops. What remains is for this interstitial space to gradually fill and swell with a sense of 'public'-ness and communality; for the daily inhabitants of these place to feel a growing sense of ownership over the streets, squares and parks. Through time, wear and spontaneous adaptation, the spaces constructed by this plan will become the places that make people want to be here - not just to work, or to live, but to live life on its streets and parks. Ultimately, it is the public-ness of the myriad pedestrian and NMT pathways and the quality of the open spaces between them that will determine whether people enjoy walking and cycling through the city.

Currently, Cape Town has some excellent public places, some of which are flourishing, others which have great potential but are failing to thrive because of ineffective management and bad utilisation. One of Cape Town's most acute problems is a lack of people; a lack of density and the intensity of activity that comes with it. The land reclamation outlined by this plan, together with the enhanced transit access, will do much to rectify that; furthermore, people attract more people, so with the right incentives, it will become a positive feedback loop ensuring an active and vibrant city.

What remains is to ensure that the groundwork is laid to ensure that spaces are activated; that they are not just places to pass through one one's way elsewhere but that they are places to stop, linger and enjoy. This includes physical measures - such as good and variable street furniture, lighting, shade, shelter and amenities such as drinking fountains and public toilets - as well as a zoning/legal framework that encourages a variety of activity, such as support for informality (support that includes efforts to diversify enterprises), encouraging public gatherings and self-organised events, as well as setting initiating events such as the proposed *ciclovia*, or summer concerts in the park, or movies on a bigscreen against the old highways, etc.

This should include streamlining and advertising the procedure for closing off streets to traffic, having street markets and events, building San Francisco-style 'parklets', etc.



Map 5.22: A network of open spaces in the city - current and proposed.

A 'Small Public Spaces' team should put together and be tasked with looking for low-budget 'pavement-to-park' style projects; perhaps through getting students and even schools involved with giving ideas and getting business to help sponsor it. As with the San Francisco version, however, it should be low-budget, adaptable projects - implementation with paint and cardboard planters are perfectly acceptable! If the project works, it can be upgraded; if it doesn't, a better solution can be sought.



Figure 5.23: Initiatives like this temporary parklet in Harrington Road (East City) are a cheap and easy way to help us reconceive how we use the vast amounts of paved space in our cities



Figure 5.24: Without cars dominating roads, we can start rethinking how we can use these structures for different, more humanised purposes

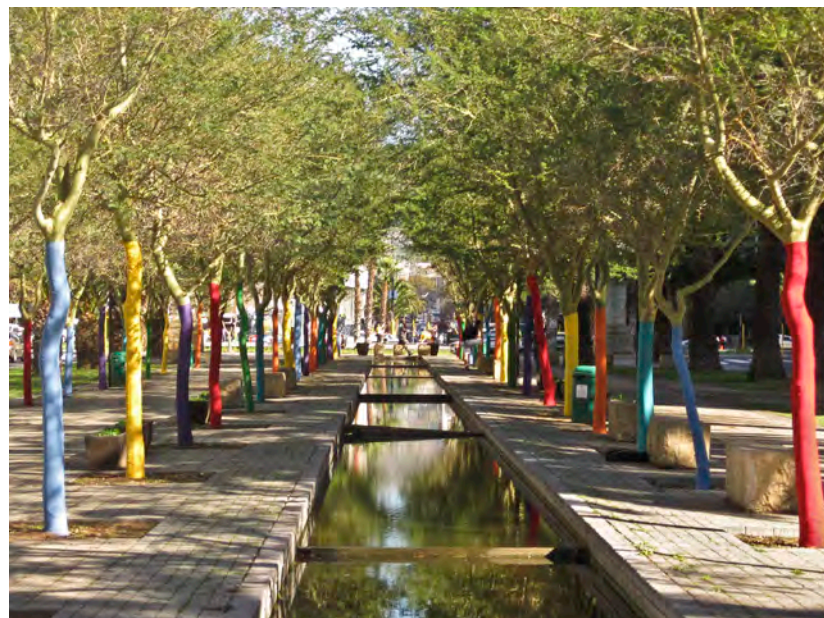


Figure 5.25: Waterkant Street has flourished since it's been redone. What if the whole city was this good for people?

STRATEGIC FRAMEWORK

This project plan set out to reshape the Central City into a place that is widely and easily accessible on foot, bicycle or transit, and to create a city where getting around by those modes is a positive experience.

Accordingly, the framework for the inner city is given here:

Bottom Layer:

[Brown Grey] is the chief **public space/pedestrian network** of the central city; the streets and plazas identified for immediate intervention under the Street Plaza policy

[Dark Grey] is the **NMT network**, where NMT at all times receives priority even if the road is at times shared with other modes of transit. Bicycles can also traverse this network in perfect safety. The Street Plazas above fall under this movement hierarchy too.

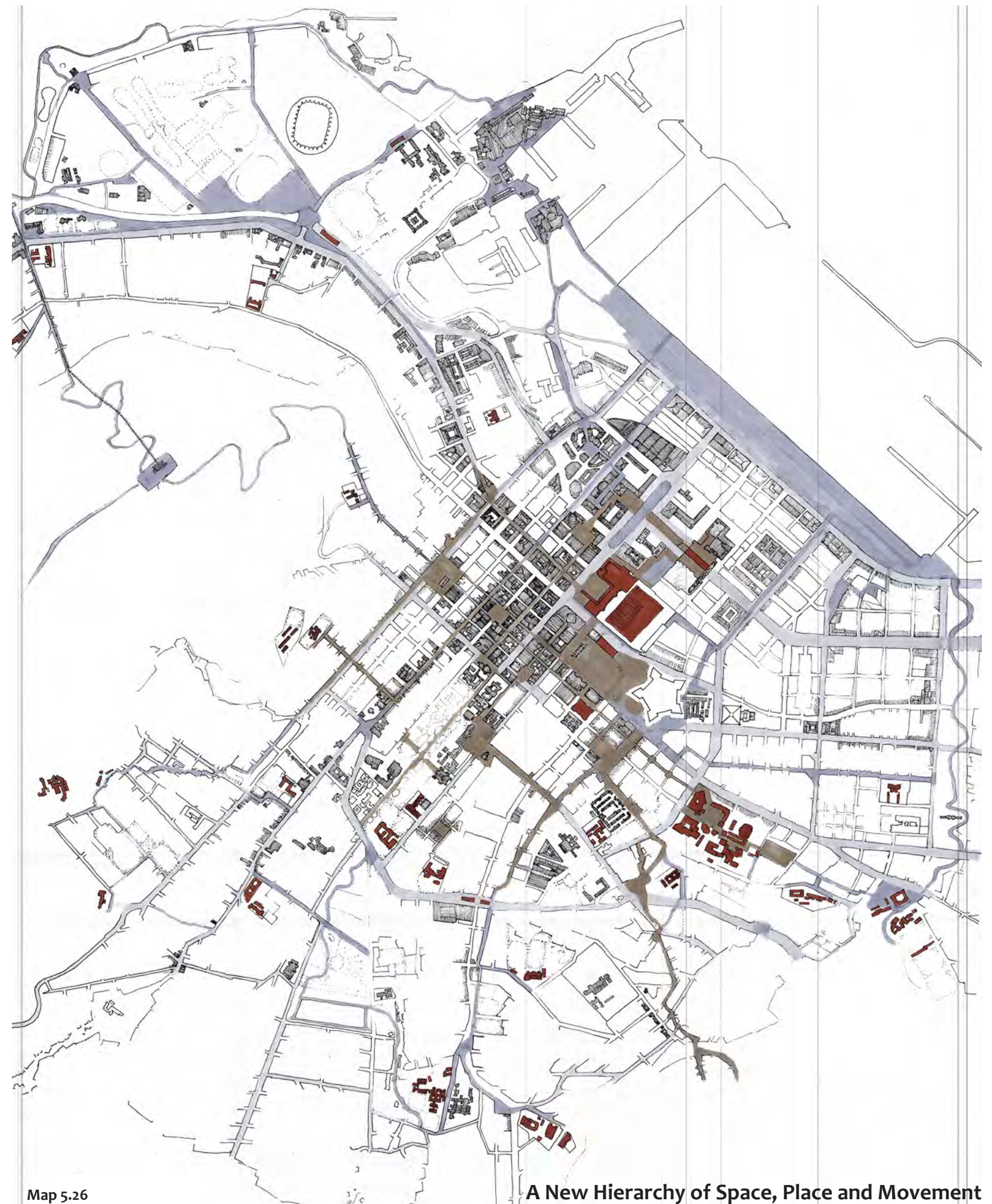
[Light Grey] are **complete streets** - while these streets do have lanes specifically for motorised transport, there are bicycle lanes (or bus lanes that cater to bicycles) and sidewalks that are amply wide enough for comfortable pedestrian traffic. Crosswalks, traffic signals and medians are all to be oriented to the pedestrian. Where traffic is particularly heavy, streets will be landscaped (through trees, plantings, etc) to minimise noise and fumes from the road).

Trace:

[First Layer] are **Safe Routes to School** - NMT routes specifically oriented towards children, with specific play and education measures incorporated into the road design

[Second Layer] are Public Transit/Bicycle routes. Where they overlap with the pedestrian network above, they are **transit malls**. Where they overlap with the complete streets, they are automatically granted a **bus/bike-only lane**. In residential neighbourhoods where bus-only lanes are not viable, they will become **bus/bike boulevards**, where bicycles and transit have right of way, and cars will be appropriately warned and notified.

[Third Layer] is the **car network** - the main thoroughfare through which cars will be able to travel along. The thick black line indicates that conditions will remain similar to current status, the thin black line indicates that it is currently a major connector route that will be downgraded to an ordinary multifunctional street.



Map 5.26

A New Hierarchy of Space, Place and Movement



Promenade Extension:
Link the Sea Point Promenade through the Waterfront

Open the Duncan Dock
The docks will form a grand promenade where the city meets the sea. It will still remain a working dock, although on a smaller scale

Western Boulevard
Develop the unfinished bridges as public space, and downgrade the freeway into a complete street

Building Wrap
Fill the large vast spaces between the buildings here with outer 'cladding' (or informal stalls) with active groundfloor uses

Reclaim Camissa
Bring the buried rivers of Cape Town back to the surface

Central Station District
The major transit hub of the city: Rail, BRT, Bus and Taxi

NI
NI now a multi-functional boulevard running through a redeveloped Culemborg

Redevelop Culemborg
Reclaim Culemborg and surrounding areas for development - mixed use and **affordable housing essential**

Oswald Pirow
Take Oswald Pirow down to grade; incorporate into surrounding fabric

East City Beautiful
Recover Harrington Square from cars and return to its former status as square; resurface the D6 stream

Cape Peninsula University of Technology

District Six Market Square
Create a new square in the centre of a redeveloped District Six - it will overlook the city and can become the heart of the new District Six, as well as a premier city space.

De Waal Drive Intersection
To be slowed down and become a normal street from here on. Green space on either side to be connected and integrated into surrounding urban fabric

Trafalgar Park
Extend Trafalgar Park up to the mountain and down to the sea and restore it as a natural and historical corridor

Longmarket Street
Longmarket is the major pedestrian cross link across the city, stretching all the way from the Bo-Kaap to the top of Keisersgracht. It links together a number of squares and important streets

Darling Street Transit Mall
Extend the Grand Parade to join up with the Castle, City Hall and Adderley by declaring Darling Street a Transit Mall/Shared Street

Parliament Square
Reclaim the square and avenue in front of Parliament for public use, as it was originally intended to be.

Gateway to Table Mountain
This pedestrian path follows the Camissa river up from the docks. Here it passes the old wash houses and then continues up Deer Park and then Platteklip Gorge to the top of Table Mountain.

Long Street Mall
Transform Long Street into a pedestrian mall (with some transit activity) and encourage shops to spill over onto the street.

Extend De Waal Park
Link De Waal Park to the lower reservoir, and link both to the top of Government Avenue to form a continuous green link

Stadium Square
Set in place weekend activities in the large square in front of the Stadium to bring activity into the area, such as farmer's market, etc.

Signal Hill Funicular
A funicular rail to link the mountain to Sea Point and the Waterfront

Signal Hill Footpath
Link Signal Hill to the sea and to Sea Point through a footpath from Three Anchor Bay to the viewpoint on top

Skate Park
Build a free skate park by the promenade to encourage the 'other' NMT users - skateboarders and rollerbladers - to come out and play

NON-MOTORISED CAPE TOWN: a spatial development framework for the Central City

Map 5.27

IMPLEMENTATION

The project outlined in the preceding pages creates a vision of a very different Central City; a city in which NMT is a pillar of the transportation system, and a city whose public spaces are thriving hubs of activity that serve to make the city economically stronger and social and spatially more integrated.

Achieving this vision, however, will not be easy. It involves working counter to almost every current local precedent and against the established culture of transport engineering. Even in the best-case scenario, this plan will not be able to materialise overnight.

The plan for implementation needs to be as strategic, if not more so, than the project plan itself. It needs to take into consideration the current funding climate, as well as potential future changes that would arise from the outcomes of this plan. Projects should be ordered so that they can leverage resources for future projects, gradually expanding until a 'tipping point' is reached and the system becomes self-reinforcing.

This plan is both an action plan and a capital project plan; on the one hand changing the way day-to-day decisions are made and on the other initialising major capital projects that will change the framework within which those decisions are made.

Implementation will thus be discussed at the following levels - the implementation body; the format for moving it forward, and the implementation schedule. All have to be highly adaptable and flexible, as many of the measures outlined by this plan lie partly or wholly outside of the authority of the City and will therefore be subject to negotiation. For this same reason, only an outline is given here.

The SPV

The SPV established under the NMCT policy will be the entity in charge of leading and coordinating this project, and will have its own funds with which to administer many of the smaller-scoped projects. However, the larger projects, such as the highway removal, the opening of Duncan Docks, and bringing the three rivers back to the surface will need to be coordinated with a wide range of local, provincial and even national government departments. The re-organisation of the road network will also have to be finalised in close co-operation with all three government spheres of Transport, and will also require a significant reshuffling of road management funds.

It is crucial that the people appointed to the SPV are highly capable, creative thinkers who believe in the project, as it will largely be up to them to

BOX 5.2: CREATIVE SOLUTIONS FOR UNDER-RESOURCED CITY

The following are lessons drawn from Curitiba, Brazil - a city that has been remarkably effective at rapid and dramatic implementation. They are particularly relevant to Cape Town, who suffers from a similar lack of resources and abundance of problems:

- **Times is money** - The longer it takes to implement solutions, the more expensive they become. Cities are not static and nor are solutions.
- **Prevention rather than remediation** - spend money today to save tomorrow
- **Incremental Learning** - The perfect plan will never be implemented. Rather than pursuing perfection, Curitiba concretely did what was possible to do at specific moments in time—and incrementally developed such ideas in practice when they were already operational.
- **There can be an integrated and environmentally sensitive action plan for each set of problems.** Solutions within any city are not isolated but interconnected. The action plan should involve partnerships between responsible actors such as private sector entrepreneurs, NGOs, municipal agencies, utilities, neighbourhood associations, community groups, and individuals.
- **Creativity can substitute for financial resources.** Ideally, cities should turn what are traditional sources of problems into resources. For example, public transport, urban solid waste, and unemployment are traditionally listed as problems but can potentially become generators of new resources and solutions. Creative and labour-intensive ideas can, to some extent, substitute for capital-intensive technologies.
- **Social, environmental and economic solutions can be integrated into holistic approaches.** A combination of public-private partnerships, transparency and participation was promoted in the development of equations of co-responsibility.

(Roman &Saundry, 2008)

sell the idea to levels of government over which they have no direct authority. It is recommended that the SPV is made up of roughly half permanent City staff, and half of people brought in expressly for this project. This will allow the SPV to be sufficiently integrated with the normal municipality to prevent major conflict, while at the same time bringing in enough of a fresh perspective to challenge the status quo.

At the same time, it is essential that this plan gets full political support from key figures. This is not the kind of plan that can or should be quietly implemented by the spatial planning department; it is the kind of plan that needs strong engagement from all sectors and communities. It needs to evoke debate, discussion, and even arguments, but overall it should inspire a new vision of Cape Town - a city that is equitable, sustainable and just. To

get this message across, it has to be actively adopted as a new 'roadmap to prosperity' by those in charge, and championed as such. It has tried to be the kind of visionary plan that can garner that kind of support; however, how it is represented and fought for is key in how it is perceived - this will be up to the SPV in charge.

While compromise and adaptation of particular parts of the plan will necessarily be part of the process, the principles themselves - of access over mobility, time over space, and sustainability - should not be swayed.

Implementation Schedule

The project plan outlines a broad series of initiatives; however, they clearly cannot all be implemented simultaneously. An initial framework for implementation is discussed below, although this should be open and flexible to change as various parts of the plan speed up or slow down owing to outside influences. The ambitious reach of this plan means that until it picks up momentum, it will be vulnerable to obstruction by other spheres of government and the state-owned enterprises that are involved.

However, this framework needs to remain flexible to accommodate change over time and to allow learning to happen while doing. Together with this should go an understanding that some policies will fail, and that that is acceptable, as long as the lessons learnt are taken to heart. Policies may need to be calibrated, corrected, or completely changed. While such adaptive change is welcome, the goals to which these project is aligned are clear and absolute, and should not be adjusted.

The plan can divided into three project levels:

Long-term, large-scale, in need of outside funds:

- Demolishing the highways
- Reclaiming, rehabilitating and redeveloping Culemborg
- Submerging the railway lines

Achievable in the medium term, implementation schedule flexible, expensive but affordable within City budgets:

- Re-establishing the Rivers
- Restructuring the movement hierarchy (some aspects)
- Opening Duncan Docks (bureaucratic issues, however)
- The Safe Routes to School Programme
- Expanding Trafalgar Park
- Building the Funicular
- The 'Green' bus line
- Bike Share + Infrastructure

Short-term, low-cost:

- Restructuring the movement hierarchy (some aspects)
- Public Space initiatives (Plaza Streets)
- Creating an NMT network

Clearly, not all strategies can be implemented immediately and equally. Selecting which projects to start with needs to be carefully thought through, taking into account the number of stakeholders, the costs, and the impacts. Medium-cost, high impact projects, if successful, have the potential to leverage investment and support for the bigger projects. At the same, low-cost projects are important to get the ball rolling and start 'somewhere', especially the kind of flexible projects that can adapt over time. Therefore, the order below is a guideline, and should be adaptable to changing circumstances.

Out of the three major capital projects, the highways should be pushed for the hardest. However, it cannot go ahead without significant restructuring of the internal movement structure of the city; these two efforts should be

Box 5.3: LIST OF PUBLIC AND STATE-OWNED ENTITIES AFFECTED BY NMCT

These are some of the major players; the list will grow extensively as the projects come underway.

Metrorail/PRASA (submerging the railway line). This has however been discussed before and they appear open to the idea; speeding up the process will be the chief aim here.

Transnet: Duncan Dock (moving the custom line). The feasibility of framework under which such a move would happen is impossible to contemplate without going into far greater discussions with Transnet; however, the growing size of international shipping means that Duncan Dock is heading towards obsolescence already; again, speeding up the process will be the aim.

Provincial and National Transport Departments: The N2 and N1 are national roads; taking them down will require involved consultations with both other spheres of government.

Provincial and National Departments of Public Works: A lot of the land discussed here belongs to various spheres of government. Unlocking this land for development is likely to be a lengthy process of negotiation.

SANParks (Sea Point Funicular): This is part of the Table Mountain Nature Reserve so SANParks will have to be consulted. They might even be interested in running it - they already have a similar structure at Cape Point.

Schools (SRTS): Schools should be consulted on the SRTS programme to ensure the routes chosen serve the maximum number of children. Some schools might wish to take part in the design process itself.

Large-lot Private Land Owners: A lot of these changes will impact heavily on private land; ultimately these impacts are likely to be very beneficial to all.

closely coordinated and the task teams for both should overlap. It will require cl If this plan is successful, restructuring the movement system will become immediately required, otherwise gridlock and congestion will result. The highway take-down would also become a 'push'-factor for the other mobility aspects to the plan; as people are less able to speed in and out of the city they will require other modes of transport to take them there (if such alternatives are not by then in place, the results would be disastrous).

The package-of-plans approach (see fig. 5.28) is very well suited to this development, as there are a variety of different stages to the project and, as the initial ones take shape, the area of influence and effect will grow. This document serves as the contextual and development frameworks, as well as outlining the overall urban design plan. What now remains is for the plan to be divided into specific projects with their own management teams to focus on taking the steps necessary to begin negotiations (in terms of the longterm projects); to begin working on the urban design frameworks and precinct plans in the medium-term projects, and to start immediately with implementation in the short-term/low cost projects.

The details of how these plans must be phased and structured cannot be given here; it needs to be subjected to greater scrutiny and discussion with the stakeholders.

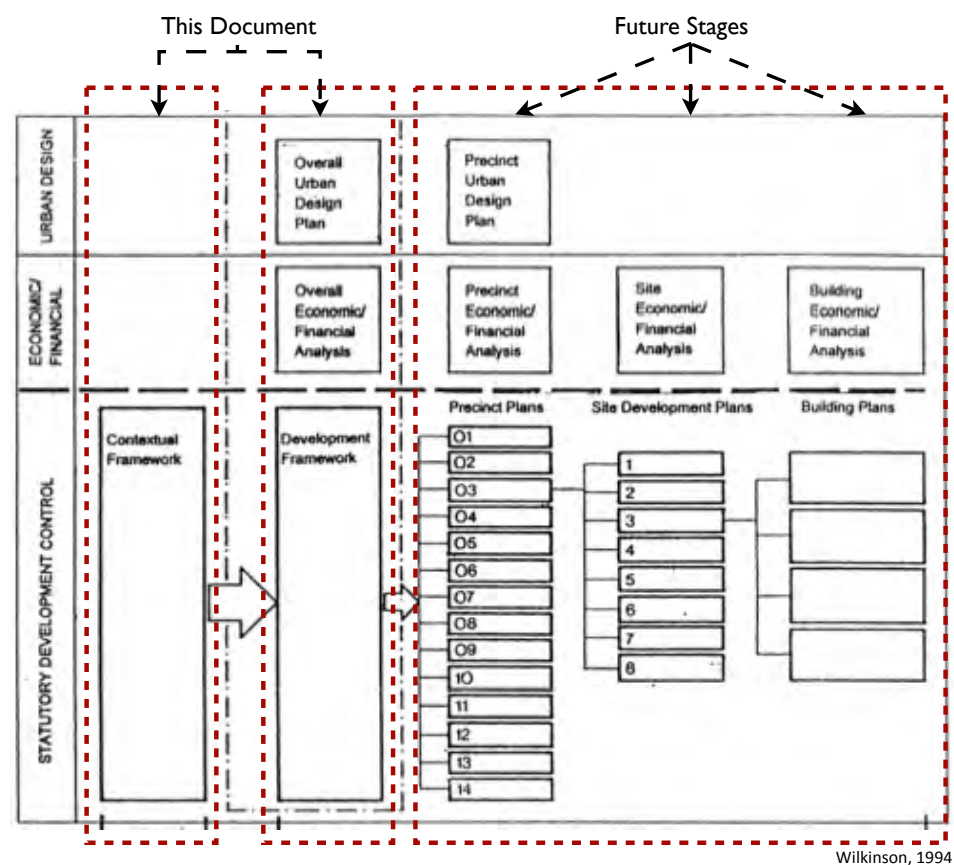
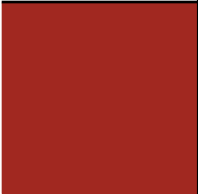


Figure 5.28: Package of Plans Approach

Wilkinson, 1994



[CONCLUSION]

CONCLUSION

“What is transportation for?” Lewis Mumford asked in 1958. It is not, as the transportation engineers seem to believe, ‘for the purpose of providing suitable outlets for the motorcar industry’. No, he answers,

“the purpose of transportation is to bring people or goods to places where they are needed, and to concentrate the greater variety of goods and people within a limited area, in order to widen the possibility of choice without making it necessary to travel. A good transportation system minimizes unnecessary transportation, and in any event, it offers a change of speed and mode to fit a diversity of human purposes.”

(p.178)

This thesis has sought to understand how, after a century of the car, it might be possible to rebuild such a ‘good transportation system’. However, just as the impacts of the car system go far beyond the scope of transportation, addressing the devastations wrought by it requires going beyond movement systems and transport. In trying to understand how to remake Cape Town into a non-motorised, transit-oriented city, it was found that what is really needed is to remake the city into a people-oriented city at all levels – to expand the public realm and to equalize access to it.

Through exploring the literature, looking at case studies and - most informative - trying to understand and plan for Cape Town itself, what has emerged is that in order to create the sustainable city we want and need, it is necessary to build an equitable and integrated society. However, that equity and integration cannot be achieved in a car-oriented city. Changing the car system requires greater social integration and equity. This is a problem that can only be solved by working on both ends simultaneously; grappling with first one facet and then another until the system starts shifting of its own accord.

The plan set out here has sought to do exactly that: to build a policy, project and design framework that will shift the underlying landscape to one that encourages a more sustainable form of behaviour - choosing more equitable means of transport, engaging in the public spaces of the city and rediscovering our ‘citizenship’ in the process. It has done so through focusing policy interventions at social and psychological levels in addition to physical infrastructure. One of the biggest obstacles was in contemplating change outside of traditional urban or middle-class

contexts. The problem chiefly stems from a lack of information and of data regarding marginalised areas. Without enough information, and without a specific and meaningful attempt to get such information, plans and interventions risk not addressing or even compounding the problems in these areas - if you can’t measure it, you can’t manage it.

A significant failure of the city has been the lack of a comprehensive public participation process - not simply in the current sense of project-directed participation, but in engaging with communities of what their real needs and demands are. For this reason, the plan suggests that any further planning for Khayelitsha, or any similar socio-demographic area, starts off with a comprehensive engagement with the site and its inhabitants - a tactic that was noticeably lacking in the City’s policy documents and interventions to date.

Yet it is precisely for those areas that transformation in transportation and public space is needed. While every plan needs to be sensitive to its local context - indeed, it will succeed or fail to the extent that it understands and responds to that context - there nevertheless remain lessons to draw from this thesis. Success requires leadership, communication, consistency and attention to detail, and an explicit design ethic that is inclusive for all. A comprehensive understanding of the wider social environment is also crucial, and implementation needs to be thought through in terms of consequences, and the desired results explicitly stated. Plans also need to inspire - to show us a way of inhabiting our city that we would have never imagined.

Lew Hopkins observes that “even if a plan is never implemented, it may nevertheless serve its authors, clients, and readers if it organizes planning intelligence” (cited in Mandelbaum 2007:231). Cape Town, as imagined in this plan, is a place that that very few today would consider attainable. While this plan may never be implemented - although it is hoped that one day, the ideas expressed here will be realised - it shall at the least have contributed by showing what kind of city is possible, and outlining some of the areas in which attention needs to be paid to get there.



A red square is positioned to the left of a black crosshair. The crosshair consists of a vertical line extending upwards and a horizontal line extending to the right, intersecting at the top-left corner of the red square.

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